Nova Notes

The Newsletter of the Halifax Centre of the Royal Astronomical Society of Canada

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IN THIS ISSUE:

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St. Croix Observatory

Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, NS. The site has expanded over the last few years and includes a roll-off roof observatory with electrical outlets, use of the Centre's new Go-To 400-mm Dobsonian telescope and 100-mm binoculars, a warm-room, and washroom facilities.

Enjoy dark pristine skies far away from city lights and the company of like minded observers searching out those faint "fuzzies" in the night. Observing nights (Fridays close to the New Moon or Saturday backup) are open to both members and their guests. If you are not a key holder and would like to become one, or need more information, please contact the SCO Manager, Tony McGrath.

Upcoming Observing Nights:
10 August (alt 11)
7 September (alt 8)

Meetings usually begin at 8:00 p.m. at Saint Mary's University in Room 101 of the Atrium Building (AT).

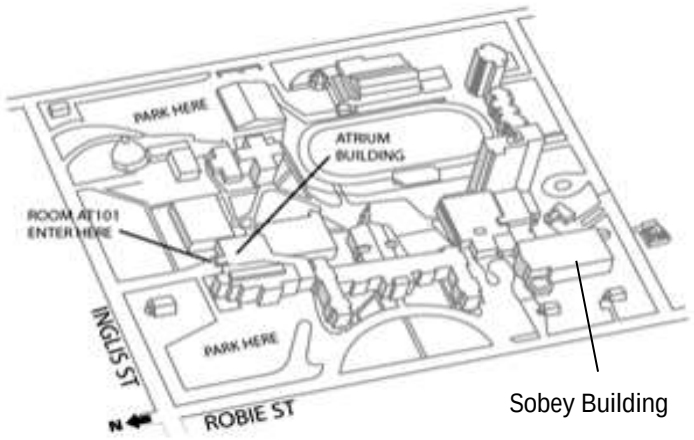
All meeting locations and presentations subject to change

Meeting Dates for 2018/19

Nova East Star Party: Aug 10-13
Keji Dark Sky Weekend: Aug 17-19
Regular Meeting: Sept 21
Regular Meeting: Oct 19 (Tentative)

Meeting Location:
Saint Mary's University

Atrium Building (AT)
Room AT 101
The Atrium is located in front of the Patrick Power Library, between the Burke Building and Science Building.



Meetings are usually held on the third Friday of the month, except for the months of July and August.

Executive meetings begin at 6:45 p.m., usually in room AT306, and all members are welcome.

Halifax RASC Board of Directors, 2018:

Honorary President : Dr. Roy Bishop	**(Appointed)**
President: Paul Gray	**(Elected)**
Vice-President: Melody Hamilton	**(Elected)**
Secretary: Judy Black	**(Elected)**
Treasurer: Gregg Dill	**(Appointed)**
National Council Rep: Patrick Kelly	**(Elected)**
Director: Sean Dzafovic	**(Elected)**
Director: Andrew Frank	**(Elected)**
Director: Paul Heath	**(Elected)**
Director: John Read	**(Elected)**
Director: Charles White	**(Elected)**
Librarians: Vacant	**(Appointed)**
SCO Manager: Tony McGrath	**(Appointed)**
Observing Chair: Sean Dzafovic	**(Appointed)**
Outreach Chair: Paul Heath	**(Appointed)**
Nova Notes Editor : Charles White	**(Appointed)**

Cover Photo By:

Michael Bocshat
"Moon and Venus"

Taken from Halifax. A 5 second exposer at f/7.1 to capture the Moon and Venus using a Canon camera and lens.

In this issue:

From the Editor — Saying that observing is an important part of astronomy could get a few raised eyebrows if you were to make such a statement around friends. However true this may be, an equally important part that goes hand-in-hand with observing but maybe not done as often as it should, is recording what we're looking at.

Sketching at the eyepiece, taking stunning photos, or any other method of recording, is in my humble opinion as important as the observing itself. Recording the rings or Saturn, the moons of Jupiter, sunspots, and other wonderous objects in the Universe provides an excellent opportunity to record your growth as an observer and to look back at some of the major events that you've had a chance to be a part of to your friends or family. It is also however, an excellent tool for outreach.

At Nova East for example, during the day there is a chance that curious visitors to the park may wander up and ask some questions. Instead of just describing what we see in our eyepiece, lets offer to break out our observation logs, and show them what we see. Showcase the rings of Saturn, the moons of Jupiter, sunspots or whichever recording you're most proud of. By showing a person, what they can see instead of just telling them, it may just bring them back that night to see it with their very eyes too.

