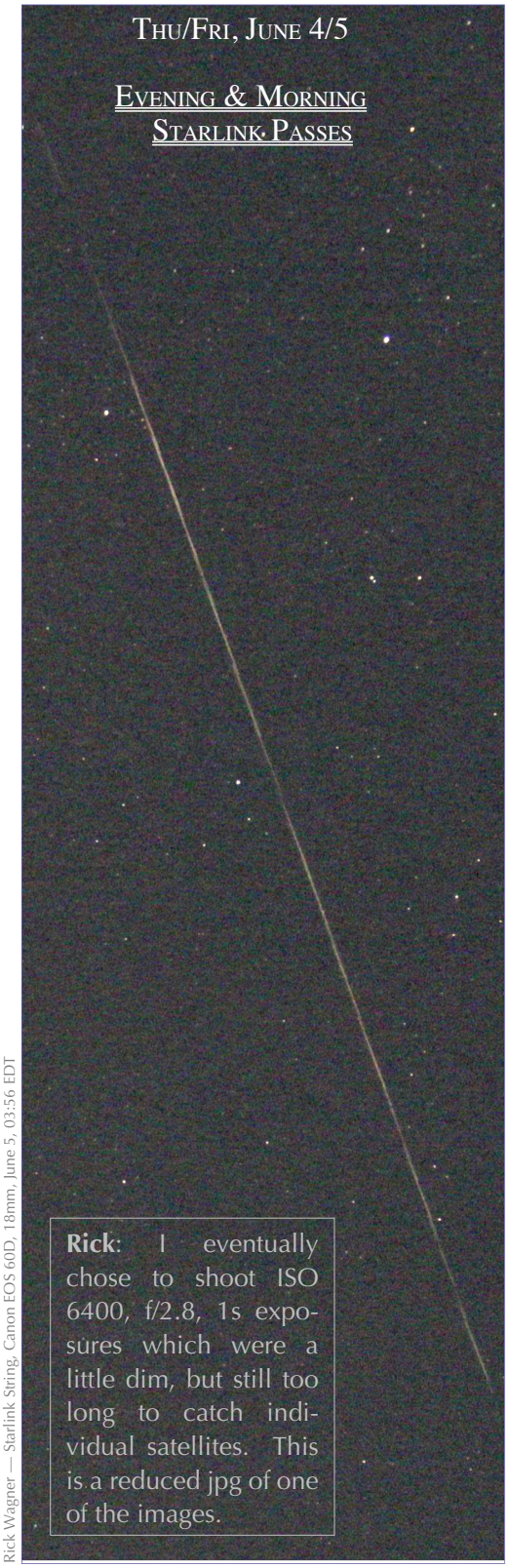
June 2020

Skyletter

RASC Kingston Centre

Stephan Craig — Dumbell Nebula



Rick Wagner — Starlink String, Canon EOS 60D, 18mm, June 5, 03:56 EDT

Thu/Fri, June 4/5

Evening & Morning Starlink Passes

Rick: I eventually chose to shoot ISO 6400, f/2.8, 1s exposures which were a little dim, but still too long to catch individual satellites. This is a reduced jpg of one of the images.

Graeme (23:33): I got clouded out here. I may try tomorrow morning and see if I manage to snag something.

Hank (23:35): Yes, between cloudy haze and Moon it was the same here. I have not seen any of these yet.

Brian: The high pass this morning. Well below naked eye:

Brian Hunter — Starlink

Rick: What did you shoot that with? It's nice that you caught the individual satellites. It looks very much like what I saw.

Brian: I used one of my CCD cameras with a 12mm f/1.2 lens, ½s exposure.

Rick: Jeanette and I got up this morning at 0345 (EDT) to watch the pass and it was quite exciting. The whole group of satellites was about 30° long and quite easily visible. However, the ~Full Moon sky was so bright that it was actually a little difficult to see the individual satellites. As I scanned my eyes along the swarm, the satellites which came into the correct position for averted vision would pop into view and then fade into the string as my eye moved along (there may have been some time variations in satellite brightness as well). So it gave the impression of a string of diamonds sliding across the sky, glittering as they went. The overall (scientific) impression was very similar to Brian's image. Definitely worth getting up for.

There is another good pass here this evening at 51° altitude, mag 1.7 and at a much more civilized time ~2143 EDT. I think the satellites may be a little more spread out this time.

Friday, June 5

Malcolm: Hank, have you seen the sunspot yet?

Kim: I observed it between clouds. The spot is now a group: AR2765.

Hank: Yes I have. I'm waiting for it to rotate around a little more if it stays. I just checked and there was some minor activity overnight on Gong Learmonth & Udaipur and no apparent decrease in size. My fave Cerro Tololo site has been off line for days now—I hope there was not damage from the quake.

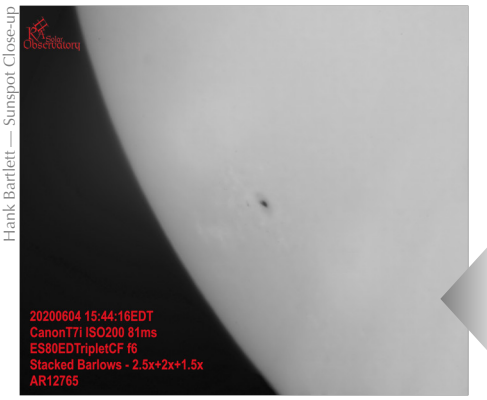
I got these images [*next page*] yesterday but I'm not overly happy with the quality. The close-up was using 3 Barlows, which of course reduces contrast. On that subject does anyone know: do stacked Barlows add or multiply?

i.e. Add 2.5x + 2x + 1.5x = 6x, or
Multiply 2.5x × 2x × 1.5x = 7.5x

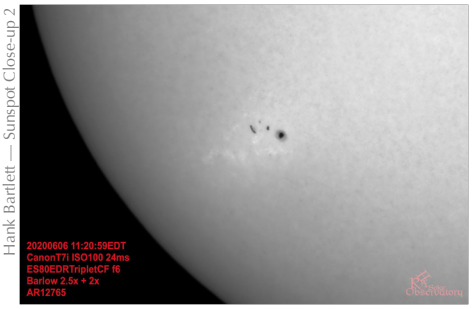
Rick: You have to multiply them together.

