Nova Notes

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

Volume 32 | Number 5 | October 2001

PO Box 31011, Halifax, Nova Scotia, Canada B3K 5T9 www.halifax.rasc.ca halifax@rasc.ca

Our thoughts and prayers go out to all victims of the terrorist attacks on the World Trade Center and the Pentagon and to their families.

Astrophoto of the Month *Nova East 2001 Participants*

The happy gang at Nova East 2001 get ready to pose for their group photo, when all of a sudden Pat Kelly announces he thinks a meteorite just fell to his left! :) Look on page 8 for the Organizing Committee's report, as well as feedback and pictures from other members.

Thanks to Cathy Brideau and Keith Lowe for the photo.

In This Issue...

See Page 12 regarding open executive positions and the deadline for nominating new centre executives.

Letter from the Editor

Well here is the October/November issue of Nova Notes, and a big Thank You goes out to all our members who submitted articles! I had so many submissions that I had to hold back a few for next month – including 2 of my own! I had planned on including a report and some samples of the sketches I have done of the Messier list. I finished sketching all the Messier objects this August after working on them for about 2 and a half years. Also next issue, look for a review of Paul Evan's new EQ mount that just wouldn't fit this month. Thanks again contributors, good job!!

Thanks also to Dave Chapman, Paul Evans, and Dave Lane for their continued help with Nova Notes. ✯

As heard on hfxrasc@rasc.ca...

If you're a member with email, why not become part of the Centre's email list? The list is a great resource for people looking for other members to observe with, for reminders of upcoming astronomical events, or for sharing information. Members who observe at St. Croix usually post a notice to say if they'll be out that night. Log on to our website (www.halifax.rasc.ca) to get signed up and you too could participate in lively intellectual discussions, or at least read them!

The posts on the list over the last 2 months were varied, ranging from an attempt at catching the Moon occulting Saturn, opening an astronomy store in Halifax, and even talk about your humble editor finishing his Messiers! Here is a thread regarding a late observing session in August.

Subject: Halifax RASCals: Observing Last Night; Tonight

Did anyone make it out to SCO last night? Anyone see the new comet? I didn't get home until about 11:30 last night, so SCO was out. I got some observing in from my back deck until about 2:00 A.M. until the damp and chill drove me in. Nailed a couple planetary nebulae, a faint galaxy and more views of the Veil. Early on, I noticed that my secondary came loose and I had to spend over an hour getting it tightened in just the right place and collimating the primary. I think I have it now...

- Craig Levine
(clevine@hfx.eastlink.ca)

Subject: Halifax RASCals: Observing Last Night; Tonight

Yes there was a group out at St. Croix. When I arrived near midnight Dave Lane, Darren Talbot, Keith Lowe, Daryl Dewolfe and Michael Gatto were there under nice skies (did I miss anyone in the dark??). Darren and Dave left not long after I arrived. Michael was working on sketching some Messiers – he may have more to add.

The main project for me for the evening began some time just after 1:30 A.M. when Daryl and I started going after a challenge object which we had talked about previously. We both had prepared charts and other information which would aid in the search. The object is Abbell 70 – a faint planetary nebula which has a faint galaxy right along one edge of it.

Abell 70 is listed by ECU as being magnitude 14.3 and its size is 44" by 40". Besides the faintness of this object, the hard part is that it is in a sparse area of sky between Aquarius, Aquila and Capricornus and there are few naked eye stars within about 5 degrees. After much star hoping we were certain we had found the correct field. I have read previously that other observers were able to see this object fairly easily in a 17" scope. We were using a 13" and it certainly didn't jump out. We spent a fair amount of time trying different magnifications and "blinking" a UHC filter in front of our eye in order to pull it out. In the end we had talked through a couple of suspects, however we couldn't be sure we had it. At around 4 A.M. the object was not that far off the horizon, so the atmosphere would be getting in the way of us detecting this object – and observer fatigue may have had something to do with it.

We left knowing that we now know the field and can locate it again. Next time hopefully we can catch it higher off the horizon and we will have additional charts, Palomar Sky Survey photos or other images with us next time.

- Paul Evans
(evanspd@cs.dal.ca)

Subject: Halifax RASCals: Observing Last Night; Tonight

Oh my, 1:30 to 4 looking for IAT 70 (It Ain't There). Will I degenerate into such behaviour – should I run now while I still can LOL.

- Keith Lowe
(keith42@accesswave.ca)

Subject: Halifax RASCals: Observing Last Night; Tonight

Well... there was a bit of having tea, chatting, putting away of scopes, etc. However you are right. To have the goal of trying to catch a wisp of some nebulosity while using averted vision AND hyperventilating seems a little bit unreasonable. Watch out Keith... this sort of thing can be contagious – kinda like aperture fever ;)

- Paul Evans
(evanspd@cs.dal.ca)

Nova Notes
The Newsletter of the Halifax Centre of the RASC

PO Box 31011
Halifax, Nova Scotia
B3K 5T9

Articles on any aspect of Astronomy will be considered for publication.

Nova Notes is published bi-monthly in February, April, June, August, October and December. The opinions expressed herein are not necessarily those of the Halifax Centre.

"Letters to the Editor" or letters to our resident expert "Gazer" are also most welcome.

