

Vol. 20 Issue 4
Autumn 2019

H O R I Z O N

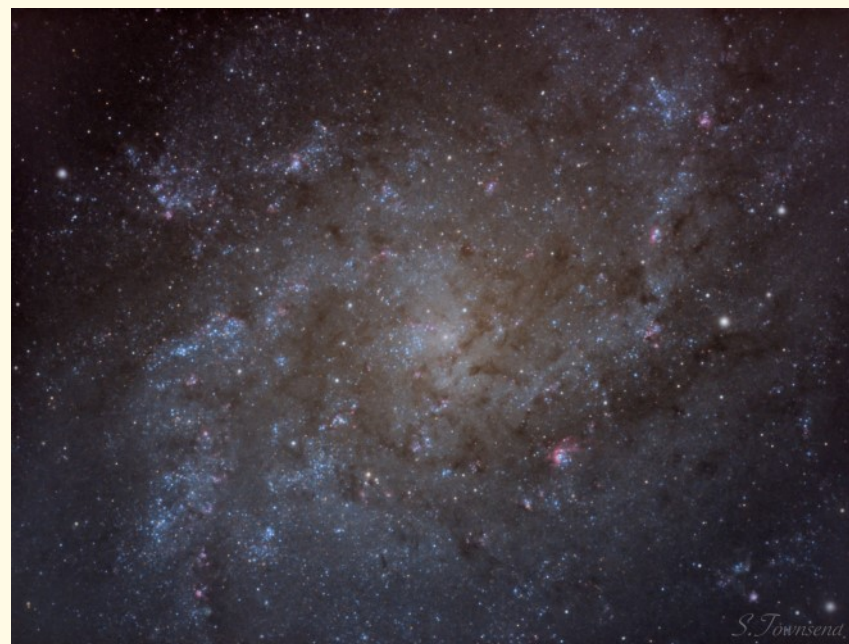
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
New Brunswick Centre du Nouveau-Brunswick
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA



Images by Stephen Townsend

NGC 1514

M33



NGC 1514 (Crystal Ball Nebula) is a planetary nebula surrounding a binary star in Taurus near the border with Perseus. Image taken with HOO filtration (H-alpha/Oxygen/Oxygen).
M33 (NGC 598, Triangulum Galaxy) is a face-on spiral in the Local Group of galaxies and might be a satellite of the Andromeda Galaxy (M31). Image taken with RGB filtration (red/green/blue).

EVENT HORIZON
Astronomy in New Brunswick

SRAC/RASC Centre du NB Centre Inc.

President/Président June MacDonald

1st Vice-President/Président

2nd Vice-President/Président

*Secretary/Secrétaire
Curt Nason*

*Treasurer/Trésorier
Emma MacPhee*

*National Council Representative
June MacDonald*

*Councillors / Conseillers
Joe Cartwright Detlef Rudolph
Mary King Chris Weadick*

*LP Abatement: Curt Nason
Star Party-Events: Paul Owen
Education-Outreach: Curt Nason
Website: Laura Sponagle/Emile Cormier
Social Media: Gerry Allain
Equipment: Chris Weadick
Library: Ted Dunphy
Fundy Upgrade: Paul Owen
Newsletter Editor: Curt Nason*

NB Astronomy Clubs
Réunion / Meetings

SRAC/RASC Centre du NB Centre
Jan 18, Saint John Rockwood Park

<http://www.nb.rascnb.ca/>

William Brydone Jack Astronomy Club
(Fredericton)

When: Second Tuesday of the month
Where: Fredericton, UNB Campus
2 Bailey Drive, Room 203
www.frederictonastronomy.ca

Saint John Astronomy Club

When: First Saturday of the month
Where: Rockwood Park Interpretation
Centre.
www.sjastronomy.ca

Astronomy - Astronomie Moncton

When: First Quarter Moon weekend
observing
Where: Moncton HS Observatory
www.astronomymoncton.org

Find us on ...

