NOVA NOTES

Halifax Centre

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1988 Halifax Centre Executive

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Notice of Meetings

DUES ARE DUE!!!

It is time once again to renew your memberships!!
Dues are: $25 adult, $15 youth, $500 life

Please renew either at the September meeting **or** send a cheque or money order made payable to "Halifax Centre, R.A.S.C." at the address on the previous page

Date: Friday, September **16th**, 1988: **7:00 P.M.**
Place: Nova Scotia Museum. Access from the parking lot and side entrance. Meeting to be held in the lower theatre.
Topic: **FIRST MEETING OF THE NEW R.A.S.C. YEAR!**
The **7:00** video presentation will be **What Einstein Never Knew**. Our speakers will be: **Wilf Morley** who will report on the Victoria G.A., **Hugh Thompson** who will recall the *astronomocal highlight (or lack thereof)* of his recent trip to Taiwan, and **Pat, Doug and Mary Lou** will let everyone know what happened at NOVA EAST this year.

Date: Friday, October **21st**, 1988: **7:00 P.M.**
Place: Nova Scotia Museum. Access from the parking lot and side entrance. Meeting to be held in the lower theatre.
Topic: **ASTRONOMY DAY!**
The **7:00** video presentation will be **Newton**. We will be having various talks aimed at the general public, as well as the usual displays of telescopes and other astronomical stuff.

Note: The above list is tentative and subject to change.

About the cover: The cover this issue shows the constellation of Andromeda from Bayer's classic star atlas **Uranometria**, first published in 1603. Bayer was the first to use accurate star positions by using Tycho Brahe's observations as his source of data. He also began the convention of labelling the brighter stars with Greek letters. I
ts name lives on in the **Uranometria 2000.0**

Editor's Report

Patrick Kelly

I trust that everyone has had a good summer so far.. This issue features yet another change to the format of **NOVA NOTES**, which I hope will make it easier to digest. In case you hadn't noticed by now, the rather plain Helvetica font which I had been using for the articles has been replaced with a font which has serifs (the little points on the letters). This was mainly due to a suggestion made by **Graham Millar** who mentioned to me that he found it rather hard to read large amounts of the Helvetica font as after a while the individual letters were rather hard to distinguish. The same thing had been nagging at the back of my mind ever since I read an article on desktop publishing which said that it rather hard to read large amounts of the Helvetica font as after a while the individual letters were rather hard to distinguish. However, instead of doing everything in Times, (the font used most often on the Mac) I decided to be a little different and go with Bookman, which is what you are reading right now.

Moving along, those of you who couldn't make it to NOVA EAST may be interested to know that the executive decided to have some T-shirts made up to commemorate the occassion. Since I am writing this before NOVA EAST, I do not know if there will be any left over for sale at the September meeting, but I wouldn't count on it. If there are, they will be made available for purchase on a first-come first-served basis. They feature a design of a lighthouse and telescope by **Doug Pitcairn** and come in two colors: white on a red T-shirt and dark blue on a pale yellow T-shirt. In addition, we have also ordered T-shirts with the R.A.S.C. crest and the words "Halifax Centre" on them as well as baseball caps with just the R.A.S.C. crest. As these items are not "dated" we can order extra ones if we run out. These are available only in yellow on dark blue and are also **$10.00**. The baseball caps are **$7.00**. Both T-shirts come in four sizes, small, medium, large, and extra large. For members who can't make it in all the time, drop us a line and we'll hold one until you make it in next.

Another item of interest is that NASA is going to have a competition for school classes to name the orbiter that will replace the **Challenger**. One of the stipulations of the contest is that "The tradition of naming an orbiter after an exploratory or research sea vessels will continue with OV 105. It should not be a name just suitable for identification of an American spacecraft, but also one that captures the spirit of America's mission in space." In addition, the name **Challenger** has been retired in

honor of the crew of mission 51-L. The winner of the contest will be announced in May of 1989.

Due to a lack of space, you may have noticed that GAZER has not put in an appearance in a while. Well, he is back this issue along with some other cartoons. I get some from other centres' newsletters while others have been passed on to me from other magazines, etc. by members. I would like to thank those of you who have sent in cartoons, not only for the cartoons themselves, but for your patience in waiting for them to appear. I hope to have more room in the next issue, so if you still don't see yours, please bear with me a little longer.