For those of us going to Nova East this year, I say that we offer to swap logbooks with at least one participant and have a conversation with that individual about their work. We might just learn something to use in our own logbooks.
- Charles White

Above: Sketch of the crater Clavius from June 2018

RASC Halifax Observations:

This new section of Nova Notes is to encourage the members of the Halifax Centre to record their observations when they are out at their telescopes. Be it astrophotography or sketches, this new section is dedicated to showcasing what has been observed between publications.

Nova Notes: The Newsletter of the Halifax Centre of the RASC

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Nova Notes is published five times a year, in February, April, June/July, September/October and December.

The deadline for the next edition is October 26 2018.

The opinions expressed herein are not necessarily those of the Halifax Centre.

Articles on any aspect of astronomy and related activities will be considered for publication.

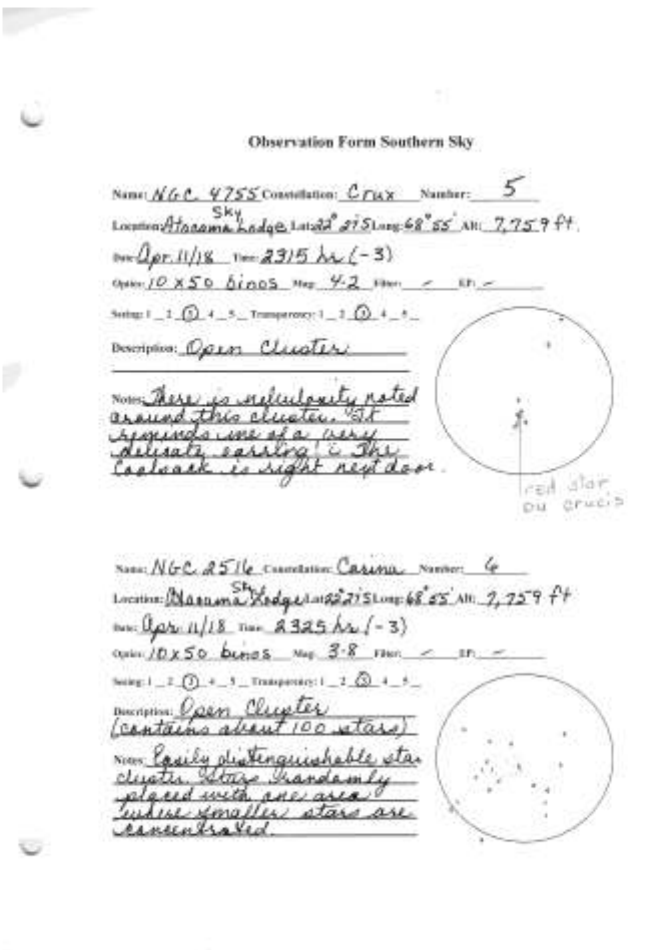
Southern Sky Binocular Program

- Melody Hamilton

On the 7th of April, 2018, Judy Black, Jerry Black, Dave Chapman, and I flew to the Atacama Desert in Chile for two weeks of Southern Sky observing. How does one prepare to meet the stars in a part of the sky one has never seen before? I was reminded of advice given to me by Mary Lou Whitehorne when I started observing the skies above my home, some 8 years ago. " Buy binoculars, no bigger than 10x50 and learn the night sky" she said. That proved to be sound advice in the Northern Hemisphere, so I decided to focus on binocular observing in the Southern Hemisphere.

As I am a member-at-large of the Astronomical League (working on their Herschel 400 list) I downloaded a binocular program for the Southern Hemisphere. Armed with my 10x50 binoculars, SkySafari (adjusted for Chile), clip board, clamp light, a dozen pencils, eraser, 6" ruler, and a great deal of enthusiasm! I was ready!

