

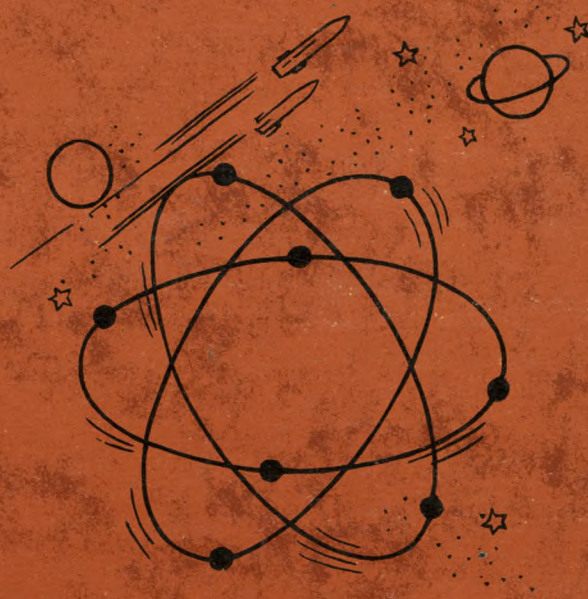
Volume  
**10**

May 25, 1994  
to  
February 26, 1995

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10.

FANCO



cahier **SCIENCE** book

PAPIER EPAIS — HEAVYWEIGHT PAPER — 100 PAGES

name. nom Leo Enright Observing

subject. sujet May 25, 1994 - Feb. 26, 1995

49-1092  
FANCO  
606 De Courcelle  
Montréal, Qué. H4C 3L5



11" x 8.3/8" - 279 mm x 212 mm

1994

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

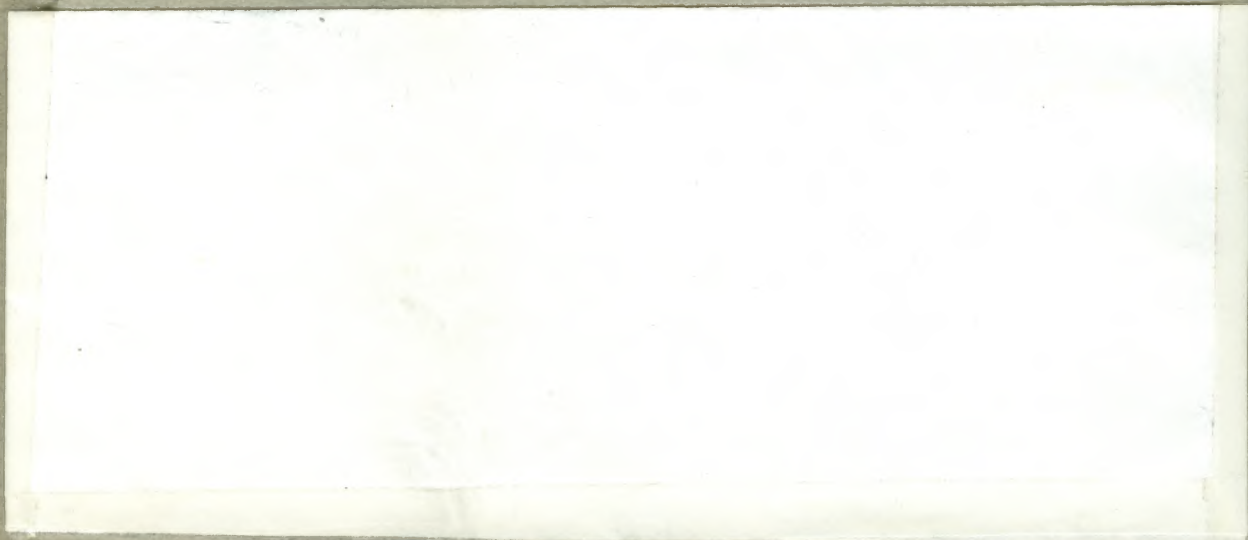
MAY							JUNE							JULY							AUGUST															
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S									
						1						1	2	3	4								1	2							1	2	3	4	5	6
1	2	3	4	5	6	7	5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13									
8	9	10	11	12	13	14	12	13	14	15	16	17	18	10	11	12	13	14	15	16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