The following tidbit was printed in **Stardust**, the Edmonton Centre's newsletter. However, they got it from a newsletter out of Lima, Ohio. :

What they say:	What they mean:
It is a difficult double star.	If you see two stars, it is wishful thinking.
This is a test for a 4" scope. An experienced observer can detect the star's variability.	Use a 10" and maybe you'll see it. If you havn't been observing for at least ten years, don't even try it.
The colour contrast is striking	One star is white, the other star is white.
The telescope's optics are superb.	They magnify atmospheric disturbances perfectly.
The spectrum is unusual.	I can't understand it.
The cluster has over 200 stars.	I counted 25 with a 10" scope.
The site offers clear skies year round.	It is 200 miles from the nearest civilization.
A person with average eyesight can split this pair.	Over half the world is blind.
The slightest haze will obscure it.	You probably won't see it on the clearest night.

and who says astronomers aren't a barrel of laughs!!

On the financial side, you may already be aware that reflecting telescopes from 75mm to 510mm in diameter and refractors from 60mm to 205mm in diameters and their accessories are **duty free**. However, the tariff system has been updated and as a result the old tariff code of 41417-2 has been replaced by two new ones - 9005.80.10.00 and 9005.90.10.00

Clear skies until next isse!!Ω

Notes Across the Fundy

Len Larkin

Hi everybody! The Saint John Astronomical Society (S.J.A.S.) is still in operation although the membership has dropped from almost 25 in 1987 to a dozen or so currently. This article is long overdue and I guess I'll just cover activities in the first half of 1988.

In February-March of this year, the New Brunswick Museum exhibited the astronomical display "Other Worlds" in one of their own galleries. On February 14th, Terence Dickinson was in town to open the exhibit with his presentation "The History of Astronomical Art". The S.J.A.S. did a presentation in conjunction with this exhibit on March 15th, at the museum. Rick Hancox took us on a tour of the night sky, Dave Driscoll presented the concept of stellar evolution and I gave a slide show on Sagittarius.

In March Dr. Karl Doetsch, a top administrator of Canada's space program, gave an illustrated talk at the Saint John Campus of U.N.B. concerning Canada's role in the U.S. space station. He detailed layouts of the space station itself including one memorable comparison showing the exterior framing of the space station against the dimensions of the federal parliament buildings.He also covered the Canadian astronauts and their preparations for the experiments that they will be performing. A short video was shown in which, through computer simulation, functions of the Canadian module were demonstrated. Several S.J.A.S. members attended.

Our community activities included an observing course offered through Recreation and Parks in both their winter and spring course sessions. Both times the course was cancelled due to lack of students and Dave Driscoll, the instructor, is considering a one day or weekend workshop in the fall. In early June we spent the weekend at the annual Cubaree (held about 30 km south-east of Saint John) where we set up a telescope and large constellation charts as part of the cubs' activities.

Meeting activities got off to a good start in January with a slide show of members' astrophotos. February and march we offered a collimation night for members' optics but due to bad weather (which forced members to leave their scopes at home) no instruments were actually collimated. At the last couple of meetings we had attempted to show a movie but projector problems intervened. (I thought that bud luck only came in threes.) Instead, at the June meeting, Dave Driscoll gave us a night

sky tour of Ursa Major and Ursa Minor. I showed slides of a series of a series of sketches (made with binoculars) of the Jupiter-Mars conjunction of December 1986.

The elections were held at the May meeting and the results were as follows:

President (last term):.....Len Larkin
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Treasurer: .....Bruce Scott
107 Broad Street
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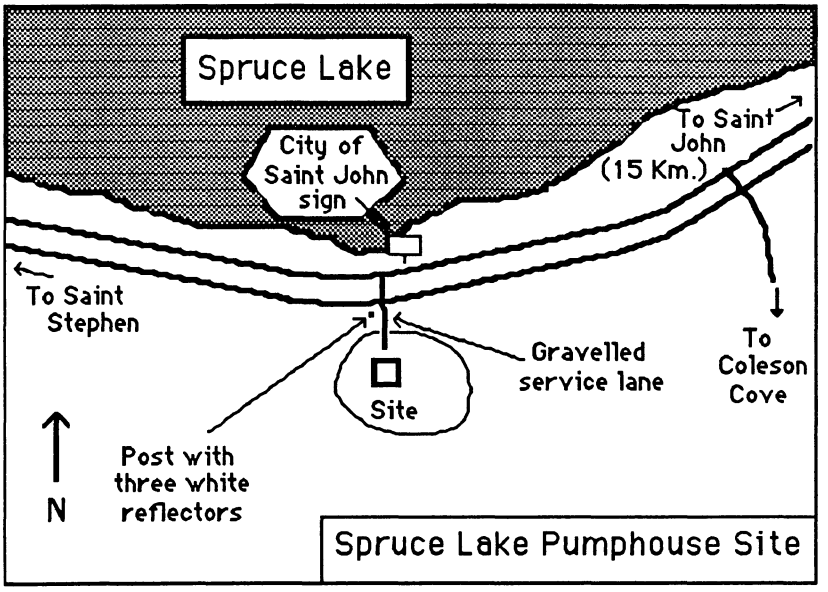
(506) 693-3035