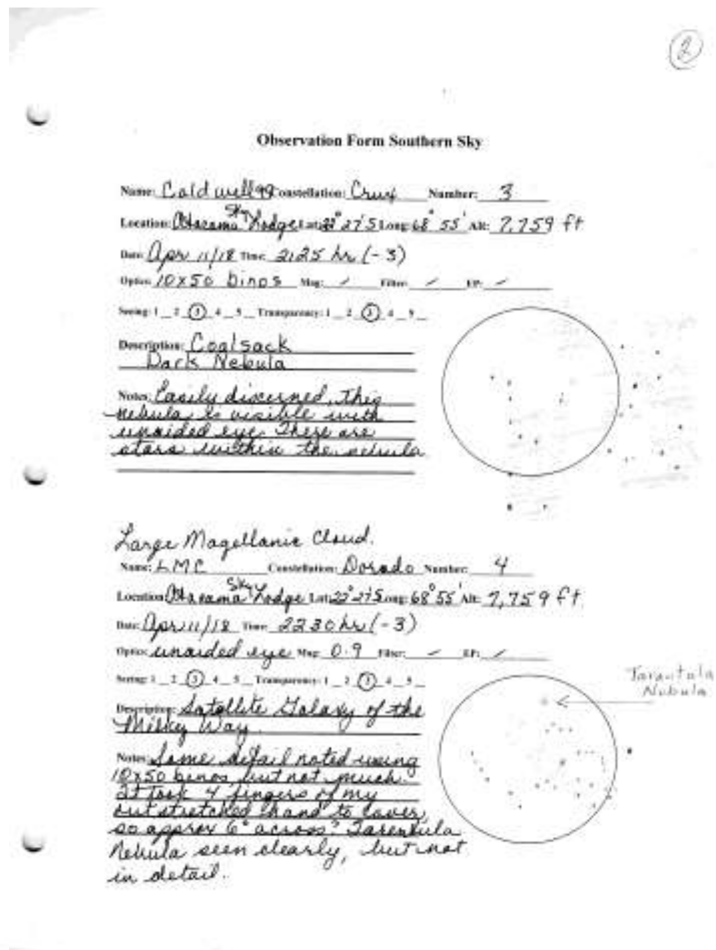
From our vantage point just outside San Pedro de Atacama, the southern sky is "sweet". There's "eye candy" everywhere for the UNAIDED eye SUCH AS Canopus, Southern Cross, Coalsack, Eta Carina Nebula, Southern Pleiades, Large Magellanic Cloud, Small Magellanic Cloud, Omega Centauri, and Alpha and Beta Centauri. Dave and I sat together and took a constellation tour with Roy Bishop's "Southern Sky" chart as reference. I was impressed with Dave's knowledge of these constellations! Come to find out, he and Judy had made the tour the evening before!



Observation Form Southern Sky

Name: NGC 4755 Constellation: Crux Number: 5
Location: Atacama Sky Lodge Lat: 22° 27' S Long: 68° 55' Alt: 7,759 ft.
Date: Apr. 11/18 Time: 2315 hr (-3)
Optics: 10 x 50 binos Mag: 4.2 Filter: – EP: –
Seeing: 1 _ 2 _ (3) _ 4 _ 5 _ Transparency: 1 _ 2 _ (3) _ 4 _ 5 _
Description: Open Cluster
Notes: There is nebulosity noted around this cluster. It reminds me of a very delicate earring! The Coalsack is right next door.

Name: NGC 2516 Constellation: Carina Number: 4
Location: Atacama Sky Lodge Lat: 22° 27' S Long: 68° 55' Alt: 7,759 ft
Date: Apr. 11/18 Time: 2325 hr (-3)
Optics: 10 x 50 binos Mag: 3.8 Filter: – EP: –
Seeing: 1 _ 2 _ (3) _ 4 _ 5 _ Transparency: 1 _ 2 _ (3) _ 4 _ 5 _
Description: Open Cluster (contains about 100 stars)
Notes: Easily distinguishable star cluster. Stars randomly placed with one area where smaller stars are concentrated.



(2)

Observation Form Southern Sky

Name: Caldwell 99 Constellation: Crux Number: 3
Location: Atacama Sky Lodge Lat: 22° 27' S Long: 68° 55' Alt: 7,759 ft
Date: Apr 11/18 Time: 2125 hr (-3)
Optics: 10x50 binos Mag: – Filter: – EP: –
Seeing: 1 _ 2 _ (3) _ 4 _ 5 _ Transparency: 1 _ 2 _ (3) _ 4 _ 5 _
Description: Coalsack Dark Nebula
Notes: Easily discerned, this nebula is visible with unaided eye. There are stars within the nebula

Large Magellanic Cloud.
Name: LMC Constellation: Dorado Number: 4
Location: Atacama Sky Lodge Lat: 22° 27' S Long: 68° 55' Alt: 7,759 ft
Date: Apr 11/18 Time: 2230 hr (-3)
Optics: unaided eye Mag: 0.9 Filter: – EP: –
Seeing: 1 _ 2 _ (3) _ 4 _ 5 _ Transparency: 1 _ 2 _ (3) _ 4 _ 5 _
Description: Satellite Galaxy of the Milky Way.
Notes: Some detail noted using 10x50 binos but not much. It took 4 fingers of my outstretched hand to cover, so approx 6° across? Tarantula Nebula seen clearly, but not in detail.

