

Vol. 18 Issue 3
Summer 2017

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



M13 - The Great Hercules Cluster Imaged by Emile Cormier



M13 image I captured on May 21 during an Astronomy Moncton members' outing in Memramcook. The "propeller" feature can be seen just to the left of the centre of the core. If you're not familiar with that feature, it's discussed here: <http://www.telescope.com/Articles/Deep-Sky-Challenge/Globular-Cluster-M13-and-the-Elusive-Propeller/c/9/sc/770/p/102978.uts>

Imaging train: ASI1600MM-Cool monochrome camera with LRGB filters and off-axis guider
Telescope: 152 mm Maksutov-Newtonian on equatorial mount

Integration time: 43 minutes

Subexposures: 12 x Lum @ 30 s, 13 x Blue @ 60 s, 13 x Green @ 60 s, 11 x Red @ 60 s

Software: Sequence Generator Pro, PHD2, Pix-Insight

Conditions: Windy with good transparency

EVENT HORIZON
Astronomy in New Brunswick

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Emile Cormier Chris Weadick*

*LP Abatement: Dwayne Branch
Education-Outreach: Curt Nason*

Star Party-Events: Paul Owen

Newsletter Editor: Curt Nason

Website: Emile Cormier

Equipment: Chris Weadick

Library: Ted Dunphy

Fundy Upgrade: Emma MacPhee

NB Astronomy Clubs

Réunion / Meetings

SRAC/RASC Centre du NB Centre

When: September 9, 2017 13:00

Where: Rockwood Park, Saint John

When: October 21 (Annual Meeting)

Where: Moncton High School

<http://www.nb.rasc.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

Where: Moncton HS Observatory

www.astronomymoncton.org

Find us on...

FACEBOOK

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

TWITTER

<https://twitter.com/rascnb>

Events 2017

**Fundy Park Star Gaze
September 15 - 17**

**Kouchibouguac Fall Star Gaze
September 22 - 24**

**Fall Astronomy Day
September 30**

**Observe the Moon Night
October 28
Irving Nature Park**

COSMIC WEEKEND
Mactaquac COW
by Chris Weadick

After some miscommunications leading into the summer months, Mactaquac contacted Ted Dunphy requesting RASC NB to assist with their "Cosmic Weekend" under the stars - for the full weekend, not just the original discussion of Saturday night. Unfortunately for the park, many members had already booked alternative plans. Many had mentioned the challenge with packing up gear and travelling to the park for just one night, combined with RASC requesting support for the National Star Party.

Ted, Karen, and son Ian were able to do Friday night observing and reported having 70 participants, making it a busy night for a solo scope, but a capable operator kept campers happy. Saturday afternoon Ted greeted the remaining volunteers with "You guys are a sight for sore eyes... so glad you are able to make it out to help out!" as Chris and Kelly Weadick arrived with their daughters Tasha and Brooklynne. They arrived shortly after James Ayles, and soon Greg Gilmore, Eloi Lanteigne and Dave Leaman arrived.

On the field we had Ted's 16" Lightbridge, James's 8" Skywatcher, Greg's 9.25" SCT, Chris's 6" and refractor, Dave's custom mount for binoculars and the Centre's solar scope. The Sun was not active at all; no sunspots and minimal prominences, and only a vertical filament at the bottom of the Sun. We are thankful we were able to borrow the Centre's solar scope as no one in Fredericton has one. The Baader filters were not too impressive as, with no sunspots, they only displayed a white disc with no discernable features.



From noon until supper there was solar observing in the field. This year we

kept supper simple as we were not certain how many would show up. Ted and Karen lugged along their BBQ and cooked up some burgers and hot dogs, and along with a couple of salads and an array of desserts everyone was about to go supernova filled with munchies. After supper Ted and James presented the What's Up, including a demonstration of the phases of the Moon with a couple of basketballs and James's head as the Sun. Ted also discussed the pending solar eclipse and how the celestial bodies would align for a solar eclipse. The room utilized for the evening talk was previously filled with kids doing a cosmic treasure hunt and activity events hosted by the Park. After our talk the room was quickly converted to a cosmic dance for the kids, including blacklights highlighting the neon graphics on the walls with thousands of cut-out stars. The park staff put significant effort into the recreation centre for the full weekend - everything cosmic!