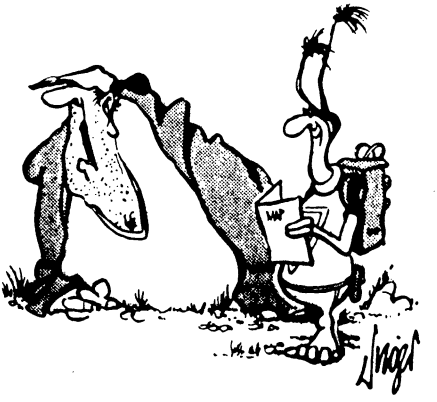
Our biggest project is being worked upon as I write - a club telescope. No, it's not a C-8 or an Odyssey 2, just a humble little 60-70 mm rich field refractor. The idea really solidified after seeing one of the 74 mm f/5 scopes from Acadia University at Nova East '87. The construction will probably be primitive but functional and would provide beginners with a pleasant first view of the universe. Estimated cost is about $150. Now here's a warpy idea: if we hurry with the construction in the next month (future), you will have had a look a the scope at Nova East (past) long before you read this article (present)!

Our observing continues. Just recently we established the second Saturday of the month (the night after the meeting) as the club observing night. We have received permission from the City of Saint John to use the Spruce Lake site for our observing needs and that's where we will be on observing nights. Any members from the Halifax Centre who are in the Saint John area on those dates are invited to pop in and join us. A map is included in this issue. No one in our club has completed their Messier list yet, but

each time we get out to observe, someone finds or observes an object they had never seen before. And that's what it's all about!

Note: Our meetings are held monthly, on the second Friday at 8:00 P.M. at the craft centre (on the corner of Princess and Canterbury Streets) in downtown Saint John. Feel free to drop in if you are in town. Clear skies! Ω





"Harry, the Earth isn't the third planet from the sun, is it?"

Errors, Errors and More Errors

Patrick Kelly

I suppose you have all had the same feeling at one time or another. You purchase a new reference book or atlas which is touted as being the be all and end all in its particular field. You anxiously glance over the pages and lo and behold you finally have it. All of the data on a particular subject that you will ever need. "Great!" you think and off you go about your normal routine, content in the knowledge that you finally have a reference where you can go to get the correct answers to all of your questions.

But then, because you also read a large number of other sources (including other R.A.S.C. newsletters), the truth starts to sink in and once more reality stares you grimly in the face....people are finding errors in **the reference book**. And just to rub it in, you actually find one of the errors yourself, but at the time you don't even know it's an error. This happened to me while I was making yet another unsuccessful attempt to find Comet Temple 2. Since I couldn't find the comet at its predicted brightness, I thought that I would try and find several nearby galaxies that were about the same brightness. First I tried NGC 6070 but no luck. On to NGC 6118. "Well, look at that", I thought as I peered through the finder. "That 6th magnitude star is not on my **Sky Atlas 2000.0**". Well, you can imagine that then and there I thought that I had discoved a nova, or maybe even a supernova that was still brightening. I mean, they wouldn't leave out a 6th magnitude star on an atlas like that, would they?

Now don't get me wrong, I am not about to go out on a witchhunt and decry the people who spend long hours collecting data into a useable form, after all I have been known to do just myself on occassion..... What all of this is leading up to is that there are errors in both the **Sky Atlas 2000.0** and the **Uranometria 2000.0**. That in itself is not unusual when you consider the amount of data that has been collected together to produce these atlases. What is a nuisance is not being able to find a collection somewhere listing the errors. I hope to rectify this by collecting all of the errors that I can find in one place. (A file on the Mac, of course) However, I have reproduced below my first attempt.at collecting this information along with the sources. If anyone finds any more, please let me know and I'll add them.