The binocular program gave my observing some structure. One exciting find just led to the next! As I began sketching, I noticed that my concentration and short-term memory had inadvertently been left at sea level! In the Atacama, at 7759 feet elevation, it took 3 or 4 observations to place just 1 star in my sketch. This did not improve over the course of our stay, I just had to work with it! Some favorite sketches are included.

Certificates are fun to receive, but the real focus is the journey through the program. It is this journey that unlocks the treasures in the night sky!

(15)

Observation Form Southern Sky

Southern Pleiades Cluster

Name: IC 2602 Constellation: Carina Number: 29

Location: Atacama Sky Lodge Lat: 22° 21'S Long: 68° 55' Alt: 7,759 ft

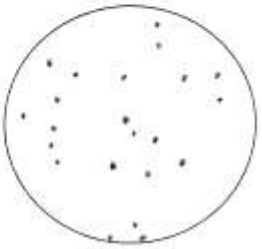
Date: Apr. 14/18 Time: 2315 hr (-3)

Optics: 10x50 binos Mag: 1.9 Filter: - EP: -

Seeing: 1 _ 2 (3) 4 _ 5 _ Transparency: 1 _ 2 (3) 4 _ 5 _

Description: Southern Pleiades Open Cluster

Notes: Visible ē unaided eye. Well defined cluster, stars randomly and fairly evenly distributed. Cluster easily distinguishable from background stars.



Name: NGC 3372 Constellation: Carina Number: 30

Location: Atacama Sky Lodge Lat: 22° 27'S Long: 68° 55' Alt: 7,759 ft

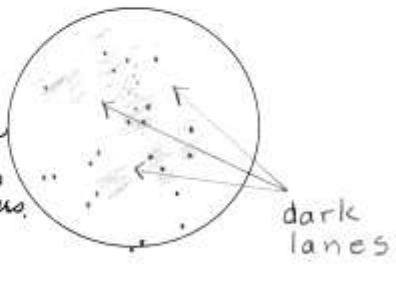
Date: Apr 15/18 Time: 2145 hr (-3)

Optics: 10x50 binos Mag: 1.0 Filter: - EP: -

Seeing: 1 _ 2 (3) 4 _ 5 _ Transparency: 1 _ 2 (3) 4 _ 5 _

Description: Nebula (Eta Carina)

Notes: Edges fairly well defined. There are dark lanes present (known as "Keyhole Nebula." Some areas of nebulosity brighter than others. Stars appear throughout. Visible ē unaided eye.



Lunatic Ramblings 11: Copernicus and More (Q-day 2)

- Dave Chapman

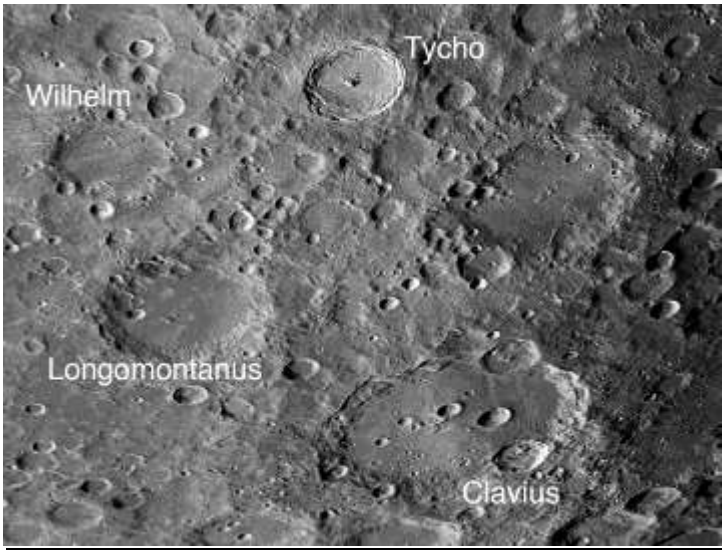
This column is based on *Explore the Moon*, the RASC beginner's observing program with certificate. For details, see www.rasc.ca/observing/explore-the-moon-observing-certificate. This issue, we review features visible on the second night after First Quarter (that, is Q-day 2). This is the classic gibbous phase including the prominent crater Copernicus, and the Moon is highest in the southern sky about 9:00 p.m. Here are upcoming dates relevant to this article: August 20, September 19, and October 18 (all in 2018).