Sunday, June 7

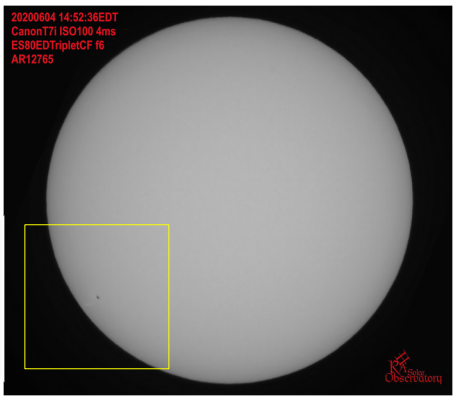
Hank: I was sure to get out today; spot looks good, getting bigger.



Hank Bartlett — Sunspot Close-up



Hank Bartlett — Sunspot Close-up 2



Hank Bartlett — Full Disc Sun

Sun/Mon, June 7/8

Stephen (01:32): It's a good night in spite of the moon. I'm doing star clusters in Vulpecula.
Malcolm (02:35): Moon, Jupiter, and Saturn looking pretty over the lake at 2:30 a.m.

Susan: I did some deep sky in a race between the moon and deteriorating sky.

Saturday about 4 a.m., I was enjoying a tea in the lounge chair and caught my first glimpse of Starlink activity. I assume that's what it was, as I saw 4 in rapid succession on the same track. There may have been more, but a cloud was in hot pursuit!

Monday, June 8

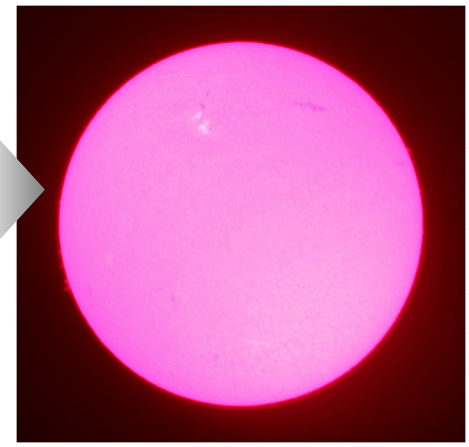
Hank: Today was a very busy day and I did not get to any processing so here is an unprocessed image from yesterday at 11:02:17 EDT. In this image AR 12765 is top left of centre.
Rick: I was moving my little refractor into a corner in the office where it would be out of the way when I suddenly thought—as long as I have it in my hand and Hank and Kim are talking about a sunspot maybe I should look at it! So I took the scope out into the parking area with a Baader white light filter and 14mm eyepiece (34x) and found it to be a lovely spot! Quite a nice size, somewhat angular in shape and with 5 very small spots in a rectangle just above it (alt-az mount, so probably NE?) Glad I did that. Glad you guys keep me updated on solar activity, now that there is some.

I was observing all night the past two nights—lots more photometry of course. The SN in M61 continues to impress, NGC 3643 and its SN are pretty much in the trees here by the time it gets dark. In spite of a lovely sunny day, from the satellite it doesn't look like we'll get much observing tonight.

Mon/Tue, June 8/9

Graeme: Something just streamed across the sky at 9:57–9:59 p.m. up from the horizon tree line to about 60° in ~2 seconds. It was bright enough that it drew my focus from my computer screen to see it out the window. You might want to check the AllSky camera Kevin.
Kevin: The sky was still pretty bright for the AllSky cameras, and there were lots of clouds. Something interesting did show up on AllSkyPi (all times EDT):
21:52:47: 5.3s exp is normal
21:55:11: 6.1s exp bright in NW
21:57:35: 7.8s exp is normal
21:59:58: 11s exp is normal
The camera auto-exposes until it hits 60s exposures—at 22:17 last night.

There was nothing on the UWO AllSky2 camera at that time.



Hank Bartlett — Sun; Canon T7i, ISO 200, 3/5s, June 7

Tue/Wed, June 9/10

Stephen (21:23): Well, isn't that typical: beautiful and clear all afternoon, then it clouds over at sunset! Hank, I hope there was some activity on the Sun for you.
Hank (21:28): There was a beautiful filament release, but sadly I missed it.
Gary Poyner (03:30):

> From: [cvnet-outburst]
> Fwd: [vsnet-alert 24337]
>
> PR Her outburst
>
> Mizutani-san recorded an outburst of this WZ Sge-type dwarf nova at V=15.76 on June 8. The last superoutburst was recorded in 2011 (maximum may have been missed, recorded at V=12.85 on Nov. 21). Observations are urgently needed to see whether the current outburst is a normal outburst or it is still rising.

Walter: I was the one who discovered the last outburst in 2011. So, after almost 9 years, PR is at it again! Also of note recently, PQ And had its first outburst in

about 32 years!

It just goes to show you can never have too much clear sky: one cloudy night and you can miss the big event!

Susan: I am glad nobody is waiting on me to be a consistent source of data. Thank God for you folks who grind it out year after year.

At one point this afternoon I saw a forecast of 5 clear nights in a row. Alas, it has been taken away.

Stephen: Environment Canada has a bad habit of predicting a string of clear nights and then changing them to cloudy periods as we get closer to the date. I watch the satellite shots closely and make my own prediction.

