AstroNotes
Newsletter of the Ottawa Centre, RASC
Volume 63 – No.4 – April 2024

Send submissions to: astronotes@ottawa.rasc.ca .

Editor's Message

Did you catch it? If you did, we would love to hear about your experience. If you missed it, that could be interesting to hear about as well. We even have some early birds who have already submitted their eclipse images for this issue. Whatever your experience with the eclipse, please share it with us for the May issue. I know there will be lots of photos. Did anybody sketch it? Also, any little narratives of your experience would be really appreciated. After all, we won't get to do this again for about 120 years, and it will probably be cloudy that day anyway so why wait. Share with us now.

If you have any sketches or images, you feel you would like to see on the 2025 RASC Calander, the entry deadline is apparently the end of this month so get your images off to National soon.

Have you joined our Discord server yet? In the Announcement section Andrea has provided a fresh link but please note it is only active for ***six days*** from today (Friday, April 12, 2024). If you are reading this after the included link has expired, please contact Andrea at the provided email address for an active link.

Finally, I want to thank Bob and Ginny Olson for hosting me, Shony, Julia and Andrew (as well as 80 other people) in their backyard to watch the eclipse this past Monday. Bob had his small refractor set up for his friends and neighbours of all ages to see a much better view of the eclipse than the glasses provided. He was also handing out glasses for all those who didn't have them and he kept everyone informed of what was happening at each stage of the event. I was a pleasure to be there with Bob and Ginny. Thank you both so much for your kindness and generosity.

Until next month,

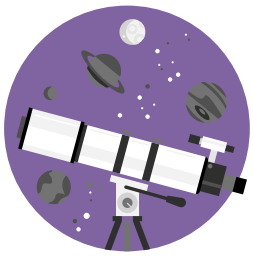
Clear skies and stay safe,

Gordon

Contents

In Memoriam

Ottawa RASC Telescope Workshop



SIGN UP Required

April 27th 2024 in the parking lot of the Carp Library (April 28th rain date)

Do you need help setting up your telescope and getting your observing session started? Would you like advice from our experienced astronomers in the Society? Are you borrowing a telescope from our library and need guidance?

WE ARE HERE TO HELP

We will have members present starting at sunset to make use of some daylight and hopefully get you ready for lunar observing that night.

Please sign up using the form below or contact Andrea Girones on the RASC Discord or via email at agirones@gironeslaw.com. We need to be able to contact you in case of weather delays or to gather equipment information or expertise. Bring your manuals and eyepieces and arrive on time to maximize the light.

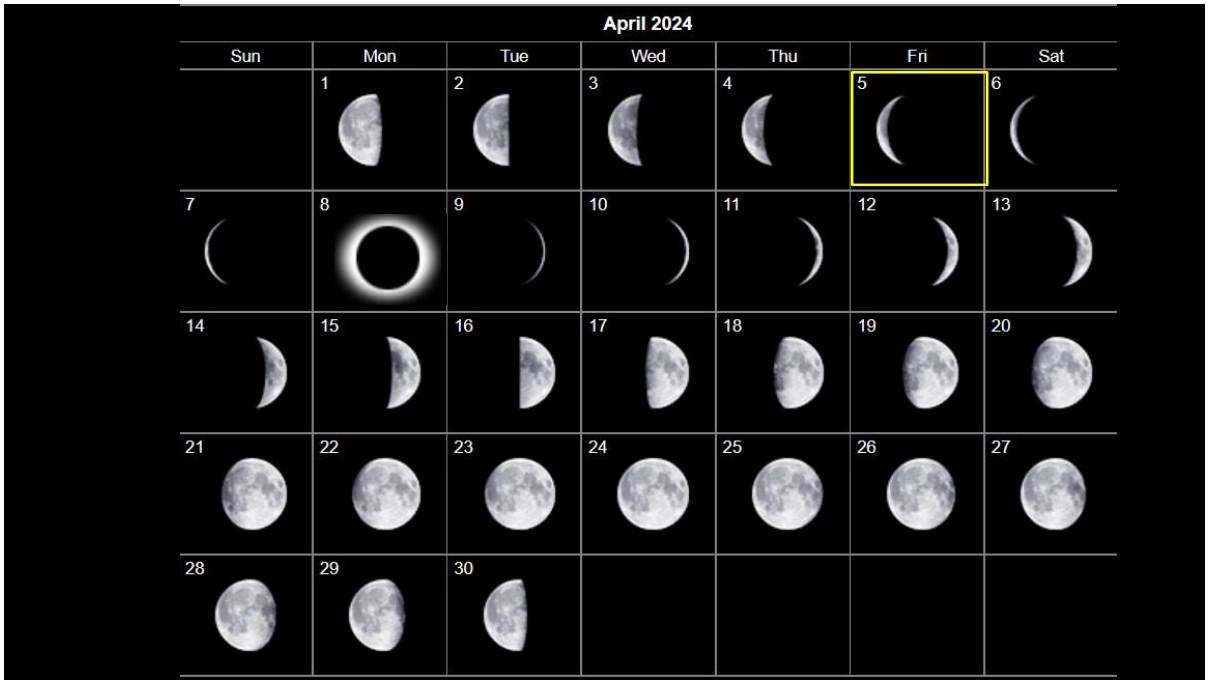
SIGN UP FORM HERE

https://forms.gle/yzXQPKZybGnispTGA

See you there, Andrea

Ottawa Skies

By Dave Chisholm



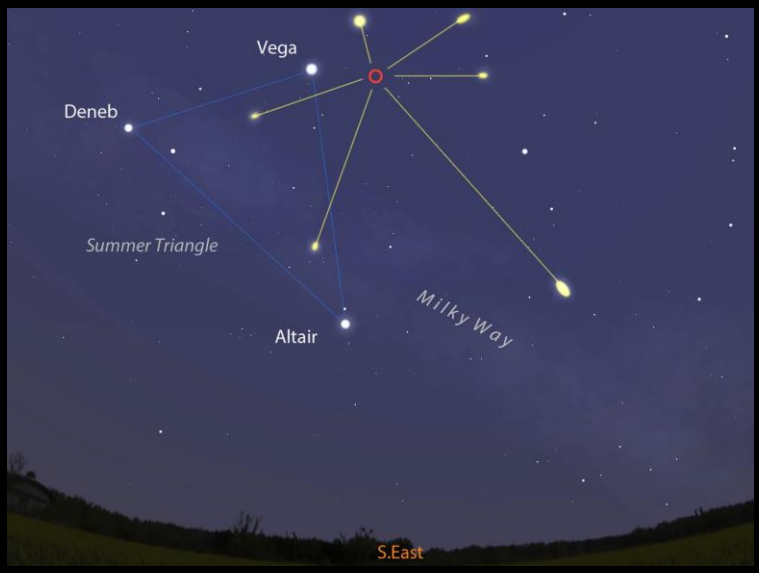
April 8 - New Moon. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 18:22 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

April 23 - Full Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 23:50 UTC. This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of the moss pink, or wild ground phlox, which is one of the first spring flowers. This moon has also been known as the Sprouting Grass Moon, the Growing Moon, and the Egg Moon. Many coastal tribes called it the Fish Moon because this was the time that the shad swam upstream to spawn.

Lyrids Meteor Shower

April 22/23

Best viewing after midnight



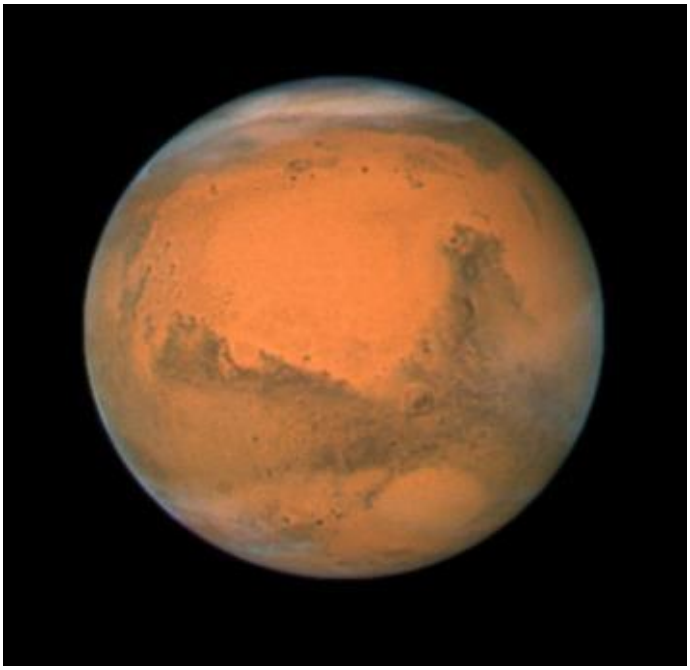
April 22, 23 - Lyrids Meteor Shower. The Lyrids is an average shower, usually producing about 20 meteors per hour at its peak. It is produced by dust particles left behind by comet C/1861 G1 Thatcher, which was discovered in 1861. The shower runs annually from April 16-25. It peaks this year on the night of the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds. Unfortunately, the glare of the full moon will block out all but the brightest meteors this year. But if you are patient, you may still be able to catch a few good ones. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Lyra but can appear anywhere in the sky.

