R E G U L U S

THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

SEPTEMBER, OCTOBER, 1987

TWO SUMMER GATHERINGS OF ASTRONOMERS

Stellafane

On the weekend of July 25-26, the fifty-second annual meeting of astronomers and telescope-makers, known as Stellafane, took place on Breezy Hill in the Green Mountains of Vermont. This year only a couple of members of our Centre were able to make the trek to that special place of pilgrimage that has become a kind of shrine (as, indeed, the name Stellafane states) sacred to the memory of Russel Porter, the genius who built the observatory that stands atop Breezy Hill.

Driving up the winding road that snakes to the summit, one is always reminded of previous trips to this place, whether they have been one or forty, but this year I went, as I did last year for the first time, to one of the new campgrounds that have been acquired and cleared by the 'friends of Stellafane', and I thought of the hundreds of amateur skywatchers and telescope makers who had previously made that trip. No matter how early one arrives, it seems as if there are already hundreds of "regulars" there busily sharing their tales of observing adventures and renewing acquaintances, many of which have not been exchanged since exactly a year ago. On Friday evening everyone strolls about in the area of the Springfield Telescope Makers' Clubhouse, a most distinctive landmark with pink walls and steep-pitched roof whose facia boards proclaim the Biblical inscription about the glory of the heavens. Nearby and standing just as it did the day Porter completed it over fifty-five years ago is the Porter Turret Telescope, a whitewashed observatory of a style no longer built and a remarkable tribute to the brilliance of its builder.

Though the weather was not rainy as it was last year, the heat this year was often unpleasant. Yet observing was possible on both Friday and Saturday, and for many of the visitors who came from large cities, the skies of Stellafane were remarkable indeed. However, your editor was disappointed in their quality only because of comparison with the great Canadian skies we had experienced during the previous week. But Stellafane is not just telescopes and observing. It is the spirit of the place and the people. There were at least four, maybe five, thousand people there, and genuine friendship and camaraderie were clearly evident among the hundreds of friendships being renewed on all parts of the site. I met friends from London, Toronto, Syracuse, Montreal, Ottawa, and many other places.

The Friday evening talks in the large tent featured a number of reports of activities in many clubs throughout the continent. The "swap table" on Saturday featured many objects of different kinds; more than a few people acquired a good quality star atlas at a bargain price. On Saturday evening, after the awarding of the raffle prizes, including two telescopes, there were the traditional twilight talks. Walter Scott Houston gave the introductory talk which for many years has been called Stellafane Shadowgram. He reviewed some of the history of early lensmaking by amateurs, and his remarks included a tribute to some Canadian observers. The feature talk, by John Dobson, whose name has been associated with large aperture alt-azimuth telescopes for over a decade, was a splendid presentation by a man who has a consuming passion for the night sky and for showing it to other people. From his San Francisco home he has travelled thousands of kilometers to give people a chance to view the "glory of the heavens".

My Sunday morning schedule included a visit to the Porter Museum at Hartness House in Springfield in order to see again some of the amazing telescopes designed by Russel Porter, the man who in fact designed the 200-inch Giant of Palomar. The visit to the museum and nearby Turret Telescope, also a Porter invention, is always a fine way to conclude "the Stellafane Experience".

In conclusion, it should be said that everyone probably leaves Stellafane with slightly different thoughts, but, without doubt, thousands leave with good memories for they keep returning year after year to this magical place. In honesty, it should be said that there are some reservations being expressed about the size of the crowds that currently show up, and some people would, of course, feel more at home within a smaller group. On the other hand, the active members of the Springfield club, which is only a "handful" of people have done a remarkable job in recent years to keep the event going amid numerous adversities. Their acquisition of a large amount of nearby land insures, as they say so often, that "there will always be a Stellafane."

The weather may not have been ideal, and the crowd was enormous, and the telescope displays may not have been as large as on some or other previous occasions, but once again, I had been among good friends, "real astronomers"; I had savoured the weekend experience that is Stellafane and I would relish it for some time.