Wed/Thu, June 10/11

Stephen (22:24): By some miracle it cleared tonight. But it's very hazy and I can see lightning on the horizon. Radar shows thunder storms to the W. So I'm not going to open the observatory. Environment Canada shows much better nights to come. So I will wait.

Thu/Fri, June 11/12

Stephen (23:59): I'm having a good night so far. Everything is working flawlessly. My goto is very accurate tonight. I got my first galaxy spot on. I'm doing galaxies in Virgo again. Once the moon comes up I'll move on to star clusters in Cygnus.

Susan: Good to hear that you made good use of the sky. I only went out for a bit in the lounge chair before bed and it was a pretty nice sky here too.

Rick: I too got in a whole night of imaging. After the wonderful day today I was hoping it might be clear here tonight but it looks like not. However, I took solace from the fact that it was supposed to be clear at SRO for a science team run tonight. But even that has fallen through—possible clearing after midnight PT = 3 a.m. EDT which is rather inconvenient.

Stephen Craig — M27

Fri/Sat, June 12/13

Rick: It has cleared off at SRO so I have started a long series of images of SN2020hvf in NGC 3643, SN2020jfo in M61, HP Lib (cataclysmic variable currently of great interest to the Center for Backyard Astrophysics), and then a bunch of GAIA Cepheids.

Rick (01:56): Baaah! Just up to check on things in California and the sky here looks not too bad—except that there is a band of cloud moving in. I guess I'll try opening up and see how long things last.

Rick (03:20): Well, I took a longer look when I went out, went out on the deck to get a bigger view, and decided that there was already enough cloud floating through that there was no point in opening up. However, the remote scope is working well and the sky looks great.

Sat/Sun, June 13/14

Malcolm (20:50): Again? This is exactly what happened last night.


Malcolm Park — Sunset Clouds

Graeme (20:55): I have pink ones here.

Graeme Hay — Sunset Clouds

Rick (21:02): Yeah, I'm not sure what's going on—these look like daytime cumulus which should be dissipating—as indeed they did NW of us. They haven't entirely dashed my hopes—I opened the observatory a few minutes ago and the camera is cooling. Hopefully the clouds will evaporate.

Last night it did clear off at SRO just about the end of astronomical twilight, so I got almost a whole night of imaging for the science team. We've actually had a person express interest in joining the team!

Stephen (00:08): It was much as predicted by the Clear Sky Chart. I was right on the edge of the cloud until midnight. Now all is well and I am imaging!

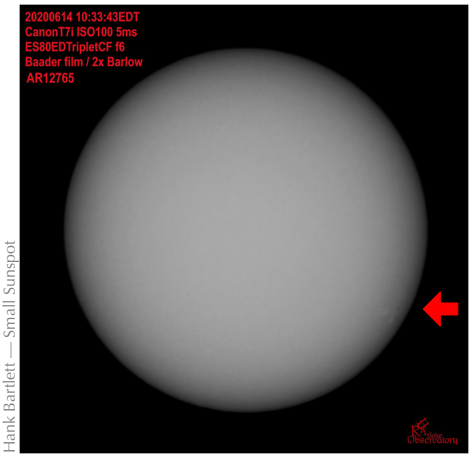
Sun/Mon, June 14/15

Stephen: went after some faint Sh2 nebulae in Vulpecula last night but I couldn't find them. Either my goto was off or they are too faint. So I tried my old favourite, M27. Goto was spot on, so I guess the other nebulae are just too faint.

Stephen (22:36): I'm all set up and ready to go. I tested my goto on M57. It's spot on! I'll get some images of M57 while I'm waiting for twilight to end. Then I'm onto galaxies in Canes Venatici. The sky transparency looks good and the seeing is excellent. It should be a great night.

Graeme Hay — Veil Nebula Complex

Hank (22:46): I am processing images from today. AR12765 is about to fade into the western horizon tomorrow.



Hank Bartlett — Small Sunspot

Rick (23:36): I seem to be having problems. Maxim got itself stuck after my first exposure of the M61 SN—played with that for a bit by which time M61 was in the trees. So now I'm trying out a CCD Commander action—if it runs well it could almost completely automate my whole night's operations. Same as it does at SRO. Of course at SRO someone else presumably spent days/weeks/months debugging the whole operation so that slews, plate solves, images, guiding, *etc* all work. I haven't yet done that.

Walter (00:04): I just got back in from using the C8 (looked at Arcturus, Antares, and M13). [*Tonight was the 40th anniversary of my C8!*] Earlier I saw Lacrosse 4 going south through Hercules (love that Live View feature of Heavens Above!). The observatory is humming along doing variables. I'm looking forward to getting an image of PR Her—this is only the 2nd time in 17 years I'll be able to image it!

Malcolm (00:25): I'm imaging wide-field targets with my EQ6 mount, 200mm lens and D810a; I have a DSLR camera running with the 14mm lens pointing towards the south for a time-lapse.

I started the 200mm with the Veil, looks dim. Just took a test shot—I'll wait til it gets a little higher. May skip it. I shot Rho Ophiuchi, just because it's there. It was barely 20° at transit. I got the comet, C/2017 T2 (PAN-STARRS). It's pretty small in the 200mm.

I'm going to shoot NGC 7000 for the heck of it too. At least it fits the FOV. Maybe get some photons on Sadr [γ Cyg].

It's nice to be outside, enjoying the cool temps before the stoopid heat and humidity kick in later in the week. So many satellites.

Stephen (02:25): Yes there are a lot of satellites tonight. I had one go right through my guide star. It caused quite a glitch in guiding!

