

Skyward

May - June 2026 Edition

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- Globulars in Serpens and Ophiucus
- Simple Travel Astrophotography
- Comfort in the Sky
- Mozart Jupiter Symphony
- NEAF 2026
- The li-TT-le Things that Matter

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Cover Image: By Olivier Habay, June 8. Here is my version of the Venus-Jupiter conjunction with a little artistic touch. Taken at the St Anne de Bellevue look out point. The light reflection in the water is actually from Venus and Jupiter. I thought it was neat.

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Note from the Editor



Hi fellow RASCals.

Did you catch the occultation of Venus by the Moon on June 17th? At a recent Zoom Clubhouse, Santiago Lopez informed us that this event was upcoming. As luck would have it, the clouds parted just as Venus was peeking out. See the photo below (image is inversed left to right) captured by Dominique and myself. Khoa Tran managed a movie. See it on our Facebook Group page at <https://m.facebook.com/groups/2001854050070054/permalink/4573968422858591/?> and the image on [page 32](#).

With summer here, hopefully the skies will clear up soon! We've already had to cancel several observing sessions. Even our Arbo Clubhouses have been mainly chats over coffee. Keep an eye on the website calendar and your email inbox for the next opportunities.

The observing theme this issue is Clusters as Nicole Laporte shows us how to find the Sagittarius clusters of the Explore the Universe Program. Marc Ricard describes the globular clusters in Serpens and Ophiuchus. Although not part of the ETU program, globular clusters are generally easy to spot and are quite fascinating.

You'll read in David Levy's article that he's been ill but thankfully, he's on the mend. Our honorary president is a long time contributor and one-time editor of Skyward.

Our intrepid travelling astrophotographer, Russell Fralich, shares some memories of Grasslands National Park in Saskatchewan. Also, travelling, David Shuman and Alex Stefanescu attended NEAF 2026 and David tells us of all the wonders they saw there. And new contributor, Tim Bird helps us pronounce some of those obscure astronomical names.

Did you enjoy this issue? Our contributors appreciate feedback at editor@rascmontreal.org.

Ed. 



Word from the President



By Morrie Portnoff.

Greetings fellow RASCals,

Good day my fellow RASCALS. Well, it may be a rainy day or weekend (perfect for writing some articles for Skyward) but the days are getting longer and the evenings warmer. So, what do you do on a rainy weekend? Why not take stock of all your astronomy gear, dust it off and get things in tip top shape for the next outing under a clear starry sky.

Last weekend we were at the annual AstroFest held at the Monreal Rio Tinto Alcan Planetarium. Without the support of the astronomy community of Montreal, it would not be what it is: from corporate groups, local universities and CEGEPs, and astronomy groups like RASC. AstroFest is an event that attracts thousands over two days. Saturday was a perfect day with the clear sunny sky. There were many solar telescopes out, from the small ones to the ones we can only get to look through on special occasions. For the public this may have been the first time they experienced looking at the sun and it showed with their enthusiasm. I must thank all our members that took the time to come out for one or both days. Without your enthusiasm we would not be one of the leading astronomy groups here in Montreal and in fact Canada. A big thank you goes out to Nader Daou for being our lead on this and other public and outreach events. Also a big thank you to Karim Jaffer for his ongoing support and experience in helping with these events. Of course, a huge thank you goes out to all the staff, at all levels of the Planetarium, who take such good care of all the volunteers ensuring we have all the necessary support equipment from extension cords to TV/computer monitors. Not to mention an endless supply of coffee, snacks and an amazing lunch and dinner.

Recently we did something a little different. Under the guidance of our Librarian, Cindy, we hosted the Lakeshore Camera Club (LCC). As a former LCC member I can say, what we are to astronomy they are to photography. Many of their talented members take images of the night sky and wanted to learn more about astrophotography. As we say, the stars all aligned with Russell Fralich giving a presentation on ***Mirrorless Camera Astro Imaging in Mexico and the Rockies***. Despite a few logistical obstacles such as a Montreal Canadiens playoff game and an unexpected issue with parking due a John Abbott College event, it was full house at the library. Needless to say, we will be holding another co-event under the night sky at a very special location.

Although the summer observing season is just starting, our annual AGM is not that far away (November). As such we MUST start planning. After three years as President of this great group (with five years before) it is time for a change in leadership. It is not healthy for any group not to have some new “blood” at the helm. We are extremely lucky to have a vibrant and enthusiastic Board of Directors and Executives, but we always need new members willing to help in maintaining this dynamic group we call RASC Montreal Centre. All I can say is if you want to take a more active role in YOUR CENTRE, you will not be disappointed. Come to an event and talk to any of our Executive or Board members to get a feel

for what a leadership role entails. All of our Board meetings are open to any member in good standing to observe and give their opinions or ideas at the end of the meeting. The next BOD meeting on is Tuesday July 14th via ZOOM.

As always, keep an eye out for more announcements of upcoming events over the next weeks and months. I hope to see you at these events. Feel free to introduce yourself if you are new to the Centre. Don't be shy and you will quickly find out that we are a very welcoming group of friends.

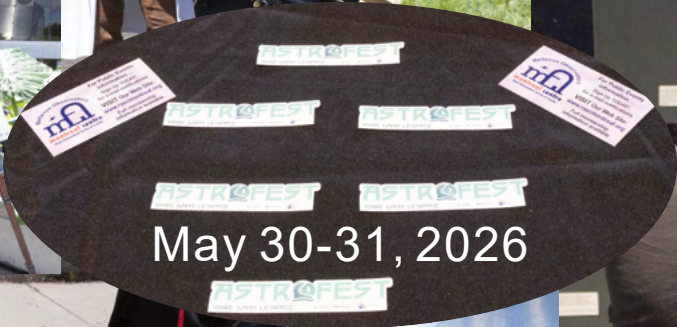
For any member who wishes to help the Board or Executive without the "commitment" you can choose a specific project or event and simply help out. We always need volunteers for events and special projects. Warning: Volunteering and helping can become habit-forming, bringing new friendships and skills. There is no known cure for this ailment.

If anyone has ideas or comments, I am always available. Just send me an email at president@rascmontreal.org or approach me at an event.

Clear Skies as always,



*Russell Fralich giving a talk on **Mirrorless Camera Astro Imaging in Mexico and the Rockies** at Library Night on June 3rd. Photo by Daniel Biron*



Astrofest

Photos by: Morrie Portnoff,
except one by Khoa Tran
(can you guess which one?)

Public Events, Outreach, Inreach



Karim Jaffer, Coordinator - Public Events
Nader Daou, Director of Outreach

Recent Events

May 30-31st ASTROFEST 2026: A STELLAR CELEBRATION OF ASTRONOMY AND COMMUNITY

The stars aligned perfectly this past weekend as AstroFest 2026 brought together thousands of astronomy enthusiasts and curious minds at the Planétarium Rio Tinto Alcan in Montreal. With 6,000 visitors flooding through our doors, this year's event proved once again that the wonders of the cosmos continue to captivate people of all ages.

The weather played a crucial role in the event's success. Saturday's perfect conditions—sunny skies, minimal clouds, and comfortable temperatures—provided an ideal backdrop for outdoor observations and activities. Though this year saw slightly fewer volunteer-led tables compared to previous years, the crowds that attended were just as enthusiastic and engaged with foot traffic building steadily throughout the weekend.

RASC Montreal members played a vital role in making AstroFest 2026 memorable. Our volunteers, Morrie, Patrick, Meghan, Nicole, Jean-Luc, Santiago, Sandra, Arthur, Saeed, Jane, Cindy, Rae, and Lily, demonstrated remarkable dedication, staffing observation areas and sharing their passion for astronomy with visitors throughout the two-day event. The planetarium staff deserve special recognition for their outstanding support and professionalism in making this collaboration a tremendous success.

One of the event's highlights was our Dark Sky Awareness table, where volunteers Michael Finkelstein and Olivia Anne Yuan engaged visitors on Saturday, followed by Oliver Gentili-Peck and new RASC member Steven Rosenstein (Captain Catalyst) on Sunday. Rosenstein, an expert birder and science education innovator, brought fresh energy to discussions about dark sky preservation and its importance to both astronomy and wildlife conservation.

The atmosphere throughout the event was electric. Visitors, from curious children discovering the night sky for the first time to seasoned amateur astronomers, left with eyes shining and hearts full of wonder. Many discovered new interests and passions they didn't know they had. Parents and children alike experienced those magical moments when the cosmos suddenly feels within reach.

Volunteers across all tables reported positive interactions with visitors, from detailed questions about telescope use to genuine curiosity about the latest discoveries in space exploration. The event once again demonstrated RASC Montreal's commitment to public education and science outreach.

This year's success would not have been possible without the partnership between the Planétarium Rio Tinto Alcan, Espace pour la vie, and RASC Montreal, along with support from Ville de Montréal. The event showcased what can be achieved when scientific institutions and volunteer organizations work together toward a shared mission: inspiring the next generation of astronomers and science enthusiasts.

We are already looking forward to AstroFest 2027, with plans to gather feedback from this year's visitors and volunteers to make the next edition even more spectacular. A survey will be sent to all participants in the coming weeks to capture your insights and suggestions.