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

URANOMETRIA 2000.0

Chart	Declination	# of Charts	Range
1,2	84 - 90	2	12 <sup>h</sup> 00 <sup>m</sup>
3-14	72 - 85	12	2 00
15-34	60 - 73	20	1 12
35-58	49 - 62	24	1 00
59-88	38 - 51	30	48
89-124	27 - 40	36	40
125-169	16 - 29	45	32
170-214	5 - 18	45	32
215-259	-6 - +6	45	32
260-304	-5 - -18	45	32
305-349	-16 - -29	45	32
350-385	-27 - -40	36	40
386-415	-38 - -51	30	48
416-439	-49 - -62	24	1 00
440-459	-60 - -73	20	1 12
460-471	-72 - -85	12	2 00
472,473	-84 - -90	2	12 00



# Observing Log

1994

Code:

Year Day Date Time Place Sky Conditions <sup>S: Seeing</sup> T: Transparency Instrument(s)  
 Objects Observed.

eg:

1994 Sa. Su Mar. 5-6 20:30 UT

twl ne

Venus

Time:

UT = Universal Time

n = night

m = morning

f = forenoon

a = afternoon

e = evening

Place:

y = yard

oo = Oso Observatory

nd = north deck

sh = shoreline of lake

ss = solar station

t = table at solar station

in = indoors, through window

r = on roof of house

Sky Conditions:

S = seeing

T = transparency

0-10 scale: 0 = nil <sup>poor</sup> Extremely

10 = absolutely superb

cml = crescent moonlight

qml = gibbous moonlight

fm1 = full moonlight

twl = twilight

Instruments:

C-14 = Celestron 14

C-8 = Celestron 8

Ast = Astroscan

20x100b = 20x100 binoculars

11x80b = 11x80 binoculars

9x63b = 9x63 binoculars

7x35b = 7x35 binoculars

32 = 32mm Ocular

32-2 = 32mm 2" Ocular

K = Kellner

O = Orthoscopic

Ko = König

WA = Wide Angle

P = Plössl

ph = photography

p/b = piggyback

o/a = off-axis

Ba = Barlow lens

EG = Easy Guider

EGlf = Easy Guider, lens forward

EGlb = Easy Guider, lens back

Objects:

PN = planetary nebula

GC = globular cluster

OC = open cluster

SG = spiral galaxy

EG = elliptical galaxy

D = double star

LPV = Long Period Variable

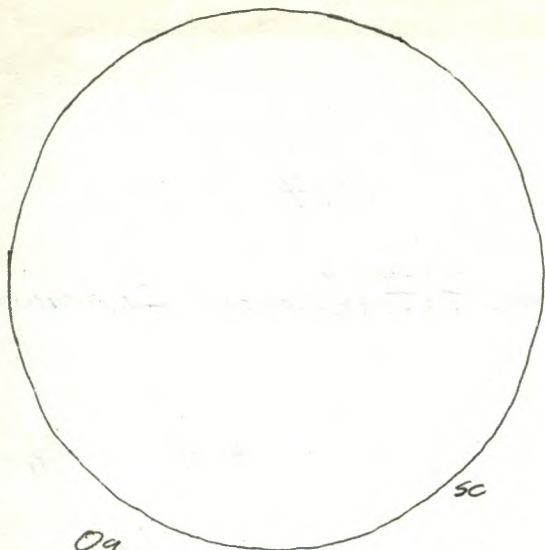
SR = Semi-regular Variable

Atlases:

U = Uranometria

U210 = Uranometria Chart 210

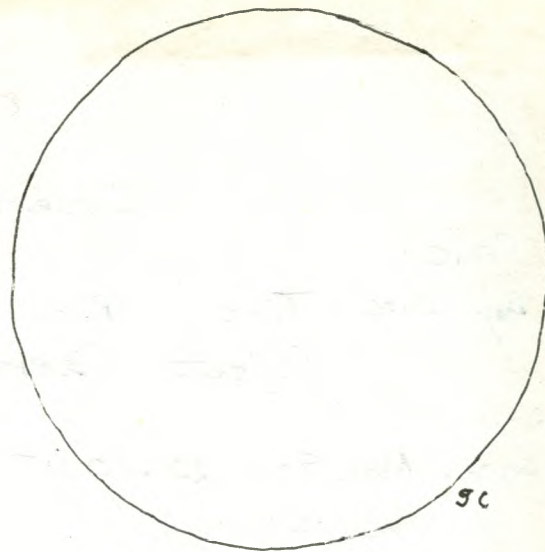
AAUSO = AAUSO Variable Star Atlas



Og  
OS  
RSNO

May 27

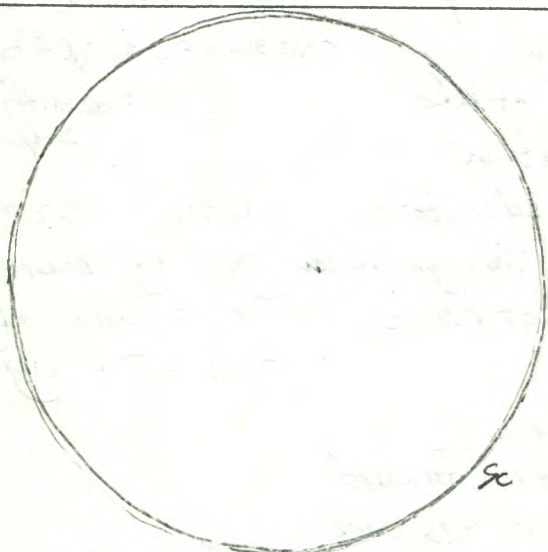
SC



Og  
OS  
RSNO

May 28

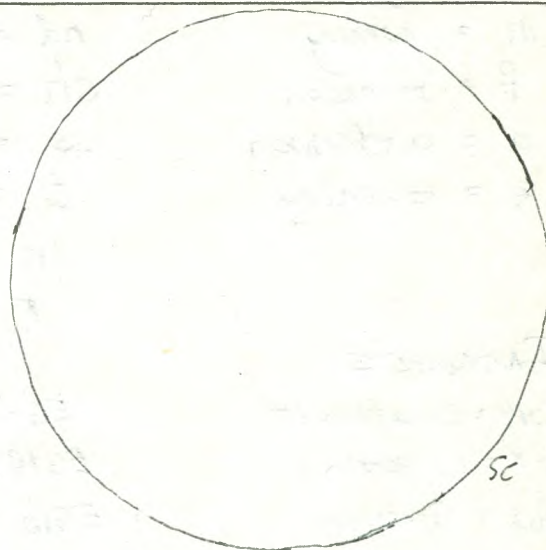
SC



Og  
OS  
RSNO

May 29  
17:30-17:35 UT

SC



Og  
OS  
RSNO

May 30  
18:25-18:30 UT

SC

1994

F. May 27 19:25-19:30 UT SS  
Sun Og Os RSNO

C-8, 32, 28, 20, 15.5

F.-S. May 27-28 01:35-01:40 UT y twl ne  
Venus up about  $25^\circ$  in WNW and Mercury  
about  $10^\circ$  below and to right of Venus; Jupiter in  
South.

Sa May

Sa May 28 20:25-20:30 UT SS  
Sun Og Os RSNO

C-8, 32, 28, 20, 15.5

Sa.-Su. May 28-29 03:10-04:30 UT y s-s(?) 79; Aurora; lateral 20000b; ne

Comet  
McNaught-Russell

20000b: Comet McNaught-Russell at RA:  $18^h 10^m$  Dec  $+66.9^\circ$   
(See U.30) at about mag. 9.0, slightly triangular  
but no evidence of a tail; in the same field  
as the North Ecliptic Pole - only about  $1^\circ$  away; also,  
WDra at about mag. 10 (-LPU 9.0-15.0, per. 262<sup>d</sup>)  
also X Draconis, but I did not see it with certainty  
(-LPU 9.9-15.1, per. 257<sup>d</sup>), Jupiter and Yuccas,  
SS Vir; M4, M80, & Lib.