Mercury

Not visible.
Rise/Set 07:01/20:450 -> 05:14/17:49

Venus

Visible in the evening.
Rise/Set 06:19/17:54 -> 05:40/19:09



Mars

Visible before sunset toward end of month.
Rise/Set 05:40/16:17 -> 04:33/16:22

Jupiter

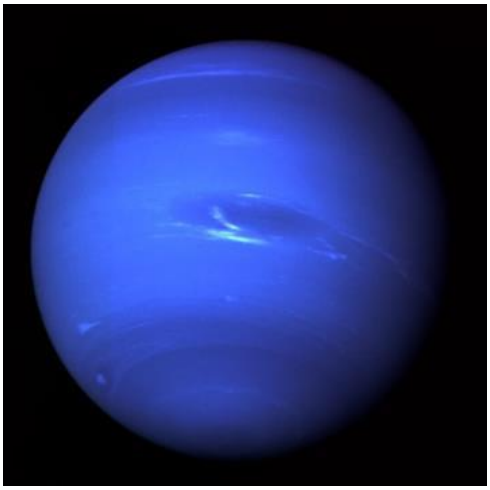
Visible early evening.
Rise/Set 08:13/22:28 -> 06:36/21:08

Saturn

Visible before sunset toward the end of the month.
Rise/Set 05:56/16:48 -> 04:09/15:09

Uranus

Visible in the evening.
Rise/Set 08:19/22:47 -> 06:29/21:01



Neptune

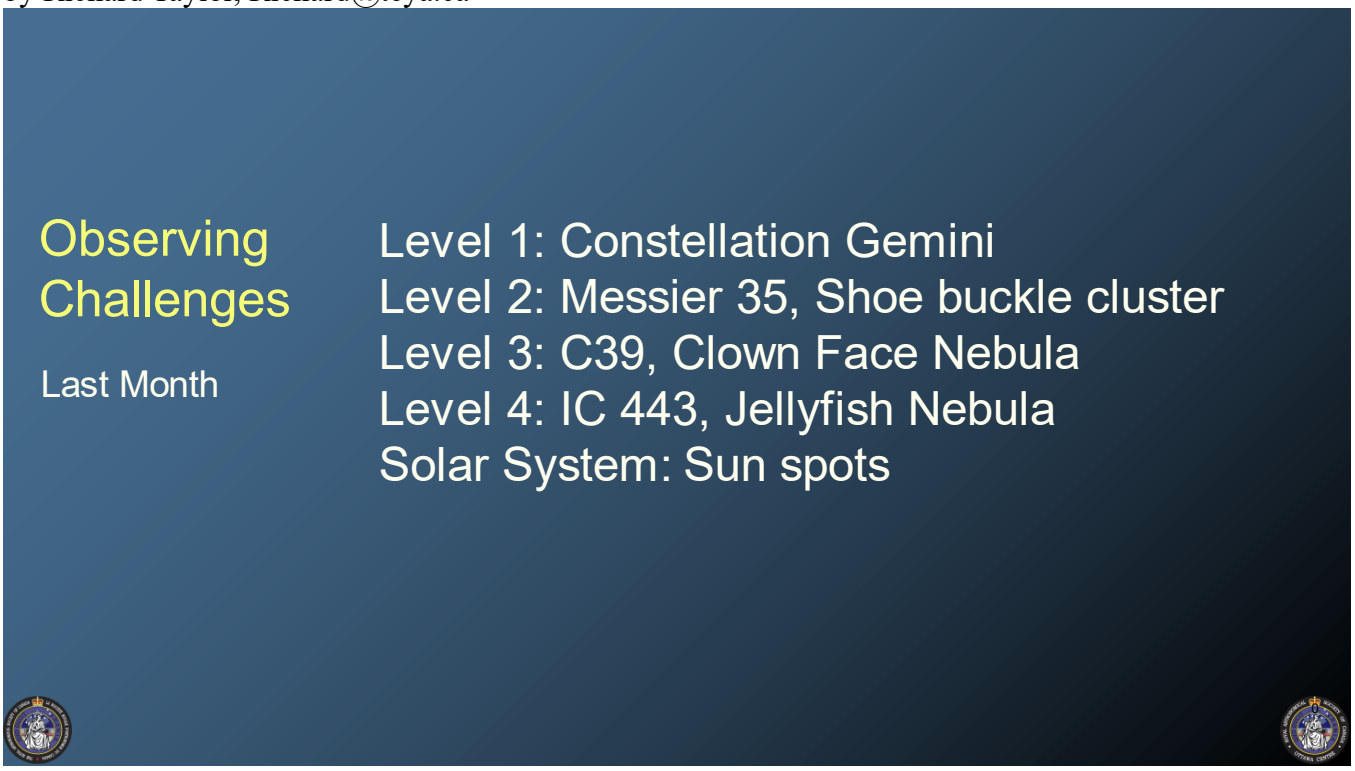
Visible before sunset toward end of month.
Rise/Set 06:23/18:05 -> 04:31/16:16

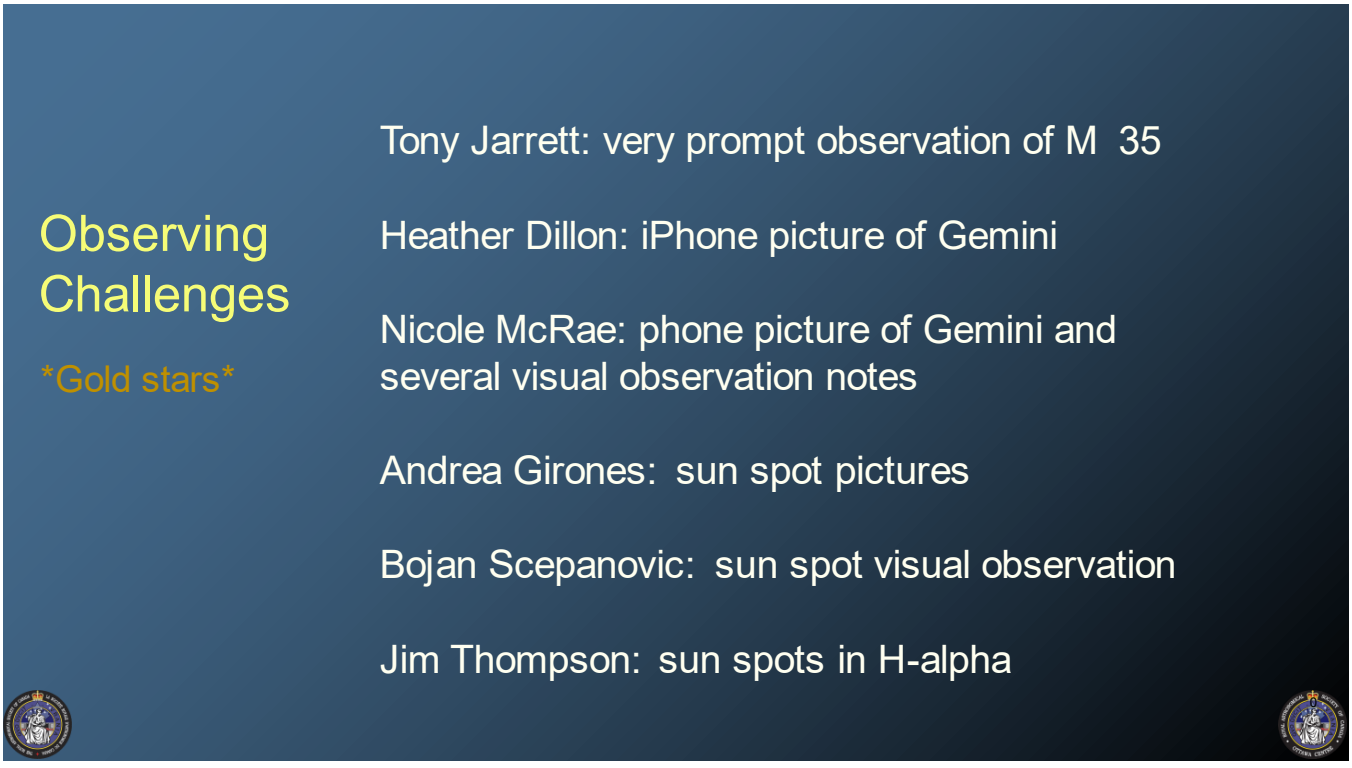
Planet Visibility 2024

	Mercury	Venus	Mars	Jupiter	Saturn	Uranus	Neptune
January	AM (12th)	AM	X	PM	PM	PM	PM
February	X	AM	X	PM	PM	PM	PM
March	PM (24th)	X	X	PM	X	PM	X
April	X	X	X	PM	X	PM	X
May	AM (9th)	X	AM	X	AM	X	AM
June	X	X	AM	X	AM	AM	AM
July	PM(22nd)	PM	AM	AM	PM/AM	AM	AM
August	X	PM	AM	AM	PM/AM	AM	AM
September	AM (5th)	PM	AM	PM/AM	PM/AM	PM/AM	PM
October	X	PM	AM	PM/AM	PM	PM/AM	PM
November	PM(16th)	PM	PM/AM	PM/AM	PM	PM/AM	PM
December	X	PM	PM/AM	PM/AM	PM	PM/AM	PM