Contact the editor at the following:

Michael Gatto
michael@allura.com
453-5486 (Home) 482-1013 (Work)

Nova Notes is also available as a PDF file on our centre's website at **www.halifax.rasc.ca**

Material for the next issue should reach the editor by Nov. 23

eyes Up!

eyes Up! *is a forum for observing news from Centre members. This is where you can see what your fellow members have been looking at for the last two months and share your own latest discoveries.*

News may include observing reports, observational project status, witnessed daytime or nighttime astronomical phenomena, new equipment reviews, or any other notes of observational interest.

eyes Up! *is new to Nova Notes and what it becomes is up to you the membership! All readers are strongly encouraged to contribute regardless of their observing experience. If you've observed something interesting, developed a new interest, or tried something new, let other members know. It's guaranteed that others will share in your enjoyment and benefit from your experiences.*

Pat d'Entremont—Moon Occults Saturn During the Daylight

Well, it was a race against time. At 9:45 A.M., Keith Lowe and I set out from Halifax, scope in trunk, in search of clear skies. Keith had just talked to his wife Cathy, in Mount Uniacke, and she told him it was clear there so we headed for the 101. By the time we hit the Mount Uniacke exit we were still covered in fog, so he called her again on the cell, and she assured us that all was clear at home. By then it was 10:15 and we had less than a half hour to go.

Sure enough, as we got closer the sky cleared up and there was the moon in its full glory. We pulled into his yard, and quickly began setting up. Since we were at his place, Keith took out his new 10" Orion dobsonian. (Nice scope.) We both pointed towards the moon—but where's Saturn? We just couldn't see it. Could it be that we got our times mixed up and it was already covered?

Oh, wait a minute, it's not the dark side that's going to cover it up, its the bright side. This is morning, not evening, and we've got a waning moon, not a waxing moon. Aha, there it is. Kathy spotted it, "half an inch" from the moon's limb. You could easily make out the rings, but not the Cassini division. I just love seeing things move in the sky, and an occultation gives you the chance to actually see the moon move. My watch was synchronized with the digital phone time signal, and at 10:38:10 ADT Saturn started to disappear. By 10:39:40, it was gone.

We then hunted down Jupiter with relative ease using the GOTO function on my scope. We could easily make out the equatorial bands. Then, we went for Venus. After a few minutes in vain trying to find Venus, we packed up and headed back to the city. I was back home shortly after noontime, and by then the skies had cleared, so I set up my scope and pointed it to the moon. My daughter and her friends were on lunch break from school, and they enjoyed a peek. By this time the moon had dropped quite a bit in the sky and it was quite a bit fainter.

And I never did see Saturn reappear. I scanned up and down in in spirals, but no, it just wasn't there. Maybe it just decided to stay hidden. I dunno. I'll have to look for it tonight, just to be reassured.

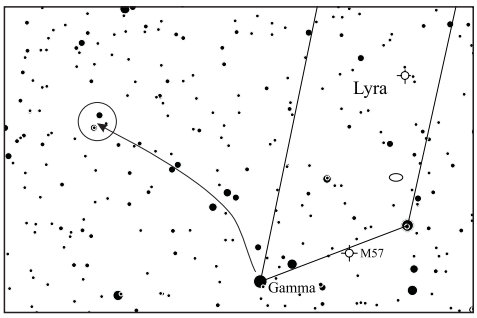
Paul Evans – Double Stars Σ2470 & Σ2474 in Lyra

Struve 2470 and Struve 2474 make up a very nice pair of doubles in Lyra. These double stars are less than 3° north east of Gamma (γ) Lyrae. They can be found by starting at γ Lyrae and scanning in the direction of γ Cygni. This pair of doubles is easy to find in a low power telescope field or in binoculars. By starting at γ Lyrae there is a distinct "roadway" leading to the two doubles (see star chart) which are 10' apart. This roadway, made up of nice pairings of stars, adds to the attractiveness of these doubles.

Σ2470 is the north most double and is made up of a 6.6-magnitude component and an 8.6-magnitude component which are separated by 13.4".

Σ2474 is the more southernly double and is made up of a 6.7-magnitude star with an 8.8-magnitude companion 16.2" away.

A 70mm telescope at 20x from St. Croix was able to separate both doubles and provided an extremely attractive image. The similarity of the magnitude difference and the distance of separation of these doubles is also complimented by the orientation of the doubles. In both pairs, the fainter components are in almost the same position relative to the brighter component.



ECU chart Prepared by Dave Lane

Craig Levine—Random observations from Sept 15, 2001

NGC 6760 GC (globular cluster) Aquila. After the hassle of finding 6760 last week from my back deck, which has relatively dark skies, it was found fairly easily, now that I know which field stars to use. This was to be the jump-off point for NGC 6749.

NGC 6749, GC in Aquila. Very easy to find in dark clear sky in 32mm eyepiece. Could almost be mistaken for a faint star, except for the slight glow surrounding it. Not listed in Sky Atlas 2000. Like a planetary nebula, except it's brighter gradually towards the core. In 15mm Siebert, clearly a GC – satellite went right across the FOV – could almost be mistaken for a faint comet. That it's probably in a dusty field makes it stand out all the more. If there were more stars visible, it could get easily lost amongst the stars, as it's just a slight brightening of the background. Faint star 1.5 diameters due south, star very close by on its north eastern quadrant, and one directly due north, slightly fainter. Est. mag 12 and mag 12.5. ~mag 9 star due west. Nice double to SW, brighter star to the far right. Nearby to that one, a slightly brighter star. No granularity, no stars standing out in the field.

NGC 6712, GC in Scutum. Found very easily at 38x. Clearly a GC; bright star to the NE, much brighter star further to the NNE. Cluster cannot be mistaken for any other type of object. 15mm, object

slightly grainy, a couple of stars visible across the core region. Field stars? Slight brightening towards the center. First glance could be mistaken for a planetary, but graininess belies that. Middle of a bright starfield, but its haze stands out with averted vision. The more one observes with averted vision, the more stellar the core becomes, and a few more stars begin to stand out across the object. 81x. A few stars resolved. Coupled with the Powermate, more stars resolve across the core. Looks slightly flattened on the south, doesn't appear to be perfectly round, border indeterminate.