Aurora

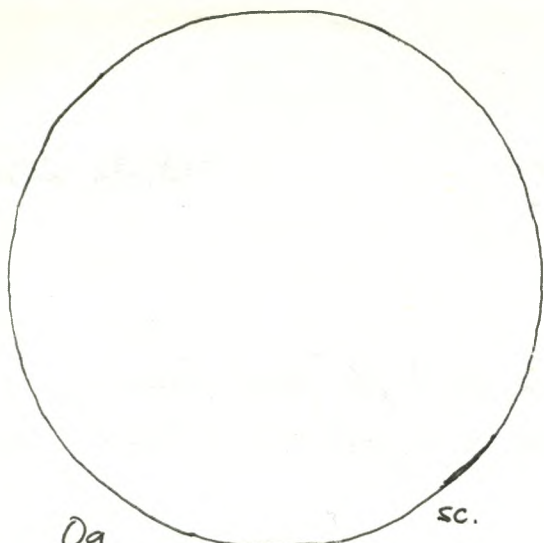
ne: very interesting Aurora, beginning as glow in N,  
then land later 2 arcs in N and from about  
3:30 UT to 3:40 UT a very bright and intense  
glow up  $40^\circ$  and featuring cloudlike  
structures high in the sky N.W. of the zenith  
- large structures like glowing cirrus clouds  
they were all mainly white with little colour. Later  
there was some spiking, and faint glow and it  
seemed to die down.

Su. May 29 17:30-17:35 UT SS  
Sun Og Os RSNO

C-8, 32, 28, 20, 15.5

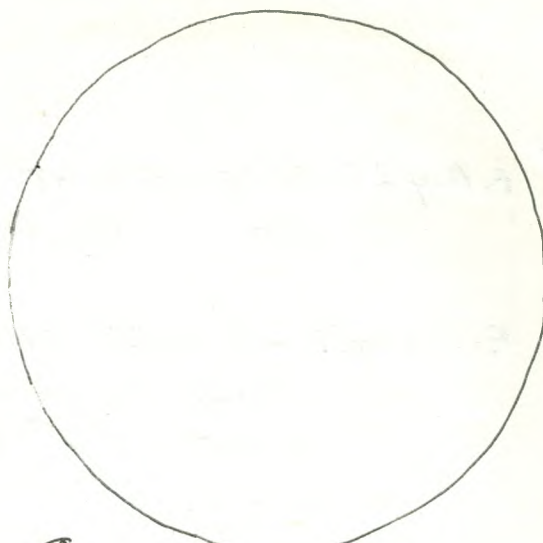
M. May 30 18:25-18:30 UT SS  
Sun Og Os RSNO