FACEBOOK

<https://www.facebook.com/RASC.NB>

TWITTER

<https://twitter.com/rascnb>

Star Parties / Events 2020

Kouchibouguac June 26 - 27
Mactaquac COW July 17 - 18
Mount Carleton July 24 - 25
Fundy August 21 - 22
Kouchibouguac Sept 18 - 19

Earth Hour March 28 at 20:30
Astronomy Week April 27 - May 3
Astronomy Day May 2

Fall Astronomy Day September 26
International Observe the Moon
Night: September 26

Occultation of Venus June 19 in
progress at Moonrise; exits ~05:10
above ENE horizon (~7° alt.)

Mercury or Frustration Rising

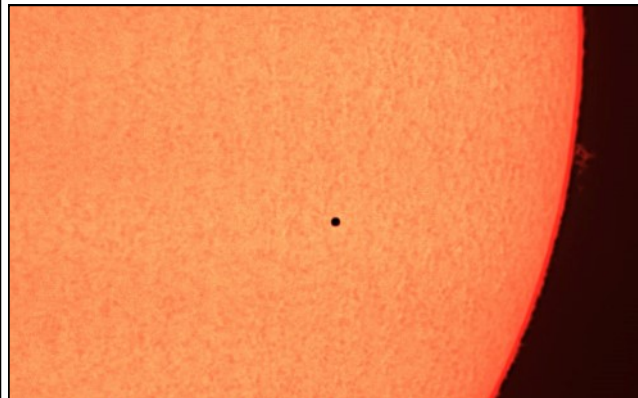
by Chris Weadick

Contrary to months of planning, including selecting alternative sites around Fredericton, the Mercury transit event stayed true to form by having us fighting the clouds and struggling to find the perfect place—or any place—we could catch a glimpse of the event. The initial plan was to meet at the UNB baseball diamond or the adjacent parking lot (depending on how much snow was on the ground) with the UNB club and promote our collaboration with the University. This was the same location where we had a half-clouded-out Venus event. The Hanwell Observatory planned to have a couple of telescopes at the new Hanwell Community Centre to help promote astronomy in Hanwell.

We kept the planning and announcements to a limited distribution list, not wanting to offend anyone wanting to participate at the Remembrance Day events since the peak of the transit was also at 11 a.m. on the 11th day of the 11th month. Checking the weather leading into the event it was looking iffy. It had appeared like we would ei-

ther be okay or we would be in the clouds as per usual for any unique astronomy event.

Home preparation was not going well. Previously, I had most of my astronomy equipment at Detlef's house, and before he moved I migrated everything home; except for my solar filter. I figured we would be okay, though, as the RASC NB Centre permitted the solar scope to be in Fredericton (which Ted was looking after) and a professor at UNB, Suprit Singh, who frequents our William Brydone-Jack Astronomy Club meetings, recently bought a solar scope as well.



*Mercury Transit in Hydrogen Alpha
Image by Tim Doucette
Deep Sky Eye Observatory (Facebook)*

*Stack of 50 frames, Lunt 60 Ha, ASI224MC
camera. Televue 2.5x Barlow*

Trevor Johnson (RASC NB member) was going to introduce the new Mayor of Hanwell to the Mercury event using his new telescope fitted with a Baader filter. I figured we would have half a dozen members at each location with telescopes so I did not need mine. Tasha's Dobsonian has a Baader filter, as well, but the vehicle was full and needing to make a choice of bringing a telescope or bringing my family – I chose family. It seemed like things were coming together, although there were not many confirmations leading up to the event other than "We should do something to see the event."

Around 9 a.m. we explored everything Google had to offer to find sites that showed better news than what was reported on the typical weather sites. The opportunity was looking iffy and it was not clear whether it would be better in Hanwell or UNB, or maybe Mac-taquac dam. I packed the kids into the truck and had a feeling it would be good to top up the tank with some gas, and top me up with caffeine. After a quick stop and some confirmation text messages it was decided we were heading to the dam. I updated the email list in case someone was monitoring and hoped for the best.

It is hard to negotiate the twists and turns of the old Trans Canada while scanning the sky for a clear spot; hoping the sky would clear so we could see the Mercury event, but also secretly hoping it didn't clear because we did not have a telescope! Detlef texted confirming he had the filter, Suprit earlier confirmed he was headed to the UNB location, and Ted confirmed he was headed to the dam so off we went to catch up with Ted.