The Syracuse Summer Seminar

On the weekend of August 15-16, a most pleasant gathering of astronomers was held near Syracuse, New York. It was the seventeenth edition of the Syracuse Summer Seminar, a meeting of U.S. and Canadian astronomers, largely members of the Niagara Frontier Council of Amateur Astronomical Associations, held south of Syracuse near the tiny village of Vesper on a high hill with two observatories and "good skies". The sponsoring group, the Syracuse Astronomical Society, provided superb hospitality. There was free camping available on the hill, water and bathroom facilities were provided, and three large tents had been erected, the largest of them for the paper sessions and the banquet. The food was abundant and delicious, always a prime consideration for hungry astronomers.

On both Friday and Saturday nights the skies, though not perfect, were good enough for serious observing of at least a dozen Messier objects, and the observing contest was a "real" event, not just a discussion of where something might be observed. As extra treats on Friday night, we had a find display of Noctilucent Clouds in the northern sky and several Perseid meteors that were quite bright. The informal paper talks on Friday night included an excellent review of the history of the Holden Observatory by Dr. Gunter Wessel and even one on the Zodiacal Light by your editor. After the talks, the observing contest proved to be a great deal of fun as we tried to interpret the clues given and associate them with certain objects in the sky - to be shown to the judge of the contest.

On Saturday the photography contest presented an opportunity for the participants to take along some of their photographs of the past year and have them judged and compared with their colleagues. Your editor had the opportunity to help with the judging and he will long remember the incredibly superb entries from Tom Dey of Rochester whose four-hour (sic!) exposures of the Horsehead Nebula and of the Bok Globules in the Rossette Nebula (sic!) were the kinds of results that amateurs a few years ago only dreamed of or saw in Palomar photographs. On Saturday afternoon there was also on display from NASA a collection of lunar rocks and participants had an opportunity to hear a tape and see a film from NASA about the samples that had been brought back from the moon. Many interesting papers were presented including ones on light pollution, a new computerized deep sky reference project, Venus-volcanoes, and selecting an eyepiece. A swap table gave everyone there a chance to buy, sell, or trade unwanted equipment some of the books available were "real gems". Every moment was not serious: a kite flying contest provided a good deal of fun for some children of various ages!

A very special feature of this seminar was the talk and slide show by the guest speaker, Professor Martha Haynes, a radio astronomer from Cornell University, who also happened to be an observer and one who knew the sky in the way in which amateurs do. Her talk on "The Large Scale Structure On The Universe" contained some of the lastest available information and research results concerning galaxies, clusters of galaxies, superclusters, and even the Great Attractor (See the September issue of Scientific American). Her slides also showed in a practical way the kind of work she had been doing at the world's largest radio telesecope at Arecibo in Puerto Rico. In all, it was a presentation that was thorough, captivating, and obviously from a dedicated authority on the subject.

Many details gave evidence of long and careful planning by the organizers. Dozens of "door prizes" gave almost everyone a good chance to win a memento of a pleasant weekend. More substantial prizes, including binoculars and a Tirion SkyAtlas were also given away in a raffle and as prizes in the photography contest. I can only offer my heartiest thanks to the organizers within the Syracuse Astronomical Society, especially to the

co-chairpersons Denise Sabatini and Frank Rioux, and also to their helpers, Walker Baker, Sue Rugelis, Karl Schultz, and a number of others. It was a memorable and enjoyable weekend with "astronomical friends".

CORRESPONDENCE FROM WARREN MORRISON

[EDITOR'S NOTE: I am very pleased to have received an informative letter from our well-known observer in the Peterborough area, Warren Morrison.]

R.R.1,
Cavan, Ont.,
July 7, 1987.

Dear Leo,

I have intended for a while to write to you. Some of the material in this letter may be of interest to readers of REGULUS.

My duties as "northeast visual recorder" for the International Halley Watch have finally come to an end. My final shipment of observer reports has just been sent away to headquarters in Pasadena. One observer followed the comet until this past April, when it had a slight outburst (magnitude 13.5). I see from the I.A.U. Circulars that some American amateurs observed it into May. This is fifteen months after perihelion; even the professional astronomers of 1910-11 didn't follow it for this long.

My own observations of the comet continued until February 24 of this year.