C-8, 32, 28, 20, 15.5



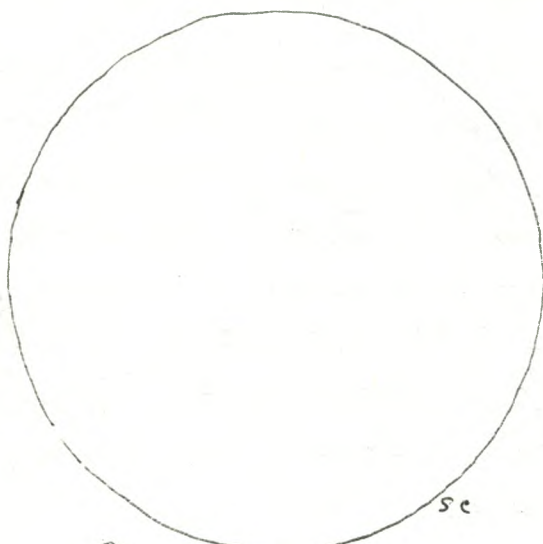
Og  
OS  
RSNO

sc.  
May 31  
18:30-18:35UT



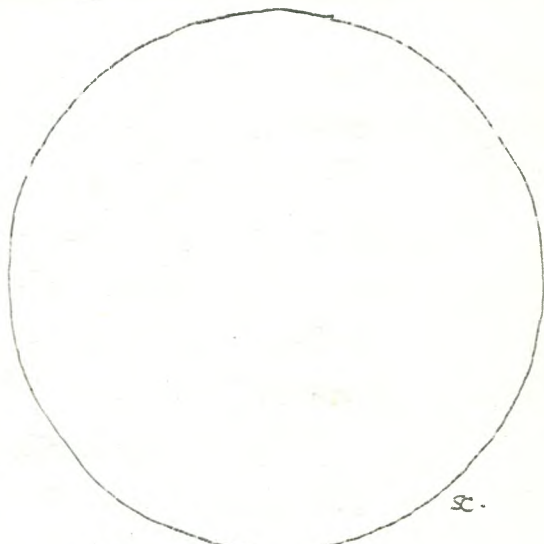
Og  
OS  
RSNO

June 1  
18:25-18:30UT



Og  
OS  
RSNO

sc.  
June 2  
18:15-18:20UT



Og  
OS  
RSNO

sc.  
June 3  
18:05-18:10UT

1994 M.-T. May 30-31 01:20-01:25 UT y twl 9x63b  
 Mercury - Venus and Mercury in WNW with Mercury about 10° below and to the right of Venus. In the twilight binoculars were needed to see Mercury  
 04:30-05:00 UT y s-9(?) T7 (haze) 9x63b  
 Jupiter, α Lib, M13, M92, area of Deneb, area of Vega, M11 and R Scuti area, M28, M22, area of M8 and M20, Cygnus Milky Way, Col 399.

Tu. May 31 18:30-18:35 UT ss C-8, 32, 28  
 Sun 0g 0s RSNO - hazy, cloudy conditions; very windy.

T.-W. May 31-June 1 04:30-05:00 UT y s-9(?) T9 ne  
 Mercury - spring and summer constellations and Jupiter, after having observed Venus and Mercury with 9x63 binoculars earlier in the evening - during twilight at about 01:40 UT

W. June 1 18:25-18:30 UT ss C-8, 32, 28, 20, 15.5  
 Sun 0g 0s RSNO

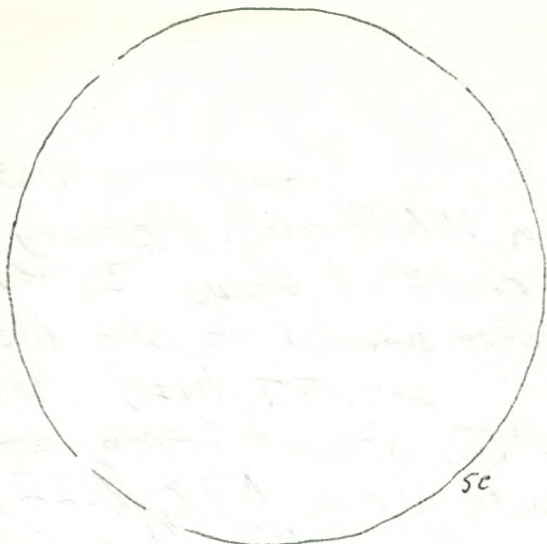
Th. June 2 18:15-18:20 UT ss C-8, 32, 28, 20, 15.5.  
 Sun 0g 0s RSNO

Th.-F. June 2-3 04:45-05:00 UT y s-8(?) T9-9.5 ne  
 Spring and summer constellations

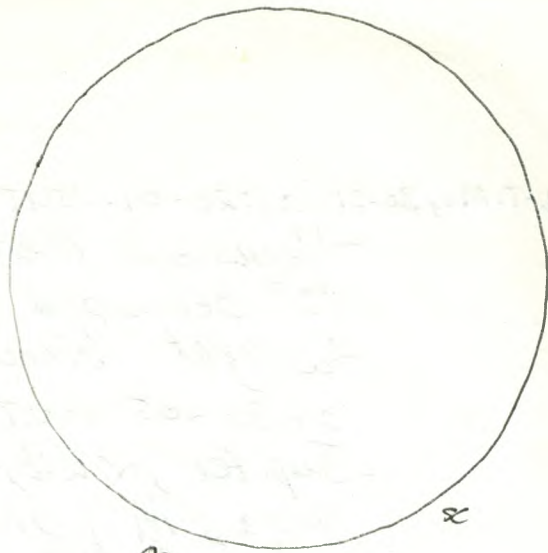
F. June 3 18:05-18:10 UT ss C-8, 32, 28, 20, 15.5  
 Sun 0g 0s RSNO

F.-S. June 3-4 02:00-06:00 00 s-9(?) T8.5-9.0 C-14, 32; 20x100b.  
 c-14: - Venus in twilight - gibbous, Jupiter and 4 moons - belts very evident, M51, M57  
 20x100b: - M104, Jupiter, SS Vir, M4, M80, M10, M12, M9, NGC 6356 GC not far from M9, M17, M11 and