NGC 7009, PN (planetary nebula) in Aquarius. "Saturn Nebula". Very bright in low mag, very stellar. 15mm w/Powermate (203x) very bright, oval shaped; sort of Saturn like; OIII or UHC filters don't bring out any more detail, stands out as much with or without. In 12.5mm Ortho and Powermate (244x), very oval, more oval than Saturn-like. Averted vision brings out more extent.

(Due to space limitations I had to edit some observations from an impressive observing report – MG)

You may forward your submissions for eyesUp! to Paul Evans by email, mail or phone:

Email	evans@hfx.eastlink.ca
Phone	902.423.4746
Mail	26 Carrington Place, Apt 403
	Halifax, Nova Scotia B3S 1J8

Sharing our friendly skies

Keith Lowe

I couldn't believe what I was seeing Tuesday morning (Sept. 11), it's quite profound to know you are witnessing a defining moment in Earth's history. Just don't know how defining yet.

Since Tuesday night my wife and I have been hosting a couple from Atlanta, Mark & Jackie, and a gentlemen from Holland, Jaco, who were on one of the flights diverted here. They have had nothing but high praise for the city and Canada in general for they way things are being handled. They have been keen to keep on top of the news, but they also wanted continue with life and their vacation. I showed them around Halifax for a while yesterday and they were quite surprised and impressed with Halifax – they commented on how cosmopolitan it is, the weather, and solidarity (they couldn't find a flag not flying at half-mast). On our second trip to a Tim Horton's Jaco ordered a coke instead of a coffee – we really are different. We had many interesting discussions about our countries and the world.

Back at the house, my XT10 Dobson is setup in the dining room – a few feet from the deck :). Jaco did not know what it was! I suppose there's not much dark sky in congested Europe. Mark has a Meade ETX-90 though he has done very little astronomy with it. We made plans to do some viewing later that night. Thankfully it was clear when night fell, I really didn't even need a telescope because they were all dumbfounded by the night sky and seeing the Milky Way! I warmed up with a few double stars and open clusters. They really enjoyed seeing these and were asking lots of questions about them. I then pointed out Pegasus and told them how to follow the stars up to the constellation Andromeda. They could all see the blurry patch 2 O'clock from that second star. When I explained that they were seeing the Andromeda galaxy and the combined light of hundreds of billions of stars 2.3 million light years away they were amazed. They asked me about 6 questions as they were trying to put it in perspective. (8 light minutes to the sun, 2.3 million light years to the Andromeda galaxy; 2,300,000 x 10,000,000,000,000 kms away). I told them about Andromeda's companion galaxies and that they are not much to see compared to Andromeda – they wanted to see them anyway so I showed them M110. I then swung around to M13 and you could hear their reaction when they brought it in focus and could see the stars resolved to the core. Mark wanted to know how to find it by naked eye and I told him you couldn't from here, he replied "no way" :). I then finished off with the Ring Nebula. Somewhere in between I put in the 9mm Nagler (139x) and pointed towards Cygnus and told Mark to sit, focus and bury his eye into the eyepiece and just move the telescope around the Milky Way – take a "spacewalk". He was laughing out loud as he was doing this.

Jaco used to live near the European Space Agency in Holland. He was pleased to find out what I thought of some the incredible things that the ESA is doing for astronomy such as the Hipparcos satellite, the optical array in Chile, etc.

I don't know yet if they are going to get out today. I suspect that Mark & Jackie might but Jaco just wants to forgo the Atlanta leg and book another flight back to Europe – we might have him for a few days yet.

(As it turned out, Mark & Jackie did make it out on Thursday and Jaco made it out on Saturday. Jaco, Jaco's wife, Mark and Jackie, have written us since they returned home to thank us again and let us know we would be welcome in their homes if we are ever around)

Bye for now. ✯

August 11/2016

Michael Boschat

The unusual observing night of Aug. 11/12, 2001.

Well, let us begin 15 years ago this same date. On August 11/12,1986 while I was out of the city observing the Perseids with a friend I noticed an object in the west sky. At first I figured it was a plane with a contrail but after a few minutes I decided to look at it with my 7x50 binoculars. Well, I handed the binoculars to Greg and said it was no plane. He looked and said it was spiral shaped I looked again and saw the spiral. I stopped exposing and started to take photos of the object. We stopped after it had passed – ironically (as you will see) in the Aquila – Delphinus area! It looked like a big donut to me and we were warping along the highway back to Halifax. At that time we had crude "cell phones", and I remember hanging out of the car yelling to someone from the Center on the other end about it. To make a long story short – I called the military to report it... big mistake. They asked if I had photos I said – stupidly – yes. They came the next day and took the negatives. To this day I never got them back.

Now, we warp ahead 15 years to August 11/12, 2001. It was not looking promising that night to do Perseid observing but about 9 P.M. I decided to bike to Dal to make some observations. I set up on an area of the roof that shielded me from the lights at about 9:50 P.M., but could not see any stars. I went down to the computers and looked at the IR satellite weather images and looping them, noticed there was cloud approaching. I figured that I would not see the Perseids this year at all. So, I re-packed all my gear and biked home. I watched a movie and about 11:30 P.M. I looked out the window and saw stars, I debated for 15 minutes to myself if I should go back or just listen to them via my meteor radio setup. I decided to go, I re-packed—ugghhh—everything and biked back down and set up again just before midnight.

Now, the Perseids were not really doing much, a few of them, one came out of the radiant and they were to me not too good. About 12:40 A.M. I decided to try some exposures of the Aquila / Delphinus area; I clicked the shutter and let the exposure go as I munched on a ham sandwich. Then my eye caught a bright red-orange fireball coming from the north west, I did not unclick the shutter and forced the still exposing camera to the fireball. Then it kept coming, I was puzzled at first and stopped the exposure and started a new one getting it going through the camera field. I was a bit in awe as it kept going, then my mind not working to look at the time said, "That's no fireball!" I knew it had to be a re-entry of something and after the "fireball" vanished in the south east behind clouds I ran down to the computer lab and logged on, typing the phrase "What the hell was that?" I sent it out to all astrogroups and especially the Satellite Observers group that I am on.