In summary, I received observations from 45 different observers. The "northeast region" included the six eastern Canadian provinces and nineteen U.S. states. Illinois and Pennsylvania were the most productive, with eight contributors each. Ontario was next with five. Altogether six Canadians, thirty-seven Americans, and two Norwegians sent reports to me. (Norway did not have an I.H.W. recorder of its own.)

As far as the I.H.W. is concerned, apparently a lot more men than women observed the comet. Of the reports I received, 41 were from men, one from a woman, and the remaining three had names which could apply to either male or female.

What all these statistics prove, I have no idea, but they are rather interesting. Of course, they do not include the hundreds of Halley observers not directly involved in the I.H.W.

Some time ago I came upon a rather interesting fact. As you recall, in 1985-86, four total lunar eclipses occurred, not one of which was visible from southern Ontario. Certainly, four total lunars in a row is rare enough, but the chance of missing all four must be very low. I recently obtained a copy of the "Canon of Lunar Eclipses" by Meeus and Mucke. Checking it out, I found that on only two occasions in the twenty-five centuries from A.D. 1 to 2500 did southern Ontario have such a spell of bad luck, namely A.D. 350-351 and A.D. 1985-1986. So, for people who are disappointed in missing the four total lunar eclipses, they can take comfort in the fact that it was the first such occurrence in sixteen centuries for Ontario.

I may write up a little article for REGULUS sometime on my Mercury observing, dealing with how observing circumstances change during the year. I am currently at 95 consecutive appearances and hope to see it before sunrise by the end of July for number 96.

Have a good summer!

Yours truly,
Warren Morrison

OUR CENTRE'S AUGUST PICNIC

by Ruth Hicks

The RASC-Kingston Centre held its first Annual Picnic on August 14 at Grassy Creek Picnic Park, 16 km east of Kingston on Highway 2. Plans had been made beforehand with various phonecalls including one for permission to stay after park closing for an observing session.

Everyone entered into the spirit of things. We dined on a casserole, salads, bread, fruit, and cheese. Hein and Jean made us pancakes and coffee. A game with frisbees was played, using vintage 1984 'G.A. frisbees. A short business meeting was also held. Martyn set up his telescope, and binoculars were also available. One couple had heard of our meeting and joined us. We numbered 16 in all, including an early started at 5 1/2 weeks old.

Since our location was near the Bateau Channel, we did some bird watching, and heard an owl calling. As it grew darker, the cottage lights on Howe Island added to our view.We were able to see the major summer triangle stars - not always at the same time. The results were a good picnic but observing that was not so good, since the weather was hot, humid, and hazy. Perhaps the weather will be better next year.

FROM THE EYEPIECE

REPORT OF AN AUGUST OBSERVING SESSION
by Mark Kaye

August is a great month for observing. Twilight is shorter now. Nights are warm but not balmy. The mosquitoes have left, gone for another year. The Milky Way of the summer sky dominates overhead. Some of the late spring sky lingers on the horizon, quickly following the sun. Before too long the galaxies of autumn rise in the east.

The length of the twenty-fourth day of August (13h 38m) is the same as that of the April 19th. In April the risk of frost was great, and it would be for another four weeks. The reverse could be said for August 24, when the temperature was still around 12° when I quit observing. The air was very clear and there was no visible glow from the city to the south.

After setting up in the twilight, I started with Saturn, on the downside of the meridian. An observer should view this planet while he can, since views of Saturn will only get worse over the next few years as it slides down the ecliptic into the summer constellations. With its rings tilted so, the view is still very good. At 113 X, when the air was steady, I saw two brown bands on the planet and the thin band of black of the division in the rings. Telling the moons is a challenge but help is available from the appropriate section of the Observer's Handbook. I thought I could see five, four for sure.

Then starting in the southern sky, I gradually worked my way up the Milky Way from north of the teapot. M8 is quite a sight, with its nearby cluster, NGC6530; it fills the eyepiece at 30 x. I moved up and east to M20, then M21, and then while appreciating the "near-centre of the galaxy" area, moved to M17 and M18. I stopped here for a while and then went up and a bit west to open cluster nebula presentation, M16.