The Monthly Challenges

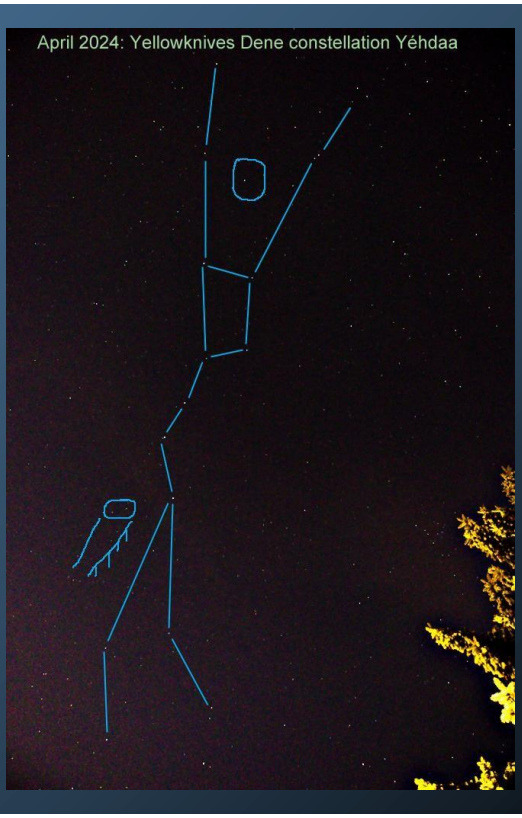
by Richard Taylor, Richard@teya.ca





Constellation Challenge

Yamo òzha, or
Yéhdaa



Constellation Challenge

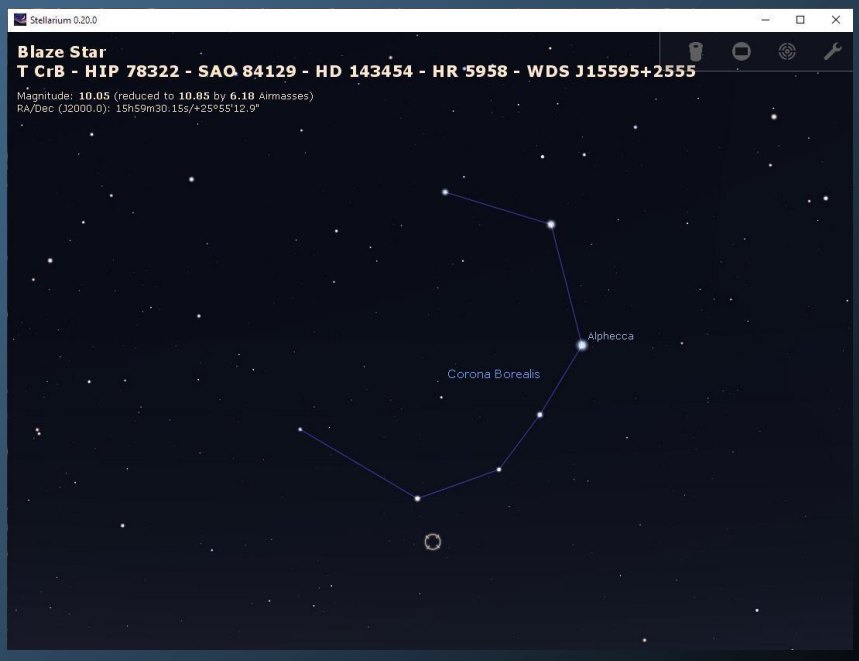
Level 1: find Yéhdaa
Level 2: The Springs of the Gazelle
Level 3: M108
Level 4: NGC 2841

Solar System Challenge

Solar Eclipse, April 8

Extra Challenge, Next few months

T CrB Blaze Star
When will it blow up?



Submitted Images

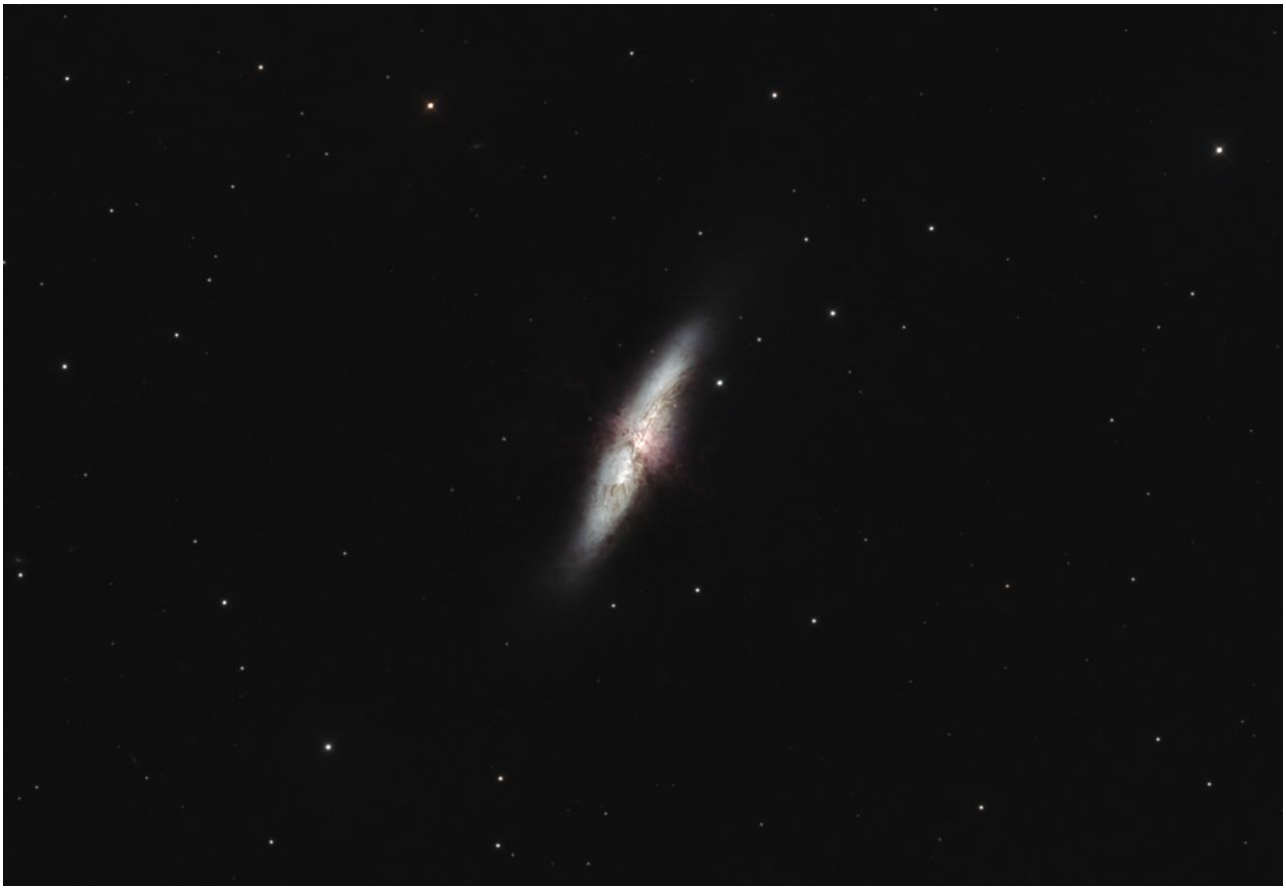
Bob Olson

M102 The Spindle Galaxy

The original discoverer of M102 was Pierre Mechain who then shared the information with Charles Messier who added it to his now famous Messier list.

These guys had no idea what they were looking at. They were unable to differentiate between galaxies, nebula, planetary nebula, or even star clusters. The only way they could identify comets was that comets moved, and the rest did not.

Their main goal was to find comets and Messier's list was just to identify objects that might be confused with comets. About two years after his discovery, Mechain retracted his claim, explaining that he had actually just discovered M101 twice. This is not likely as M101 and M102 are 9° apart, and M101 is easy to locate because of its proximity to the Big Dipper. It is more likely that he just couldn't find M102 again because it is much dimmer than M101. Even today we are not quite sure that this Galaxy is the one that was originally discovered as M102.



M82 The Cigar Nebula

This galaxy has a very active core made up of a supermassive black hole. This blackhole has a mass of 30 million solar masses. In the core there also appears to be an intermediate black hole with a mass of roughly 200 to 5000 solar masses.

M82 has about 200 starburst regions each of which is producing young stars at a rate 10 times higher than they are inside our entire Milky Way Galaxy. The red filaments in the image are probably supernova remnants. We are finding about one supernova every 10 years in M82.

There also appears to be gravitational interaction between M82 and the nearby M81. All in all, this is one very active galaxy.

M82 is about 12 million light years distance, and it contains at least 30 billion stars.

M64 The Black Eye Galaxy

This galaxy is about 17 million light years from Earth. The name comes from the Central region which does look like a black eye. The Central region rotates in the opposite direction to the part of the Galaxy outside of this region. This counter rotation is probably due to M64 absorbing a nearby galaxy.