To all our volunteers, partners, and the thousands of visitors who made AstroFest 2026 unforgettable: thank you. Your enthusiasm reminds us why we do what we do. The universe awaits, and together, we'll continue to explore its infinite wonders.

See Morrie Portnoff's collage of photos above.

Upcoming Events

- **Saturday June 27th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday July 4th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Wednesday July 8th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday July 11th, Members Observing**, Woolly Woods (Watch for NoGo).
- **Wednesday July 15th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday July 18th, Members Observing**, Thompson Park (Watch for NoGo).
- **Wednesday July 22nd, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday July 25th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Wednesday July 29th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday August 1st, Members' Informal Clubhouse**, Morgan Arboretum.
- **Wednesday August 5th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday August 8th, Members Observing**, Woolly Woods (Watch for NoGo).
- **Monday August 11th, Members' Outreach Event, MDA Space**, Morgan Arboretum.
- **Tuesday August 12th, Public Papacosmas Perseids Meteor Shower Event**, Morgan Arboretum.
- **Saturday August 15th, Members Observing**, Woolly Woods (Watch for NoGo).
- **Wednesday August 19th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday August 22nd, Members' Informal Clubhouse**, Morgan Arboretum.
- **Wednesday August 26th, Members' Informal Clubhouse**, Morgan Arboretum.
- **Saturday August 29th, Members' Informal Clubhouse**, Morgan Arboretum.

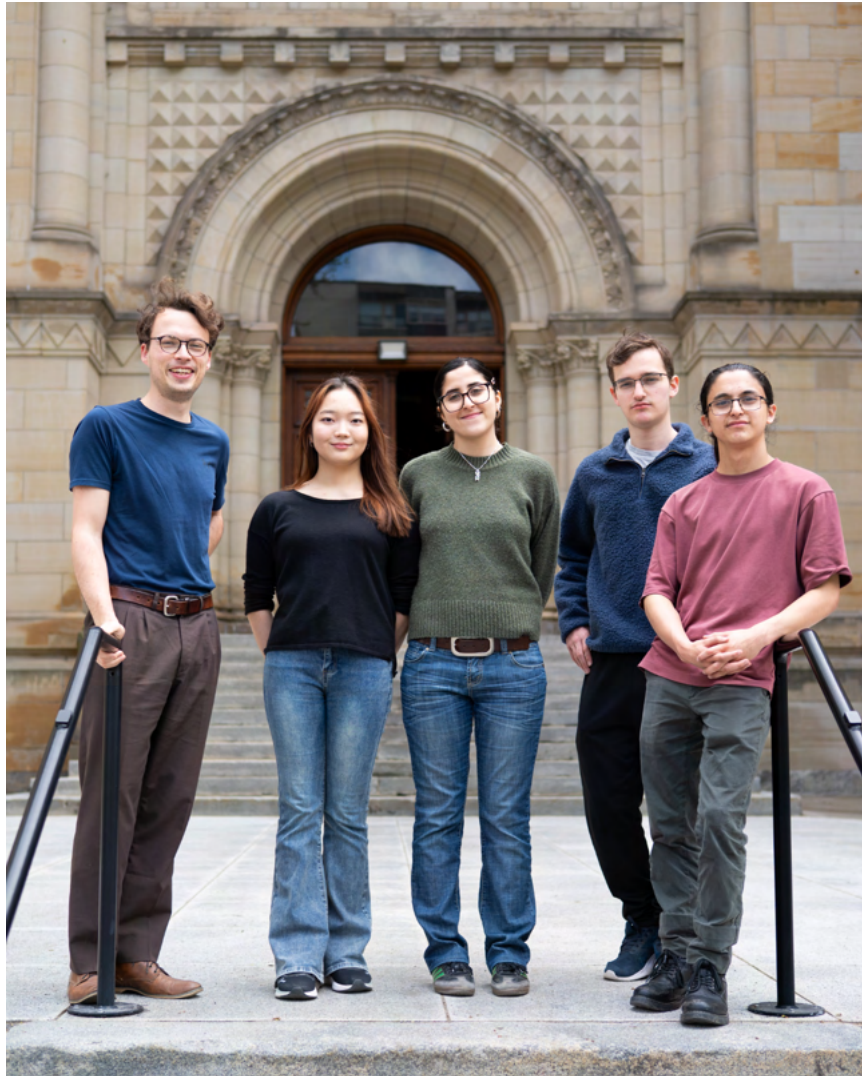
Watch our website for possible updates at <https://rascmontreal.org/our-calendar/>.

RASC Montreal Welcomes Its First Enriched Science Interns

RASC Montreal is excited to welcome four Dawson College students to the Centre through its newly launched RASC–Dawson Science Internship programme, an initiative of the Dawson Astronomical Society. Matthew Balas, Nicolas Botero, Renah Cho, and Kenza Ouibrahim were selected through a competitive application process and will be joining the Centre to contribute to a range of ongoing projects this summer. Their work will include outreach initiatives, archival and cataloguing efforts at the I.K. Williamson

Astronomy Library, and support for public programmes and events. Three of the four students are enrolled in Pure and Applied Science. Kenza and Renah are both planning to pursue Aerospace Engineering at Polytechnique Montréal. We are thrilled to have them on board and look forward to the energy and fresh perspectives they bring to our community.

We would also like to extend our sincere thanks to Tristan Pierce, who served as president of the Dawson Astronomical Society at the time, for his role in making this programme possible.



Tristan, Renah, Kenza, Matthew and Nicolas

Historical Document Scanning Project



By Morrie Portnoff,

As I had mentioned in the last President's article I am embarking on a personal project to scan and preserve the various historical documents the Centre has collected over the past 108 years. The Montreal Centre (1918) is one of the oldest RASC Centres in Canada.

The Montreal Centre has twice relocated its library from our original location at the downtown McGill campus to our current location within John Abbott College. In this process of events, we had to vacate a storage location in the "bowels" of JAC due to renovations. The dust was thick with history. With no space to store the documents worthy of keeping them safe, they somehow ended up in my basement. Hardly the grandiose archives of the great libraries of the world. None-the-less here they are.

As we all know paper is very fragile as it ages. Unlike modern archives and historical document libraries my basement is hardly a temperature and humidity-controlled environment. Furthermore, these documents are hidden from our members who may be interested in some of the more mundane but interesting facets of our history.

This leads us to where we are today. A basement with numerous boxes of paper documents, boxes of glass (yes GLASS) photographic slides plus other gems to be discovered.

Recently the BOD/Executive agreed to get a dedicated book scanner which I have set up. Over time, a simple but effective archival filing system will be developed. As documents are scanned and catalogued, they will be posted on our website for all to enjoy. Most likely they will also be on RASC National's website.

In order to keep you, our valued members informed of the progress of this long term project, I will occasionally post an article in upcoming editions of Skyward highlighting the progress of this project and perhaps highlighting a hidden gem or two that was dusted off. See the first samples on the next page.



CZUR ET-MAX Book Scanner - There is a page flattening feature so that the spine of a book does not show and pages are separated to be individual. Most importantly the documents are not damaged during the scanning process. Documents can be saved as searchable PDF files.



17160

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A NON-PROFIT SERVICE ORGANIZATION PROMOTING THE EDUCATIONAL AND CULTURAL USE OF FILM
172 Wellington Street, Ottawa, Ont.

TO: Mr. J. W. Duffie,
President,
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YOUR ORDER NO.	DATE OF ORDER	DATE OF SHIPMENT	DATE OF SHOWING	DUE BACK DATE	DATE RETURNED	SALE ☐	PREVIEW ☐
Letter	Oct. 11/49	Oct. 17	Oct. 20	Oct. 24		RENTAL ☐	LOAN ☐

CATALOGUE CODE NO.	FILM TITLE	NO. OF PRINTS	PRICE	TOTAL
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E-156	STORY OF A DISTURBANCE		1.50	
			Exchange	\$3.00
				15
				3/5

Handed by LK #2 Nov 8/49
Revised 8 films for meeting

J. W. Duffie

COMMENTS AND SUGGESTIONS:

AUDIENCE—(I.E.) NAME OF ORGANIZATION, TYPE OF BUSINESS, SCHOOL GRADES, ETC.

ATTENDANCE: NO. OF SHOWINGS

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Apparently, David and Paul were not our first film buffs. Movie nights seem to have a rich history within the Montreal Centre.

Montreal Centre
ROYAL ASTRONOMICAL SOCIETY OF CANADA

Observation of the Planet Jupiter

Local: Date 19.... Time Zone

U. T.: Date 19.... Time Zone

Telescope: Aperture Type Power

Seeing (0 worst-10 best) Transparency (0 worst-5 best)

Central Meridian: I II III

Observer Mailing Address:

Observing Post

See diagram in R.A.S.C. Observer's Handbook for identification of Belts and Zones. Indicate below the features visible and describe, giving colour, if any. (Use other report form for drawings of Jupiter.)

South Polar Region

South South Temperate Zone

South South Temperate Belt

South Temperate Zone

South Temperate Belt

Great Red Spot

South Equatorial Belt

(See reverse side for features in northern hemisphere)

There seems to be a whole series of various observing forms. These will be scanned as a searchable interactive PDF file so that they can be used either as paper copies or electronically.