I logged off and went back up to do some more observing and now getting a bit damp I stopped observing about 3:45 A.M. and packed up and came home. I just put things on the floor and looked at my answering machine that had 5 messages from people wanting to know what they saw or were reporting a fireball. I listened and later logged on since I could not sleep. On my email was one from Tony Bresford in Australia who told me I saw the re-entry of a Russian/Soviet rocket booster. Now he is well known on the group and all one needs is to give their latitude and longitude and these people will tell you what you saw. I was not too surprised but a bit that it was Russian, since I had stayed up all night when MIR was coming down and now this sort of made up for a MIR miss.

In any event, the rest is history. But I must say, what are the odds of me seeing a re-entry 15 years later? I can't wait 'til August 11/12, 2016! ✯

Abegweit Autumnal Astronomical Adventure

- Bill Thurlow
Immediate Past President of ACAC.

The seventh annual Abegweit Autumnal Astronomical Adventure, sponsored by the Athena Community Astronomy Club of Summerside, PEI, was held at ACAC member Ron Perry's cottage overlooking Grand River. The weather prediction for Friday 14 Sept 2001 was poor at 6:30 P.M. and the sky was very cloudy. 90 minutes later the sky improved and the weather channel changed its prediction to "mostly clear". With an M-8 and the ACAC's 8" Dobsonian telescope, 4 optimistic amateurs enjoyed a 6.0 limiting visual magnitude sky most of the night, seeing lots of old deep sky friends and glad that we had the faith to go out and enjoy it.

After a sunny Saturday, the sky turned very dark and cloudy during twilight. However, the sky cleared again between 10 and 11 P.M. "Big Red" (a trailer-mounted 17.5", F4.5 Dob) joined the M-8, and many more items were seen, including about 15 Caldwell List deep sky objects. The sky was just about as good as the previous night during its better periods. Four observers (several different from the previous night) enjoyed this as well.

A single door prize was donated by Perceptor (we have never requested door prizes for any AAAA but this is our 3rd with a donation). The AAAA observers' names will be drawn at the next regular ACAC meeting since they are all likely to be in attendance at the same time.

We are grateful that "iffy" weather turned good both nights, particularly since a slightly different path of the remnants of Hurricane Erin could have ruined both nights, as was predicted earlier in the week. We also thank Ron for his hospitality. ✯

September 2001 Meeting Report

Roy Bishop

President David Tindall giving awards to Michael Boschat and Dan Falk.

The first meeting of the 2001/02 year had excellent attendance, a full agenda, and a first-class talk. President David Tindall began proceedings at 8:07, blaming the preceding busy executive meeting for the slight delay.

Since several non-members were present, David described the many benefits of RASC membership, including four publications (which if purchased separately would cost three times the current membership fee), and use of the Centre's library and superb St. Croix Observatory.

Light Pollution Initiative

David announced that at the preceding executive meeting a Light Pollution Abatement Committee was formed, and will be chaired by Craig Levine. David called on Craig who gave an eloquent, concise summary concerning light pollution and his hopes and plans for the committee, including the establishment of short, medium, and long-term goals.

It was Craig's initiative along with keen support from a few other members that resulted in this significant step. I look forward to improvements that this group may be able to achieve in the poor quality lighting that is so prevalent in Halifax and the surrounding towns and countryside. Give them your support and participation. Logic, economics, better illumination, reduced use of fossil fuels, and less air pollution are all on our side. Educating others is the task.

Annual Meeting

David announced that the November meeting of the Centre will be the annual meeting at which a new executive for 2002 will be announced. A Nominating Committee will soon attempt to find at least one candidate for each position. David mentioned that one way to avoid being nominated is to volunteer to serve on the Nominating Committee! Nominations close at the October meeting. Among positions for which a new person must be found are: President (having served two terms, David is not eligible for re-election), Second Vice-President (David Croston is returning to the U.K.), Treasurer, and Observing Chairman.

Summer Events

Concerning observing events over the past summer, David cited the Halifax waterfront event held early in August, and Nova East held at Smiley's Provincial Park, August 17 and 18. He called on Paul Evans who described the success of the waterfront session, and on John Jarvo who reported on a successful Nova East 2001 that involved 51 registrants and 80 to 90 participants.

David reminded the audience of a sad event since our last meeting, the death of a long-time, active member of our Centre, Graham Millar. (See the August issue of Nova Notes.)

Award Winners

An unusual highlight of the evening was the presence of three individuals who had won national awards at the Society's 2001 General Assembly in London, Ontario: David Turner, immediate past-Editor of the RASC Journal, who received the Society's Service Award; Michael Boschat, discoverer of 24 (now 29!) comets on the Solar and Heliospheric Observatory (SOHO) web site, who was awarded the Ken Chilton Prize; and Dan Falk, superb science writer and our speaker for the evening, who received the Simon Newcomb Award.

David Turner piloted the Journal through a major transformation during his 6-year term as Editor, and he is an outstanding example of the strength our Society draws from professional astronomers who believe in the public education role of the RASC. He showed the audience his Service Award medal and the framed display he was given at the 2000 General Assembly in Winnipeg when he retired as Editor. Also he displayed a photo taken at the 2001 GA showing eleven "Daves": Dave Turner, Dave Lane, Dave Levy, Dave Crawford, Dave Orenstein, etc.!