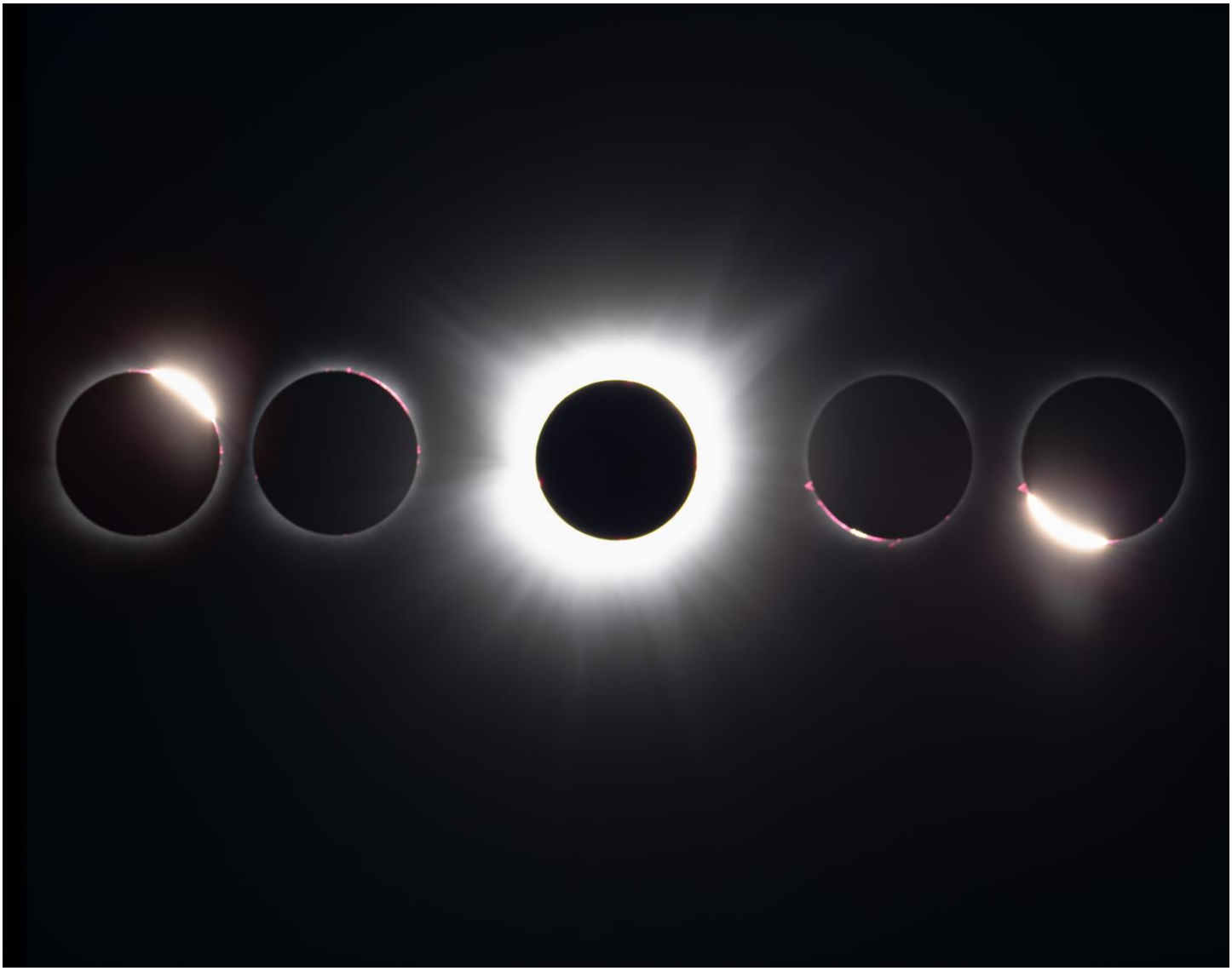
M64 contains about 100 billion stars.

IC443 The Jellyfish Nebula

This nebula is a supernova remnant in the constellation Gemini, and it is about 5000 light years from Earth. The supernova exploded about 30,000 years ago. This nebula is too large for my camera to capture in one image, so this image is a two pane mosaic.

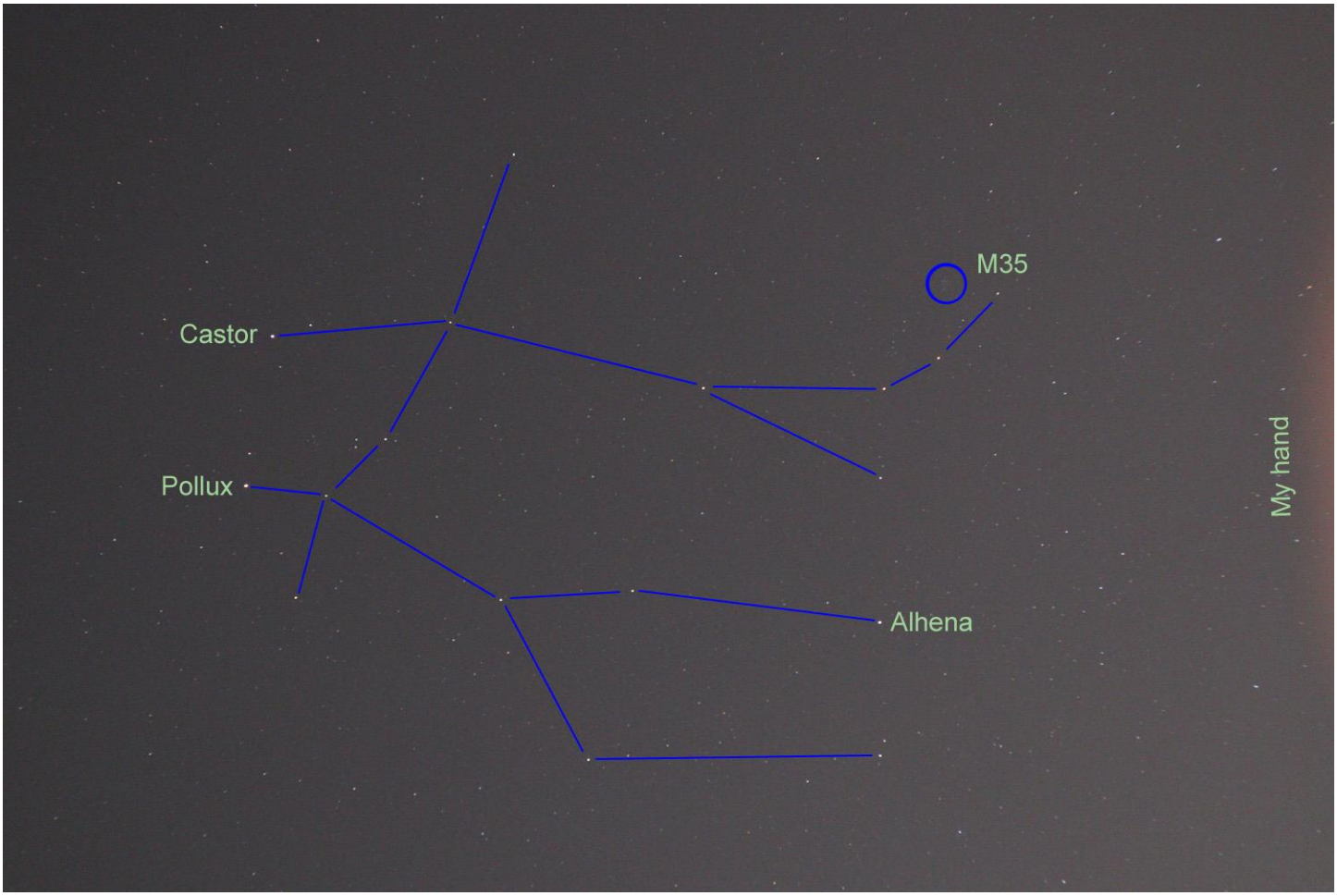
Andrea Girones

Comet 12P/Pons Brook, Shot at 250mm March 28th 2024



Solar Eclipse April 8, 2024

Richard Taylor



Gemini from CASM

After the RASC Ottawa Centre meeting of (date and time) 2024-03-01 22:15 EST, (name) Richard Taylor set up his (equipment) Canon M100 mirrorless camera on a tripod (location) outside the front entrance of the Canadian Air and Space Museum. (conditions) The sky was cloudless but there was a lot of light pollution from Ottawa and locally from the parking lot lights. After focusing on Sirius using the live view screen, and some experimentation with the settings, I took the attached picture F=32mm, f/5.6, 10s, ISO 2500 with a time delay to avoid vibrations. This is a jpeg file from the camera with only (post processing) a resolution reduction from 6000x4000 to 1500x1000 pixels.

To my not-dark-adapted eyes, only Castor, Pollux and Alhena were visible. On my first few attempts, there was a bright "star" just below the constellation. When I looked closely, it turned out to be lens flare from one of the parking lot lights. I tried cupping my hands around the lens to shade it. That was successful in removing the flare, but replaced it with an orange glow along the edge. If you look VERY closely, you can see a fuzzy bunch of stars in the right place for M35. Comparing the original image with a star map from Stellarium, I have captured stars down to about magnitude 7.5.

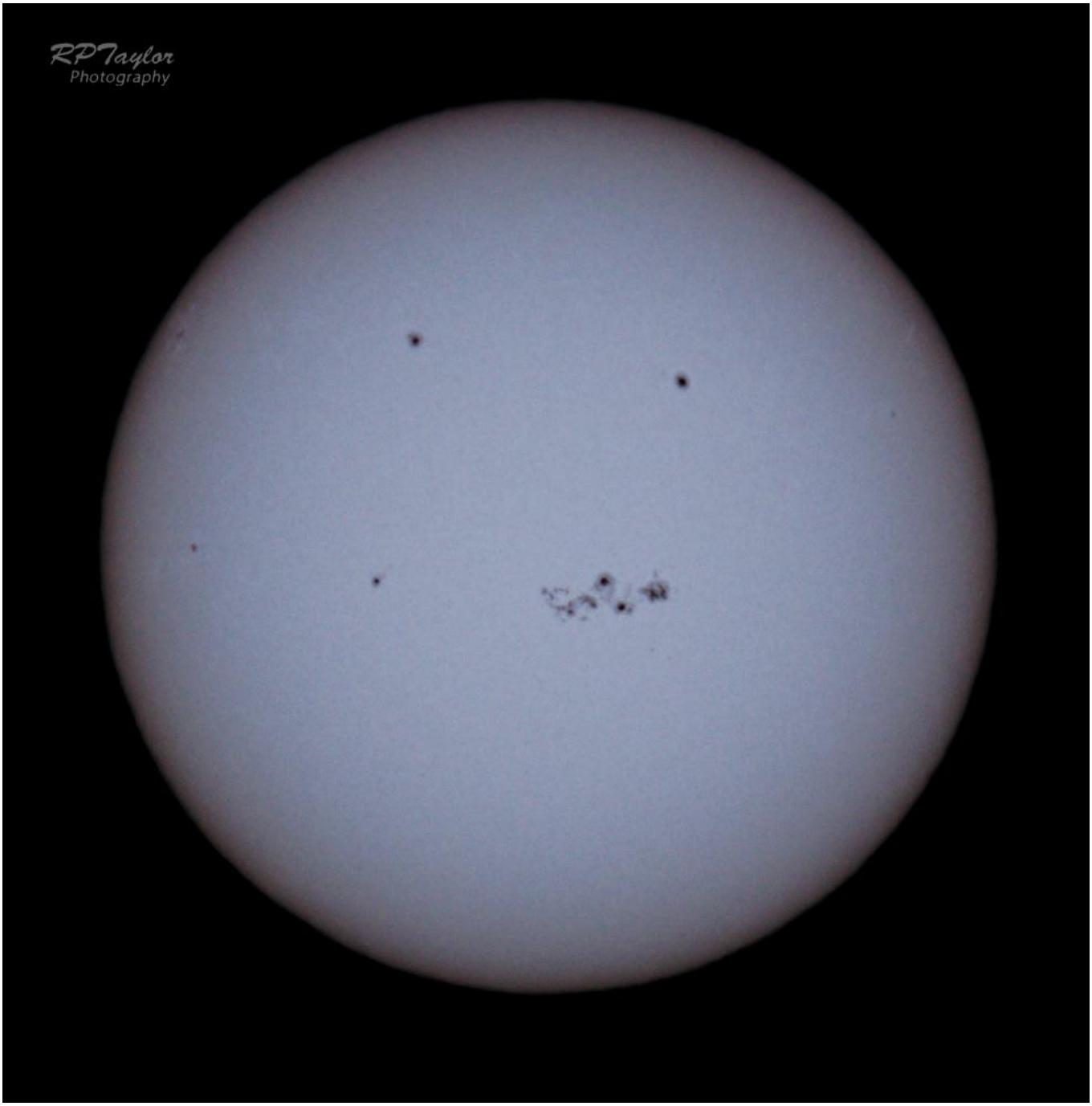
Messier 35 the Shoe Buckle Cluster
On 2024-03-04 between 7:30 and 8:00 pm EST, in Carlington, Ottawa, I captured Messier 35 using a ZWO ASI178MC camera on a William Optics Z73 refractor on an iOptron HEM27 tracking mount, guided. There was only a short period with no clouds. This is a stack of 37x30s exposures at gain 100. Calibrated, stacked and processed in PixInsight.