Explore the Universe: Sagittarius Star Clusters



By Nicole Laporte, Director of Membership Liaison,



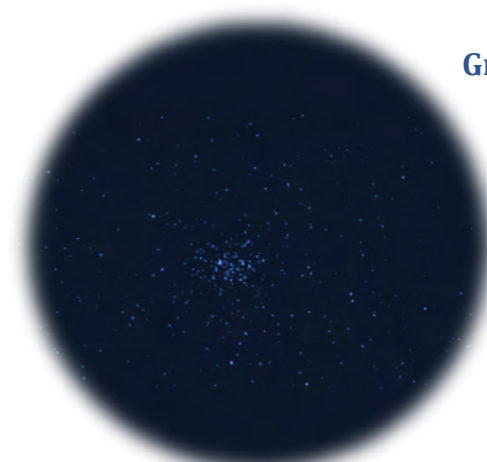
Sagittarius Constellation

Image source: Stellarium-web.org

For many amateur astronomers, Sagittarius is a favourite summertime constellation. The constellation depicts an archer from Greek Mythology represented by a centaur (half human half horse) drawing a bow and arrow. Modern day stargazers often notice the teapot asterism with the Milky Way representing the steam rising from the spout.

Four bright star clusters visible within Sagittarius are part of the [RASC Explore the Universe Observing Program](#) target list:

- Great Sagittarius Star Cluster (M22)
- Bat Cluster (M23)
- Small Sagittarius Star Cloud (M24)
- Alligator's Foot Cluster (M25)



Great Sagittarius Star Cluster

Image source: Stellarium-web.org

Great Sagittarius Star Cluster (M22)

The Great Sagittarius Cluster is a globular cluster adjacent to star Kaus Borealis that represents the top of teapot lid. The cluster appears as a fuzzy blob in binoculars.

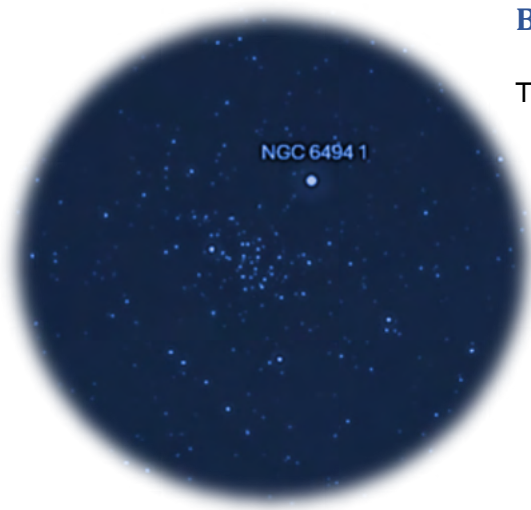


Image source: Stellarium-web.org

Star hopping to the Great Sagittarius Star Cluster

The cluster is approximately 2.5 degrees from the star Kaus Borealis. A nearly right angle can be drawn from the star Nunki (the teapot handle) to the cluster and Kaus Borealis

Bat Cluster (M23)



Bat Cluster

Image source: Stellarium-web.org

The Bat Cluster is an open star cluster approximately the size of the Full Moon. The cluster is visible through binoculars as a small fuzzy patch.

A small telescope in dark skies reveals many individual stars. The stars are arranged in a pattern that resembles a bat or a bird with the wings spread open. There are several reddish colour stars. The star NGC 6494 1, which is at the edge of the cluster, can be imagined as the tip of the tail of a winged creature.

Star hopping to the Bat Cluster

Start with Kaus Borealis, the top of the teapot lid and draw a line to the star Polis. Continue the same distance at a 45-degree angle toward the right to the Bat Cluster.

Use the blue-white 6.5 magnitude star NGC 6494 1, which is easily found with binoculars, to locate the cluster.

In dark skies away from city lights, the Bat Cluster is within the steam that appears to be rising from the spout of the teapot. The region of the Milky way in the right-hand side of the constellation is known as the Large Sagittarius Star Cloud.

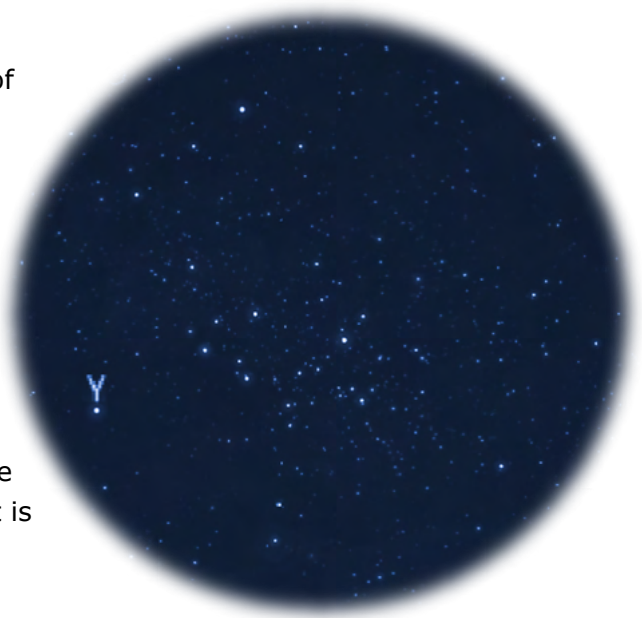


Image source: Stellarium-web.org

Small Sagittarius Star Cloud (M24)

The Small Sagittarius Star Cloud is an oval shaped patch of stars within the Milky Way, located above the teapot. The cloud is nine times as large as the Full Moon and is best viewed with binoculars. The star cloud is visible to the unaided eye from a dark sky location, and individual stars are visible with binoculars from suburban skies. Long focal length telescope may not have a field of view wide enough to display the entire cloud.

The cloud contains many stars and allows stargazers to visualize a wide variety of colourful stars ranging from blue and yellow to red. The cloud also contains stellar dust that is visible as nebulosity from dark sky locations.



Small Sagittarius Star Cloud

Image source: Stellarium-web.org

Star hopping to the Small Sagittarius Star Cloud

The Small Sagittarius Star Cloud is located above the star Polis and adjacent to the star Y Sagittarii, which are visible to the unaided eye in dark skies and with binoculars in suburban skies.

The Cloud has four stars which are bright and far enough apart to be seen with unaided eyes in dark skies as a lozenge shape. The Cloud and Polis fit in the field of view of a finder scope and binoculars.

To the right of the cloud is the Bat Cluster and to the left is the Alligator's Foot Cluster (reversed in the finder scope).



Image source: Stellarium-web.org



Alligator's Foot Cluster

Image source: Stellarium-web.org

Alligator's Foot Cluster (M25)

The Alligator's Foot Cluster is a bright open star cluster with a magnitude of 4.6 that is visible from suburban skies with binoculars or unaided eyes in dark skies.

There are a dozen stars with magnitudes of approximately 9 that form the shape of an alligator or bird foot when viewed through a telescope.

The star U Sagittarii is the brightest star in the cluster and is also a variable star that has a fluctuating brightness from magnitude 6.3 to 7.2. The star has a pale-yellow colour and the variation in brightness can be observed over the course of a week.

Star hopping to the Alligator's Foot Cluster

The cluster can be found by drawing a right angle between the star Polis and the star Nunki.

Star 21 Sagittarii is also useful for star hopping to the cluster. The star is below the imaginary line approximately halfway between the Alligator's Foot and Polis.



Image source: Stellarium-web.org

Summertime Star Hopping

Star hopping is an enjoyable way to improve observation skills and develop an awareness of the night sky. Summertime offers warm weather that invites stargazers outdoors. During a moonless night far from city lights, look up at Sagittarius and see the steam rising peacefully from the cosmic teapot.





Explore the Universe is open to all. See the program at <https://www.rasc.ca/explore-universe>



Explore the Moon is an introductory lunar observing program open to RASC members. See the program at <https://www.rasc.ca/explore-universe>