Text from Ted: "Where are you now? We are at the dam and thinking about going up highway 105." Hmm, I have been here since 1981 and I still have no idea where all the local hideouts are. Luckily, I know some of the 105 as we have some land in the Keswick area and we visit Ted and Karen's home once in a while to scam supper and beverages, while playing a few games of cards and talking astronomy and what we can do locally to promote the hobby. We had been at Ted and Karen's the Saturday before and Ted mentioned he was going to put the scope in the van the night before and head out from there, and Karen would take the car home after the Remembrance Day events. Highway 105 covers half the province with no landmarks I am familiar with, but I should

be able to find a large white van parked on the side of the highway; one with "The Sign Post" decal on the side vs other questionable white vans.

Texting Suprit: "Are you at UNB still? Ted and I are heading to the dam." Response: "No, I gave up – soaked in with clouds. We are heading to the dam as well." We? Hmm... ah... probably Detlef. Yes, Detlef would have brought my filter to UNB as he was heading there. Suprit does not have a vehicle so he would be travelling with Detlef... awesome... everyone is set... they would have told anyone who stopped in at UNB as well. I texted Suprit and Ted multiple times trying to track down the location at the dam and my ETA – no response. I assumed they were parked in the parking lot before the dam. Wrong... no one there as we pulled up ready to bail from the truck and find a view in one of the scopes.

For the next 15 minutes it was a combination of rural NB cell coverage... no data... no service... oh, partial data... oh, no service... oh, pull over, I have full signal... call Ted... digitized signal and broken English. Texting again... calling again... 10 minutes down the

105... nothing. Continued driving the 105 looking for the van or their car or Detlef's car... or Mercury in a clearing. Not looking positive for the event but there were some spotty clearing sections more to the north. Keep going. Getting closer to the point that if we do not find someone with a telescope and some clear sky it would not matter anyway because the event will be over. A new twist to the day: All this way and we will probably find them and the event will be over. I gave up on the cell phone; no usable service regardless of the number of bars showing.



*Mercury Transit
Image by Paul Owen*

*Taken in Hampton through clouds around
11:30, near the midpoint of the transit*

Wait...sunlight BEAMING through a clearing in the clouds! A desperate text sent out to Suprit and Ted: "Anyone out there... clear opening!" Hopes that there would be a reply that they were just around the next corner... hurry up. No such luck. The last message from Ted was that he was heading to Crabbe – currently at the turnoff for Crabbe (Huh? Where's that?). I remember each winter of my four years at UNB, it seemed like all the students were going to Crabbe on the first sign of new snow. I never made the trek but I said to my family, who hoped to share success with me, that we will go to Crabbe and if we do not see him we will call it a day and head on back. It was only a few kilometres to the turn off so we will head to Crabbe.

As I slow to go around the curve before the turn to Crabbe I see a blue SUV, parked with doors and hatch open looking like it was a panic stop. Some astronomer rolled out the door with a H-alpha scope in hand, and recovered into a prone position with scope in hand and targeting the Sun. I pulled up and noticed it looked like Ted to the right talking to someone in hunter orange and on the left was a parka clad astronomer with the scope.



*Relieved astronomers somewhere
near Millville*

Hmm, that is either Detlef or Suprit as it was a brisk wind but not parka weather yet. I walk up and notice that all this time Suprit was travelling with Ted and I was texting them independently, thinking Suprit was with Detlef and Ted was on his own.

I rushed over to Ted's scope to see if Mercury was visible - the Sun was going to be behind the clouds soon. I remembered that during the Venus transit, even when Venus was behind some of the high level clouds, it just provided for a bit of a neutral density filter and I could still clearly see the planet. Hopefully, we will be lucky again. Ted had his 6" short-tube New-