I have found it very comfortable to sit on a stool, and with Norton's Star Atlas, find one object after another. Thus I looked through Capricornus, Aquarius, and Delphinus in this way. One doesn't know what to expect when viewing the sky in this fashion. The object is just a number on a chart in the atlas, but in the sky it could be a galaxy or a planetary; a surprise awaits. Unfortunately Norton's is not complete, and most of the numbers are from the Hershel Catalogue, making necessary a translation to NGC numbers used in most other charts and the Observer's Handbook. I am not a great one for spouting of numbers; I feel one can get lost in the numbers and forget the objects themselves. M2 in Aquarius is a beaut of a globular; however, M73 is a bit of a wipeout, as if someone wasn't focussing well one night a long time ago. [Editor's Comment: Indeed! It is only a group of four or five stars; the number seen depends on the aperture used. Calling it an open cluster is certainly stretching that term to its limit. Maybe Messier was indeed not focussing as well as he might have. Of course, also his equipment may not have been of the sophistication of a modern well-equipped amateur.] M72 is small, and fairly void of detail, but easy to spot. NGC7009 is a planetary often referred to as the Saturn Nebula. Another planetary, NGC6818 in

Sagittarius, is a pretty sight. I need some more magnification to study these planetaries more closely, while I was trying to figure out if NGC6774 was a globular or an elliptical (more likely the first owing to its closeness to the Milky Way), the view suddenly turned to gray and there was an abrupt end to my observing session. [Editor's Note: NGC6774 is a loose faint open cluser of stars.]

The next night I set up the scope despite the fact that the neighbour had just hung out the washing, a sure sign of rain. I was rewarded; the transparency was excellent and the seeing, though a bit "swimmy", was still very good at times. I started with M33, an elusive but large spiral next only in size to M31. Two nebulas of this galaxy were visible, and a hint of the limbs spiralling out. Of course, while the telescope was pointing in that direction, it was prudent to check out M31-32-110. Once while I was canoeing on the Spanish River, about 240 km from the nearest town, I saw this object naked eye, under near-perfect conditions. This galaxy (M31) is huge, stretching more than three degrees; it is much larger than the moon. M33 is also visible to the naked eye and it too is larger than the moon and very hard to spot being just on the edge of visibility. Here, M31 is still big, but only in the telescope. I would say that over two degrees of M31 is visible, and M32 even if by itself, would still be a good target. Buoyed by the good clearness, I moved on to NGC7331, a 9.7 magnitude galaxy. This is a good stepping stone to Stephan's Quintet. This small group of galaxies hovers around the theoretical limit of the 127mm scope. Two of the galaxies could be seen and a third one by averted vision. It was a sight backed up by Larry, who was out observing with Martin and his 127mm f/12. I would enjoy looking at this through a light bucket to confirm my sightings, as a person's imagination can get the better of him. Some other good targets I saw were NGC891, a dim edge-on galaxy, reported to have a dust lane; NGC1023, near a star that affects the view; NGC16 and NGC23, two small ones that are a bit tricky; M74, one of the harder Messier objects; and nearby Jupiter, which was a bit easier!! Here the lack of steadiness because of the breeze was very noticeable; only for brief periods could I see through the shimmer and see any detail on the planet surface.

Eventually fatigue got the better of me. I could have waited for the winter constellations to rise, but I decided to let them be for another session. Soon enough I will have to bundle up to view them, and that will be the topic of another article.

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

This time we ask you if you really appreciate an interesting fact that you may already have gathered - if you read carefully a previous page of this newsletter? Even if you have read it and appreciate how tremendous it is, it bears repeating. The almost incredible fact is that there is one member of our Society who has seen the elusive planet Mercury on every single one of its last **NINETY-SIX** elongations spread over the last sixteen years. Yes, Warren Morrison of our Centre has seen the least-viewed of the naked eye planets on probably more consecutive elongations than anyone ever. Need I mention that many professional astronomers have never seen the innermost of the planets, and many amateurs see it only at times of very favourable elongations such as eastern elongations occurring in May or June? The accomplishment is most amazing when one considers that the viewing was from a high mid-northern latitude, not from a tropical location where the ecliptic often makes a steep inclination with the horizon and allows it to be seen much more easily. Another consideration is that the viewing was not from southern Arizona or any location with long periods of clear skies but from an area that often has long stretches of inclement weather and horizon clouds are a frequent problem. It is indeed an accomplishment that has required dedication over many long years.