Messier Globulars in Serpens and Ophiuchus



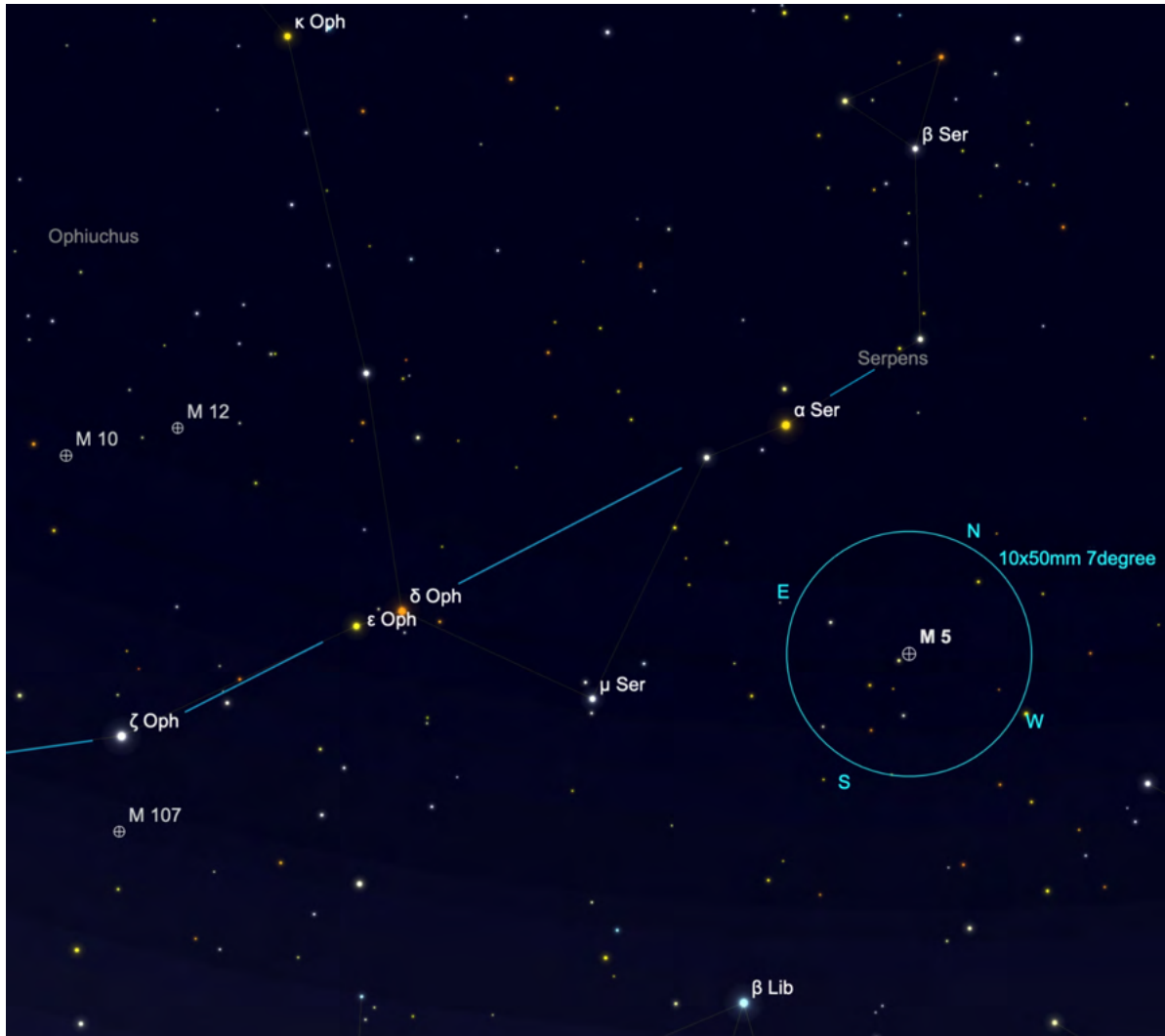
By: Marc Ricard

Look southward on a clear summer night, and emerging from the darkening sky, you'll see a diagonal line of stars stretching up from the horizon. The Serpent and Serpent bearer have arrived! Serpens is split in two, with the head and tail held aloft by Ophiuchus, the serpent bearer. The finder chart below will help you identify the stars of these two constellations. Charles Messier found seven globular clusters in this region between May 23rd, 1764, and June 4th, 1779. Pierre Méchain, his close collaborator, discovered an eighth one that was added to the Messier Catalogue in 1947 by Helen Sawyer Hogg. All of them are visible in a pair of 10x50mm binoculars from dark skies. Several can be partially resolved into stars in a 6-inch telescope. All of them are a joy to behold!



All finder charts courtesy of SkySafari Pro.

Serpens and Ophiuchus share two prominent stellar pairs. Let's start our tour at the northern one, made up of α (alpha) and ϵ (epsilon) Serpentis. Centre on α , then slowly sweep 8° southwestward until M5's magnitude 5.6 glow appears in the field of your binoculars or finderscope. Even though it's located 24,000 light-years away, there's no mistaking this globular for an out-of-focus star. To see it at its best, observe it early in the evening when it's at its highest. In my late friend Doug Middleton's 6-inch Dobsonian, M5 is a captivating sight from my home in the Laurentians. The edges of the core are resolved at 120x, and it's crowned by a bright 10th magnitude star. At 171x, it fills half the 24' field, and I count over two dozen outliers surrounding the bright core.



Globular cluster M5 lies 8° , or roughly one binocular field, southwest of α Serpens.

It's a dense ball of stars in my 15-inch at 61x with its 10th magnitude luminary nearly dead centre. A long chain of stars curves around the core with one end extending southward and the other eastward. Nearby double, 5 Serpentis, is easily split at 111x, and its peach-coloured 10th magnitude secondary contrasts nicely with its brighter companion. When I increase the magnification to 189x, M5 fills half the 32' field with stars too numerous to count.

Globular clusters are among the oldest structures in the universe. Early theories suggested that the tens of thousands to millions of stars within a globular formed at the same time, from the same material,

resulting in a single stellar population that is chemically identical. However, more recent work has found that some stars in globular clusters show signs of chemical evolution, hinting that they formed from gas enriched by previous generations of stars. Some, known as “blue stragglers,” are believed to be the merger of two cluster stars.



M5 with 5 Serpentis captured with my RC-8 and QSI 683 from Pointe-Claire. 75' x 58' field.

Now, follow α (alpha) and ϵ (epsilon) Serpentis southeastward until you come to the second stellar pair of δ (delta) and ϵ (epsilon) Ophiuchus. Centre on δ , then sweep 9° eastward, and both M10 and M12 should appear in the field of your binoculars. Through my 10x50mm, M12 is brighter, whereas M10 is more condensed. What do you see?

Through the 6-inch, M12 is framed by three 10th magnitude stars, filling the 5' space between two of them at 120x. Its southwest side is brighter than its northeast, making it look 3D. With a hoodie pulled over my head to prevent stray light from entering my eyes, I'm able to see its soft and irregular edges gradually brighten toward its core. When I increase the magnification to 171x, and I cup my hands around my eyepiece, a few more stars appear in the centre of the cluster, and I count roughly 20 stars scattered along its sides. Through my 15-inch, M12's central region looks like faint stardust wrapped in long, graceful arcs of stars curving outward at 111x. At 189x, it fills about a third of the 31' field, and the core has well-defined bright and dark regions.



Globular clusters M10 & M12 lie 9°, a little over one binocular field, east of δ Ophiuchi.



M12 captured with my RC-8 and QSI 683 WSG from Pointe-Claire. 20' x 20' field.

Visually, M12's core is less crowded than M5's, which agrees with its concentration class of 9 versus class 5 for M5. The Shapley-Sawyer classification system uses a scale from 1 (most concentrated) to 12 (least concentrated). Sadly, Sky Safari doesn't include this classification system, but Wikipedia and most written observing guides do.

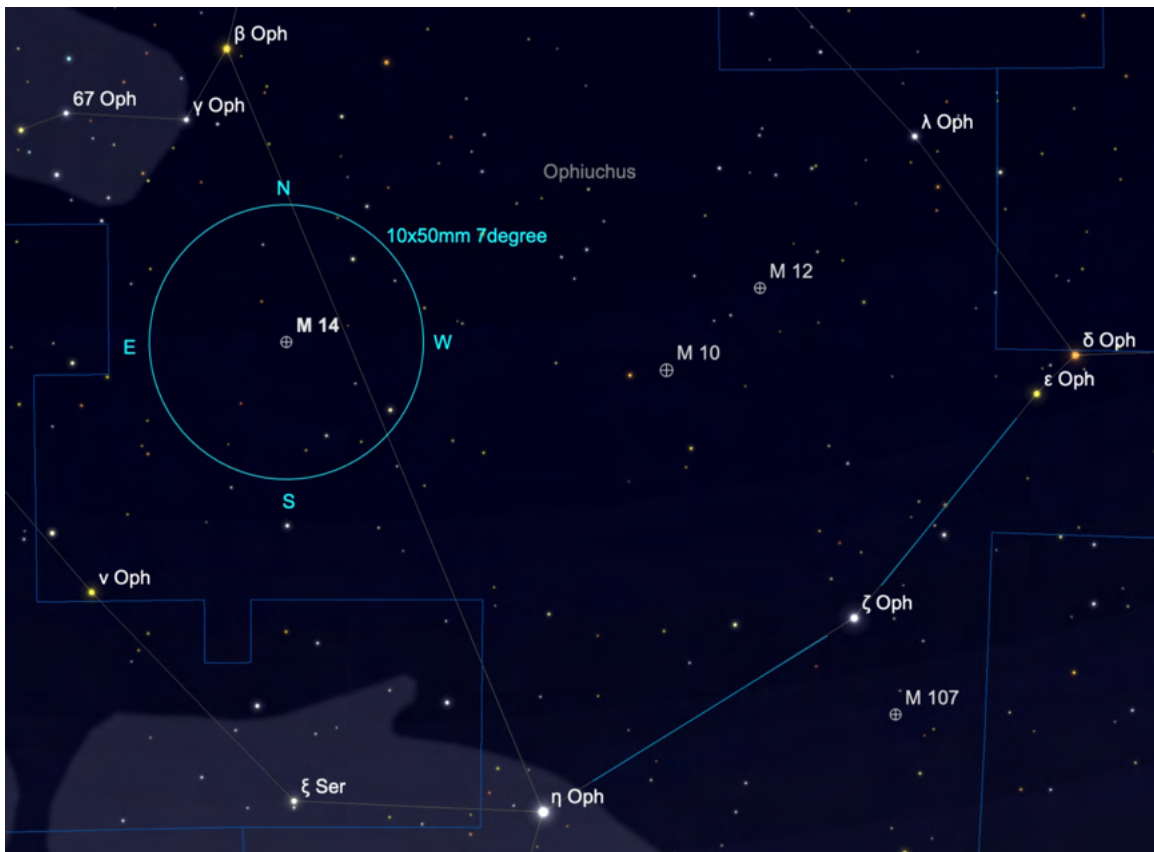
If you nudge your scope southeastward, M10 should appear in your finder. Through the 6-inch only a half dozen stars are visible at 120x. But with averted vision I see a row of five stars lying over the front of its partially resolved core. This popular technique involves simply looking slightly off to the side of your subject to take advantage of your eye's more sensitive peripheral vision. Increasing the magnification to 171x brings another dozen stars into view, with M10 filling about 2/3 of the 24' field of the eyepiece.