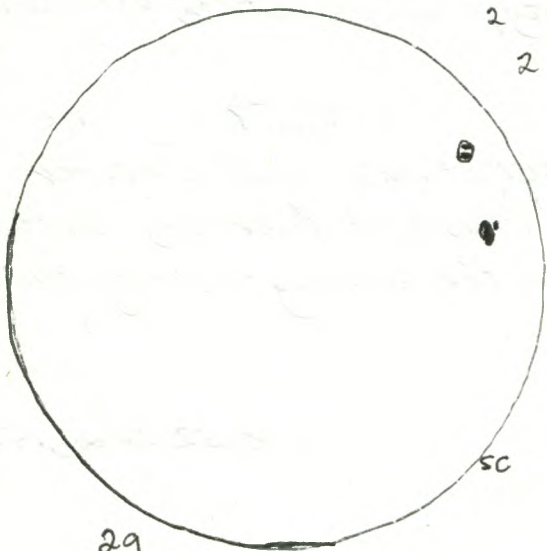




09 June 4  
05 16:15-16:20 UT  
RSN0



09 June 5  
05 19:05-19:10 UT  
RSN



29  
45 June 8  
RSN24 18:30-18:35 UT

1994

R Scuti, M22, M28, area of Uranus and Neptune, but they were not precisely identified; recently discovered Nova Ophiuchi at R.A.:  $17^h 35^m 45^s$ , Dec.:  $-19^\circ 19' 9''$  (U338) not far from M9, and about mag. 7.5, Comet Takamizawa-Levy (1994f) near  $\gamma$  UMi (See map in S. & T., July 1994 p. 11.) - about mag 7.; also TW Ophiuchi near Nova Ophiuchi.

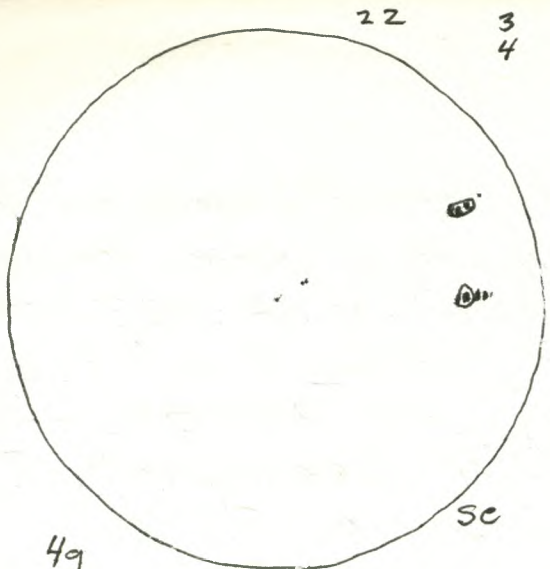
Sa. June 4 16:15-16:20 UT SS C-8, 32, 28, 20, 15.5  
sun Og Os RSN0

Sa.-Sun June 4-5 02:30-07:15 UT 00 S-9 T 8.5-9.5 ne; 20x100b; C-14, 32.  
Venus ne: Venus  
20x100b: M104, Jupiter and 4 moons, SS Vir, area of 3C273 in Vir,  $\alpha$  Lib,  $\beta$  Lib, M11 and R Scuti, M8, M20, M21, M28, M22, M4, M80, Uranus and Neptune Uranus at about R.A.:  $19^h 52^m$ ; Dec.  $-21^\circ 28'$  (U342); Neptune at about R.A.:  $19^h 38^m$ ; Dec.  $-20^\circ 53'$  (U342); Nova Ophiuchi (U.338; See above); M9, NGC 6356 near the nova, Comet Takamizawa-Levy near  $\gamma$  UMi - mag 7.5  
Uranus  
Neptune  
nova comet  
Pluto C-14: Jupiter and 4 moons, Pluto - identified using map in S. & T., April 1994 p. 78, difficult at about mag. 13.8 with sky not perfect.  
Saturn Saturn with rings now becoming very "thin," low in the SE.

