Vol. 25 Issue 4

Autumn 2024

HORIZON

LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
New Brunswick Centre du Nouveau-Brunswick
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Comet Tsuchinshan-ATLAS collage October 16 to November 2
by David McCashion

SRAC/RASC Centre du NB Centre Inc.
https://rascnb.ca
https://www.facebook.com/RASC.NB

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Outreach: Curt Nason
Website: Émile Cormier/Trevor Johnson
Social Media: Gerry Allain
Equipment: Chris Weadick
Library: Ted Dunphy
Newsletter Editor: Curt Nason

Centre News

Business Meetings
January 18

Centre Meetings
January 21
February 21

Star Parties 2025
Kouchibouguac June 20-21
Mount Carleton August 1-2
Fundy: August 22-23
Kouchibouguac: September 13-14

RASC Membership Benefits

Jenna Hinds
RASC Executive Director

Below a list of RASC membership benefits per the action items of the last National Council meeting. I've added the outreach materials (pending approval of next year's budget). I've tried to split them up into member benefits and Centre benefits, but they overlap in a few places.

Membership

- Annual Observer's Handbook and bi-monthly (digital) Journal included in membership
- Online discussion forums
- Certifications (observing, astro-imaging, laser pointer usage)
- Awards
- Blanket laser pointer usage across the Society (with appropriate training, no need to fill out forms with Transport Canada for each event)
- Archives (accessible by appointment in person, as well as extensive digital archives)
- Access to the annual General Assembly
- Newsletters to share nation-wide astronomy events
- Member support from staff during working hours (e.g.. password/tech support, membership renewal, answering questions, directing monetary and in-kind donations)
- Access to online store

Centre

- Centre bulk pricing for Observer's Calendar
- Centre financial management assistance (donations, membership fees)
- Insurance for RASC outreach events
- Weekly newsletter, monthly bulletin, allowing Centres to share information across the Society
- Nation-wide volunteer support via National Council, Presidents' lists, office staff
- Zoom accounts for Centre meetings and events
- Centre Operations Manual on how to run a Centre
- Management of membership and donor database (including updating member info, cleaning duplicate entries, managing add-ons, fixing errors and working with database software company
- Outreach support (e.g., comped printed outreach materials

Sharing Views of Tsuchinshan

by Yolanda Kippers

I first encountered Henry a few years ago on one of my daily visits to the Kennebecasis River near my home. The river is a great place to observe the morning or evening planets, the Moon, and other celestial objects that are not always visible from my tree-bound yard. Like the position of the constellations, the river changes with the seasons. The river is affected by tides and weather. It can be so calm that even the constellations are reflected. It can be pretty rough. Sunrises and sunsets there can be ordinary or spectacular. Low-lying mist adds another dimension. There is wildlife: most noticeably deer, birds and waterfowl, the occasional fox or raccoon, and probably a few other things that I'd rather not think about. Sometimes, you can hear a fish jump. In short, it's an interesting place to sit and observe the nighttime sky.

I have found different places where I can make myself comfortable (or not) among the rocks, so that I can enjoy the celestial views from different vantage points, depending on need; at any time of the day or night, year-round. Henry seems to do the same thing, although he never brings binoculars. He's a big fellow with long grey-white hair and beard that lift with the breeze, and he usually wears a heavy coat. Only once have I seen him without it. Although he acknowledges my presence, he's not much for conversation. I know where he lives but not much else. A loner. Often, I find him there in the early morning hours or late in the evening. I rarely see him during the day; at least, not there. Usually, he sits, perched on a rock, close to the water's edge. He must get his feet wet – something I try to avoid. A strange, seemingly harmless fellow to say the least.

My first view of the comet was in mid-October when I stopped to try my luck at the Renforth Wharf on my way home from the city. It was a beautiful evening but I wasn't dressed for the chill. My binos gave me away and I was approached by a stranger. "Are you looking for the comet?" It wasn't quite dark and she had been trying naked-eye, not knowing exactly where to look. I was able to find the comet and then share my binoculars. We both left happy.

A day or two later an acquaintance reached out to ask how he could find this comet that everyone was talking about. We arranged to meet at a pump house further along the river. He and his wife were happy to observe the comet. Over the next few days I was able to share the experience with friends and neighbours. Incredibly, they were satisfied with one, often quick, view, "Too cold!" Not me. I wanted more.

So, the following evening, I bundled myself up and sought out one of my favourite rocks by the river. There had been a cold wind all day and there still was a bit of a breeze. The rock slopes a bit to the side so I had to maneuver myself into a stable position; semi-reclined with another rock at my back, my legs dangling over the edge. I was reminded of Andromeda awaiting her fate. However, I was very comfortable – the rocks were still warm from the day's Sun.