M10 captured with my RC-8 and QSI 683 WSG from Pointe-Claire. 20' x 20' field.

Through my 15-inch, M10 fills nearly half the 54' field at 111x. When the seeing steadies, the row of tiny stars I saw in the 6-inch seems to float above the soft, unresolved haze of the core underneath. At 189x, this class 7 globular is more concentrated than M12, and its signatory row of stars extends outward beyond the southwest and the northeast edges of the field of view.

According to Wikipedia, M10's radius is half of M5's. But visually, they appear to be roughly the same size because M10 is only 14,000 light-years away or 43% closer.



M14 lies 8° south of β Ophiuchi or 10° east of M10.



M14 captured with my RC-8 and QSI 683 WSG from Pointe-Claire. 20 x 20 arcminute field.

Messier 14 lies 10° east of M10 and 8° south of β Ophiuchi. With an estimated distance of 30,000 light-years, it's nearly twice as far as M10 and M12. Not surprisingly, it shines a magnitude fainter than its two neighbours, and it's noticeably dimmer in my binoculars. In my 15-inch, its halo measures 4', the distance separating a nearby pair of 10th magnitude stars and brightens only slightly toward the middle at 111x. At 269x, a few 14th magnitude stars pop into view above the core when the seeing steadies.



M107 lies nearly 3° south of mag 2.6 ζ (Zeta) Ophiuchi.



You'll find M107 nearly 3 degrees south of mag 2.6-star ζ (Zeta) Ophiuchi. Shining at magnitude 7.9, it's a faint, misty glow in my 10x50mm's, just below a right-angle triangle of 7th mag stars. On a warm, hazy July night in 1992, from the very dark skies over Lac Simon, M107 was a hazy spot in my C8 framed by a distinctive cross of four 11th mag stars at 36x. Increasing the magnification to 145x resolved a few mag 13 stars. Thirty years later, from my backyard in the Laurentians, my 15-inch reveals a few thick scatterings of stars in M107's core at 189x. At 270x, stars along its western, eastern and southern edges, lying over some unresolved haze, give the cluster a loose triangular shape. With a concentration class of 10, M107 resembles an open cluster superimposed over a galaxy.

M107 captured with my RC-8 and QSI 683 WSG from Pointe-Claire. 20 x 20 arcminute field.



M9 lies roughly 3° southeast of η Ophiuchi on the western edge of a triangle of three 6th mag stars.

M9 is located roughly 3 degrees south of η (eta) Ophiuchi on the western edge of a triangle of three 6th magnitude stars. It's about the same size as M107 through my 10x50mm, but brighter and more condensed. I couldn't resolve it in my C8 from Ormstown, and I noted in my log that it could be mistaken for an elliptical galaxy. In my 15-inch, M9 measures 3', the distance separating a pair of 12th magnitude stars along the western edge of the field at 111x. At 189x, its appearance changes from granular to partially resolved when the seeing steadies. Unfortunately, M9 is quite low and difficult to image from my yard.



M19 lies roughly 4° west of θ Ophiuch, and M62 lies roughly 4° south of M19.

M19 is located nearly midway between θ Ophiuchi and Antares, α Scorpii. It lies in a crowded starfield featuring three wide pairs of mag 5-7 stars, resembling stellar hoofprints. It's brighter and more condensed than M9 in my 10x50mm. Through my 15-inch, its granular halo is elongated north-south 12', the distance separating the line of three 11th mag stars preceding it at 361x. According to Wikipedia, this oblateness is caused by intervening gas and dust dimming the eastern side of the cluster.

M62 is a faint glow 4 degrees below M19 and 2 degrees above a 5th magnitude star in my 10x50mm. This class 4 globular is slightly smaller than its neighbour, with a very condensed and almost stellar core. Messier described it as: "Nébuleuse très-belle, ressemble à une petite comète".

Like M107, this attractive globular lies at the centre of a wide cross of four 10th mag stars in my 15-inch, and measures 7', half the distance separating two of them. At 117x, its halo of faint stars resembles fine, white beach sand. At 315x, its dense core is half the size of its halo.

Messier described these as "des Nébuleuses sans étoiles" since his small instrument was unable to resolve them. Fortunately, their true nature is visible today in amateur instruments. Be patient and let

your eyes savour each one, observing should be more than just ticking off items on a list. After all, it might be a long while before you visit them again.

Clear skies! 

Marc's targets in Serpens and Ophiuchus

Object	Type	Magnitude	Magnitude Brightest Star	Apparent Size	S-A Class	Radius ly	Distance ly	Right Ascension	Declination
M5	Globular	5.6	12.2	23 arcmin	5	80	24,000	15 ^h 19 ^m	02° 05'
5 Ser	Double star	5.1 / 10		11 arcsec			83	15 ^h 19 ^m	01° 46'
M12	Globular	6.7	12	16 arcmin	9	37	16,000	16 ^h 47 ^m	-01° 57'
M10	Globular	6.6	12	20 arcmin	7	42	14,000	16 ^h 57 ^m	-04° 06'
M14	Globular	7.6	14	11 arcmin	-	50	30,000	17 ^h 38 ^m	-03° 15'
M107	Globular	7.9	13	13 arcmin	10	30	21,000	16 ^h 33 ^m	-13° 03'
M9	Globular	7.7	13.5	12 arcmin	8	45	26,000	17 ^h 19 ^m	-18° 31'
M19	Globular	6.8	14	17 arcmin	8	70	29,000	17 ^h 03 ^m	-26° 16'
M62	Globular	6.4	13.2	15 arcmin	4	48	21,500	17 ^h 01 ^m	-30° 07'



Messier 5 globular cluster (NGC5904)

By Daniel Biron

*M5 is a mag 5.6 object, 24500 ly from Earth.
M5 is slightly elliptical (perceivable here). At
the lower left of the cluster is the mag 5.1
binary star 5 Serpentis, much closer at 82 ly.*

Seestar S30 in alt-az mode;

Integration of 180 img @ 10 sec;

Bortle 7 location;

Moon illumination at 0%;

*Image enhancement done with the Seestar
smartphone app.*

Simple Astrophotography at Grasslands National Park, SK



By Russell Fralich

In early May, my wife and I decided to have a short vacation in the only province we hadn't visited since Corner Gas began filming: Saskatchewan. At our Saskatoon hotel, it was obvious we were the only tourists. Everyone else was there for work in some resource extraction industry far from the city. Of course, my primary interest in travelling to SK was spending time under the darkest skies in Grasslands National Park located on the border with Montana. Chris and Shane often talk about amazing summer nights there on their addictive Actual Astronomy podcast (<https://actualastronomy.com/>). They made a compelling case to visit.

We drove five hours south to the park and discovered it is divided into two non-contiguous parts: West Block and East Block. A two-hour drive is necessary to travel between them.

The landscape is surprisingly not flat — more rolling hills (West Block) and badlands (East Block). The badlands are famous for their exposed K-Pg¹ (formerly K-T) transition in the rock, the boundary that was created by the meteorite that killed the dinosaurs about 66 million years ago:

below the thin rock layer are dinosaurs, above, mammals and stuff. It is also higher in altitude than I expected, 700-1000 metres above sea level. That was good news for looking at the night sky.

We spent a few nights near the village of Val Marie at the entrance of West Block and one night at Rock Creek Campground in the East Block. At the campground, weather changed quickly. Clear skies, then a thunderstorm and high winds. Clouds persisted as the sun set. I woke up every hour to check on the skies and at 1:30 am, at last, it was clear!

I had my mirrorless camera and a fast, short focal length prime lens, but I had lost my tripod earlier on the trip. I needed a basic but steady mount, so I grabbed a rock and angled the camera on a picnic table. The only lights came from one distant campsite and from the warden's office at the far end of the campground. The nearest village was 20 km away, the nearest city, Swift Current, 250 km.

Since there were no light domes, I could see a faint even glow along the horizon in all directions. I suspect it was refracted light from very far away. As the Milky Way core rose in the south, I had difficulty recognizing any constellations because there were too many stars. I snapped hundreds of photographs until about 4:30 a.m. when I could see a growing light dome from the rising sun in the northeast.