Stephen: While I was waiting for twilight to end I took another image of my old favourite, the Ring Nebula. This is my best image of it yet. I think I got the colour right! [*Note the nice barred spiral galaxy, IC 1296, at lower right.*]

Stephen Craig — M57

Hank: A dazzling little one the first time one observes it and sees the "hole." [*Disclaimer: This is from a man who never saw a doughnut he didn't like!*]

MON/TUE, JUNE 15/16

Stephen (18:20): I see that we have a thick band of cirrus over us. It has five hours to blow on past. I sure hope it does!

Malcolm (18:44): I was thinking the exact same thing!

Rick (20:51): Looking at the most recent satellite pictures, the bands of Ci have passed on. But I noticed before it started getting dark that there was extensive thin Ci over southern Quebec, coming our way. So, while it will be a usable night I don't think it will be a great one.

I'll be making another attempt with CCD Commander—I had problems last night that I think I've dealt with.

Stephen (21:11): Yes, last night's transparency was great. Tonight won't be nearly as good, but I will take any clear night that I can!

Stephen (00:07): Transparency doesn't seem to be too bad so far. Seeing is very good here again tonight. I'm getting some good images of NGC 4449, a nice irregular galaxy in Canes Venatici. It's a good night!

Stephen Craig — NGC 4449

Malcolm (00:30): Agreed! And the Loons are singing!

Stephen: I got three images last night: two star clusters and a galaxy. The nights are getting awfully short—I just barely get started and it's time to quit!

TUE/WED, JUNE 16/17

Graeme (00:06): Short night, so I'm imaging with some old Nikkor lenses I own: the 58mm f/1.2 is fast but not super sharp, while the 105mm f/2.5 is surprisingly sharp right out to the edge! I'm trying

the 135mm f/2.8 next.

Imaging the North American Nebula region as it's in a nice spot. I may try some imaging more to the S after the initial round of images for scale (and matches the RedCat51 image I took eariler).

Hope everyone else is having a good (but short) night.

Stephen (00:15): I'm having a good night. Transparency looks good, as does the seeing. I imaged an open cluster in Cygnus while waiting for twilight to end. Now I'm back onto galaxies in Canes Venatici. That will probably be it for the night. It's a good thing we have such a long string of clear nights as they are short!

Stephen Craig — M14

Stephen Craig — NGC 6229

Graeme (00:18): First night this week for me: I had clouds and 2 long days of work (cutting brush) so I was too tired before.

Stephen (00:30): This is my fourth straight night, and the fifth out of the past seven. Luckily I have the freedom to sleep days and have a very understanding wife!

Malcolm (01:33): Good night here as well. I'm imaging M51 and comet C/2017 T2. So many satellites.

I went over to Consecon to have a look at and photograph the LED lights. I chose Consecon because the Picton lights were side by side, too close together for pics. As expected, if that's how bright they want them, the colour is irrelevant. Common sense tells me that if they are too bright to look at directly without pain, they are too bright period.

Pics in the morning.

Rick (02:33): Looks like a great shot Graeme—I'll take another look in the morning. At night I use red goggles to reduce monitor impact on my melatonin production and to save my night vision. So I can't see much detail or nebulosity. I used to love imaging with CCD and camera lenses but I don't do it often enough.

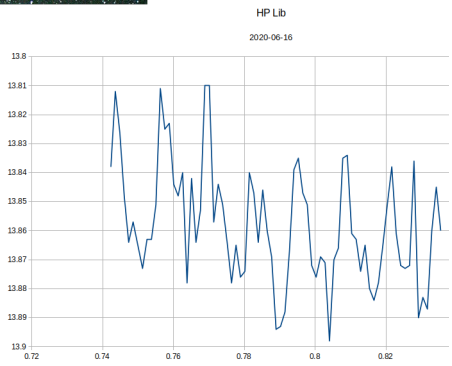
Graeme Hay — NGC 7000

I look forward to the streetlight pics Malcolm. The trouble with LEDs is that municipalities seem to think 'hey we can get twice the light for half the electricity cost!' The LEDs should be able to put out half the light and put it exactly where it's wanted and thereby save even more money. But people want more light, and politicians give people what they want even when they know it's bad for them—stoopid with two Os.

It is a good night here—guiding is better than it has been recently. I think it's time to clean the drive gears. I've not been wanting to do that as I really have no idea how to go about it. Use solvent? Clean up after solvent. How much grease to put back on, *etc*. At least I have the grease that Paul chose so I don't have to worry about which one to use. I got some nice images of M61 at the start of the night to measure the SN. Rest of the night I'm just making the rounds of my usual targets. This is number 6 all-nighter in a row if you count my night on the remote telescope, which I do. I've attached a light curve for HP Lib from Monday night—you can see the orbital period of about 19 minutes (chart x-axis is in days.)

Susan: I also had a nice night at the eyepiece. Although I was momentarily transfixed by a satellite display that both horrified and amazed me!

Rick: So, I had a look at the [NGC 7000] image in the light of day and it does look like a nice lens and a nice shot—stars look good even in the corners. It should process up very nicely. Hopefully you have at least a few of them and can get rid of the satellite trails. This is with a non-modified camera? My favourite lens for sky shooting with my Canon 60Da is the 100/2.8 macro. It has excellent sharpness right to the corners, even wide open.



Rick Wagner

I'm just making a pier adapter to be able to put my little iOptron mount on my big pier by the

water's edge. I can't see Polaris from there, so polar alignment will be more difficult, but I will probably set it up out there and leave it until the moon becomes a problem or until I manage to get a computer to talk to the Losmandy Gemini. (I hope it hasn't died—it worked when I last used it in Ottawa ~8 years ago.)

I'm making the adapter out of wood—I had initially designed it to be machined out of Al but that won't like happen until CoVID19 is over. All I need is a couple of 12mm bolts and it will be done. I'll pick those up tomorrow in Ottawa when we go in to do a grocery run for my mother and sister. Then I can install it Thursday evening and start shooting the southern Milky Way like I've never been able to do before (I've always had high southern horizons and/or bad light pollution.)