Sky Atlas 2000.0

Charts 1,3 The object listed as NGC 133 (R.A. 0h29.7, Dec +63°) was to have been deleted as it was not a cluster.

Examination of the area with 11x80 binoculars shows that this is a group of stars merging into NGC 146, a true clusterwhich lies about 13' SE. In my 8-inch at 125x, there are about 12 stars in this group with a close 10th magnitude double in the center. This cluster should therefore not be deleted in my opinion, even though the RNGC lists it as non-existent.[1]

Charts 13,14 About three degrees north of M61 is a galaxy labelled NGC 4305. In fact this is NGC 4365. Thre real NGC 4305 is about five degrees further north and is about three minutes west of M84. It is **not** plotted at all.[3]

Charts 13,14 About a degree and a half NE of M61 is a galaxy labelled NGC 4266. This should actually be NGC 4260. The real NGC 4266 is located SSE of the nearby galaxy NGC 4261, not north of NGC 4261 as shown. Thus, the real NGC 4266 is not shown.[3]

Chart 15 There should be a 6th magnitude star at 16h23min -2° .[5]

Charts 16,22 The open cluster listed as NGC 6003 (within M24) is only listed as such in the desk copy; the Deluxe Edition correctly identifies this cluster as NGC 6603[1]

Chart 16 the open clusters NGC 6682 and NGC 6683 are correctly located in the Deluxe Edition. In the field and desk editions they should be moved 1h in R.A. and located at R.A. 18h40.[1]

Chart 18 NGC 1305 (in the Fornax Cluster) is incorrectly labeled and should be NGC 1365[2]

Uranometria 2000.0

Chart 30 NGC 6224 is plotted twice. The northern one at 17h36min +70° is correct. NGC 6424 plotted close following NGC 6419 should be changed to NGC 6423. U11193 (upper left) is the same as NGC 6651 which is plotted correctly to its upper left. It is not certain what object this represents.[3,4]

Chart 44 The object labelled as PK 158+57.1 should be labelled PK 158+37.1[4]

Chart 46 The object labelled as UGC 6163 should be labelled UGC 6162.[4]

Chart 75	UGC 7774 is plotted twice. The object at 12h36.3min +44° should be deleted. No object is listed at this position in either the UGC or CGCG.[4]
Chart 93	The object labelled as NGC 942 should be labelled NGC 940. NGC 1062 is labelled twice. The position occupied by the northen object corresponds with ZWG 505.043 in the CGCG which is listed at 2h40.7min +32° 17min (1950). This may be the real NGC 1062 although it is not listed as such in either the UGC or CGCG. The southern object labelled as NGC 1062 is in fact NGC 1060.[4]
Chart 123	NGC 7246 is labelled twice. The north following designation is correct. Change the south preceding one to NGC 7263.[4]
Chart 147	The objects labelled NGC 3789, 3793 and 3797 should be correctly labelled as NGC 3989, 3993 and 3997 respectively.[3,4]
Chart 148	NGC 4089 and NGC 4091 are plotted but not labelled.[4]
Chart 154	The object labelled as NGC 2928 should be labelled NGC 5928.[4]
Chart 185	NCG 2516 should be labelled NGC 2526.[4]
Chart 199	The object labelled as NGC 5989 should be labelled NGC 5983.[4]
Chart 228	The object labelled as Bo 13 should be Bo 3.[4]
Chart 235	The object labelled as UGC 5740 should be labelled UGC 5708.[4]
Chart 238	The galaxy NGC 4303 should also have the designation M61[3]
Chart 240	NGC 5153 and NGC 5154 should be labelled NGC 5183 and 5184 respectively.[4]
Chart 250	The object listed as Sh2-62 should be labelled Sh2-64 as in **Sky Catalogue 2000**. Listed as Sh 2-34 in **Sky Catalogue 2000**. One of the designations is incorrect. Check the **Atlas of Galactic Nebulae, Vol. 2** by Hans Vehrenberg for confirmation.

[1] Chris Spratt, **Skynews**, Victoria Centre

[2] I jotted this one down but can't remember where it was from..

[3] Leo Enright, **Astronomy London**, June 1988, p6

[4] Jim Lucyk, **Astronomy London**, London Centre, April 1988.