Starting in the north, you will see most of Mare Imbrium, a large (1100 km) lunar basin containing several prominent craters. Within the mare, west of Plato, look for the Straight Range (85 km) of mountains. Across the mare to the south, just north of Copernicus, lies the eastern stretch of the Carpathian Mountains.

Copernicus (100 km) is arguably the most striking crater on the Moon. It is deep, with complex, terraced, walls and multiple central peaks. Bright ejecta material surrounds the crater, and some rays extend over 800 km. On September 18, you can watch sunrise on Copernicus. To the southwest, both Reinhold (45 km) and Lansberg (40 km) appear like mini-Copernicus craters. Further south, the Riphaeus Mountains lie in the middle of Mare Nubium. You may need to wait until the next day to see Lansberg and the Riphaeus Mountains.

Further south, Bullialdus (60 km) is another terraced crater with interesting slopes and secondary craters. Crossing Mare Nubium southwards, we come ashore and head into the complicated terrain of the Southern Highlands, where crater is piled on crater, and it is easy to get lost. However, Tycho is like a shining beacon, and you can use crater that as a landmark. Due west of Tycho (86 km) is the slightly larger Wilhelm (105 km)—no central peak, but it is peppered with craters on its floor and walls. Just south of there, look for Longomontanus (150 km), a large, heavily bombarded crater. Clavius (230 km) is nearby.

There's lots more to see around the Southern Highlands, take some time to expore. Next time, we'll move on to Q-days 3&4 and look around—we are about 85% complete, but there's more to come! Email if you have questions or comments! dave.chapman@ns.sympatico.ca



Robert Reeves (San Antonio, Texas) captured several craters in the Southern Highlands

Above: RASC Halifax members enjoying good food and good company at SCO.
Below: RASC Halifax members attempt to find Venus.

SCO Yearly BBQ

- Chris Young

On June 15th the Centre held at SCO its last spring meeting before the summer break. This meeting at SCO has now become a tradition. The agenda is simple – a BBQ and socializing. This year there was also a bonus of day and night observing along with some bird watching.

By my count 35 members, spouses and children attended. It was the most diverse group I have ever seen at SCO with all ages, genders and observing skills represented. Sean Dzafovic was the master chef and except for a brief delay, while Pat Kelly ran off to get BBQ tools, he cooked and served right up to the last burger. There was a very good selection of food as Paul Gray and I followed Judy's BBQ Shopping List which gives full information on each item/brand/quantity and which store to buy it from. The menu is getting healthier with each event, although I smuggled in 2 bags of chips (which were well received).

We were fortunate to have clear skies and the long stretch from dinner to darkness was filled with socializing, day observing and some bird watching. Venus and a thin moon were up high in the daylight and offered a challenge even with binoculars. Sherman pointed out a common nighthawk feeding on flying insects. This is a rare sight and a delight for Pat Kelly as this bird is now a threatened species.

With the coming of darkness Jupiter provided the main target for the Centre's dob. Dave Chapman and others watched the progress of Io across the disk, followed by its shadow, with a later view of the Great Red Spot. We packed it in around midnight, deemed the event a great success and we all look forward to next June's meeting at SCO.

Nova East 2018 Schedule

Friday Afternoon

Noon—6:30 REGISTRATION

Friday Evening:

7:45 Welcome

8:00 Talk: "Observing in Nova Scotia—How to Beat the Weather Gods"—Tony Schellinck

9:00 Hands-on Telescope Clinic (pair up at event pavilion and proceed to field)

10:00 Sky Tour (in field)—Paul Heath

10:30 & 11:00 Ace Amateur Astronomer binocular observing program (in field) Tony Schellinck

10:00- 11:30 Public Observing (in field)- ALL WELCOME

10:00-2:00 Astronomer's Lounge (socializing in a red-light zone, snacks, beverages)

NO GREEN LASER POINTERS AFTER 11:30 PM

Saturday Morning

9:00-Noon Registration

9:00 Astro Breakfast-cooked food, pastries, fresh fruit and drinks- Chris Young & Paul Gray

9:00 Telescope tours (in field, all day)

9:00 Solar observing (in field, all day)