Caldwell 39 the Clown Face Nebula

On 2024-03-03 from about 7:30 to 8:30 pm EST, I tried using some planetary techniques on a planetary nebula. That is, I used a long focal length (2000 mm) for high magnification, took a lot of short exposures and stacked the best of them. Then I did a lot of sharpening on the stacked image to bring out the details. Unfortunately, in my full resolution raw images the stars were too big and blurry to be identified as stars by the stacking software, so I had to subsample them all by 50% to get the stacking to work. I used my ZWO ASI178MC camera on a Celestron 8" SCT on the iOptron HEM27 mount, guided. This is a stack of 215x10s exposures at gain 100. Calibrated, stacked and processed in PixInsight.

IC443 Jellyfish Nebula

I finally got a chance to go out to FLO on a clear night - Easter Sunday, March 31. It looked like a great chance to catch a couple of large faint nebulae, and there were several other members also eager to catch some good views. However, with the weather cooperating, my equipment did not. First, the tracking mount had forgotten the date and time so it wouldn't GOTO correctly, then I kicked it off its polar alignment, and then it wouldn't cooperate with the guiding software, so most of my pictures were spoiled. I did manage to catch three, 5-minute exposures of the Jellyfish Nebula. Enough to catch the body of the jellyfish, but not the tentacles.



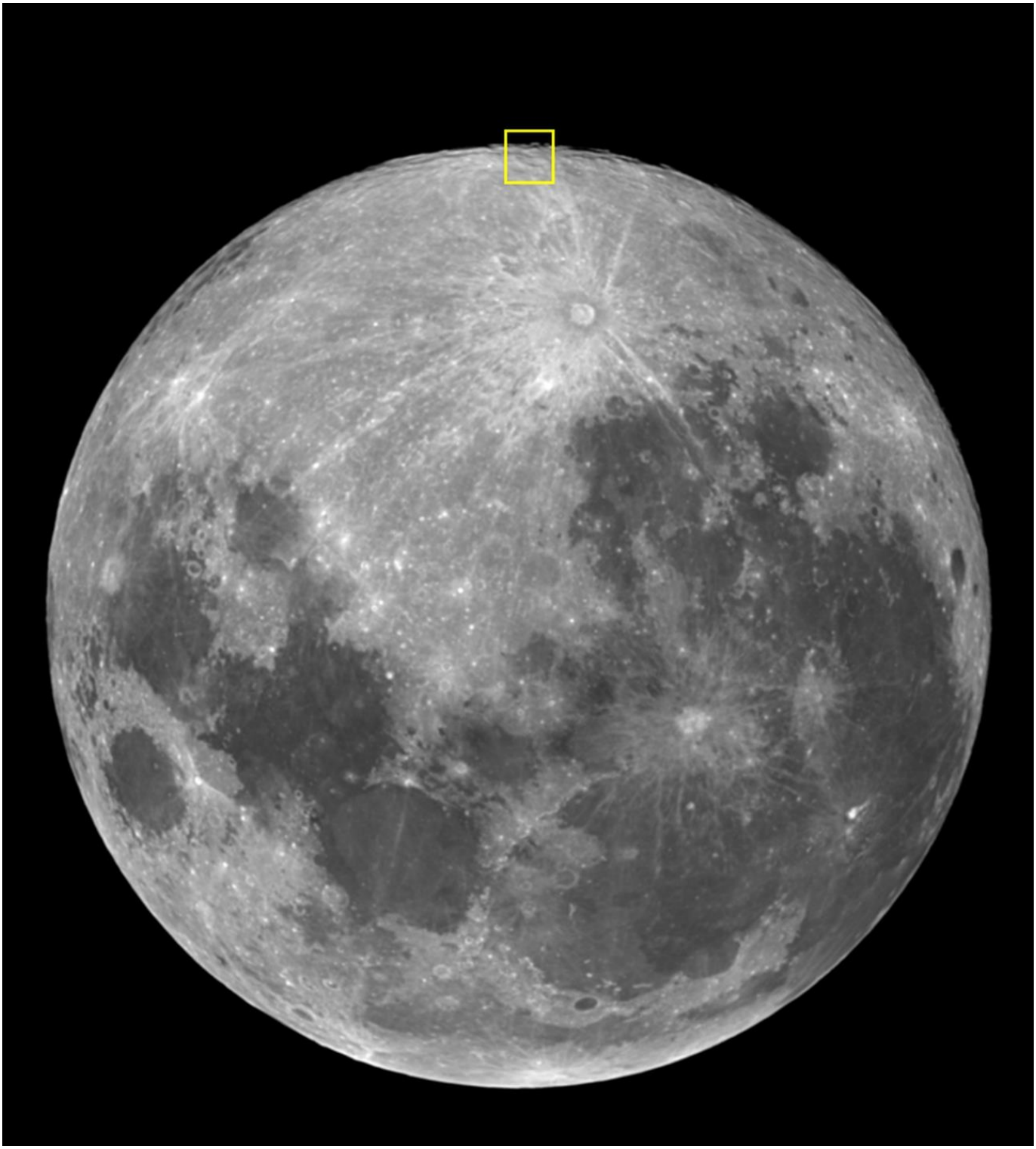
Sun spots

My great-niece was scheduled to visit on March 24, and the sky was beautifully clear, so I set up my WO Z74 with its Baader solar filter in time for her arrival. Before she arrived, I tried a few shots with my Canon M100 camera to test the configuration I plan to use for the upcoming eclipse. This is a single 1/2000 s exposure at ISO 100, and although this is cropped to better show the sunspots, I was very pleased with the size of the sun in the frame - I should be able to capture a good amount of corona with this configuration. When my great-niece arrived, I showed her the view through an eyepiece, then gave her a pair of eclipse glasses to try. She said she could see the sunspots with them also, my old eyes couldn't.