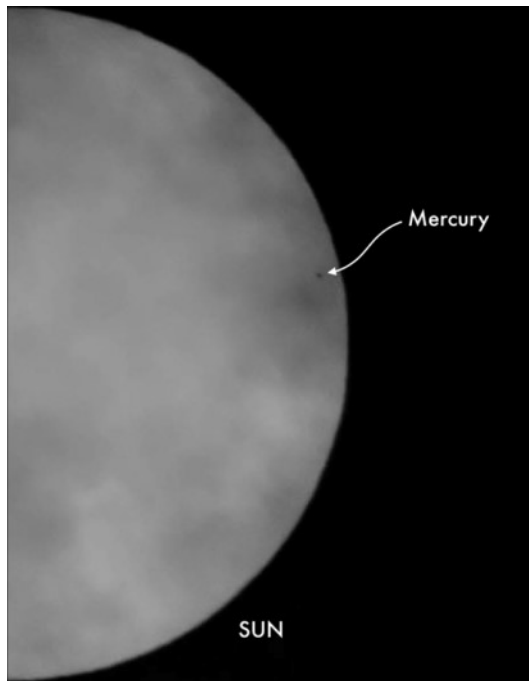
tonian with Baader filter; I had a look and saw no Mercury. Ted looked again, confirmed there was only 10 minutes left of the event and Mercury was down at the 6/7 o'clock position. I had another peak and saw a perfect circle cutting a hole into the image of the Sun. Very kewl, we made it with 10 minutes to spare! I rushed my wife and girls to have a look. It would be years before another opportunity to see a planet transit the Sun...success!

Suprit was attempting to image the event with his solar scope and camera — any visual viewing? Ted and Suprit confirmed it was not a great view in the solar scope, and Ted commented that it looked better in the 6" scope with Baader this time (I guess that means we need a better solar scope).

Ted later said he had considered going more north but figured he would just end up continuing to chase the clearing and miss the event. He had thought about going to Stanley but again had to commit to the drive and the chance missing the event.

The sequence of events was a good reminder of what we will be dealing with when the eclipse comes up through our province on April 8, 2024.

Many thanks to Ted, Suprit, and Detlef for their patience as we tried to track everyone down and thanks to Ted for sharing a view through his scope, making all the craziness worthwhile! Thanks to Suprit and Tim Doucette for use of their images. Our view through Ted's scope was a black/white with Mercury showing a view similar to Tim's image with the larger circle of Mercury plugged out of the surface of the sun. When we saw Mercury, it was just before the clouds started to roll in as per this image shared by Suprit.



*Image by Suprit Singh
Altair Astro 72 EDF, Sony A7R II
Seymour Solar Film*

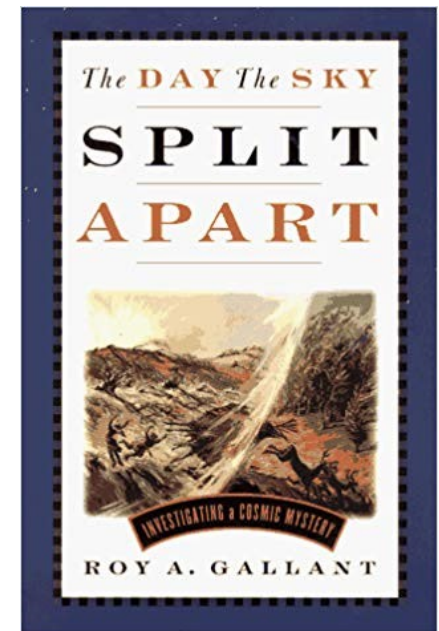
The Day the Sky Split Apart Roy Gallant - reviewed by Don Kelly

For anyone intrigued by the June 30, 1908 extraterrestrial explosion over the Tunguska wilderness of Northern Siberia, Roy Gallant's book *The Day the Sky Split Apart* is a fascinating read. The author has been called one of the deans of American science writers for children. He has authored more than 70 books on scientific subjects, including *Rainbows, Mirages, and Sundogs*; *Private Lives of the Stars*; *The Macmillan Book of Astronomy*, and *Before the Sun Dies: The Story of Evolution*. He resides in Rangeley, in Southern Maine.

In August, 1992, Professor Gallant, through a Russian colleague Kathy Rossovskaya, joined an expedition to the Tunguska region of Siberia. *The Day The Sky Split Apart* is largely an account of that expedition. They are guided through previous expedition routes of Leonid Kulik, a Russian scientist who made the first trek into the Tunguska region some 18 years after the initial explosion. Kulik conducted many interviews and collected numerous accounts of the explosion from

surviving witnesses.