President Dave (Tindall) presented Michael Boschat with his Ken Chilton Prize that Dave (Lane) had accepted on his behalf at the London GA. In addition to Michael's skill and patience in ferreting out comets in SOHO images, he is well known for his sunspot observations and radio observations of meteor trails.

Dan Falk was a member of our Centre during his student days in Halifax. In the 12 years since he left he has established himself as one of Canada's leading popularizers of the physical sciences, particularly physics and astronomy. The Simon Newcomb Award was initiated by the Halifax Centre in 1978 and adopted as a national award by the RASC. As a supplement to Dan's Simon Newcomb Award, David Tindall

presented Dan with a copy of Simon Newcomb's book "Astronomy for Everybody".

David Lane mentioned that the citations for all three awards will appear in the next issue of the Journal.

Tycho Brahe's Europe

Following a short break for refreshments, Dan Falk presented his talk entitled "Tycho Brahe's Europe". This is a timely topic since 2001 marks the 400th anniversary of Tycho's death.

Dan noted that contrary to usual practice, Tycho should be pronounced "tee-ko", not "Tie-ko", with the emphasis on the first syllable.

Tycho Brahe was the one of the greatest astronomical observers of all time. A Dane of noble birth, inspired by seeing a solar eclipse in 1560, a conjunction of Jupiter and Saturn in 1563 (for which existing predictions were obviously in error), and a bright supernova in 1572, Tycho devoted 21 years to amassing the most accurate observations of planetary positions ever taken prior to the invention of the telescope. With funding and the use of the island of Ven (formerly Hveen) courtesy of the king of Denmark, in 1576 Tycho built an elaborate observatory and research institution which he named "Uraniborg", Castle of the Heavens. In 1584 he erected a second building "Stjerneborg", "Star Castle", which was constructed partially underground for protection from the wind. Dan commented that Uraniborg was the first state-funded astronomical research institution, and that, as its director, Tycho was particularly fortunate because he was not burdened with several tasks that absorb the time of many researchers today, such as teaching classes and marking assignments!

Dan showed many slides he took during a visit to Denmark and Tycho's island, which is now part of Sweden. Uraniborg has not survived; on its site is an ornamental garden. Neither have any of Tycho's astronomical instruments survived, although Dan showed a photo of a replica of one of these instruments that is on display in Arhus. However, parts of the underground structure of Stjerneborg still exist, and it was fascinating to see Dan's slide showing steps upon which Tycho likely sat while he measured planetary positions.

Dan described Tycho's model of the solar system, a blend of the Ptolemaic and Copernican systems. David Chapman commented that Tycho's model was a good attempt to arrive at a cosmology consistent with his high quality observations.

With the accession of a new king in Denmark and increasing controversy surrounding Tycho's high-handed control over Uraniborg and the people living on Ven, Tycho left Denmark for Germany and eventually the city of Prague. Although Tycho died within two years of arriving in Prague, while there he hired Johannes Kepler, who through his analysis of Tycho's two decades of observational data, became one of the most renowned astronomers of all time and added much to the luster of Tycho's name. Somehow Tycho, the fiery nobleman, sensed that Kepler, the reclusive school teacher, had the brilliance and temperament to find the secret of planetary orbits that lay buried in his mountain of observational data. Dan showed slides he took in Prague, including a famous astronomical clock, and a statue of Tycho and Kepler standing side-by-side.

What's Up?

After Dan's presentation and the questions that followed, Observing Chairman Paul Evans gave his monthly "What's Up" summary. Paul remarked on the recent unusual run of clear nights enjoyed at St. Croix Observatory, and announced that the next members' night at the observatory will be Friday October 12, a week prior to the October meeting of the Centre. He mentioned that some images from Nova East 2001 are on the Centre's website, and that a highlight of the next few months will be the very favorable oppositions of Jupiter and Saturn.

Thus concluded another memorable meeting of our Centre. ✯

To mail or not to mail...

Michael Gatto

As most of you know all issues of Nova Notes are available online as PDF files. Some members have approached me to tell me that they don't need a printed piece mailed to them because they print out the PDFs and keep that as their hard copy. The only deterrent to only having the PDF copy is that the quality of the images will be better on the printed piece, which could be problematic for viewing finder charts, graphs, or other information graphics which do get used from time to time. I would be happy to send a copy of the PDF to you directly each issue if you would no longer like to receive a printed piece in the mail, but will not be able to do both. If you would like to be taken off the mailing list for Nova Notes and placed on an email mailing list for PDFs, please drop me an email (mgatto@allura.com) with the line "Nova Notes PDF only" as the subject line. I will gladly send you the latest PDF, making you the envy of all your fellow members – having seen the issue first! ✯

Lost Telescope

Michael Gatto

I received a call from a Dave Webber of the Halifax Police Department, lost and found division. In June someone found a Meade ETX 90 in a carrying case in the Halifax area and turned it in to the police. They have asked Carsand Mosher and Atlantic Photo to help them with customer names but have not yet found the owner. He asked me to print this message in Nova Notes.

If anyone has lost, or knows someone who has lost a Meade ETX in the Halifax area back in June, please call:

Dave Webber
Halifax Police
Lost and Found Division
902-490-5152

Impressions of Nova East 2001

Thanks from the Nova East 2001 Committee

The 2001 Edition of Nova East built upon the success of last year's star party. Like Nova East 2000, the results are directly attributable to the large number of people who contributed their time and effort. We would like to extend our sincere thank you to everyone who made Nova East so enjoyable for the attendees.

Public Programs

David Chapman	Summertime Sundials
Daryl Dewolfe	Comets and Kids
Mel Langille	Saturn V launch
Eloi Lanteigne	Solar Observing
Clint Shannon	Solar Observing
Mary Lou Whitehorne	Comets and Kids
Sherman Williams	What's Up

All the observers on the "Hill" for sharing their observing time with the public.