I watched as Venus set, her reflection casting across the ripples of the current. I checked in on the Blaze star – still quiet. I found the comet and noted its progression from the evenings before. I lost myself in the features of Ophiuchus: the Yeds, Marfik, Sabik, Rasalhague; Cebalrai with IC 4665; M10 and M12; and of course my own special asterism, the Gecko on a pogo stick.

Lost in my reverie, I felt a soft pressure on my right thigh…a slight shift…and then a soft pressure on my left thigh. "Feels like a cat." What? A cat!?!" It was Henry! Without further ado he carefully settled between my knees, positioning himself precariously at the front edge of the rock. Once settled he commenced his own observations. He purred contentedly. He was more Perseus than a sea monster.

Cats are like comets: They both have tails and you never know what they'll do. However, comets don't purr. And, unlike my other acquaintances, Henry didn't mind the cold. I was very happy to share my observing experience with Henry.

Now, will the cat come back?

Orbit: Around the Centre
Which was better: Comet NEOWISE or Comet Tsuchinshan-ATLAS?

Ted Dunphy

When I observed Tsuchinshan on June 1st 2024 it was still a Virgin (in Virgo). In the telescope it was a delight, a bright coma with a 10' stubby tail. I looked forward to its foretold promise. In October after rounding the Sun it became visible to the naked eye, but only if you knew right where to look. It had a 10˚ long tail and was a sight to ponder. But it never summoned us to witness its presence. In the telescope it was wonderful, but not visible in its entirety.

Neowise in July of 2020 was a spectacular hairy comet that was easy to spot naked eye in the northern skies. In the telescope it had a condensed bright coma and a long spreading tail. It was magnificent and unexpected and perhaps that was its winning charm for me!

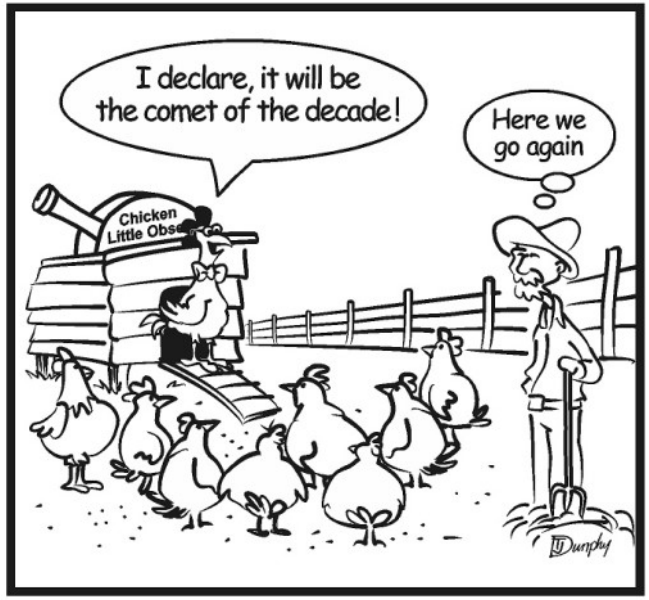
Curt Nason

I have to give the nod to Tsuchinshan-ATLAS over C/2020 F3 NEOWISE, mainly because I likely did not see the latter at its best. My logbooks show it was foggy on the morning of July 7, cloudy in the comet's area on the evening of July 9, but I was successful on the evening of July 15. There was no opportunity between those dates. In darkness the tail was thick and 5-6˚ long. I could see it naked-eye near the Saint John Regional Hospital when I returned home that evening. Over 30 days I observed it on 12 evenings.

My first view of "Cheechandchong-ATLAS" was on April 26, at magnitude 10.2, appearing more prominent than brighter (8.6) but more diffuse 13P/Olbers in my 8" Dob. My next view was on the on October 2 with 15x63 binoculars, after it reappeared from a summer southern vacation on its way to perihelion. It was fairly bright with a ~15' tail, 45 minutes before sunrise.

On October 12 I picked it out naked eye, low in the southwest in orange twilight, with its tail spanning about 4˚ in the binos. I observed it 14 times over the next 34 days, the best view being from a dark sky at Five Fathom Hole where the tail was at least 7˚ in binos and 5˚ naked eye.

Ted's Toon
By Ted Dunphy



↑ C/2020 F3 NEOWISE
↓ C/2023 A3 Tsuchinshan-ATLAS
Images by Robert R Gaudet

What's Up for Winter
by Curt Nason

The highlights for the months of December through February will be Jupiter near the top of the ecliptic and an occultation of Mars. Both planets reach opposition this period.