10:00 Youth Activity: "Who Wants to Go to Mars?"—Paul Heath

11:00 Beginner Talk: "Setting Up Your Telescope to View the Sky"—Kathy Walker

Noon—1:30 Lunch break and FREE TIME

Saturday Afternoon:

1:30 Guest Talk: "Building the Dream (Observatory)"—Paula Cunningham

2:30 Workshop: "Sketching at the Eyepiece"—Melody Hamilton

3:30 Free time

4:30 Group Photo-All Nova East Participants

5:00 Potluck BBQ Social

Saturday Evening

7:00 Astrophotography & Observing Awards and Door Prizes- Melody Hamilton and others

8:00 Public talk: The Poetic Experience of Astronomy- Doug Cunningham

9:00 Hands-on Telescope Clinic (pair up at event pavilion and proceed to

field)

10:00 Sky Tour (in field)—Paul Heath

10:30 & 11:00 Ace Amateur Astronomer-binocular observing program (in field)-Tony Schellinck

10:00-11:30 Public Observing (in field)—ALL WELCOME

10:00-2:00 Astronomer's Lounge (socializing in a red-light zone with snacks, beverages)

NO GREEN LASER POINTERS AFTER 11:30 PM

Sunday Morning
9:00-10:00 Astro Breakfast- pastries, fresh fruit and drinks- Chris Young & Paul Gray

10:30-11:15 Special Talk: Introduction to Tidal Bores-Roy Bishop

Sunday Afternoon
11:30—2:30 Tidal Bore Field Trip

2:30 Nova East Astronomy Auction-*Auctioneer Quinn Smith*

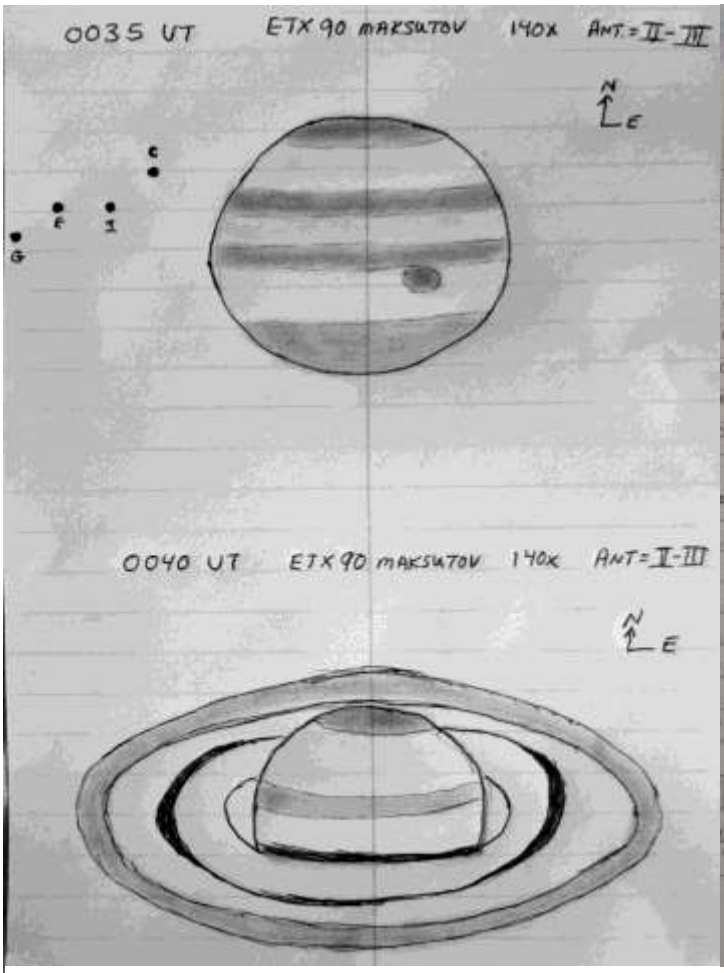
3:30 Beginner Talk: "How to Observe Meteors"-Paul Gray

4:30-10:00 Free time

Sunday Night—Peak of the Perseid Meteor Shower
10:00 Nova East Participant observing, astrophotography, and meteor observing (in field)