The night did not look promising. Heavy clouds were creeping up from the coast, sent up from the Saint John members (kidding). Scopes were initially trained onto the first quarter Moon which peeked in and out of the clouds, adding a natural filter for the

brilliance, until a clearing when the public exclaimed about how “bright” the Moon is when not behind the clouds. The situation provided an opportunity to talk to the public about safe viewing through a telescope and the requirement of using a special filter or purpose-built solar scope for observing the solar eclipse on August 21. The Moon filter is often around 15% blocking versus solar filters blocking over 99.999% of the sunlight.

Earlier in the evening Dave demonstrated his custom-designed, home built binocular mount having three sturdy legs and a centre post able to reach over seven feet in height! Many of the public enjoyed looking at the Moon, Saturn and Jupiter through his binoculars, and with the easy adjustment for any height of observer it was a huge hit. The binocular observing encouraged the public to look up at the night sky at any time, realizing they do not need a large computerized telescope to enjoy the night sky. We also took the opportunity to explain about the rotation of the earth, how more aperture enables observing dimmer objects with more detail, and how a motorized telescope can help with not having to nudge the scope be-



tween observations. With high magnification on Ted's scope, one parent noted that you need to adjust the scope between each observer whereas on lower magnification you could have two or three people have a look before moving the scope.

James had the green laser pointer (GLP) to help the public visualize where they are looking in the night sky for the incredible views through his telescope. The night sky cleared after 22:30 and James was able to focus in on a few Messier objects, which wowed parents and encouraged the children at the event to ponder what is up in the night sky, including what a night would look like if they lived in M13, the Great Cluster in Hercules. James also lead the crowd in the count down for the arrival of the ISS, which arrived on schedule as per our request (kidding). Everyone was amazed that you could predict the ISS and how bright it is naked eye, and they wondered how they could “zoom in” on the ISS as they went by. Tasha said she waved but they didn't wave back; Dad pulled the safety card and said I was sure I saw them waving down at us as they went over.

We had approximately another 75-80 people Saturday night. It was difficult to verify the number of visitors as they kept rotating among the telescopes and returning multiple times to see the various views. Everyone said they appreciated the sharing of our scopes and sharing the night sky with them.

One family had a 60 mm refractor that Santa provided to one of the boys who came to the event. They never had the opportunity to use it and, although they arrived in the dark with the telescope (no chance to prepare it in the daytime), Tasha helped them set up, align and use their scope to find the Moon and planets. It was great to see someone bring a telescope to the event and it helped validate our participation at the COW. The family recently moved to Fredericton and it sounded like we will have a new member in the fall. The parents also appreciated that we had a variety of telescopes at the event so they could try out the various types, mounts and views. Greg had his computerized scope there, which allowed the public to learn the benefits of the GoTo and tracking options of computerized systems.

We missed the opportunity to socialize with other RASC members, although we appreciate the effort to move their setups around for just one night as well as the opportunity to support RASC National Star Party. Solace was in the concept that we were all viewing the same night sky from across the province and country. We had all of the RASC community with us.

Many thanks to Ted and Karen for preparing the complete site leading up to the event, and thanks to the area members who were able to participate. Thanks Greg for storing and toting around the RASC canopy for all the events. Thank-you to the staff and management of Mactaquac park for the use of the facility and for the theme of a Cosmic Weekend – promoting astronomy and sharing out greatest natural resource... our night sky.



Photos on Pages 3, 5 by James Ayles

Photo on Page 4 by Karen Dunphy

OFF THE SHELF



Book Review
by Curt Nason

Explore the Universe Guide—An Introduction to the RASC ETU Certificate, by Brenda Shaw. Illustrated by Brenda Stuart, viii + 66 pp, RASC ISBN 978-1-927879-09-2

This RASC publication is for those who are ready to get their feet wet in astronomy by completing the Explore the Universe Observing Certificate. (<https://www.rasc.ca/explore-universe>)

It explains basic concepts for navigating the night sky and learning the constellations - with the addition of some historical perspective; using star charts, and the basics of binoculars. What is missing is an explanation of the magnitude system for brightness.