¹ Cretaceous-Paleogene boundary, formerly Cretaceous-Tertiary boundary.

I also remember there was not a sound, only the occasional puff of wind.

I left with unforgettable memories (and a few photos) of a truly dark and silent sky.

You should go, too. To plan your visit, check out the official park website: <https://parks.canada.ca/pn-np/sk/grasslands>.

mf



Comfort in the Sky



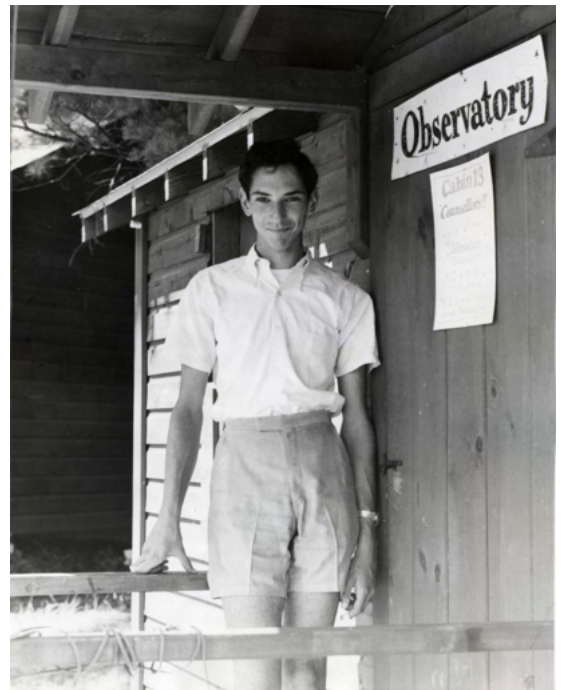
By David H. Levy.

This month's article is more personal than most of the others, and it is only distantly related to the night sky. Over the last few months, particularly around the time of the March 2026 eclipse of the Moon, I began to encounter dizzy spells that grew in intensity. Near the end of April, I suffered through a terrible day during which I fainted 15 times, the last of which resulted in broken ribs. I do not know how my iPhone found its way to my side that night. When I was discharged from a second hospital three days later, I had been diagnosed with a severe hypoxemia. When I arrived my blood oxygen level was down to a near-fatal level of 5 but as I write these words it is up to 9.5; still too low but better. I also have three ulcers. I was forced to cancel a planned visit to Kalamazoo, Michigan, but I did successfully present my lecture over zoom.

Thanks to good family support and the help of my friends David and Pam Rossetter and Tim Hunter, I am at home and improving. I have restarted my observing. I am able to resume my nightly field checks of T Coronae Borealis, and even a little comet hunting. I do appreciate your words and prayers.

I feel as though I am emerging from a very long tunnel. The experience has been excruciating but wondrous also. Except of course, for last night. The setting Sun brought a beautiful clear sky. Jupiter was hanging in the upper west. Venus was not too far away from giant Jupiter. All the stars were out. As my eyes adapted to the darkness, the friendship of the stars began to take hold. Sirius, shining clearly at magnitude minus 1.5, beckoned me to try to spot its companion, which I have observed before. As constellation after constellation, asterism after asterism, made their grand entrances, each one had a unique story to tell. Some stories are established legends, and others could be as fresh as a child's imagination and fresh approach to what that part of the sky can teach.

When I was a teenager, my particular love was comets. It still is. They are so magical, so precious, so much fun, and so unique. I have observed more than 240 comets, of which 23 are comets that I have discovered or co-discovered. From my own point of view they are also friendly. Each one has a distinct, well-established personality. I love them all, but more than that I have a special place in my heart for each one of the 23 comets I have found, either on my own or with Carolyn and Gene Shoemaker. And just last night, David Rossetter and I resumed our monthly observing at our society's Chiricahua Astronomy complex. The night was sparkling and I will never forget it.



In the summer of 1966, Joseph Howard took this photograph of me standing in front our cabin at the Adirondack Science Camp.

Right now, I have to concentrate on my recovery, on getting better. In this difficult time I think of Walt Whitman, truly one of my favorite poets, and his superb rhyme entitled "A Clear Midnight."

This is thy hour, O Soul, thy free flight into the wordless,
Away from books, away from art, the day erased, the lesson done,
Thee fully-forth emerging, silent, gazing, pondering the themes thou lovest best,
Night, sleep, death, and the stars.



M51 By Greg Beaton, June 10

Sunday night started off nice but I only manage less than an hour of integration and unfortunately there is some elongation in the stars due to guiding, I think, but overall looking good on this M51 Whirlpool Galaxy, taken with iOptron RC-8

It's the li-TT-le Things That Matter



By Tim Bird

I have noticed during many observing nights that we Watchers of the Sky struggle with pronouncing many of the objects we are observing directly or using to navigate to another target. On any given night I have heard three different versions of some of these. I'm new around here, so I started looking for the correct pronunciations. Fortunately, I didn't have to look far. On my kitchen table sits a wonderful book called **Nightwatch** by Terence Dickinson. It is available in the RASC Montreal Library (or will be once I return it). There is a comprehensive list of pronunciations in it. If you haven't read this book, I can tell you that it is a fun read. There is also a thorough list of pronunciations in your Observers Handbook. They are listed by Constellation, Star, Planet... So they are in various places throughout the Handbook. Use the index in the back under Pronunciations. I have provided some of the most used ones below, a "Best Of" if you will. Can you add others? You can print this and keep it in your observing kit to settle any heated arguments.



The Best of...

Capital letters indicate where the emPHasis goes.

Alcyone	al-SIGH-o-nee
Aldebaran	al-DEB-uh-ran
Alnilam	al-NIGH-lam
Alnitak	al-NIGH-tak
Alpha Centauri	AL-fah sen-TOR-eye
Betelgeuse	BET-el-jews
Bootes	bo-OH-teez
Gemini	GEM-in-eye
Hyades	HI-a-deez
Lyra	LYE-rah
Ophiuchus	oh-fee-YOU-kus
Pleiades	PLEE-ah-deez
Procyon	PRO-see-on
Rigel	RYE-jel





By Andrew Maenz, May 19

The Crescent Moon tonight before the clouds rolled in.



By Khoa Tran

Daytime Lunar Occultation of Venus

From my balcony in the Plateau.

Camera: Olympus Pen-F Digital

Telescope: Takahashi FS-60CB with 0.72x reducer

Mount: Vixen Advanced Polaris (AP) with WL unit

Image: stack of 32 images at 1/2500s ISO200

Mozart's Jupiter Symphony Number 41



By David H. Levy

Some 238 years ago, in 1788 Wolfgang Mozart composed his last Symphony. A friend and colleague, Johann Peter Salomon, (1745 – 1815), a German violinist and composer, reputedly named Mozart's Symphony No. 41 after Jupiter. It is also probable that Johann Cramer, a London music publisher, thought of Jupiter as well, perhaps linking the power of the opening chord to Jupiter's thunderbolts. Cramer was not thinking of Jupiter in the sky as much as the astrological Jupiter, portrayed by Shakespeare in Cymbeline.

Shakespeare was alive and well in January 1610 when Galileo discovered the four largest moons of Jupiter. Shakespeare was a contemporary of Galileo, both having been born in 1564 just two months apart. And Shakespeare was well into writing Cymbeline, and he completed the play in the same year that Galileo made his Jupiter discoveries:

O learned indeed were that astronomer
That knew the stars as I his characters;
He'd lay the future open. (Cymbeline 3.2.37-39)

Traditionally, "that astronomer" is interpreted as a judicial astrologer, but those particular lines could be read differently. Could Posthumus's daughter Imogen, who spoke these lines, be looking at someone who is simply watching the sky? The future he lays open is not an astrological prediction. Instead Imogen imagines a watcher of the sky who, like Galileo, knew the stars. If this was Shakespeare's intention, then it may be his reaction to Galileo, whose discoveries of four moons of Jupiter earlier that same year appear as the ghosts preceding Jupiter in Posthumus's dream. Four apparitions — Posthumus's father Leonatus, his mother, and his two brothers — Guiderius and Arviragus, descend and surround him as he sleeps.

As the dream goes forward, Jupiter himself descends, accompanied by his legendary thunder, and the ghosts then fall on their knees. Paisano, a servant to Posthumus, links the four apparitions that precede Jupiter to the four moons that Galileo has discovered using his telescope, but Jupiter's actual descent is accompanied by an indefinite number of ghosts.

The four apparitions appear at the start of Posthumus's dream. Jupiter does descend accompanied by an eagle and an undetermined number of additional ghosts. Could these ghosts represent still undiscovered moons? In either case it is exciting to find Shakespeare possibly responding to Galileo in this positive way. Jupiter lays a tablet on the sleeping Posthumus, who awakes soon after to find that it is actually a book, which is likely Galileo's seminal *Siderius Nuncius*. Similarly at the end of *The Tempest*, Miranda, now also the name of a Uranian moon, speaks of new ideas and new philosophies:

O wonder!
How many goodly creatures are there here!
How beauteous mankind is! Oh brave new world
That hath such people in't! (Tempest 5.1.183-186.