Astro Programs

Dr. Roy Bishop	Show & Tell at Astro Workshops
Dr. Howard Donohoe	Guest Speaker
Douglas George	Guest Speaker
Blair MacDonald	Astro Workshop
Dr. Norman Scrimger	Astro Workshop
Steve Tancock	Astro Workshop

Organization

Paul Evans	N.E. 2001 Committee, Programs
Michael Gatto	N.E. 2001 Brochure
John Jarvo	N.E. 2001 Committee, Registration
David Lane	Finances, Committee Advisor
Keith Lowe	N.E. Setup
Irene Moore	N.E. Registration and WebSite Manager
Dave Parsons	Registration
Dr. Norm Scrimger	N.E. 2001 Committee, Park Liaison and Publicity
Dr. William Thurlow	N.E. 2001 Door Prize Donations

We also wish to express our gratitude to Rick Folker along with all the staff and campground hosts of Smiley's Provincial Park who once again have been extremely forthcoming and helpful hosts of our events. Our relationship with the Park over the last two years has been nothing short of wonderful.

Paul Evans (RASC Halifax Centre) John Jarvo (Nova Central Astronomy Club) Dr. Norm Scrimger (Minas Astronomy Group)

Sherman Williams

Hi All,
Many of you may be interested in reading the report that I am including below (right after my blurb): a copy of a message posted to NatureNS listserve yesterday... regarding the fireball Saturday night (Aug 18-19).

Like myself, several who were assembled around telescopes at Nova East about 12:30 A.M. on Saturday night / Sunday morning witnessed a startlingly bright greenish flash that lit up the scene and created shadows, however few of us saw anything in the sky. Although up at the west end of the field, I was told by Jeff Dalton that he and "the gentleman with the large 12 inch Meade from near Campbellton, N.B.", got a momentary glimpse of the object low, near the treeline level north of their position.

After the flash, I heard voices in the dark speculating: "Fireball!", and from others: "We didn't see anything in the sky; it must have been lightning." My own thoughts were: the light was from a bright fireball; it was distinctly greenish, as opposed to the daylight quality of light by lightning. It lacked the "flickery-flash" of lightning, instead, the brightness burst upon us suddenly and then just as quickly faded out... one big flash! Except for the exclamations of those in the field, no sound followed.

By the way, I thoroughly enjoyed my Nova East observing night; particularly the opportunity to be under the outdoor sky to meet, observe and "talk shop" with acquaintances and meet new people who before, were only names I've heard. At first it seemed that sky conditions were getting worse and worse, reaching its worst somewhere around 1:30 A.M., however, after 2 A.M. it started getting better... and better! (It was no problem to see M33 naked eye) A few of us were still at it long enough to see an excellent view of Saturn, then Jupiter, and finally the gibbous outline of Venus. We even saw another of those darn Iridium flares. About 4:45 A.M., with dawn growing in the east, most of us had packed it in. The first time in quite a while that I've seen Scorpio go out of sight in the westward and see Orion emerge into clear view in the eastward without me having slept in between. And what a great view I had of the Orion Nebula through Bill Thurlow's 17 inch "light cannon on a trailer".

Although I was not able to be there for most of the weekend event, I can see that it was a definite success. To the organizers and workers who make Nova East possible, I heartily echo the compliments that have already been posted. If the weather could have been moved up 24 hours, the "delicious cake would have had a superb icing". ✯

Daryl Dewolfe

Friday (Day 1)
I remember a young boy cycling up to me as we were erecting the Info/Registration Tent and asking exactly when the Saturn V rocket launch was going to occur. He did not want to miss the event.

I recall the image of an empty field transformed into a "village green" surrounded by astronomer's tents. A community created in mere hours. I remember the cries of coyotes in the night.

Saturday (Day 2)
I remember how good the first coffee of the day tasted at the Astronomer's breakfast.

I recall the image of a dozen boisterous kids running down the hill; a swarm of model comets streaming behind them, as they were pulled toward an imaginary Sun.

I remember the brief taste of fear as the model Saturn V rocket reached its apex in trajectory, poised seemingly to plummet into the event tent below, but somehow narrowly missing it, to be applauded by 150 spectators.

I recall the twinkling blue lights marking telescopes after dark; and the look in a sleepy little girl's eyes as she listened to a legend of the stars while being held in her father's arms.

My ears still hear the sound of excellent jazz melodies mingled with occasional owl hoots at 4 A.M. as I watched Jupiter and Saturn rise in the east.

Sunday (Day 3)
I remember how darn tired I felt after a couple of hours sleep.

I remember the name and address of the family I promised to visit in Liverpool, to show them the stars from their backyard.

I remember the empty field, and wishing next years Nova East was not so distant.

Regards to all, and thanks for the images.

Craig Levine

The 2001 Nova East Star Party was my first such event, and what a memorable one it was. below are my impressions and observations of the weekend.

Presentations
The presentations were very good and interesting – well worth the price of admission. Doug George entertained and informed with his recounting of how he and Peter Ceravolo took their amazing time lapse movies of Comet Hyakutake. On the ATM (amateur telescope makers) side of things, Steven Tancock gave an entertaining talk on the do's and do-nots of building your own mount, using his pretty-but-temperamental fork mount that he built last year as his central example. Being the owner of a much-tinkered with Discovery dob, this was of interest to me. While they rebooted NT a couple of times in order to get Steve's PowerPoint slides up, Roy Bishop did yeoman duty in giving an impromptu "show and tell" on his Bino viewer, and how he had to modify a not-inexpensive Lumicon Barlow to get the viewer to achieve focus, and how to use it, he had to reach into the tube and push the shortened Barlow into the focuser tube. Definitely a braver man than I. Blair MacDonald spoke knowledgeably on some of the more technical aspects of CCD imaging, and made a well-timed catch of the projector screen just as a gust of wind pushed it over, proving once again how serendipity can play a major part in catching the perfect image. Norm Scrimgers presentation on the most basic and important piece of telescope equipment – the eye – was very well done. Sort of like watching Robin Williams as Patch Adams, crossed with an enthusiastic ophthalmologist. That his presentation was made using only a white-board and 4 markers and he held the audience's rapt attention is a credit to his knowledge and enthusiasm.