Next the book describes the objects and phenomena to be observed to earn a certificate, including those in the solar system and atmosphere such as the lunar surface, planets, aurorae and eclipses. These are followed by a section on deep sky objects such as nebulae, galaxies and double stars.

Available from the RASC e-Store for \$17.95 + tax + shipping.

Livingston Lake, July 21-23
What happens at Livingston Lake... is worth sharing



The Red Light District

Photo by Paul Owen



**Mike Powell processes
his image of the
Hamburger Galaxy**

Photo by Emma MacPhee



<— NGC 7000

North America Nebula
Canon modified T3i on a
Skywatcher Star Adventur-
er tracking camera
mount

IC 1805 —>

Heart Nebula
Stellarvue 105 mm triplet
with modified Canon T3i
on a Skywatcher HEQ6

Photos by Paul Owen



A Time Capsule from 1969

by Donald MacPhail

In going through my parents' "stuff" recently, I came across an envelope marked "Moon Landing and First Photos of Mars" in my Mom's handwriting. Inside were a bunch of newspaper clippings. They of course detailed the excitement of the events, but they also provided a glimpse into how we – or at least Americans – apparently thought of other things in the late 1960s. My Dad worked for the Bank of Montreal and was based in New York at that time – which explains a couple of the photos.



Everyone had comments... and they were from across the spectrum.

Jesse Jackson
Leader of Operation Breadbasket

It seems to me that only with mixed feelings and considerable misgivings can the person of moral concern contemplate America's moon shot and man's first extraplanetary steps. On the one hand, I stand in awe, amazed at this most dazzling of feats, one which bespeaks man's capacity to hurl himself hundreds of thousands of miles against the heavens and yet land feet first. On the other hand, a sense of irony grips me to the depths of my being when I view the moon feat as over against the mountainous problems which yet loom and which seemingly have rendered man and particularly American man, impotent and whimpering.

Dalai Lama

symbolizes the very acme of scientific achievement. It is indeed a phenomenal feat of far-reaching consequences for the world of science. We Buddhists have always held that firm conviction that there exists life and civilization on other planets in the many systems of the universe, and some of them are so highly developed that they are superior to our own. The perfection of scientific knowledge has enabled man to launch unmanned space-ships toward other planets.



Jean Monnet
French Economist

I am for it. It makes me grow beyond myself. It breaks down the last basic frontier.

The experience is one that man has often tried to imagine. A decade ago an article on the moon published in the Larousse Encyclopedia of Astronomy offered a description that still has pertinence.

"The harsh character of the landscape is aggravated by a terrible feeling of loneliness and desolation," it said. "No sound breaks the silence since there is no air to carry it. A whole mountain might topple, and it would have the dream-like quality of a purely visual impression unless the shock waves reached the observer through the ground."

There was no indication today that Mr. Armstrong and Colonel Aldrin were affected by the loneliness and desolation, although Dr. Thomas O. Paine, the NASA administrator, said he detected a note of awe in Mr. Armstrong's voice from Tranquility Base on the moon.

Pablo Picasso

It means nothing to me. I have no opinion about it, and I don't care."

Some Random Events in the Nation on the Weekend It Put 2 Men on the Moon!

New technologies – computers – were being used, activities in space were promised, and what other people were doing that weekend seemed, well ... you decide.

Computer and Radar Played Critical Role in LM's Descent

At the Red Run Golf Club in Royal Oak, Mich., a Detroit suburb, there was some pretty heavy drinking both in the red carpeted men's bar on the first floor, and in the pastel women's bar upstairs. At the downstairs bar, two judges, a salesman and an architect trudged off the 18th green and settled down around the two-inch thick oak table, ordering a quick round.

"As the judge says, let the perjury begin," said James Livingston, an architect, calling for the foursome's scores at the last green (they were 8, 9, 10 and 5).