REPORTS AND OTHER ITEMS

1. The months of July and August brought some excellent nights for observing deep sky objects. Your editor enjoyed a number of such nights. His observing log shows 50 entries for the two months - a number which includes solar observations as well as nighttime observations. None of them could have been more interesting that the one between 01:40 and 04:15 UT of August 26 when there was an excellent Auroral display. For about an hour there were spikes in the north. Then the real show began with an intense beam, like that of a strong searchlight, pointed up from the eastern horizon. A

similar beam began to show itself in the west. They then met each other in the zenith and started to grow in width until they were a five-degree wide band which shifted and swirled as it crossed the Milky Way at right angles. At the zenith the band became brighter still and formed itself into an arc 30 degrees long which pulsated from east to west for ten or fifteen minutes. Then the brigher part of the band shifted to the northwest. After a while the activity subsided and the northern sky was filled with a bright glow that for the next two hours (and perhaps for the rest of night after my observing had ended) was very active with pulsating and flaming activity. The brightness of the whole sky was such that my previous plans for observing and possibly photographing deep sky objects in the south were completely thwarted.

Though observations of Perseid meteors were recorded for weeks both before and after the night of August 12-13 and many of them were quite bright, the numbers seen on the night of the "peak performance" were very disappointing. Another meteor shower seemed to be quite active on the night of August 23-24, and indeed several nights thereafter, when quite a number of bright ones seemed to be coming down from the constellation Cygnus. Perhaps the Kappa Cygnids were much more active than usual this year.

2. Over the next few months, observers will have a good opportunity to see Jupiter in the evening sky where it will be extremely bright. On the night of October 6-7, the full moon will enter the earth's penumbral shadow for a penumbral eclipse, in some ways similar to the one of April 13-14 of this year. Your editor is hoping for as good weather as on that occasion when the darkening of the moon was clearly visible to the naked eye well over an hour prior to mid-eclipse. For details realating to time of the eclipse, consult pages 83 and 89 of the Observer's Handbook.

3. I am very happy to report receiving a letter from Gus Johnson, our observer in Swanton, Maryland. He told of his activities on Astronomy Day, May 9, when he joined a group of astronomers at Crooked Creek State Park near Kittanning, PA., bringing three telescopes to add to the group of four 'scopes already there. Of all the members there he was the only one able to locate galaxies in the moonlit sky. Also, the Amateur Astronomers Association of Pittsburg to which he belongs had the dedication of its new observatory which is at a dark-sky site and has the capability of being expanded to include a lecture room and observatory for an eleven-inch Brashear refractor. During the summer, Mr. Johnson has been giving nature and astronomy talks on Friday and Saturday nights at Blackwater Falls State Park and Canaan Valley State Park, both in West Virginia. On one occasion there there were no fewer than twenty telescopes set up at the observing site.

4. It is that time of the year when, we must remind members of their annual dues for the 1988 membership year. THEY ARE DUE ON OCTOBER 1. Annual membership fees are currently $30.00 per year for regular memberships and $18.50 for youth memberships.

5. Congratulations to Michael Rudenko on the discovery of his second comet in late August. The following very limited ephemeris available at this time may help some observers to locate it.

Date	R.A. (2000.0)	Dec. (degrees)
Aug. 29 (0hUT)	13h 47m	+31.2
Sept. 1.	13h 39m	+30.3
Sept. 4.	13h 32m	+29.3

6. The dates for our upcoming meetings are as follows:

September 11	Ray Sutton: A Computer Project Leo Enright: Report of Stellafane and the Summer Seminar
Occtober 9	Special Guest Speaker: Our National President Mrs. Grey
November 13	Still Open
December 11	Annual Meeting

7. Remember that our meetings begin at 8:00 p.m. and are held in Room D-206 in MacIntosh-Cory Hall at Queen's University.

8. Contributions for this newsletter are always welcome. The address is:

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Box 1793,
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Clear skies!
Good observing!

Les Enright