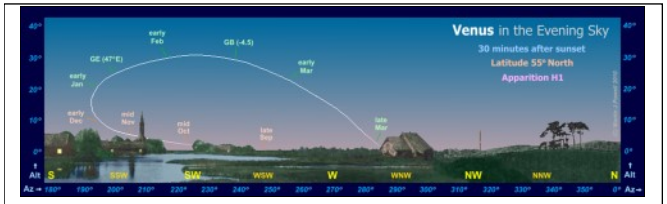
The Sun reaches the Winter Solstice at 05:21 on December 21. The level of solar activity is at or near its peak and it has produced aurorae in NB on several occasions.

Moon New Moon dates are December 1 and 30, January 29, and February 28. It passes through the Pleiades on the evening of January 9.

Lunar Occultations The nearly full Moon occults Mars for an hour on January 13, beginning around 22:38. Times will vary with location so be watching much sooner.

Mercury reaches inferior conjunction on December 5 and it is at greatest W elongation on Christmas morning. By January 1 it rises an hour and a half before sunrise and is at magnitude –04. Mercury is out of sight for most of February, reaching superior conjunction on the 9th.

Venus is 2˚ above the Moon on December 2 and again on January 3 at noon, opportunities for naked-eye daytime views. It reaches greatest W elongation on January 10. Climbing higher, it will be well placed for observing over the winter,



Mars begins December a few degrees above the Beehive cluster in Cancer, and it will remain within a binocular view for most of the month as it reaches its first stationary point on December 7 and begins retrograde motion toward Gemini. Mars is closest to Earth on January 12, at magnitude –1.5 and sporting a disc 14.6" wide, and it is at opposition January 15 when it anchors an attractive line-up with Pollux and Castor. By the time it resumes prograde motion on February 24 it will be in the middle of Gemini.

Jupiter is at opposition on December 7 at magnitude –2.4 and with a disc 48" wide. An interesting observation at this time will be seeing Europa eclipsed at 17:22 and reappearing from eclipse at 19:54, indicating the planet's shadow has shifted from one side to the other. This winter and next Jupiter will be near the high point of the ecliptic (the summer solstice point at the Taurus-Gemini border), remaining high enough in the sky long enough to observe the entire planet during its ten-hour rotation – a Jupiter Marathon.

Saturn is still within its observing window through December and most of January, with the rings opening slightly before narrowing to edge-on when it is out of sight after conjunction in March. It is within a few degrees of Venus in mid-January.

Uranus retrogrades from Taurus into Aries near the end of December and reaches it second stationary point on January 30.

Neptune reaches its second stationary point in Pisces on December 8. It will be within a binocular view to the left of Venus on January 29 but difficult to observe.

Comet C/2023 A3 Tsuchinshan-ATLAS might remain within range of a backyard telescope in December.

Meteor Showers The Geminids peak on December 13/14 just before the full Moon. The Ursids peak on December 22 with the Moon at third quarter, and the Quadrantids on the afternoon of January 3 with a waxing crescent Moon.

Zodiacal Light might be seen in a dark western sky 90 - 60 minutes after sunset during the last two weeks of February.

Aurora on October 10
Image by Robert R Gaudet

Book Review

by Don Kelly

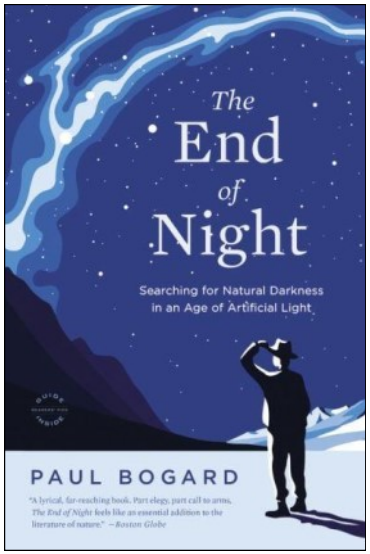
The End of Night by Paul Bogard
Searching for Natural Darkness
in an Age of Artificial Light
Little, Brown and Company, 2013
ISBN 978-0-316-18290-4

RASC members who have a special interest in light pollution, and who doesn't, will want to read this fascinating look at our planet's loss of dark skies due to artificial lighting. Paul Bogard takes the reader on a journey through time as we visit Las Vegas, Nevada, London, England and Paris, France to understand the evolution of artificial lighting and its overall effect on observing the night sky. He visits Henry David Thoreau's Walden Pond to compare what sky Thoreau saw to what Bogard can see now. He makes some thought-provoking observations that connect individuals who prefer to work long-term night shifts and the health issues that confronted them.

Bogard travels to Toronto and visits Michael Mesure, founder of Fatal Light Awareness Program (FLAP) and observes first-hand how birds are trapped in the lights of the CN Tower and fly blindly into the tower, dropping dead or disabled to the ground. When the CN Tower lights are turned off at 1:00 am, remaining birds lower to the ground to recover their night vision before eventually flying away. Mesure questioned the claim so he visited the CN Tower early one morning and collected dead birds before daybreak.