Graeme: It was a 4s test shot at max ISO (512,000) for framing and checking the star quality (roundness) for the lens. I have about 30 minutes at a more reasonable ISO level (300s subs).

Wed/Thu, June 17/18

Malcolm (20:59): I'm seeing building white stuff on the south shore of Lake Ontario, moving north. Getting worried...

Kim (21:35): We saw it too after the social. Some is showing up in the north too.

Malcolm (21:42): Stoopid hobby.

Stephen (21:44): The Clear Sky Chart shows it dissipating so we may not be too bad. I'll stay hopeful but watch it.

Malcolm (23:23): Too close for comfort.

Graeme (23:24): I'm imaging centred on Cygnus with the 85mm TS lens, no clouds.

Graeme (00:40): I picked up a meteor streak at 12:38, S to N across the centre of Cygnus. It was very faint and fast (1/8s) but so far the only one tonight that isn't a plane or firefly.

Graeme (01:29): Saw a tumbling satellite at 1:15 a.m. When it just passed from 50° NE right over zenith in my location. It was clearly in a slow roll, about 15–20s cycle. It was moving pretty slow so it could be Starlink or similar ISS-speed object. It's not on my Stellarium, but I don't have Starlink loaded yet.

Malcolm (02:30): I just took my last subframe of the night on M51. I took 10x300s each of RGB 2x bin tonight to go with the 10x300s 1x bin LUM the night before. The red filter stars look a little elongated. I may try that set again if I get the chance on Thursday or Friday. I'd like more LUM data, but am very happy that I have enough to at least attempt a pretty picture.

The loons were calling again as I went out to close up. Clouds stayed south per the CSC prediction. It was a mucky S horizon, but thats fine.

I hope we get at least one more night out of this stretch of insanely clear sky...

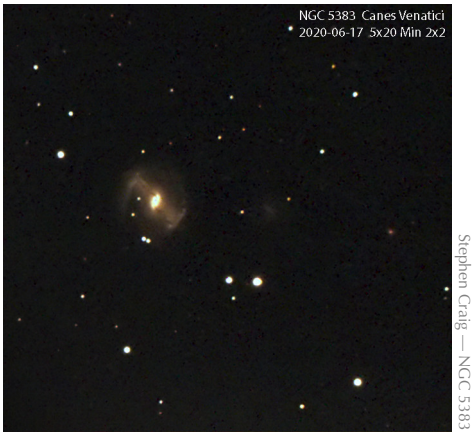
Susan (02:26): Hope you are all having a good night. Not sure I've ever had such a steady sky when it is not January! Jupiter was amazing: 3 cloud bands that never wink out, including GRS.

Turning in now.

Graeme (02:32): I also have turned in. I tested all the lenses I had planned to; I think I found 3 that will work for astro-photography going forward.

Now I just need to get some sleep and actually process all this data!

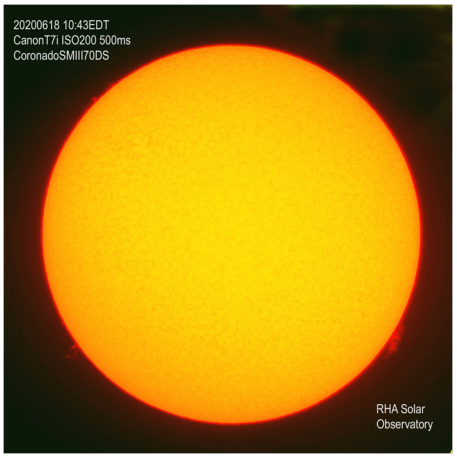
Stephen: Last night was another great night. My fifth in a row! I did two galaxies and a star cluster. NGC 5383 is my favourite. It looks like another fair night tonight. Maybe not as good as we have been experiencing, but we've had a good run.



Stephen Craig — NGC 5383

Thursday, June 18

Hank: Due to an unusual situation with a Windows 10 update, I am unable to access my usual computer nor my usual software. I am using an old Win7 with Photoshop7 (which will NOT run on Win10). I must say there are some aspects of this image that I like more than the results I get with ACDSee Photo-Editor 11. If my main computer ever finishes the update (37 hours now) I will have to see about trying to get the PS7 to run. Beautiful prom today and very still sky.



Hank Bartlett — Sun

Rick: I think it's time to kill the update. It has almost certainly locked up and will never complete. Kill it and restart both windows and the update—without the USB.

Worst case, you can do repairs with the system repair disks. You did make the system repair disks, right?

Hank: Thank you Rick, I was going to do just that, but the flash drive access pattern has been changing tonight so I am going to give it longer. Now that I can use the alternate computer I can stand the frustration a little longer.

THU/FRI, JUNE 18/19

Stephen (22:50): Well, we have some cirrus cloud. It doesn't seem to be affecting me too badly. I've got a star cluster in the bag. I'll see how it is later when I go after a galaxy. We've had a good run so I'm not too upset.

Susan (22:55): It is quite a bit thicker here, so it is off to bed. Good luck with the sky.

Stephen (23:04): I can see from the satellite shot that it is evaporating, so it should be an OK night.

Malcolm (23:06): It's right on top of me. Catching up on calibration files. Getting some sleep for a change.

Rick (23:36): I'm deep into all-nighter number 8 in a row. (That could be just 6 if you don't allow last Friday when I was observing with the remote scope, or it could be 9 if you allow Friday and then two for Monday night when I was observing with both my scope and the RT.)

The Boltwood 0.4m has completed M61+SN and is now imaging a group of 5 RRLs in Boötes, and the 0.09m refractor is doing a long series of 30s images of ST Boo, another RRL. No sign of cloud here now, though there was some very scattered Ci through twilight. Towards morning I may switch the refractor over to something more photogenic for an hour or so.