Prior to the talks, the Saturn V rocket was launched after a few abortive attempts. The kids on the hill were getting restless ("This is soooo lame", "I'm bored") as Mr. Tancock helped troubleshoot the problem while the owner of the rocket checked and rechecked the connections. The problem was fixed with the replacement of the new but bargain-basement batteries in the launch controller with a fresh set, and rocket soared skyward with a "whooosh!" and burst of flames. The once-jaded kids erupted with "oooh's", "aaaahhh's" and "do it again!". Alas, the chute on the main section failed to deploy, and it thumped at a good rate of velocity into the ground. No spectators or astronauts were injured.

By 9 P.M. the first stars were making their presence known. I was anxious to set up my gear and align my finders before the first NGC and Messier objects became visible, so I missed the "What's Up Tonight" talk given by Sherman Williams, which I gather was very well done. I was fortunate enough to catch a very bright Iridium flare to the East, and watch the ISS pass earlier in the evening.

(Continues next page)

People

As I commuted (in my overstuffed Malibu - 'scope, mount, table, stool, charts, jackets, change of clothes, lunch, water...) I missed the fossil walk and breakfast. Contributing to my missing some of the daytime events was a pipe seal bursting in the wall behind my shower as I was using it Saturday morning. Water was coming down into the kitchen through the fixtures and seams in the drywall, and on down into the basement store room. Thankfully, my wife had the presence of mind to shove me out the door and down to Nova East after we cleaned up the mess and had a plumber fix the offending fixture.

There seemed to be a good sized crowd for the event. Many scopes of various types, makes, and models were arrayed along the crest of the hill and on the slopes below.

Tents filled the available spots, and everyone was friendly and more than willing to talk about their equipment and experiences. I got to know Andy Smith from New Brunswick over Friday and Saturday, as I parked my scope next to his f/4.5 10" red Coulter. We shared a picnic table with a couple from Amherst who came down with their binoculars and a love for the night sky. They couldn't say enough good things about the fossil walk on Saturday. My deep gratitude goes to Steve Tancock and a volunteer from Moncton named Adrien (I forgot to ask what his last name was) who put my dob's optical train back in perfect collimation. I knocked it out of alignment when I stripped out the mirrors to darken the tube a few months ago. Images were still good at the center of the view, but there were noticeable distortions with some eyepieces near the outer third or so of the image. These problems are now gone, and images that I thought were good before simply pale in comparison with some of the views I had Saturday night – with much help and boundless enthusiasm from Sherman Williams.

Thanks to one and all of the organizers and volunteers, and the whole crowd, for a wonderful experience. Count me and my wife in for next year. Great job. ✯

These photos and many others can be found at:
//halifax.rasc.ca/ne/photoalbum2001.html

New Committee to Spearhead Light Pollution Abatement

John MacRitchie
(902) 443-6899
jkmacr@hfx.eastlink.ca

The Light Pollution Abatement (LPA) committee of the RASC Halifax Centre needs your help. If you would like to get involved with improving the awareness of more effective outdoor lighting, and in reducing light pollution in our region, we would like to hear from you. Do you have contacts with the local commercial building industry, professional associations (architects, engineers), or local governments? What is the best way to approach these groups regarding light pollution abatement? Who should we contact? How can we make the best impact with them? If you would like to be involved, drop us an email through the emailing list or contact John MacRitchie at (902) 443-6899.

The local LPA committee is just getting started with its work. Early August saw national media coverage of the implementation in Calgary of local regulations that will see the reduction of light pollution in that municipality. The coverage spurred a flurry of exchanges on the Halifax RASC email list, basically asking the question – what are we doing here in Nova Scotia? The night sky within the urban areas of HRM is no better than that of much larger cities and the rapid development of the region has been brightening the night skies of formally dark sky locations.

On August 21, several of the members involved in the on-line discussions met together at the Lacewood Sobey's community meeting room and RASC Halifax Centre's Light Pollution Abatement (LPA) committee was formed. Craig Levine was nominated and accepted the position of Chairman while Paul Heath was nominated as the committee secretary. Other committee members are Tony McGrath and John MacRitchie. At the September meeting, the Centre executive formally approved the formation of the LPA committee. The executive has also been asked to register the committee as a member of the International Dark-sky Association (www.ida.org).

The goal of the LPA committee is to educate commercial and governmental organizations within the HRM and areas surrounding the St. Croix Observatory about effective external lighting practices towards the goal of reducing sky glow, glare, and light trespass.

Effecting change in this area will require presenting arguments that make sense to the groups and individuals making outdoor lighting choices. Fortunately, there are good reasons for improving outdoor lighting to reduce its trespass on our night skies that go beyond improving astronomical observing conditions. These reasons include lower costs, improved safety and security, and lower impact on wildlife habitant and even human health. We can use all these areas to reach a much wider audience than simply professional and amateur astronomers and build a case that can result in changes at political levels and in business practices.

In the coming weeks, the committee will be meeting again to define short term, medium term and longer term goals. It is our intention to pick a short-term project that will give us a chance to learn the approaches that will work in changing the use of outdoor light to reduce its impact on the night sky and give us a victory on which to build longer-term projects. We will keep you informed of our projects and progress through Nova Notes and the monthly RASC meetings. ✯

The St. Croix Observatory

The St.Croix observatory. Pictured from left to right, the RASCan, the warm room and the roll-off roof observatory.