[5] Patrick Kelly, Halifax Centre Ω

The Sun in H-alpha Light

Mary Lou Whitehorne

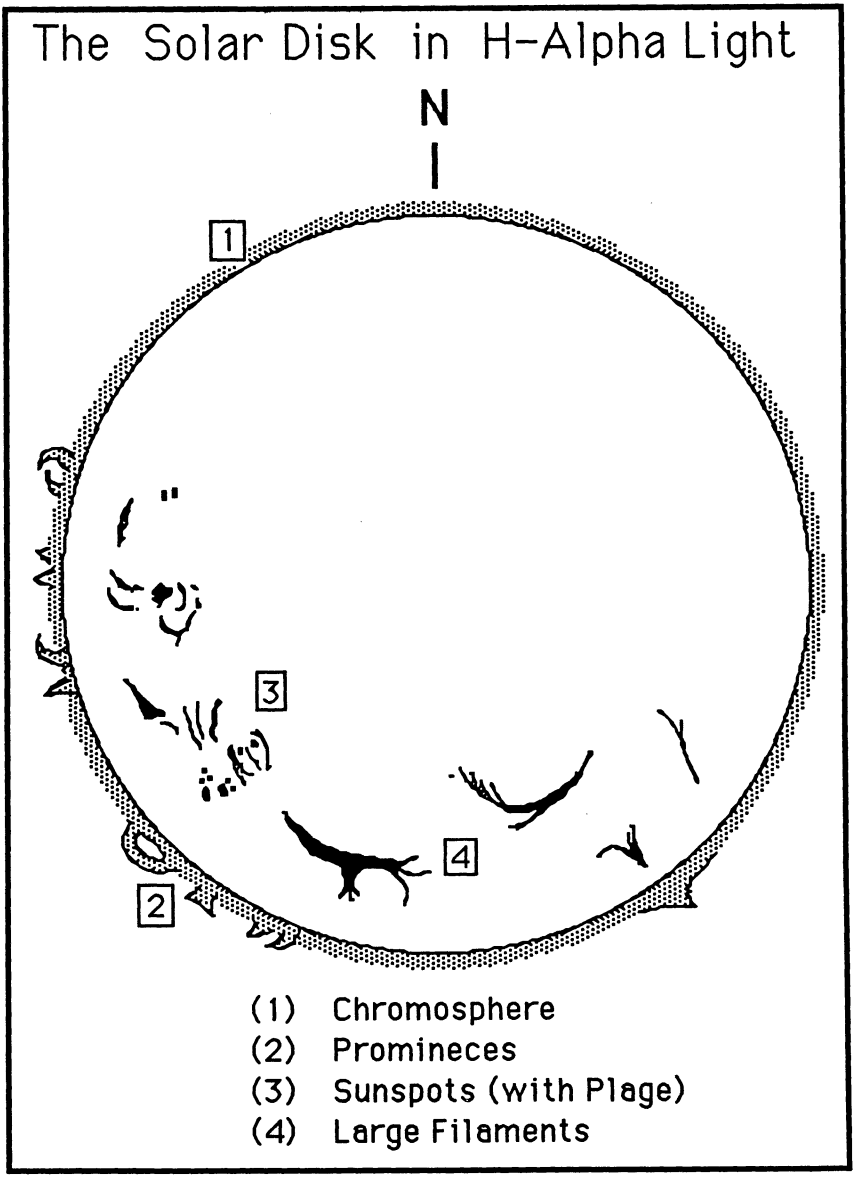
There is nothing quite like observing in monochromatic light. Hydrogen's strong line (H-Alpha) is at 656.3 nm and is a vibrant, deep, pure red. To view the solar chromosphere with an H-alpha filter is like no other observing experience you have ever had. To see the sun's image projected is interesting. With a regular solar filter it becomes easy to observe considerable detail in the sunspots' umbra and penumbra. With good seeing conditions you should also be able to easily see faculae (bright, hot areas of the upper photosphere associated with the sunspots). This is well worth seeing, but the images presented to the eye with an H-alpha filter make all of this seem very tame indeed.

I had the pleasure of using a Daystar H-alpha filter (model ATM) with a 200 mm (8") Meade 2080. The aperture must be stopped down which gives a focal ratio of f/30. This maximizes image contrast - very important when observing with monochromatic light. The filter itself is encased in an oven and takes about fifteen minutes to warm up "on band" to give those incredibly beautiful views of our Sun's face. Without the filter plugged in and warmed up, it acts rather like a regular solar filter (except it's red) and shows roughly similar details of faculae and sunspots.

But when it finally heats up and is on band - WOW!!! What a spectacular sight! Our sun is a most majestic object and I only wish everyone could see how beautiful it really is.