Bogard travels to Mont Megantic's Dark Sky Reserve to meet with Bernard Malenfant. He journeys from Paris to the coastal city of St. Malo, takes a ferry to Guernsey and boards a tug to the Isle of Sark, a place where the community worked together to have their isle designated as an International Dark-sky Area (IDA). Bogard introduces the reader to Roger Narboni, founder of Concepto (1980). Narboni designed the world's first lighting master plan for the French city of Montpellier. LED and motion detector lights are praised.

Bogard ends his book by visiting Acadia National Park, including Cadillac Mountain and Mount Katahdin in Maine. His global journey to find dark skies provides the reader with solid guidance to plan their sojourn to some of the darkest sky-sites on our planet as well as constructive ways and means to diminish light pollution in our localities.



Stock Photo

NGC 7293, Helix Nebula
Seestar S50 at Irving Nature Park Oct 11, 2024.
1 h exposure at 10 s each, processed in Siril and PixInsight. H-α and OIII Narrow band filter.

Image by Robert R Gaudet

Abbey Landry School Talks

by Gerry Allain

During the first week of October I contacted Abbey Landry to see if they were interested in an astronomy presentation for the 6 graders. I did one last year and the guy in charge asked to me to contact them again. He responded right away with a YES and we confirmed Friday, November 1 for two classes.

The day of they presentation my best friend Elmer was interested in attending and helping out. We were confirmed to do the presentation in the amphitheater; the laptop would be located up front, and I would at the back talking, so Elmer would run the PowerPoint for me.

The first class was very excited to learn what we can see in our skies. The teacher had to ask them to stop asking questions, they were taking to much of my time answering and I had to finish before the end of the class.
After, the kids thanked me and they picked up the astronomy supplies before leaving.

The second class also went very well. One girl sitting next to me told me she loved astronomy. A lot of the kids know astronomy. The kids get amazed when I tell them what we see in the sky is in the past, like if we could turn off the Sun we would not know it for 8 minutes as the light takes that long to reach us. They also were shocked to learn that if they lived on Jupiter they would not of had a birthday yet, as it takes 12 Earth years to do a year on Jupiter. It got a lot of WOWs. Neptune takes 165 years to go around. One girl said, “Oh wow, we would never get a birthday cake. Oh no, that’s sad.” After I was done the girl next to me said “I think I know you, you gave an astronomy talk years ago at my mom’s daycare.” Small world.

Elmer and I really enjoyed the wonderment of the kids. We talked to 50 kids and two teachers. I am looking forward to doing more presentations.

M33 image (cropped)
by Robert R Gaudet

IC 1805, core of the Heart Nebula, 2 h exposure with Seestar S50, processed with Graxpert, Siril, PixInsight. Fundy National Park.
Image by Robert R Gaudet

Presidential Address

Curt Nason

After some pleading and arm-twisting we have a full slate on the Centre Council (see Page 2), with representatives from across the province: Northwest (David), Northeast (Yves), Central (Jeff), Southeast (Emma, François and Alan just over the border), and South (Yolanda, June and me). Thank you to Chris Weadick and Mary King for their valuable time and effort spent as Centre Councillors.

Our main focus for 2025 will be to determine what we want to achieve in astronomy outreach through our charitable status, and how to achieve it. I would also like to give added benefit to our membership, perhaps though online in-house astronomy courses. Please let me know what would interest you.

Treasury Turnover: Yolanda & Emma

RASC NB Outreach Events and Handouts

Year	# of Events	People At Events	Live Feed	Youth	Star Finders English	Star Finders French	Moon Guides English	Moon Guides French	Volunteer Hours
2015	114	7262			2106	244	2568	156	
2016	219	9498			1984	115	2290	87	988
2017	248	9951	8441		2276	162	2262	131	1937
2018	187	7289	37,922	>1300	1788	170	1635	79	1355
2019	240	7036	46,675	2997	1320	216	1520	213	1950
2020	171	1859	161,688	954	817	22	636	125	1079
2021	131	731	60,240	565	108	0	46	0	1160
2022	173	12,952	63,122	10,192	586	60	472	106	1809
2023	168	23,419	9787	20,612	556	223	452	110	1789
2024	163	11,971	9428	6495	352	92	486	87	2020

Types of Outreach Events

Year	Presentation	Night Observing	Day Observing	Youth Group	School Talks	Exhibition	Observ./ Planet'm
2015	22	33	23	7	15	13	1
2016	31	55	39	19	54	11	10
2017	61	89	22	19	50	6	1
2018	50	80	13	18	20	5	1
2019	73	94	10	22	36	5	0
2020	86	43	5	8	29	0	0
2021	65	48	6	1	11	0	0
2022	72	52	6	4	34	4	0
2023	60	13	8	14	69	4	0
2024	88	21	9	13	26	6	0