The roll-off with the roof partially open.

Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, NS. The site has grown over the last few years to include a roll-off roof observatory with electrical outlets, 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.

Members' Night

Every Friday night closest to the new Moon is Members' Night at St. Croix. The purpose of members' night is to attract members from the centre to share an evening of observing with other members. It's also a great night for beginners to try out different scopes and see the sky under dark conditions. For more information or transportation arrangements, please contact the Observing Chairman Paul Evans at 423-4746. *Dates for Members' Nights for the following two months are:*

Fri. Oct. 12th *(rain date Sat. 13th)* **Fri. Nov. 9th** *(rain date Sat. 10th)*

Directions from Halifax

(from Bayers Road Shopping Centre)

1. Take Hwy 102 (the Bi-Hi) to Exit 4 (Sackville).
2. Take Hwy 101 to Exit 4 (St. Croix).
3. At the end of the off ramp, turn left.
4. Drive about 1.5 km until you cross the St. Croix River Bridge. You'll see a power dam on your left.
5. Drive about 0.2 km past the bridge and take the first left (Salmon Hole Dam Road).
6. Drive about 1 km until the pavement ends.
7. Drive another 1 km on the dirt road to the site.
8. You will recognize the site by the 3 small white buildings on the left.

Become a St. Croix Key Holder

For a modest key fee, members in good standing for more than a year who have been briefed on observatory can gain access to the St.Croix facility. For more information on becoming a key holder, contact the Observing Chairman Paul Evans at 423-4746.

Adventures at the SCO.

My first trip to the Club's dark sky observatory. There was no breeze, but it was cold, the forecast calling for frost. The sky was crystal clear, the few clouds on the horizon that concerned me on the trip from my home (about 45 minutes by highway) had moved far to the north by the time I arrived. There were 7 or 8 of us there, braving the early autumn chill. Telescopes ranged from 12 and 13" truss dobs, my 8" dob, a 10" Orion, a Meade LX-50, a 6" Dob, and a 4" refractor. A good portion of the time there, 5.5 hours, was spent in genial conversation. I had a set of targets, all of which I hit. The first thing that I noticed were the jets in the sky, 5-9 at any given moment. After the tragic events in the U.S. this week and the grounding of all North American flights, this was a signal that life does and must go on. I'm glad I made it to St. Croix. Getting to actually meet folks on the list – Keith, Michael, Paul and others *(my memory is bad - apologies to all for being lousy with names!)* was great, and the comraderie made it all the more special. Just being able to observe under such dark sky, in a beautiful setting has ensured that I'll be a "regular" this year. We are lucky to have such a facility for members to have the privilege to use.

– Craig Levine

Meeting Announcements

Halifax Centre of the Royal Astronomical Society of Canada

October 19

Nominations for 2002 Officers close

Burke Gaffney Award

Blair MacDonald will receive the Burke Gaffney Award for his excellent series of articles on image processing which appeared this past year in Nova Notes.

CCD Image Processing

Blair MacDonald

Blair will also give a talk on the subject of image processing, which should yield some excellent CCD images which Blair is known for.

November 16

Annual Meeting of the RASC Halifax Centre.
Election of Officers for 2002 will take place.

"–??–"

Dr. Bob Garrison

Dr. Garrison is the National President of the RASC and in November will be touring the Atlantic centres. Bob is ready with a whole line up of interesting talks – which one we will get to see is still a mystery! Will it be; *Some Bizarre Stars I've known*, *The Wealth of the Southern Skies: an Aesthetic Appreciation, The Little Telescope that Could - and Did, and Will Do Again,* or something completely different? Come and find out while meeting your National President.

Dr. Garrison will also be giving the SMU Colloquium earlier in the day at 4:00 P.M., watch the email list for details or check the web at

http://apwww.stmarys.ca/~marleau/colloquium_html/colloquia.html

Meetings begin at **8:00** P.M.

Members of the general public are welcome.

All members—but especially new ones—are invited to come to the meetings 20 - 30 minutes early to participate in our new informal "Meet and Greet". It's a chance to ask questions about astronomy, the RASC, memberships, or to just say hello.

Room 176 Loyola Building
Saint Mary's University *(See Map Below)*

The Halifax RASC Executive meetings begin at 7:00 P.M., and members are welcome to attend.

New Executive Members needed for 2002!

Honorary President	Dr. Roy Bishop	
✯ ***President***	Dr. David Tindall	455-7456
1st vice-president	Pat Kelly	798-3329
✯ ***2nd vice-president***	David Croston	477-5817
Secretary	Steve Tancock	465-4092
✯ ***Treasurer***	David Lane	826-7956
Nova Notes Editor	Michael Gatto	453-5486
National Representative	David Lane	826-7956
Librarian	Dr. Michael Falk	422-5173
✯ ***Observing Chairman***	Paul Evans	423-4746
Councilor	Clint Shannon	889-2426
Councilor	Dave Chapman	463-9103
Councilor	John Jarvo	897-0529

We are seeking nominations for the 2002 Halifax Centre Council. Positions indicated with stars need to be filled for 2002, however all positions are of course open for nominations. Please send all nominations to Dave Lane or David Tindall by October 18th.

Meeting Location

Meetings are held every third Friday of the month, except for the months of July and August. Meetings take place in room 176, Loyola Building (#3 on map) at Saint Mary's University.

1. *McNally*
2. *Sobey Building*
3. ***Loyola Academic Complex***
4. *Loyola Residence*
5. *Patrick Power Library*
6. *Science Building*
7. *Burke Building*
8. *Bookstore*
9. *Alumni Arena*
10. *The Tower*
11. *Rice Residence*

P = Parking