We just had a mini wind storm. It was dead calm all evening, suddenly for ~5min a 20km/h breeze, and now it's quiet again. Very weird—I had a brief panic attack because it sounded so much like rain.

Stephen (23:45): We must be in the sweet spot between the clouds. I'm having a good night too! I had that wind as well earlier. It threw off my guiding for a few minutes. I'm glad it didn't last.

Hank (00:10): Yes, a sweet spot. I just stepped out before going to bed and it is beautiful! Saturn/Jupiter and clear overhead.

Just the same, goodnight and good imaging from the RHA.

Malcolm (00:50): Dammit! I looked out the window just before going to bed to see the clouds have moved north. Opening up...

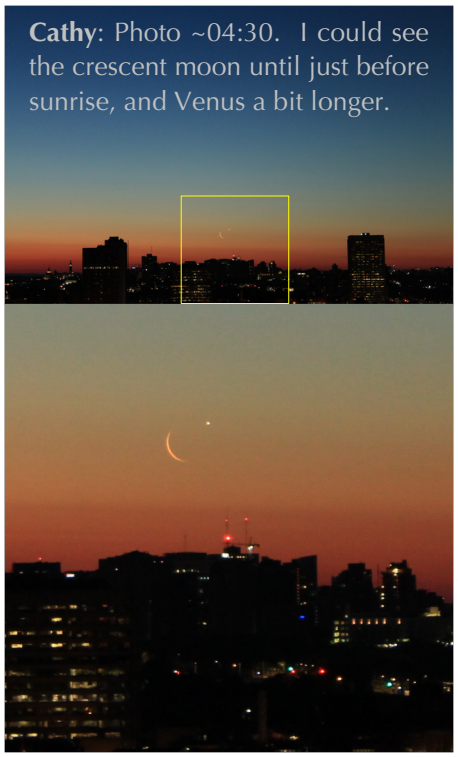
Stephen (01:57): I just went out to take a look at the actual sky. Transparency is pretty good—much better than what I expected when I saw the cirrus earlier tonight. Hopefully this will continue into Friday night.

Malcolm (02:39): Wow. CSC says it will, and Saturday too! Sunday...maybe... Shame it got breezy here by the lake after I set up. Transparency is great. Seeing, not so much.

I'm done now; got another dozen luminance images of M51.

Rick (06:55): Well, this is disappointing! I went to bed for a nap after my 0230 target change and failed to respond to my 0330 alarm for the next target change. I only woke up at 0530—guess I really needed the sleep after 8 nights. Missed imaging a nice Starlink pass at 0422, missed imaging Jupiter in nautical twilight like I had planned, but, on the other hand, got ~1.5 hours of blurry over-exposed pictures of trees—at both 2200mm and 400mm focal lengths.

MarK: Does not compute: *nice* Starlink pass?



Cathy Hall — Moon & Venus

FRI/SAT, JUNE 19/20

Stephan (21:52): Once more into the breech lads! The 7th night is looking good. It's a good thing I have a long target list!

Malcolm (22:23): Here we go again...

Rick (00:59): This is number 9 for me (having covered off cloudy last Friday with observing from SRO) and it's a busy one. I have the Boltwood 0.4m doing scripted photometry as usual. I also took out the Sky90 refractor with the QHY183M camera but also with my Canon 60Da and 70–300 lens piggyback. What's new and excellent is that I built an adapter so I am now able to mount the iOptron mount on my big pier overlooking the lake, *i.e.* great S horizon. Unfortunately from there I can't pick up wifi so I have to go out in the mosquitoes (and they're quite bad out in that little meadow) to do anything. Polar alignment is terrible since I can't see the pole but I'm going to head out now and see if I can improve it.

In addition to those two scopes and three cameras, I'm running the

remote scope at SRO—for a total of simultaneous observing with 3 scopes and 4 cameras. I should take one of my visual scopes out to bring it up to 4.

Stephen (01:13): I've run out of objects in Canes Venatici and Virgo is in the trees. So I'm picking up a couple of nice little galaxies in Draco: NGC 5905 & NGC 5908.

Malcolm (03:41): Well I'm done now. Hourly wake up alarms to change filters and re-focus are much better than leaving it to flawed software/configurations and losing 3 or 4 hours to errors while you're asleep. So I have lots of new data to play with. I'll need either but I'll take both of the next two nights to complete the set.

I'm going to say for me, from every aspect this was the best, most enjoyable night of the last 10 nights or whatever the count is up to now. Everything worked. I used the new PS2 Maxim plugin with great success. I used Focus Max for the first time in a while and it was, as always, reliable. I ditched SGP for the old standby Maxim DL and feel I was rewarded.

The sky was steady. Very little wind at all. Transparency very nice, no issues. The sounds at night awesome; it's so quiet from a human-activity perspective, nature at night is so peaceful.

After closing up the pod it was nice to just listen, and look up at the gorgeous Milky Way, planets and sky. It makes me pine for Starfest actually. Oh well, 2021 it is.

Rick (04:10): Boy I sure miss plate solving. I haven't been able to get Maxim to talk to the QHY183 camera yet, so I'm using their very poor EZ-Cap (I think they're missing an R after the C). That means the only way of plate solving is to actually take an image, save it, open it in Maxim and solve. Too slow. And without plate solving, and with rotten pointing (the mount was not polar aligned yet) finding anything was a royal pain.

I finally got the mount polar aligned. It took several hours because I kept trying to do it with the camera. But the pointing of the unaligned mount wouldn't put the target star on the chip, so lots of crouching under the scope peering along the tube to try to adjust the pointing (no room for a finder on this short scope.) After an hour or more I finally broke down and put an eyepiece in the scope. Half hour later and it was done. Synced on Vega and then a slew to M27 put it in the field of view. However, there was something up with the comms to the mount so PHD2 wasn't working. So I'm just shooting 10 each 20s LRGB exposures of M27 to have something to show for the night. They show no sign of trailing, so the polar alignment can't be too bad. I'm trying to squeeze these in before twilight gets too bright.