We now leap to 1994 and the impact of Comet Shoemaker-Levy 9 with Jupiter. At the time I was working with George Cruz, then with the Nature Company. My book *Skywatching* had been released that April, and George had organized a massive series of book signings at Nature Company stores across the United States. By far the biggest one was at the store in Washington, which took place during impact week. Carolyn Shoemaker accompanied me to this location. So did more than a thousand people, who formed a line that stretched through the store and around the block. I shall never forget Carolyn's quip: "Are all your book signings this crowded?"

At this store and at all the other stores, background music was playing, and it was always Mozart's Jupiter symphony. The music became a part of me.

As I have written before, Jupiter is my favourite planet because it is the first thing I ever looked at through a telescope, and it remains so because...

The fabulous music of the Jupiter symphony is a part of my memory from that propitious time. It strikes my heart like church bells. Jupiter's thunderbolts do not sound loudly, but as the planet glows majestically in the northwestern sky these nights, it pierces the core of my being and my life, and it continues to entrance my soul.



A faint Perseid meteor falls near Jupiter in the sky on 13 August 2023. Photograph by Doveed.



M104 By Khoa Tran June 14th

Six hours of exposure time over two nights in May, from balcony in the Plateau.

90x240s @ISO800

Telescope: Takahashi FS-60Q (FS-60CB with 1.7x Q extender)

Camera: Olympus Pen-F Digital

Filter: Baader Neodymium Moon & Skyglow

Mount: Vixen Advanced Polaris (AP)

Guiding: Orion Thin OAG with Lacerta MGEN2

Stacked and processed in Siril (with Starnet v2 and GraXpert denoise).

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NEAF: A Rite of Spring



NEAF 2026

By David Shuman, photos by David Shuman, except as noted.

Oh, that annual pilgrimage to the largest astronomical trade show of its kind in the world known as NEAF (North East Astronomical Forum).

This annual show held at Rockland Community College just outside of Suffern, NY is a large gathering of amateur astronomers, scientists, lecturers, TV personalities, and vendors in the industry. This spring, it took place on April 11-12, 2026.

Alex and myself and others such as Paul have made this spring journey on many occasions, sometimes skipping a year (such as during the 2024 eclipse) but we've attended more often than not. This time it was just Alex and myself.

We try to stay for the full two-day event and come home on the Monday as not to miss any of the excellent talks that are scheduled throughout the Saturday and Sunday.



Photo by Alex Stefanescu

On Saturday the event starts a few hours earlier, by Sunday late afternoon vendors and crowds start to thin out as people get ready to head back home. The awesome raffle and closing remarks are done at the very end of the talks on Sunday around 6 p.m.

Tele Vue, one of the founders of NEAF along with the Rockland Astronomy Club have their booth on the side of the gymnasium. They have their "blem-sale" where you can purchase cosmetically blemished eyepieces, but these seem to be indistinguishable from brand-new items from the store. They can be up to 40% off the retail cost. An excellent way to add to your collection. However, this year was particularly touching as Al Nagler had passed away last October. They had a display of his works and a large banner that one could (and of course I did) sign. David Nagler was





there to answer questions, talk about Al and his memories as well as the rest of the fantastic team at TeleVue.



This year there was no shortage of new items nor visitors. It is my opinion that astrophotography seems to dominate most vendor's offerings. New gear seems to feature better and easier ways of capturing photons than ever before. While some items are geared towards the visual observer, more and more items seem to be "digital".





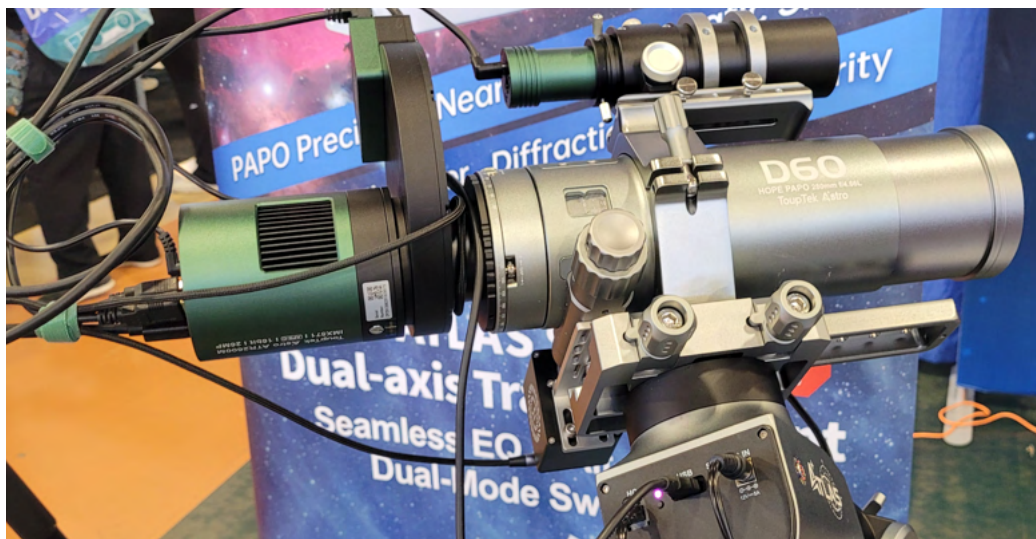
Photo by Alex Stefanescu

If you have ever gone to a car show and seen displays of vehicles that were exotic, or simply out of most people's reach, the same can be said about NEAF, albeit in telescope/mount format. This is fun, as well, as you get to see gear that you may never come across on a regular basis.

Refractors are plentiful, Maksutovs and Dobsonians too. Mounts are everywhere, especially the ubiquitous harmonic drive mounts. These mounts seem to be all the talk of the town. The "smart" telescope is also a featured staple at NEAF.

Over the years, you can see the shift toward different flagship vendors in our hobby. Just a few years ago, if asked, I would have said Meade/Coronado and Celestron would be the two major manufacturers at NEAF. In the past few years ZWO has had the largest display area at the show — obviously Meade/Coronado is now gone. There were a few vendors on site, however unlike in years past, there was only one vendor selling a large variety and quantities of goods. Camera Concepts and Telescopes is that vendor. They have been the largest booth for selling scopes and accessories for the past few times we've attended. They have a very large variety of scopes/eyepieces and accessories. However, with very tight margins and our new reality of "stag-flation", gone are the days of deals and specials, where walking just ten feet or so to the next vendor could save you 20\$ USD on an eyepiece for example. "Hey, can you match their price?" "No problem." That is all gone now.

That said, rather than saving on equipment, more than ever it is the in-person talks that have become the next-level attraction. Although these are readily available on NEAF's YouTube channel, there is nothing like being there, and even asking your own questions. I had the fortune of asking some astronauts a few questions about Artemis for example. One in particular, among many, was veteran



NASA astronaut Don Pettit who answered about life aboard the ISS and inventions he came up with. Astronomer, Research Scientist & TV personality Michelle Thaller gave an excellent final talk. It was fun to see her live as I've seen her on Science Channel and Discovery Channel many times.



Due to the gorgeous and warm spring weather this year, we were treated to the solar star party. If you've never seen the sun in H-alpha ($H\alpha$) through a 130mm refractor, it's something to experience!



Not only does one meet people that share one's passion, but some old friends, and even some new ones as well.