The solar disk is seen to be surrounded by a thin brilliant ring of chromosphere. Prominences, when present, are spectacular in their beauty and very fine detail in their structure is visible during moments of steady seeing. As you can see from the accompanying sketch, there were many prominences on July 5th. The chromospheric network is revealed in surprising detail - just like the ads say. Enormous filaments make dark slashes across the bright disk. The sunspots are resolved into very complex structures as well as their associated plages. These plages are brighter, hotter regions of the chromosphere, are associated with regions of enhanced magnetism and can be considered as defining the Sun's active regions. They are roughly coincident with the photospheric faculae.

Our own G2 IV dwarf star is such a wonderful object to observe with an H-alpha filter - I wonder what some of the giants would look like if I could get close enough...? Ω


The Solar Disk in H-Alpha Light
N
1
2
3
4
(1) Chromosphere
(2) Promineces
(3) Sunspots (with Plage)
(4) Large Filaments

Observatory Survey Results

Doug Pitcairn

Below is a **summary** of the results of the observatory questionnaire which was recently included in Nova Notes. I thank all of you who took the time to reply, especially those of you who expanded your thoughts to a letter, these were most informative:

Necessity- 332232153112242	Avg-2.25,Good for the growth of the centre, but not absolutely necessary
Location	
Distance- 33233333344434333	Avg-3.2, about 55 km. (about an hour)
Far /Close-24423223411112243	Avg-2.45, A close site but must have reasonable seeing and darkness.
Funding- 3112331312133331	Split payment favored, everyone pay second choice. Seems to indicate a split payment scheme but leaning towards everybody pay.
Instrumentation- 9-m, 5-s	(m-buy larger, s-stay with C8, get a 17.5 Dobsonian. later)

After reading all the returned notes and looking at the picture from all the angles I am capable of, I have the following **recommendations** to make to the Halifax Centre Executive.

1) The requirement of considering all the possible pros and cons is essential, and I feel cannot be done by one person, therefore **I recommend an observatory committee be formed**, to consist of at least two members of the executive., and several interested members from the membership at large. I suggest meeting at irregular intervals, possibly just before the regular executive. meetings. The common members can report to the executive.

2) There is a definite desire among the membership for an observatory of some type. It is generally believed that there would be benefits to both the people who use the facility and to those who don't. **I recommend we continue to study the idea with the long range goal (5-10 years) of building a permanent observatory.**

3) The members feel that the facility should be within an hour's drive of as many of the membership as possible, and should be located at a site which is as dark as possible within the above distance restraint. **I recommend a good site should not be turned down because of a few lights in the area.**

4) The members think that funding should be split between the users and the membership at large. **I recommend a compromise, the membership pay capital cost and the users pay maintenance.**

5)**I recommend an immediate addition of a $5.00 surcharge on annual dues for the purposes of building a long range fund for an observatory**. Whenever we do build a structure, it will cost money which we currently do not have.

6) The members feel that the equipment we own is adequate for the time being, but that the acquisition of larger scope(s) would be very desirable at a future date, after the facility is established. By far the most recommended addition is a 17.5" f/4.5 reflector from Coulter Optical Co. in California. **I recommend we wait for the building to be completed before any further equipment be considered.**

7) **I recommend the Centre regularly advertise in the newsletter for someone with a reasonable site to offer free land use.**

In Conclusion:

The major problem is the acquisition of a useable site which has no security risk. Dark sky sites tend to be far in the country with little or no local population, this is inviting vandalism. The obvious solution is to have a member, preferably a life member, who lives at a good location and will sign a lease for a small parcel of land to the R.A.S.C.. This avoids the problems of land acquisition and vandalism. I personally feel that an observatory will be prohibitively difficult to acquire until such a situation develops. Ω

Gawker's Report

compiled by Pat Kelly

Time: Wednesday April 14th, 1988
Place: Beaverbank Observing Site
Observer(s): Paul Duval
Equipment: Centre C-8
MVM: 6.5
Weather conditions: cold with a breeze
Seeing: average

Objects Observed:

Globular Clusters: M3, M13, M53, M68
Galaxies: M49, M58, M59, M60, M61, M64, M83, M84, M85, M86, M87, M88, M89, M90, M91, M98, M99, M100, M104, NGC 4151, NGC 4214, NGC 4244, NGC 4365, NGC 4395, NGC 4429, NGC 4526, NGC 4527, NGC 4535, NGC 4536, NGC 4618, NGC 4631, NGC 4636, NGC 4639, NGC 4654, NGC 4656, NGC 4697, NGC 4699