So now I'm off to shut everything down. I never did manage to get to bed tonight.

Malcolm: Ah Maxim, I forgot about its quirks also. You have to be careful that you are not imaging with a cropped sensor when running a sequence. I looked at my data this morning to discover (sadly) that the images were all 2494x2494 square. The sensor size is in fact 3592x2704. I didn't even notice in setting up the sequence. I'll figure something out but if I correct it tonight most of last night's data becomes useless! You would think that this kind of error would be impossible in software like this. Oh well.

Here's an unprocessed luminance subframe. I'm still very happy with it, though the stars are a little eggy. NGC 5982 is the middle galaxy, and it is at the zenith at 11 p.m. So this group is placed perfectly to image until dawn without a pier flip.

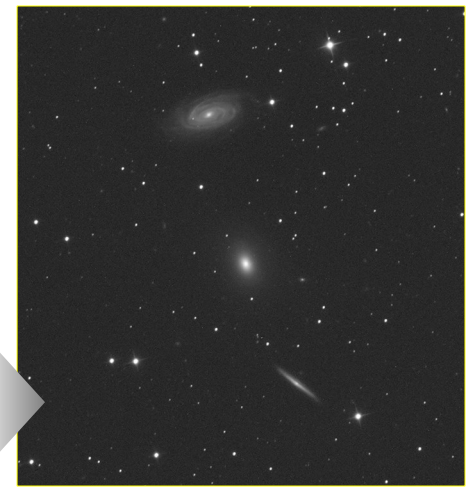
Malcolm: LOL. The disaster unfolds slowly...like a mudslide. I now realize that all my darks flats and bias frames are useless! Either I redo them, or I ditch last night's data and try again tonight/tomorrow. HMMMMMMMMM. Stoopid hobby. I'll try again.

Susan: Well...don't look here for any technical tips on software and the like. I was out until about 2:45 when I was chased out of my lounge chair by a mosquito trying to land on my eyeball. There were a few in the observatory, but they did not seem to be in a biting mood.

I'm spending more time with the observatory door open to give me a bit lower horizon. My QuikFinder aims above the door frame and the scope looks through the opening. Don't try this at home if you are running long exposures.

I spent a lovely 3+ hours doing some variable practice, looking at Saturn and Jupiter, and staring off into space.

I am considering springing for a new version of StarryNight. It turns out I have no interest in learning a new program. I like the charts I create with the program. They augment the AAVSO ones nicely. Although...my version is so old it may be like learning a new



Malcolm Park — Draco Trio

one all over anyway?! I guess I'll rethink that yet again.

Great night.

Susan: About last night: it was the first dew I encountered, but it was not on the optics, just my chair.

Hank: Depends, could be bladder leakage.

Susan: Ba dum bum! Funny guy.

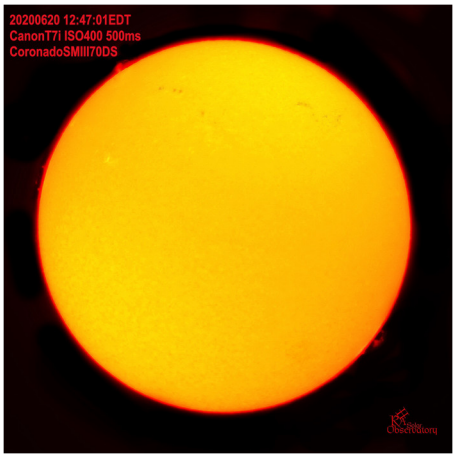
[*Hank, urine trouble...*]

Saturday, June 20

Hank (12:15): After just over 72 hours of chugging along on the flash drive, my computer is back to LIFE! Glad I had a spare handy even if it doesn't have all of my programs. Never again will I use the flash drive for update. I am going to do some deleting and transferring to make room.

Off to the RHA Obs to image.

Hank (15:53): Here is the solstice sun. The new little active region in the NE is still trying and may it soon succeed!

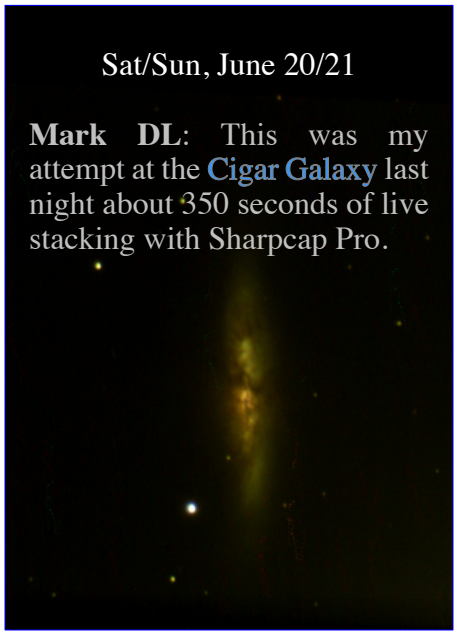


Hank Bartlett — Sun

Malcolm: Stoopid question of the day time! And, yes, I really don't know this. Screwing the left azimuth knob inwards (tightening it) should move a mount east or west?

MarK: It will move the polar axis to the west. You have to loosen the one on the right at the same time.

Malcolm: Thanks! I'm running PEMPro and it's all jargon, and I think they mean west when they say east...*etc*, *etc*...



Mark DesLauriers — M82

Malcolm: I started early and ran the PEMPRO polar alignment drift routine as soon as stars were visible, around 9:30. After a couple of hours I was satisfied with the results. I can finish data collection tonight if the CSC forecast holds. All I need is two hours-ish of clear darkness. Again...please! I decided to keep the previous night's data and add to it. I'll just redo my calibration files.