ABSOLUTELY NO GREEN LASER POINTERS AT ANY TIME SUNDAY NIGHT

Monday Morning
No scheduled activities. Pack and say goodbyes as you wish.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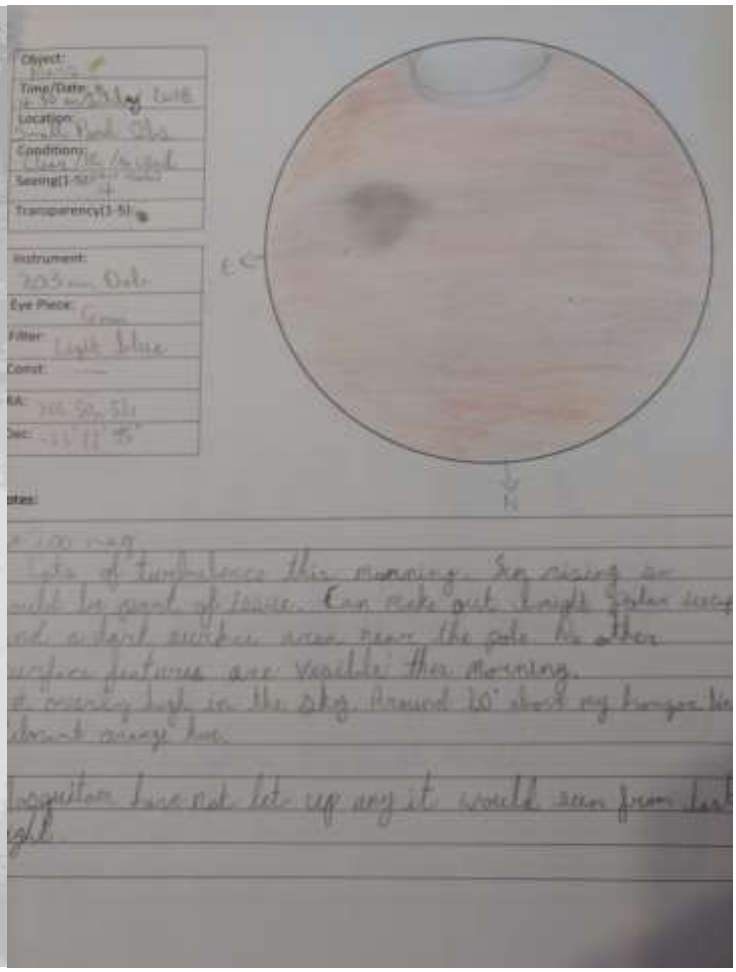
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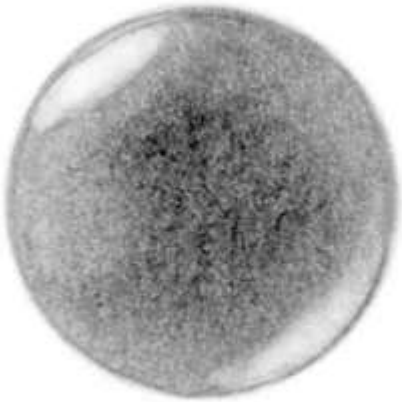