Double Stars: 24 Com, Σ1615 (Com), Σ1685 (Com), δ Crv, Σ1669 (Crv), α CVn, 2 CVn

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Time: May 14th, 1988
Place: Beaverbank Observing Site
Observer(s): Patrick Kelly, Jim MacGuigan, Rob McConnell and about 20 members of the Hebron Astronomy Club, Darrin parker, Doug Pitcairn, Mary Lou Whitehorne
Equipment: 200mm Meade, 250mm Omcon reflector, 250mm Odyssey reflector, 250mm homemade reflector, 150 mm refractor and various telescopes
MVM: 6.5
Weather conditions: Clear, calm and quite mild with none of the usual ground haze. This was probably due to a large front which had just passed through.
Comments: Considering that the weather had been overcast in the early afternoon, the group from Hebron were very fortunate to have had the weather clear so nicely. The last of the thin clouds disappeared just as it got dark. This allowed many of them to observe Mercury for the first time as it was still fairly high in the west. Regulus was quite easy to split, even in binoculars. The companion is only 9th magnitude, but is so far away from the primary that it is very easy to find. We also had some excellent views of Comet Liller. An excellent session.

Objects Observed:

Planets: Mercury, Saturn, Uranus and Venus
Planetary Nebulae: M27 (Dumbbell), M57 (Ring)
Globular Clusters: M3, M4, M13, M80

Open Clusters: M11, h & χ Persei
Galaxies: M51 (and NGC 5195), M65, M66, M81, M82, M101, M104 (Sombrero), NGC 3628, NGC 5962, NGC 5984, NGC 5970

Double Stars: β Cyg (Alberio), μ Dra, α Leo (Regulus)
Comets: Liller

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Time: Monday, May 23rd, 1988
Place: Arvida Avenue, Halifax
Observer(s): Patrick Kelly
Equipment: 250mm Odyssey reflector
MVM: it didn't really matter
Weather conditions: Clear but with a quarter moon and haze.
Comments: I decided to try and do some observing from the front yard since it was actually clear! So what if there is a quarter moon and a lot of haze which is making the usual light pollution that much worse. That just means that it's not worth driving all the way to Beaverbank, right? Well, I finally found M13 after five minutes of looking and it was in the "darkest" part of the sky!! If nothing else, the Moon looks nice and I finally had the excuse I needed to actually determine the field of view of the eyepieces.

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Time: Friday, June 10th, 1988
Place: Beaverbank Observing Site
Observer(s): Jason Adams, Paul Duval, Ralph Fraser, Pat Kelly, Jim MacGuigan, Doug Pitcairn, Mary Lou Whitehorne, Joe Yurchesyn
Equipment: too busy to jot it down
MVM: 6
Weather conditions: cool, DAMP.
Comments: Growing a set of gills would have been most convenient on this night. The dew killed off things about midnight. Since it was so close to the solstice, that didn't leave too much time for observing.

Objects Observed:

Planets: Saturn and Titan
Planetary Nebulae: M27, M57, M97
Globular Clusters: M3, M5, M11?, M13
Galaxies: M81, M82, M104, M108, M109

Comets: Comet Liller is still quite nice and is still sporting a tail, althought it is getting rather hard to see. Tried to find Comet Tempel 2 but had no luck. -P.K.

◊◊

Time: Wednesday June 15th, 1988
Place: Beaverbank Observing Site
Observer(s): Paul Grey, Randy Grey, Jim MacGuigan, Pat Kelly, Doug Pitcairn, Greg Roberts, Mary Lou Whitehorne
Equipment: Centre C-8, 250 mm Newtonian, 250 mm Odyssey, 60 mm Tasco, 7x50 &10x70 binoculars
Weather conditions: warm but very hazy
Seeing: so-so

Objects Observed:

Planets: Uranus and Saturn
Planetary Nebulae: M27, M57, NGC 6781 (this was quite easy to find and appeared as a disk in the Odyssey), IC 1298 (Doug and I were unable to find this planetary at all, which is not surprising as we later found out that it was 14th magnitude!)
Nebulae: M8, M17, M20, NGC 7000 (North America)
Globular Clusters: M4, M5, M13, M22, M71, M92, NGC 6712 (very nice shape but fairly faint in the Odyssey)
Open Clusters: M11, M16, M23, M25, M26, M29, M39, M56, Col 399, NGC 6910, NGC 6866, NGC 6704 (this one has is surrounded by a "halo" of stars), NGC 6664 (large and sparse but easy to find as it is right next to α Sct), NGC 6649 (very faint and appeared as a smudge around two faint stars), NGC 6755/6756 (these both fit in the same field at low power. 6756 appears to be considerably more condensed and brighter than 6755)
Galaxies: M31, M51, M59, M63
Double Stars: ε Lyr, δ Lyr
Comets: I tried once again to find Comet Temple 2. M63 was the same magnitude as that predicted for the comet and it was quite plain. This sucker is either very diffuse or very starlike. -P.K.
Meteros: Several bright ones as well as many satellites.

The dates of the best observing periods can be obtained from the "Calendar of Events" inside the back cover. Any clear night in this period is likely to find people at Beaverbank. If you wish to double check to see if anyone is going out, please call the Observing Chairman or the Second Vice President .Members are invited to submit their observations to the Editor for inclusion in "Gawker's Report". In order to make the compiler's job easier, please list all information in a format similar to that used for the column. Thanks and clear skies. Ω

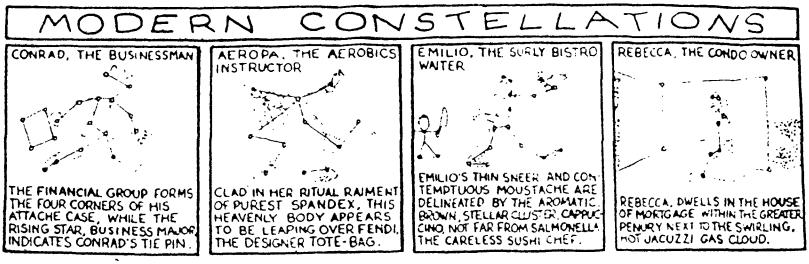
Astro Ads

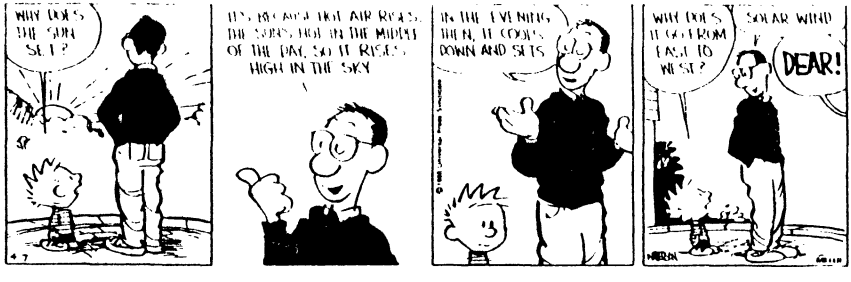
FOR SALE: JASON 80mm refractor (f = 1200 mm)

- 4,5,6 mm Ortho eyepieces
- 12 mm Kellner eyepiece
- 20 mm AH + 3 other eyepieces
- Porro prism,Barlow,sun reflector
- tripod & equatorial head
- all in original box

$650

Call Nat Cohen - 434-3103






GA★ZER
So, GAZER, do you think that there is alien life out there?
I hate these time warps
He's dead, Jim!
Get us out of here, Scotty!
Yeah! I mean just think of how many stars there are!!
MONKEY MUFFINS!
Gee, M8 is nice tonight.
It looks like we shook them off this time, Luke.
The force was with us!
But what about all of those U.F.O. sightings?
Yeah! And what about what Carl Sagan says!
BUFFALO BISCUITS!
I always did like M51.

Patrick Kelly

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HALIFAX CENTRE - R. A. S. C.
1988 CALENDAR OF EVENTS

August 1988

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September 1988

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	**22**	23	24
25	26	27	28	29	30	

October 1988

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November 1988

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	**17**	18	19
20	21	22	**23**	24	25	26
27	28	29	30	31		

Key to calendar:

Regular Meetings: **shadowed and outlined**
Beginner's Meetings: double underlined
Special days: **bold**
Possible observing sessions: **underlined**

Special Days:

August 11- Perseid Meteors
August 12-15 - NOVA EAST 88
September 11 - Another Solar Eclipse we won't see !!!!
September 22 - Autumnal Equinox
October 21 - Orionid Meteors
November 2 - South Taurid Meteors
November 17 - Leonid Meteors
November 23 - Jupiter at Opposition

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