I caught my first firefly in my time-lapse camera last night. I was scanning frames for meteors, noted a satellite swarm in some frames, then was startled by a greenish, intermittent trail. It looks like Starlink with neon signs! But this is one kind of light pollution I don't mind.

Susan: I skipped last night with a headache but it is not the same kind of loss as you all-nighters. I am usually happy with 3 hours max.

Mark Kaye — AP Mach1GTO

I spent some time this a.m. rearranging some stuff in the observatory. My struggle for an efficient light box continues. I really like the way it works with AAVSO charts, and others. The great thing is that however you printed them originally, you can always flip them over and upside down once you are satisfied that you have the field you want. Matching the eyepiece view is nice and easy.

I've mastered the muted light behind, and it remains a wall mount. But I still like the idea of a little lightbox/table on wheels that I used several years ago.

I also spent some worthwhile time 'perfecting' my AAVSO chart plotting, and thinking about how I want to record my results at the eyepiece.

Sun/Mon, June 21/22

Malcolm (20:57): I'm getting ready to open. I hope I get to complete my data set. Crapping out after midnight here...all those darn thunderstorms in western ON left a trail of upper atmosphere "debris."

Stephen (21:03): I'm ready to open here as well. I'll go for as long as I have clear sky or dawn, whichever comes first. I'll finish up my galaxies in Draco tonight.

Susan (21:53): Will head out at 2300.

Malcolm (23:53): Updated CSC now says clear all night here. (Is that a good thing?)

Stephen (23:57): I saw that too. I see clouds to the W on the satellite. They seem to be evaporating. I'll keep my eye on it.

Stephen (00:39): I see some cloud building in now. Malcolm, you may get hit soon.

Malcolm (00:59): Ya, it's going downhill...

Susan (01:50): By 0130 Saturn and Jupiter were gone so I gave in. Up until then I was pretty happy. It may not last as there seemed to be waves of it. Good luck gang.
Stephen (01:59): At 1:55 my SNR fell off the table. I have cloud. There's not enough of the night left to wait for clearing so I quit. I don't mind. I've had a good run. Now to catch up on some sleep.
Malcolm (03:25): Well, I'm glad I let it run anyway. It's clear now and been mostly clear the last two hours. I got 20 bonus 300s frames of LUM.

Done now. Sleep until 5:30, end the DSLR run...and THEN sleep some more!
Susan: Good for you Malcolm. The pattern really matched that single white square on the Clear Sky Chart.

Mon/Tue, June 22/23

Stephen (21:07): I'm taking advantage of a cloudy night to update my target list. I'm going through my *Astrophotography Sky Atlas* picking out suitable NGC objects that are visible from this latitude that I haven't already imaged. I'm annotating the list with object type and constellation. I'm halfway through it and already have 320 entries! I'll be imaging for years!

Wed/Thu, June 24/25

Stephen (00:46): It cleared up here at 11 and I got right into imaging. I'm back onto galaxies in Draco. I have lots of targets to choose from. My target list is now over 700 long!

Thursday, June 25

Stephen (19:10): I put my new target list on a spreadsheet and sorted it by constellation. It printed out on 14 pages! I'll have a well organized observing schedule for the next several years!

Tonight is starting to look good. If the weather holds I'll pick up some more galaxies in Draco.
Stephen: I'm glad I stayed up last night. My skies cleared at 11 and stayed clear all night. Transparency was good though seeing was only average. It was a bit windy, which affected my guiding. But all in all it was a good night. When I processed my image of NGC 5678 today I noticed that I had also captured a cluster of faint galaxies in the upper part of the frame. Not a bad result at all!
Susan: I am sorry to say I did not make it out as I was bagged from some more ambitious yard work that needed doing while the weather was cool.
Hank: There is a small (triple) active region bordered on the NW by filaments and prominence. I doubt it will go anywhere other than over the limb in the next few days and then create a sunspot!
MarK: There is nothing on the sun this morning. Very little surface detail in Hα and there were not any spots or prominences.
Hank: I was surprised to see how much changed by afternoon—glad I checked, as I was not going to bother. Better days are coming.

Thu/Fri, June 25/26

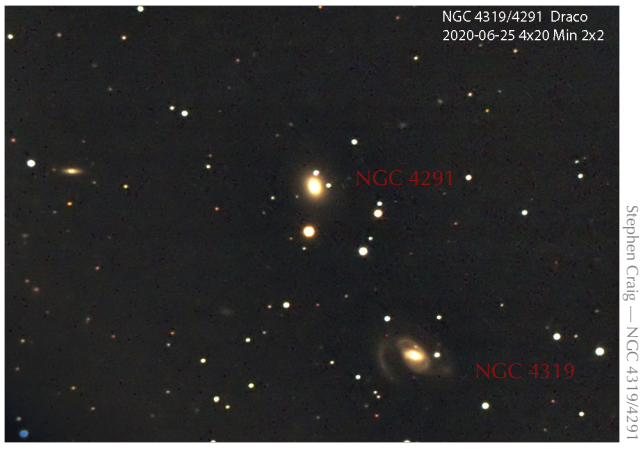
Stephen (00:39): My night started off well. I got my first image run done. Then the clouds rolled over for an hour or so. Now I'm back on track and should be good for the rest of the night.

Stephen Craig — NGC 5678

Susan: Just when you were sending that email we had a burst of very heavy rain. By 1 a.m. only Jupiter was making it through.


Hank Bartlett — Sun @ 15:23:52 EDT; ISO 200, 771ms

Stephen: I did two galaxies and two star clusters. This was the second of two nights that were supposed to be cloudy. I guess I'm just lucky with the weather this month. This is my favourite image from the night. ★



Stephen Craig — NGC 4319/4291