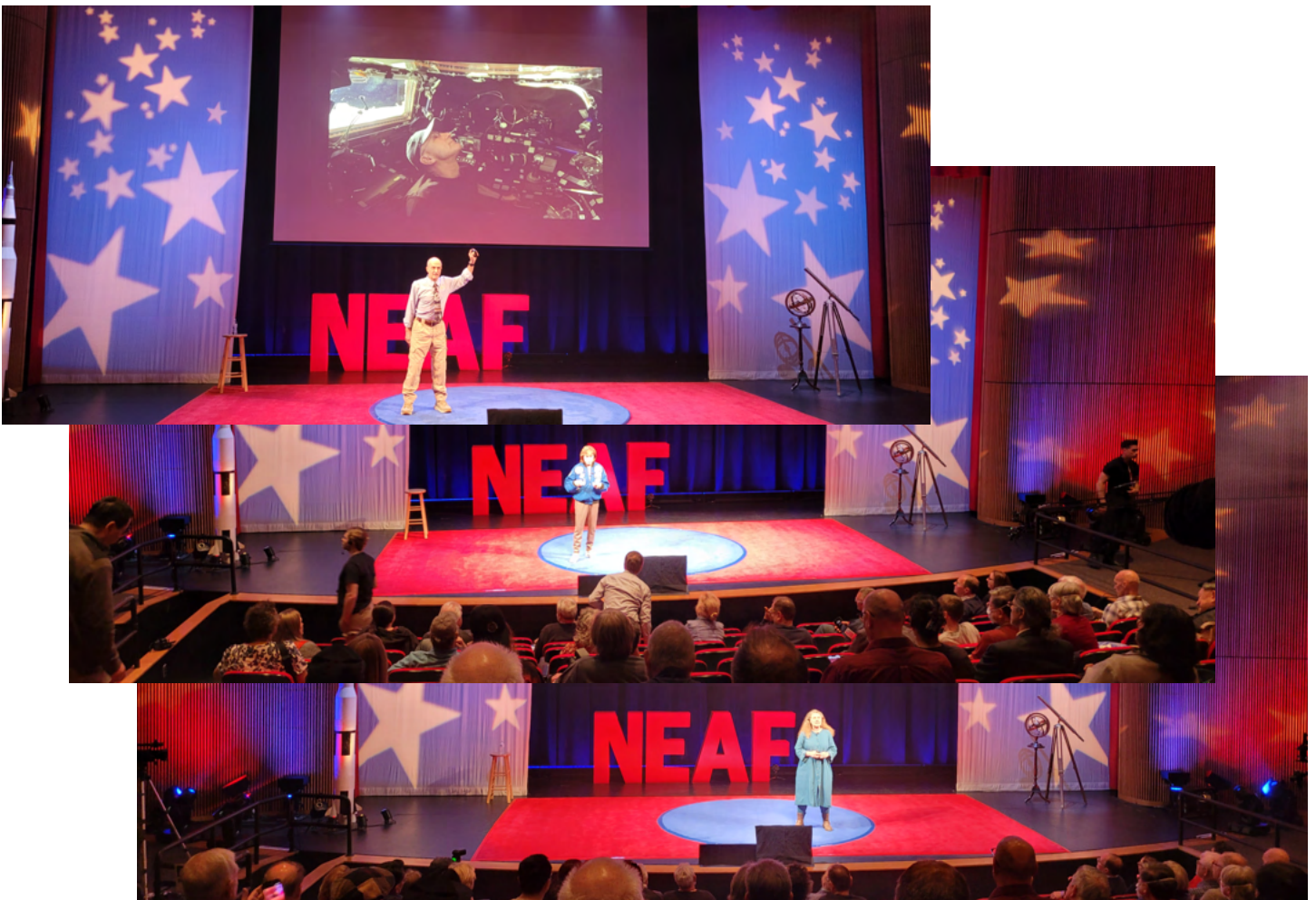
To economize, we stayed in Mahwah, NJ at the local Super-8. We have been staying there for years now, not only are there good local diners "State-Line Diner" and "The Mason Jaar" come to mind, the hotel is near the NJ train station allowing easy travel to Manhattan, if desired, and its only 15 minutes to the show location. We used to stay in Airmont at the old Howard Johnson's but that too is gone now, since COVID. Many things have changed over the years.

Alex had promised to take some photos and footage of NEAF as a report for a local Romanian Astronomy TV show entitled "Noi si Cerul", (Us and the Sky) so his footage did end up on Romanian TV. It was a thrill to see this. I was able to film Alex introducing the show to that audience, along with numerous film clips that he took of the show vendors as well.



All, in all, an excellent Rite of Spring!

Until 2027!



New Members

Please join us in welcoming these new members:

Zhihua Bao

Liwei Bao

YiFan Chen

Marie Vigouroux

Nicholas Aggelis

Sandra Urgel

Emmanuelle Urgel

Steven Rosenstein

Ben D'Agnillo

Ashlee Gonsalves

Julia Johnston

Next Issue

Got something to publish in the next issue of Skyward? We welcome contributions from Montreal Centre members. Send them to editor@rascmontreal.org before August 1st. A reminder will be mailed July 20th. Publication will be in the last week of August.

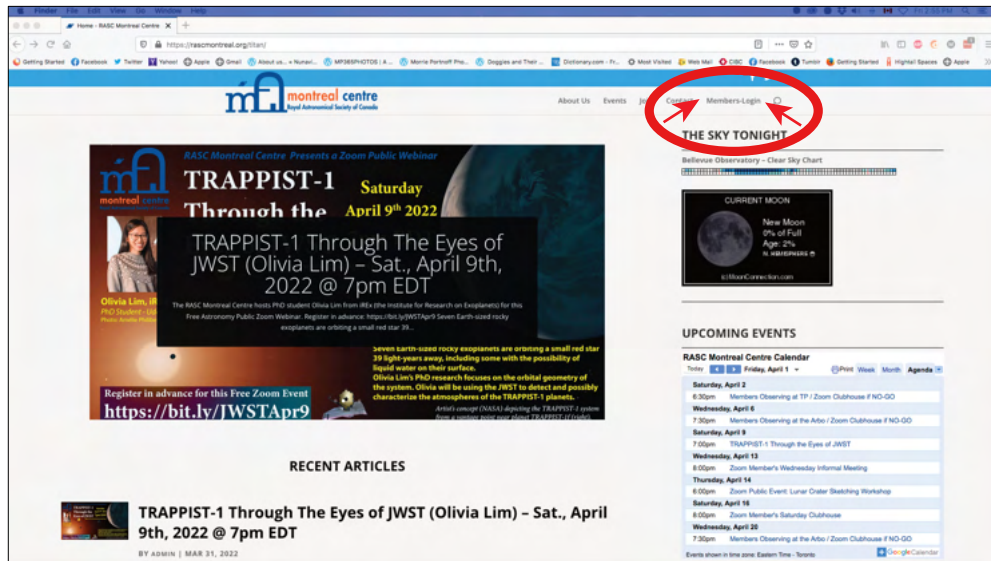
We are always looking for:

- Articles
- Pictures of recent events
- Reviews of Books, equipment, videos, etc.
- Astro-images or drawings
- Observation logs
- Items for sale/wanted

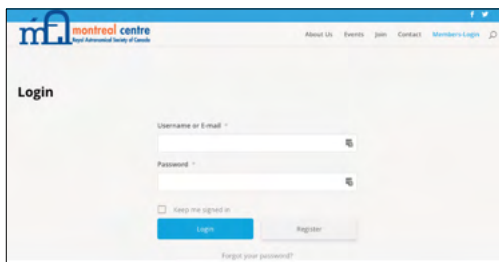
Guidelines:

- Text should preferably be in **Word** with images shown where they go. However, send separate copies of images since Word tends to reduce resolution.
- Aim for image resolution of at least **300dpi** at the size the image will be used on the letter sized page.
- Send a head shot to include with your article.
- Unless you instruct me otherwise, I will use images posted on our Facebook Group.
- Be aware that if you send a PDF I will not have your fonts.
- Original work preferred. **Do not infringe copyrights**. Other images must be properly licensed and cited.
- If you include images that are freely usable, such as SkySafari or NASA, cite the references.

Being a RASC Montreal Centre Member has its ADVANTAGES



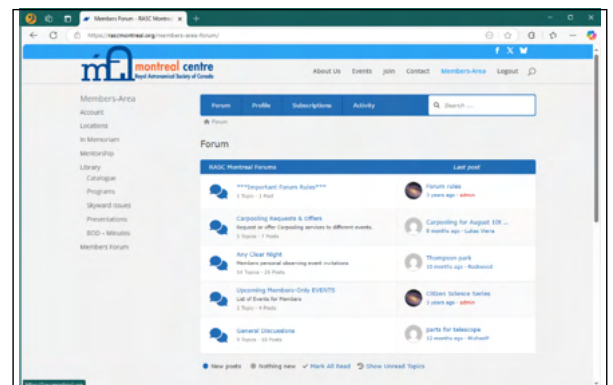
Did you know that our web site has a Members ONLY Section?



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Subscribe to member only forums
Including:

- Any Clear Night **Going out to do some observing?**
Let others know so they may join you, or you may join others.
- Carpooling Requests and Offers



Don't have a telescope? Borrow one from the Centre.

If you are a RASC Montreal member, telescopes are available to borrow for FREE. (Donation of any amount is encouraged!) A \$50 deposit is required for each borrowing, it will be returned in full upon return in good condition. To make a borrowing request, please send an email to: telescope@rascmontreal.org.

Arboretum ^{Morgan}

Welcome to the Morgan Arboretum!

Live, breathe, and enjoy 245 hectares of Saint-Anne-De-Bellevue forest, meadow, and wetland trails inviting you to connect with nature. Our nearly 25 kilometres of all-season paths offer you the chance to explore one of Montreal's most precious nature reserves. Come for a picnic with family or friends in summer, watch in awe at the leaves in fall, ski our groomed trails in winter, and rejoice in the new warmth of spring. Open all seasons, with activities for all ages.

The Morgan Arboretum specialises in 4 main areas; conservation, research, education and leisure. Numerous recreational programs are available for all ages, such as Shinrin Yoku (guided forest bathing), summer camp programs, ecological workshops, scavenger hunts, and holiday events! As protecting and conserving our land is at the forefront of our mission, a combination of youth educational programming and a land maintenance team ensures that our community is well taken care of. The forest also provides fantastic research space for student projects, as it provides a consistent, untouched environment for scientific study.

Did you know that the Arboretum is home to over 500 species of plants, animals, insects, and fungi? It is home to many unique species, such as monarch butterflies, jack-in-the-pulpit flowering plants, Cooper's hawks, and giant puffball mushrooms.

The Morgan Arboretum is open to the public and members every day of the week from 9:00 AM to 4:00 PM. Our membership program

offers daily access based on a yearly fee, and is available for purchase now! To purchase a membership, please refer to our website's "membership" section below.

For more information, call 514-398-7811, email gatekeeper.morganarboretum@mcgill.ca, or visit our webpage at www.mcgill.ca/morganarboretum

