



THE NEWSLETTER OF THE
ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

AND THE
QUEEN'S UNIVERSITY ASTRONOMY CLUB

SEPTEMBER 29, 1978



THAT STRANGE AURORA

At the end of the last newsletter, I included mention of a strange aurora that I saw on the night of August 29th - 30th. I said that I might write more about it and at this time I wish to do so.

In fact, over the past four or five weeks there have been several nights of interest to those who are fascinated by the Aurora Borealis. Not only on the above-mentioned night, but also on two other nights (Aug. 31 - Sept. 1, and Sept. 7 - 8) I saw and was able to get reasonably good photographs of two other kinds of Aurora. In fact, on September 7th. the shimmering display was being enacted in front of me as I drove home from an R.A.S.C. meeting.

Let me return to that one of August. 29th - 30th, that one which I have described as the strangest I have ever seen. Only one other person has told me about seeing it and I would be very interested in hearing from others, either members of our centre or from elsewhere, who may have observed it. It might be interesting to compare our observations.

On that evening I had spent several hours observing and doing astrophotography. The sky conditions were excellent; it was steady and clear. I had been photographing a number of Messier objects.

At about 12:30 a.m., I was ready to "call it quits", with the idea that it had been a good and successful night of observing, and with the hope that the photos would turn out the same. I did not suspect that the night would be memorable not for what I had already seen or captured on film but for what was yet to come.

At about 12:40 a.m. E.D.T. (i.e. 4:40 U.T., Aug. 30) I noticed a brightening in the sky in the area of the Pleiades which were rising in the east. The brightening increased so strangely and dramatically that I literally found it frightening "Did not Aurora usually appear in the north?" "There is no indication of Aurora anywhere else in the whole sky!" "When the aurora appears in the east or south-east is there not usually some indication of its emanating from the north?" "I've seen strange auroras, but not such singular brightness in one direction, that is, in this particular direction." These are the kinds of puzzles that might concern one who saw it.

Then after several minutes a narrow band of light shot across the sky from east to west. (The comparison to a bullet from a gun might be an exaggeration, but I use the word 'shot' disignedly. It went very fast.) In my notes made after the observations, I estimated that the band was 150 degrees in length. It spread from the area of the Pleiades, through Triangulum and the square of Pegasus, across the Milky Way constellation Cygnus, near Lyra, and down to the west into

the area of Ophiuchus. It did not cross the zenith but crossed almost overhead at a point about fifteen degrees south of the zenith. The band was narrow being about five to ten degrees in width, though at times it may have been slightly wider in the area of the square of Pegasus. Streaming and flashing continued length-wise along the band, occurring at approximately 15 to 20 seconds intervals. At times the flashing was very bright; it was difficult to estimate magnitude of an aurora, but in comparison with stars I would be tempted to put a zero or negative number on its brightness. However, I would not presume to be very accurate in estimating that precisely auroral brightness.

In colour, it was mainly white with a few hints of yellow and perhaps some yellow-greenish tints.

I watched in utter awe-struct fascination for half an hour. The narrow band! The thin streams! The flashing! Then almost as suddenly as it came it left. At about 1:25 a.m. the sky appeared to be back to normal. What a very strange half-hour display!

Sometime before I had read about the possibility of a solar flare and as I watched I thought of the possibility of its occurrence and of its actually causing what I was seeing. However, I have not since heard of any definite and unusual solar activity at that time or in the following weeks.

Two nights later there was an auroral display in the western sky which could be called a slight reminder of the one just described. The one on the night of August 31 - September 1 was largely in the area of the constellations Ophiuchus and Hercules, and as can be seen from some of the pictures I showed at the last meeting, there was a small band extending upward from the centre of the brightness. The band did not seem to extend up very far and was certainly no rival to its predecessor, even though it did provide a few interesting photographs. There were also perhaps a few curls and swirls of brightness.

The aurora of September 7th was of the more conventional (!) variety. It provided an arc with some rays. Although I managed to obtain four photographs after I arrived home from the meeting, the clouds moved in and soon spoiled the observing.

There is some advice that could be given to members of observing groups. Be alert to strange auroral activity. You may see it in a part of the sky where you do not expect it at all. Record your observations so that later you can share them with others.

THE MERCURY-SATURN CONJUNCTION

Those observers who missed seeing the Mercury-Saturn conjunction in the early morning of September 13th certainly missed a chance for excellent observing. The sky conditions were better than excellent! They were superb! A cloudless horizon made it very easy to get good photographs. Mercury at -1.0 magnitude was a real rival for Jupiter and Sirius which were dominating the sky as the innermost planet rose. What a treat to see Mercury and Saturn under low magnification less than half a degree apart! If the sky conditions at your observing site were as good as at mine on that morning, I am sure you will not soon forget this conjunction. I didn't use optics any stronger than binoculars and the horizon-view could have been better, but the atmospheric circumstances were incredible! If only all low altitude conjunctions could be like that one!

MEETINGS!

Attendance at our meetings needs a boost! Will you provide it? Do you know a former member of this centre whose attendance has lapsed. Could you remind him or her that we have seen, heard, and done some very interesting things at our meetings?

Our meetings are now scheduled for 8:30 p.m. on alternate Thursdays in the usual place, Room 222 in Ellis Hall on University Avenue.

Remember the next meeting.

Thursday October 5, 1978 at 8:30 p.m.

Guest speaker: Mr. Peter Jedicke
President: London Centre of the R.A.S.C.

This is one half of a centre-exchange program in which our centre has become involved. You may hear Mr. Jedicke talk about the:

"Colonization Of Space"

Please try to attend!

Dates of following meetings:

October 19th
November 2nd
November 16th
November 30th
December 14th

Leo