In a chapter titled "Target Earth", Professor Gallant explores major extraterrestrial impacts with Earth over the course of our planet's history. He looks to the future with this chilling thought: "Whether the next catastrophe will be on a local or global scale, we do not know. It is not though, a matter of 'if' one or the other will happen, but 'when.' The ultimate question is "Will we be ready?"



*Stock Photo
This book may be borrowed from
Curt Nason on request, subject to a
possible fee of one (1) cookie.*

What's New at RASC NB? RASC NB Inc.

Significant changes have been made to our NB Centre since the previous newsletter; the most significant being that we are now incorporated and in the process of applying for charitable status. This process was due to the initiative of President June MacDonald, with the guidance of Detlef Rudolph and the assistance of Chris Weadick and Don Kelly. The main reason for the change was to improve the financial situation of the Centre, which could lead to projects to enhance membership benefits and outreach.

The email lists that we have used for Centre business and Council business had piggybacked on the system used by the Society, which was hosted by Saint Mary's University. Whereas that service is to be retired, our email lists have been set up on another system thanks to the efforts of Emile Cormier, with assistance from Chris Weadick.

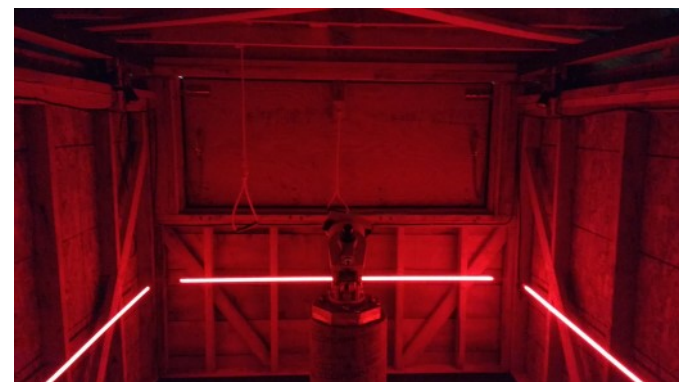
The email list for Centre business is now **announce@rascnb.ca**. This is a moderated list; that is, once submitted it will require the approval of a moder-

ator before it is sent to Centre members. Generally, a moderator will assess the content for relevance to Centre business. If you want to start a discussion on observing, general astronomy or sell equipment, please use the **rascnb@yahoogroups.com** address. If you are not subscribed to our Yahoo Group and would like to be, please contact our Webmaster at the address below. An improvement over the previous system is that you can **Reply** directly to the sender without moderator approval. **Reply All** will also send it to the members, which does require a moderator and should be used only when necessary.

Email addresses for individual Centre Council members (now also known as Officers of the Board of Directors) have changed and are shown on Page 2 of this newsletter. Email addresses for committee chairs are:

[REDACTED]

Construction of Emile Cormier's Observatory



Stay Warm

by Yolanda Kippers

As winter approaches you hear complaints that it is too cold to go outside to view the night sky. Come on...we're Canadian, eh? I look forward to it, but maybe I have the advantage of coming from Nordic stock. I'd like to share with you how I stay warm while viewing from my deck near the Kennebecasis River.

First, I need to admit that I'm quite low-tech - OK, very low-tech - and I prefer my binoculars. My yard is surrounded by trees so I have a poor view of the horizon. But, if you can lie back there is still plenty to see and enjoy if you can stay warm. That is the key - you have to stay warm.

You need to be prepared and keep everything ready and handy. In my situation, the biggest and heaviest item is my camping cot. It's padded and therefore warmer than a single-layered canvas lounge. I keep the cot behind the door to the deck and I keep the deck free of snow and ice. Next, in a plastic tote I store three items. First, there is a mattress-like pad that I made from an old duvet, folded in three, tacked together and covered with outdoor-appropriate fabric. This helps to keep my backside warm. A foam pad may work as well but will not

store as easily. Then, I have a down-filled sleeping bag purchased at the Army Surplus Store. And, finally, a pillow. You want to be comfortable as well as warm.