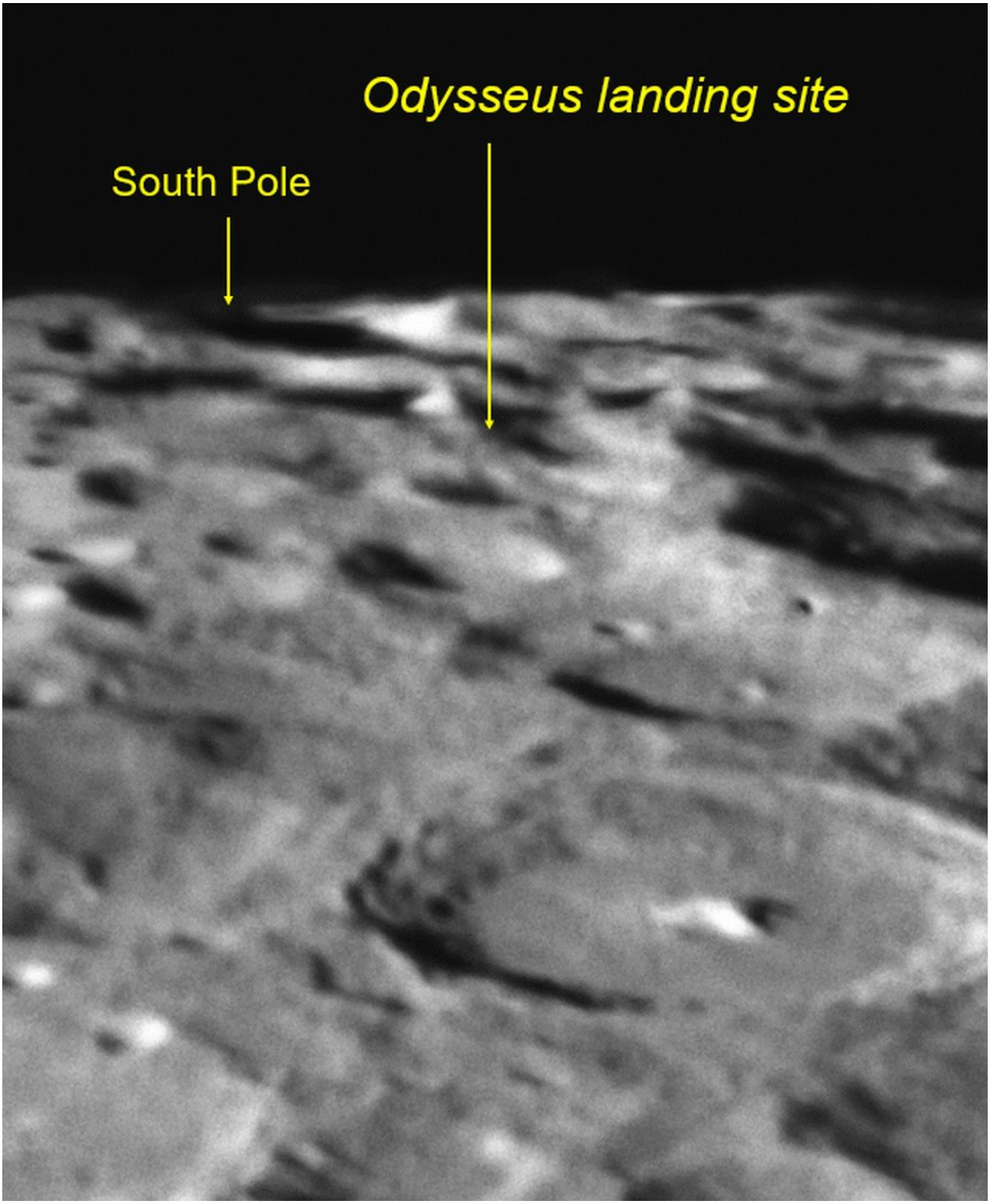
Comet 12P Pons-Brooks

On 2024-03-12, we had a nice clear evening. I had taken a walk in the afternoon to scout out possible observing locations near my house with a clear view to the north-west. The school yard of W.E. Gowling Public School turned out to be the most convenient - the parking lot light was on the east side. I wanted to get as much of the tail as possible, so I used my Canon M100 mirrorless camera on the William Optics Z73 re3fractor (F=430mm) on the iOptron HEM27 mount. The first set of pictures were just as twilight was fading around 8:00 pm EDT, and I didn't guide. The second set started at 8:30 pm and was guided. This gave slightly better results. This is a comet aligned stack of 30x30s exposures at ISO 800. Calibrated, stacked and processed with PixInsight. BlurXterminator corrected the star streaks back into points of light failry well, but if you look closely, you will notice some artifacts. I was unsuccessful in separating the comet from the stars in order to process them separately.

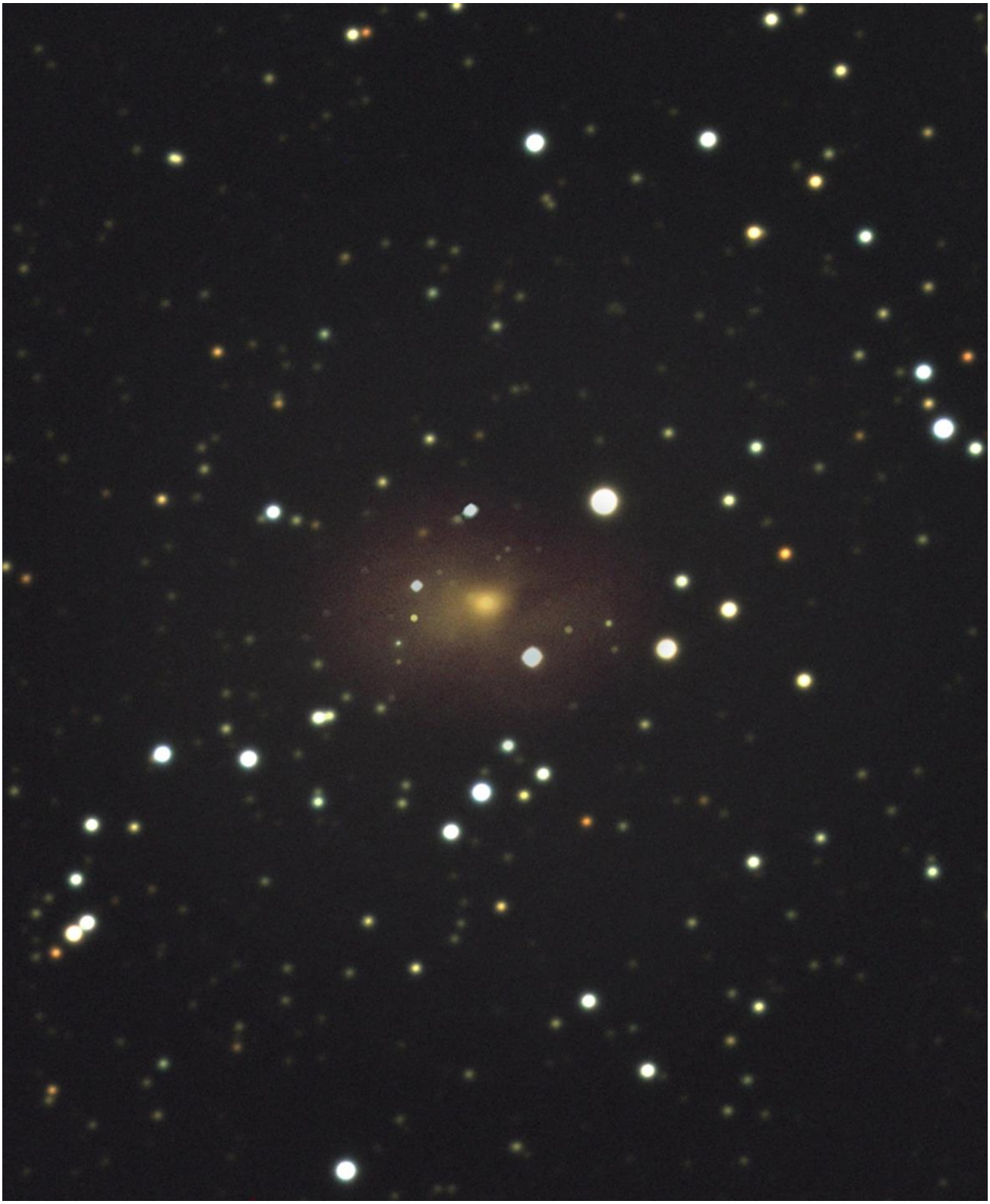
Paul Klauninger



Moon indicating Odysseus landing site_Paul Klauninger
Imaged with an 82mm Evolux apo refractor @ F5.82 and ASI2600MM-Pro using a 685nm IR pass filter



Lunar south polar close-up indicating Odysseus landing site_Paul Klauninger
Imaged with an 11" Celestron EdgeHD @ F20 and NexImage 5 camera



Maffei 1 in LRGB_Paul Klauninger
Imaged with an 11" Celestron EdgeHD @ F10 and ASI2600MM-Pro using LRGB filters

Maffei 2 in Near Infrared_Paul Klauninger
Imaged with an 11" Celestron EdgeHD @ F10 and ASI2600MM-Pro using 685nm & 742nm IR pass filters

Comet 12P/ Pons-Brooks on 2024-03-31_Paul Klauninger
Imaged with a Canon 280mm F5.6 lens and Canon RP full-frame mirrorless camera