The Topic Is Poverty

At the women's bar upstairs, the drink flowed just as briskly. But instead of swapping golf scores and business deals, the women were talking about poverty.

"I give my maid clothes and stuff like that," one said. "It's pathetic; those children don't have enough clothes to go to school. They're human beings and I don't go for that — them having to live that way."

While two Americans spent yesterday on the moon, Eldridge Cleaver spent the day in Algiers denouncing the moon shot. Hubert Humphrey was on a boar hunt near Moscow and the Mets were in Montreal playing a double-header with the Expos. Fourteen-year-old Jeffrey Ward of Cleveland, "Mr. Teenager 969," was in Saigon to "assess" the war as a guest of the South Vietnamese Government and David Robb of Missoula, Mont., was in Stockholm after defecting from the United States Army. Randy Geise of Keyport, Wash., was sailing a bathtub 36 miles into Vancouver Harbor, B. C., in the Great Canadian Bathtub Race and the West Virginia University Percussion Ensemble was beating triangles and woodblocks in Quito, Ecuador. The Henry Fords were cruising the Aegean Sea. Some 500,000 other tourists were vacationing abroad and about 202,877,000 Americans were doing pretty much what they do on any summer Sunday.

In James, Miss., Mae Alice Goodman; her common-law husband, Willie Evans, and their three children live in a three-room "shotgun house"—called that because the rooms are stacked end to end so a man could fire a shotgun through the front door and out the back door without hitting a wall.

Willie works on a white man's plantation. His take-home pay last week was \$23, after money to pay his current bills was deducted by his employer. "The bossman, he just takes out and pays it hisself," Mae Goodman explains.

In Las Vegas's Tropicana Hotel Saturday night, a man with bushy grey sideburns, a brown chalk-striped coat and an orange and pink tie chanted "numbers, numbers" in a distinct New York accent as he rolled the dice—and lost.

The same day, Mark Gregg, an 18-year-old from Birmingham, Mich., was sprawled on the rim of a fountain at the University of California at Los Angeles, but this spring he was tear-gassed at Berkeley and he plans to spend the summer "bumming around."

And Peter Boehmer, ex-lumberman, ex-Korean war officer, ex-staff worker for the Pacifist Fellowship of Reconciliation, has now fled all the way to Monhegan Island, a tiny isle of jagged cliffs and pine forests 12 miles off the coast of Maine. (To some extent, Monhegan Islanders must be considered refugees from the rest of America. "I'm just fed up with the noise and confusion in the city," said one elderly woman on the island yesterday. "I can't stand night life.")



The closest place to New Brunswick that is mentioned.



Three weeks after landing on the Moon, the astronauts landed in New York for one of that city's famous ticker tape parades. Nice to have Air Force One loaned to you for the flight to New York, but I wonder if they would have preferred to be back on the Moon?



RASC NB Education & Outreach Update for 2017

Year	Events	People	Star Finders English	Star Finders French	Moon Guides English	Moon Guides French	Get 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	167	6992	1769	45	1736	10	258	1163

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	35	60	13	17	37	4	1

Puzzle 'n Pics

Astro★Anagram

The answer is one astronomical word formed by rearranging the letters of the other word. Each clue word is a hint for one of the anagrams.

Example clue "Star BBQ". Answer "ASTRO ROAST"

CLUE... **Itchy Asteroid**

□□□□ □□□□

Can you solve this puzzle created by Ted Dunphy?

The first correct answer emailed to
editor@nb.rasc.ca
wins a prize from the Editor.

Answer to the previous puzzle, won (again) by Emma MacPhee:
MARVIN MONKEY = MARTIAN TAMARIN



Even after years of working in the woods, Roger Pitre had never seen mosquitoes this bad. One more reason why winter observing is better.



Saturn imaged by Emile Cormier on 5 August at 22:51
10" GoTo Dob with ASI224 camera, atmospheric dispersion corrector, IR/UV filter. 8000 stacked frames out of 60,000 / 10 ms exposure.
Processing software: Autostakkert and PixInsight