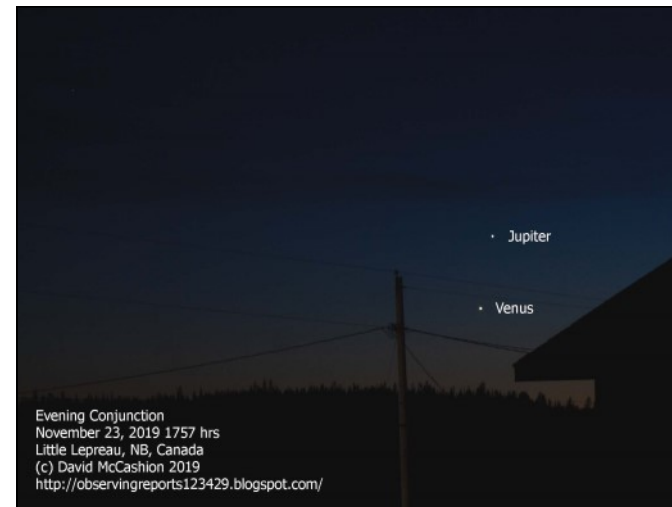
If the skies look promising I set the tote by the door and I get my clothes ready. Therefore, when I go out in the evening, during the night or in the early morning, I do not have to turn on the lights and I will stay dark-adapted. When I'm ready to go out I pull on a pair of splash-pants and a hoodie over my clothes or pajamas. Warm socks and a hat are a must. Then, my best thrift-store find for keeping warm on these winter night viewing occasions has been an oversized, down-filled, "old-lady", "Michelin tire" coat. It has a hood and elasticized cuffs, and it extends below the knees. You don't have to look fashionable. Gloves with texting pads work well and oversized slippers work better than boots.

Now I'm ready to go out. After propping the door open, I set up the cot facing my predetermined direction of choice. I carry out the tote to arrange the pad, sleeping bag and pillow; then go back and grab my binoculars and close the door. Generally, it takes about 8-10 minutes to get dressed and set things up outside, so everything is still warm. Now the comedy begins. The trick is to get a bulkily clad body into an army-issue sleeping bag (after taking off

the slippers) without tipping the cot. It usually works.

I remain comfortable and warm and can enjoy the wonders of the night sky as seen through binoculars. I have seen wonderful things. Often I am out for half an hour; sometimes more, sometimes less. Once I stayed out for almost two hours in -12C weather. The sides of the deck protect me from the wind. I have fallen asleep. I have been wakened by snow blowing off the roof. I have heard critters, large and small, wandering about. The best non-stellar event that I experienced was the night I "heard" the Kennebecasis River freeze. I became aware of an intense quiet.

There are many joys out there so don't be afraid of the cold. Just stay warm.



RASC NB Outreach Events and Handouts

Year	# of Events	People (Live Feed *)	Star Finders English	Star Finders French	Moon Guides English	Moon Guides French	Getting Started In Astronomy	Volunteer Hours
2012	75	4658	2188	229	1852	137		
2013	102	4119	1602	8	1513	120		
2014	104	4843	1716	241	1378	199		
2015	114	7262	2106	244	2568	156	819	
2016	219	9498	1984	115	2290	87	514	988
2017	248	18,453 (7533)	2276	162	2262	131	340	1944
2018	187	45,246 (37,992)	1781	170	1628	79	180	1340
2019	224	48,982 (41,959)	1319	216	1519	203	58	1836

* Number of people viewing Chris Curwin's telescope live feeds on Facebook (included in totals).

Types of Outreach Events

Year	Presentation	Night Observing	Day Observing	Youth Group	School Talks	Exhibition	Observ./ Planet'm
2012	12	24	2	12	17	8	0
2013	24	24	3	12	32	7	0
2014	23	21	20	17	12	8	3
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	66	84	10	23	36	5	0

CAN YOU SOLVE THIS PUZZLE

CREATED BY TED DUNPHY?

**Answer to the previous puzzle
(Winter 2019)**

Cuban Luminary:

CASTRO CASTOR



The answer is one astronomical word formed by rearranging the letters of the other word.

Clue: "Bunny Hop"