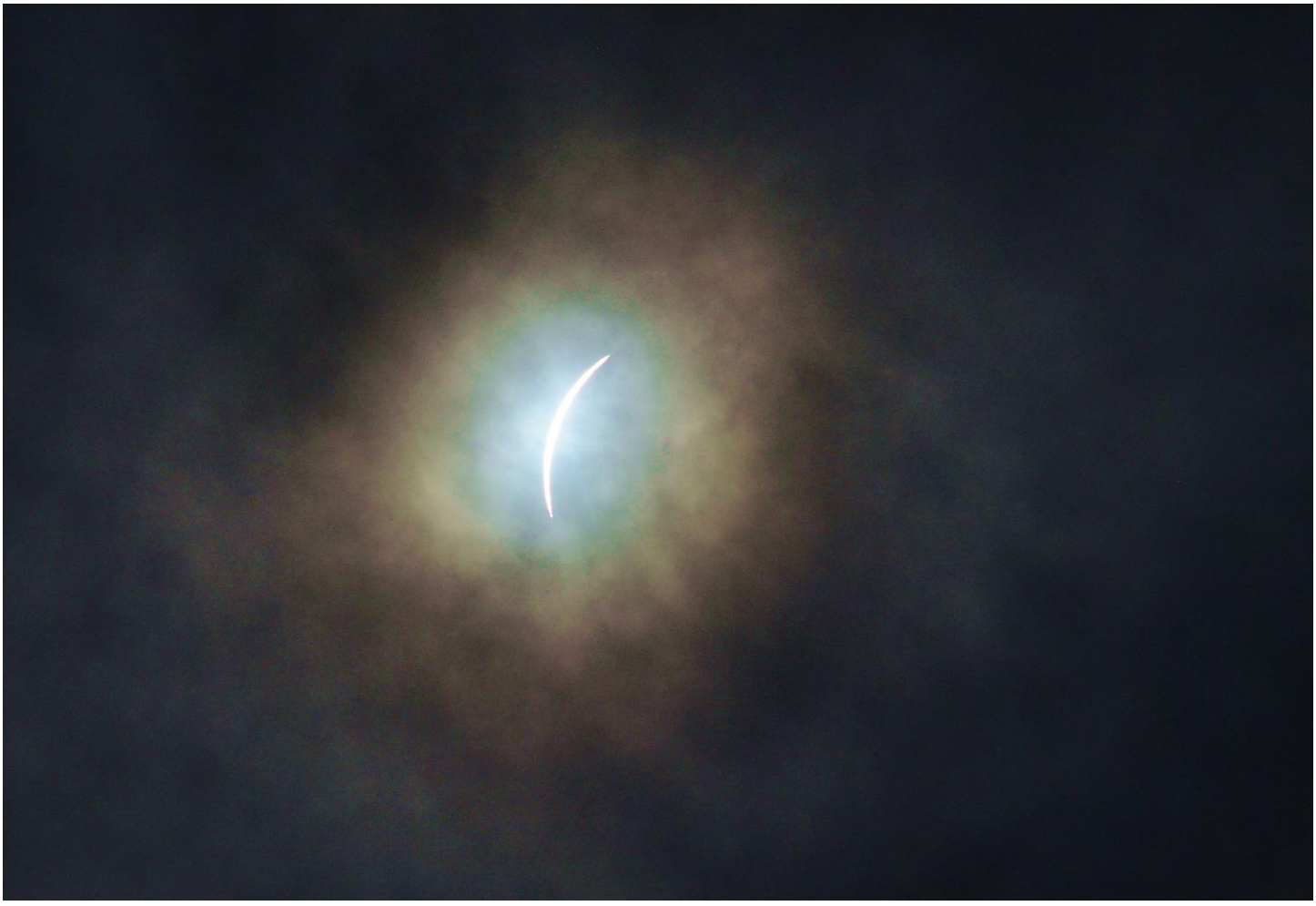
Howard Simkover

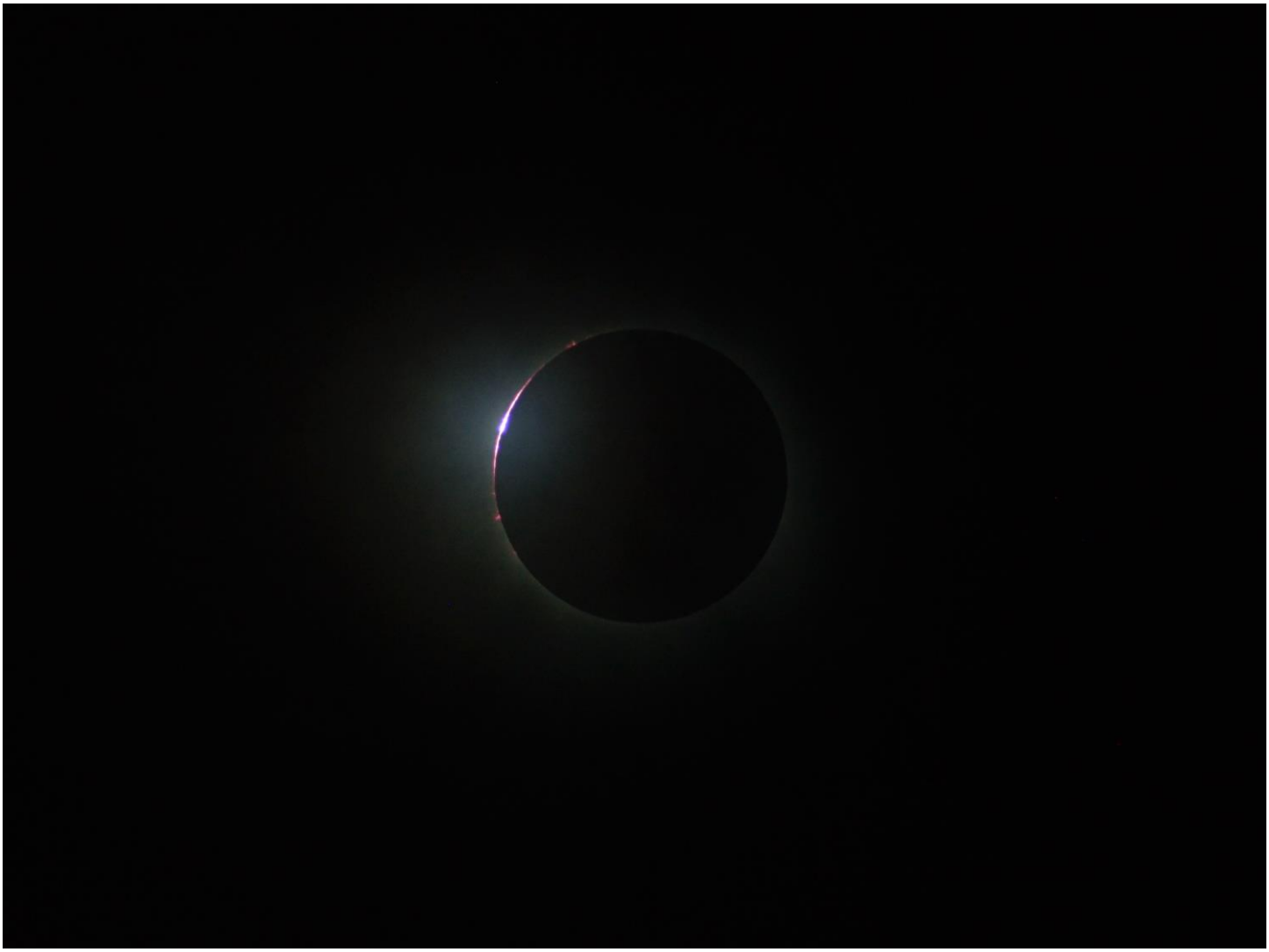
It was a "rabbit out of a hat" here at Torreon, Mexico. The sky dawned almost 100% cloudy, so we expected that the eclipse would be completely lost.

1st contact was not seen due to the clouds. However, breaks began to appear in the clouds as the eclipse progressed...The temperature gradually dropped.... At totality, the sun's corona shone right through the thin cloud. . We saw beautiful "diamond rings" at both the beginning and end of totality. The sky became very dark, with magnificent sunset colours along the horizon in all directions, at the edge of the Moon's shadow. The clouds in the sky made these colours even more spectacular.

My wife Louise and I observed with a very enthusiastic crowd of 750 people from all over the world on the field of a university football stadium, around 30 km., from Torreon, and within 2 km. of the centre line of the eclipse. We experienced 4 minutes and 28 seconds of totality.

Here are some of my photos (400 mm. lens)





All in all, it was a **wonderful** eclipse!

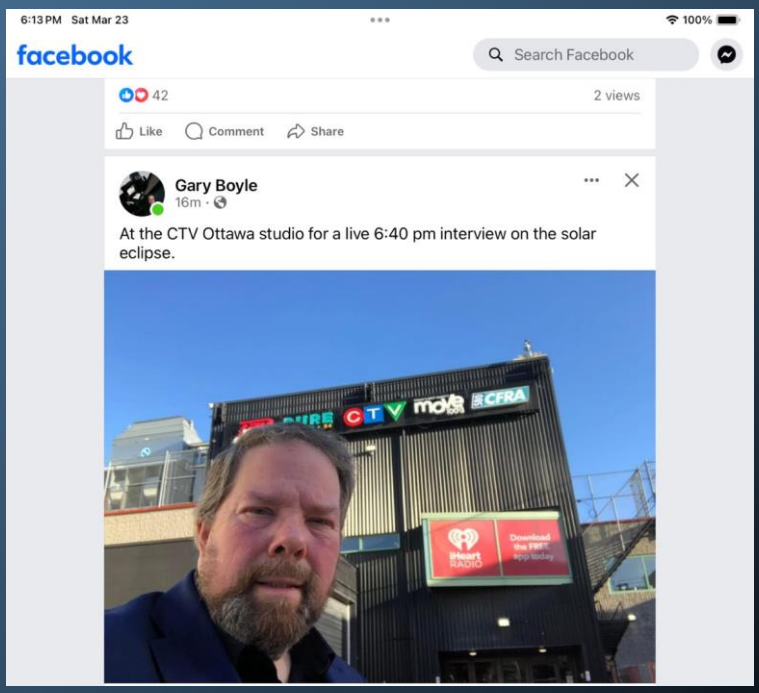
This was my 4th eclipse in the same saros - March 7, 1970 (North Carolina), March 18, 1988 (Davao, Philippines), March 29, 2006 (Libya), and April 8, 2024 (Torreon, Mexico).

I hope you had a good view as well!!!!