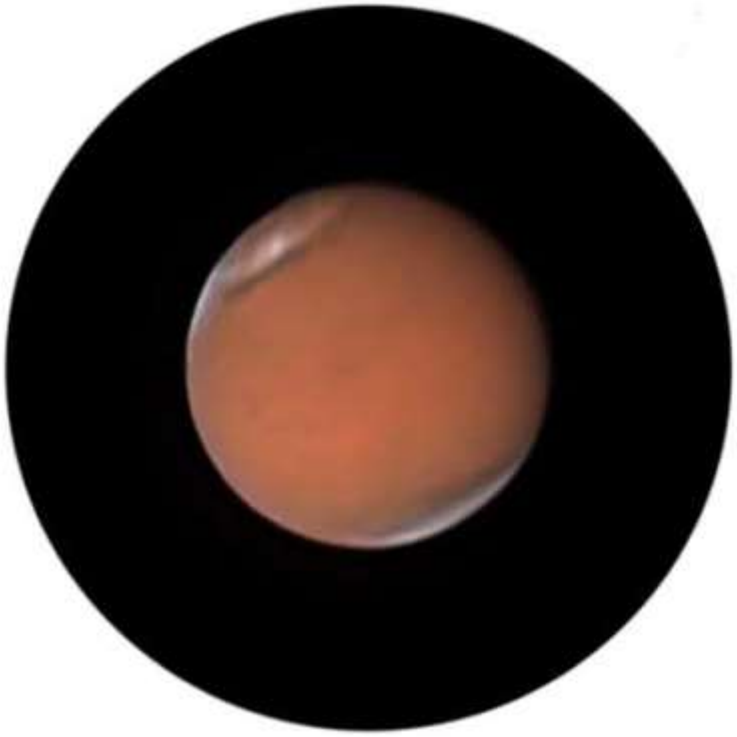

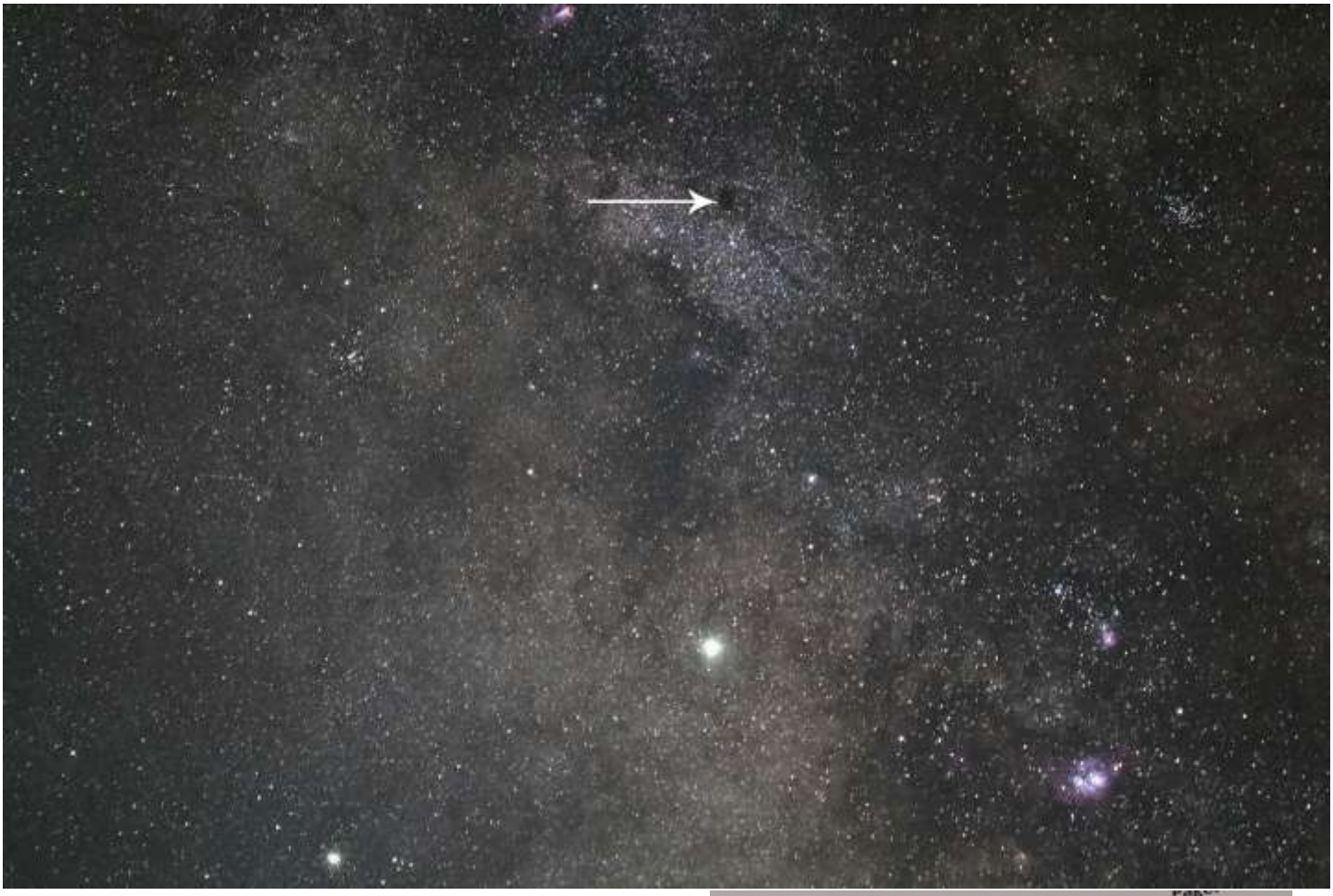

RASC Halifax Observing:

Here is a great selection of what members have been viewing and recording since the last Nova Notes publication. Please feel free to send any sketches, drawings, or photographs along.

Previous page: Upper left– Jupiter and Saturn, Michael Boschat.
Upper right– Mars, Charles White
Bottom– Mars, Michael Gatto

Above: Saturn/Lagoon Nebula Region, John McPhee.
Right - Copernicus, Charles White