Members In the News

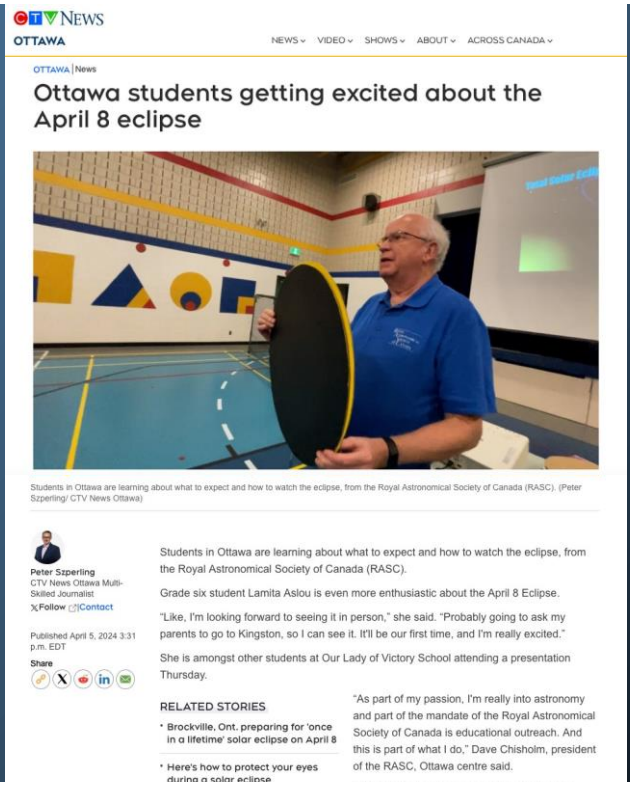
RASC
Ottawa Centre

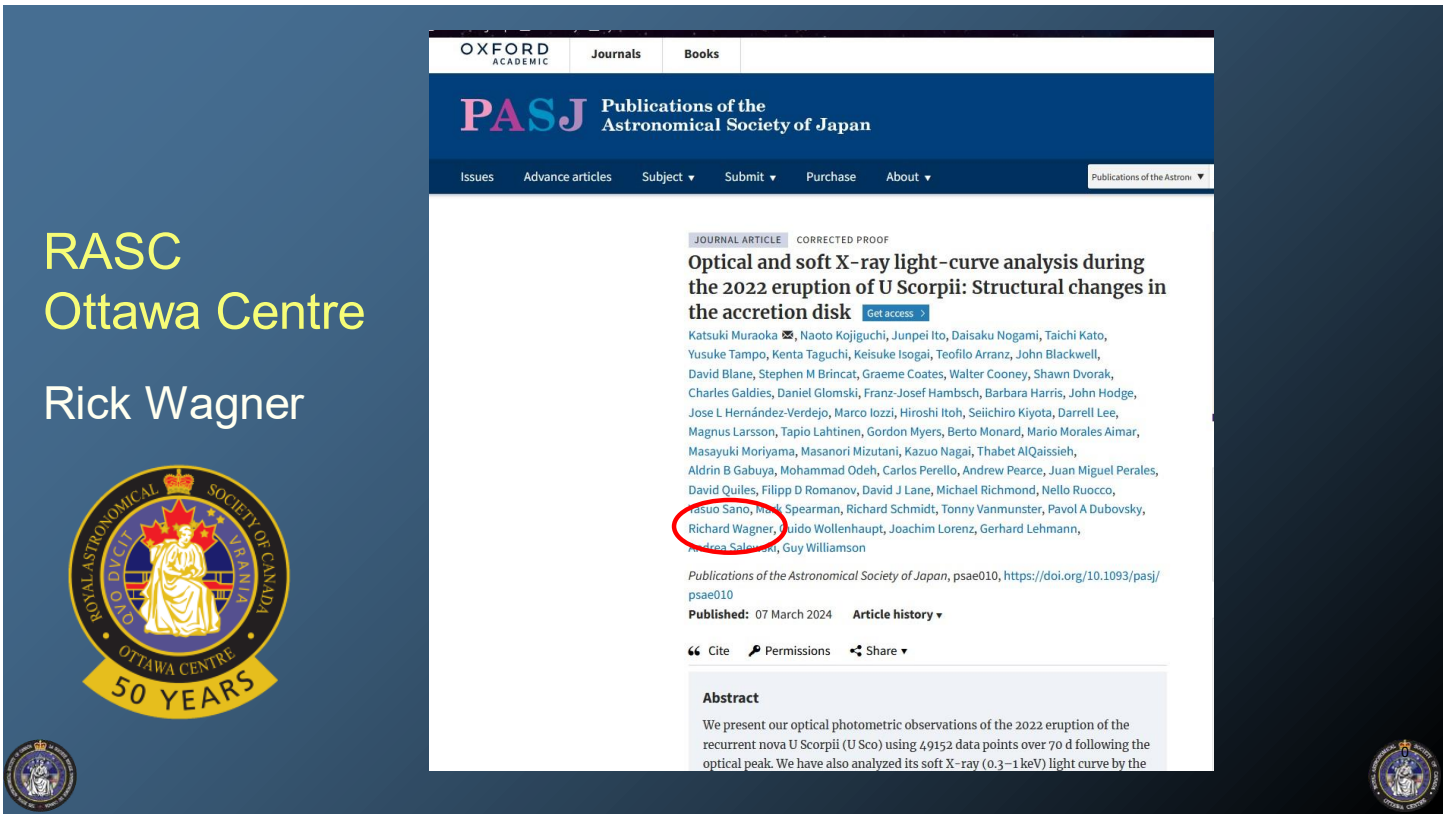
Gary Boyle



RASC
Ottawa Centre

Dave Chisholm





Announcements

Join the RASC-Ottawa Centre Discord

What is Discord? The discord app is a modern take on an electronic bulletin board. Once you join the server you can post messages and reply to messages in different Channels. In the RASC Discord we tried to create channels for different astronomical interests. There are text and voice channels as well.

First, you must download the Discord App on your desktop or your mobile device . Then you click on the invitation link. Here is a link that clearly explains how to download the Discord App. Discord recommends that you start on a desktop computer for the best experience.

https://www.cnet.com/tech/services-and-software/how-to-download-discord-and-join-servers/

Once you have installed Discord you can click on this Invitation link.

https://discord.gg/F38EtqVt

The link is only valid for 7 days unfortunately. Should you need a new link kindly send a note to Andrea Girones at agirones@gironeslaw.com and she will send you one. She is also happy to respond to any suggestions to make the Discord experience better for the membership.

Additions to the Telescope Library

Bob Griffin recently donated a lovely pair of Celestron SkyMaster 25x100 binoculars to the Telescope Library. At 9 pounds they are much lighter than the Orion 25x100's in the library, although they still require a tripod. They can accommodate a narrower Inter-Pupillary Distance than the Orions, but their eye relief is quite short. They have individual focus on each eye, which I definitely prefer for astronomy. They come with a nice soft carry bag. All in all a good addition to the library. Thanks Bob!

The SkyMasters join a growing set of big binoculars available from the library, including 7x50, 12x60, 20x80, and 25x100. All of the library binoculars are reasonably good quality and well-suited for the night sky. Big binoculars have several benefits for visual astronomy, including delivering immersive views and wide fields of view. They are also simpler to use than a telescope, and easy to set up and transport.

If you have never looked at the night sky with big binoculars you are in for a treat! The library offers heavy-duty tripods and adapters to go with each set of binoculars. As usual, all loans are free to RASC members. For more information check out the big binoculars page on the link below.

https://www.ottawa.rasc.ca/binocular/

FOR SALE

The RASC Ottawa telescope lending library will shortly be selling an almost new Celestron 11" EdgeHD OTA for an asking price of $3,500. Members get first crack at it. For more information or pictures please contact Peter Schut at ottawatelescopelibrary@gmail.com

Reminder

If you have images you would like to submit to the RASC Calendar, please do so before the deadline at the end of the month.

Public Star Parties

Carp Star Party Dates

Here are the (tentative) dates for this Spring and Summer. Thanks Katie!

May 10/11
June 14/15
July 12/13
August 10
September 13/14

FLO Star Party Dates for 2023

Our Ottawa Centre's Members' Star Parties at the FLO will continue this spring and summer. If you haven't attended before, be sure to mark at least one of these dates on your calendar. You are welcome to bring family members or a guest. The GO/NO GO call will be made on the Centre mailing list, about noon the day of the star party. PLEASE NOTE: With the limited success we have had with decent weather on the schedule dates we have been discussing "rain dates" for these star parties. The challenge is that they are planned around the New Moon and since many of us are still working, they need to be on a Friday or Saturday evening. Moving to the following weekend often means we will have to much Moon but that may be the price we need to pay to have more of these take place. Possible alternate dates would be the Friday before or the Friday or Saturday after the posted date. Stay tuned!

DATES for the rest of this year and the first half of 2024

- ~~Feb 10 – Waxing Crescent .9%~~ NO GO
- ~~March 9 – Waning Crescent .8%~~ NO GO
- ~~April 6 – Waning Crescent 6.8%~~ GO on Sunday, April 7
- May 11 – Waxing Crescent 15%
- June 8 - Waxing Crescent 5.4%
- July 6 - Waxing Crescent .8%
- August 3 – Waning Crescent .8%

- September 7 – Waxing Crescent 18%
- October 5 – Waxing Crescent 7.5%
- November 3 – Waxing Crescent 1.4%
- December 28 – Waning Crescent 5.3%

Next Meeting

7:30 PM **Friday, May 3, 2024.** This will be a hybrid meeting, both **an in person meeting at the Aviation & Space Museum and on Zoom.** Note there will be a $5.00 parking fee. The meeting runs until approximately 9:30 pm this will be a wonderful opportunity to meet new friends (and catch up with those old friends you haven't seen in a couple of years) who share a common interest and chat in a relaxed, stimulating, and fun environment. Please join us!

Centre Information

To subscribe (or unsubscribe) to our members-only discussion list (rascottawa@googlegroups.com) please contact secretary@ottawa.rasc.ca .

The Ottawa Centre 2023 Council

President: Dave Chisholm (president@ottawa.rasc.ca)
Vice President: Oscar Echeverri (vice-president@ottawa.rasc.ca)
Secretary: Chris Teron (secretary@ottawa.rasc.ca)
Treasurer: Richard Taylor (treasurer@ottawa.rasc.ca)
Centre Meeting Chair: Mick Wilson
Councillors: Andrea Girones, Tim Cole, Katie Francis
National Council Representatives: Jean-Sebastien Gaudet, Stephen Nourse, **OPEN**
Past President: Stephen Nourse

2023 Appointed Positions

Membership: Art Fraser(membership@ottawa.rasc.ca)
Star Parties: Katie Francis (starparties@ottawa.rasc.ca)
Fred Lossing Observatory: Rick Scholes (flo@ottawa.rasc.ca)
Light Pollution Abatement: Bernie Hasselman
Public Outreach Coordinator: Asser ElGindy (outreach@ottawa.rasc.ca)
Hospitality: Ann Quevillon
Stan Mott Astronomy Library: Estelle Rother (librarian@ottawa.rasc.ca)
Ted Bean Telescope Library: Peter Schut (ottawatelescopelibrary@gmail.com)
Webmaster: Mick Wilson (webmaster@ottawa.rasc.ca)
AstroNotes Editors: Gordon Webster & Douglas Fleming (astronotes@ottawa.rasc.ca)