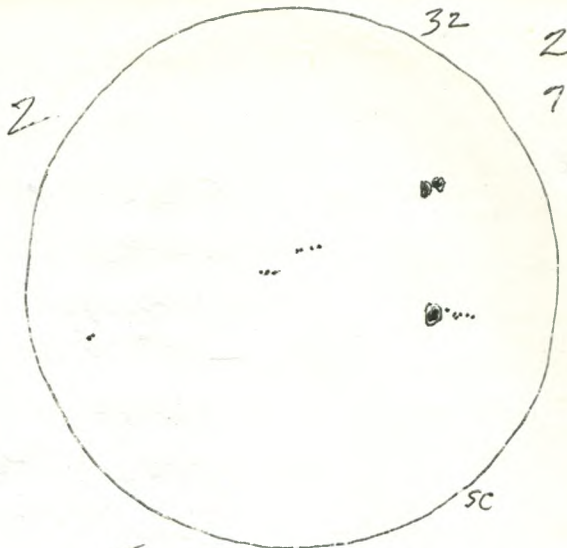
Su. June 5 19:05-19:10 UT SS C-8, 32  
sun Og Os RSN0 quite hazy, some cirrus cloud.

W. June 8 18:30-18:35 UT SS C-8, 32, 28, 20, 15.5  
sun 2g 4s RSN24

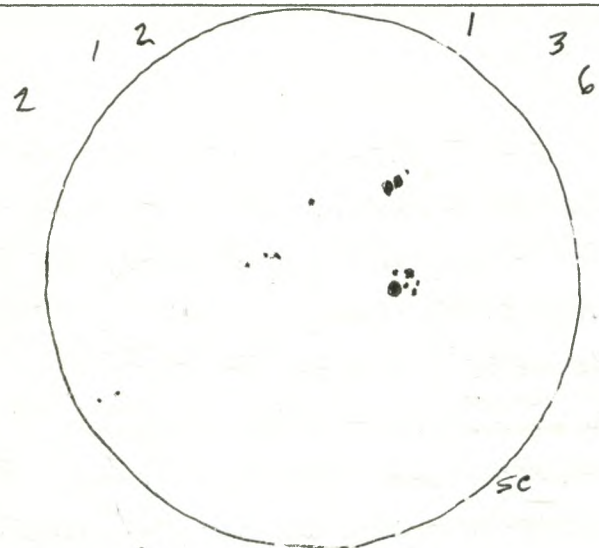
W.-Th. June 8-9 03:30-04:20 UT Y S-9 T 8.5-9 20x100b  
M4, M80, area of 3C273, SS Vir, M9, NGC 6356, M11 and R Scuti, star groupings in Cygnus,  $\beta$  Cyg, various star



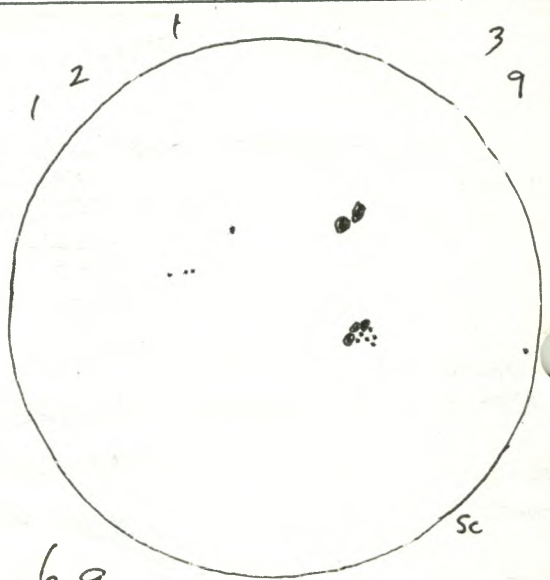
4g  
115  
RSN 51  
June 9  
19:30-19:35 UT.






5g  
165  
RSN 66  
June 10  
18:20-18:25 UT



6g  
155  
RSN 75  
June 11  
20:15-20:20 UT



6g  
175  
RSN 77  
June 12  
19:40-19:45 UT




  
 Venus ~~Castor~~ ~~Pollux~~ ~~Castor~~

Crescent Moon, Venus, ~~Castor~~, ~~Pollux~~  
 Pollux, Castor

fields in the Summer Milky Way, M12, M10, M28, M22.

Aurora

There was a glow of Aurora in the N. for most of the observing session

Th. June 9 19:30-19:35 UT SS

C-8, 32, 28, 20, 15.5.

sun 4g 11s RSN/51

A satellite crossed the solar disk while I was viewing.

Th.-F. June 9-10 05:30-05:40 UT y

S-9(?) T 9.5 ne

spring and summer constellations, Jupiter.

F. June 10 18:20-18:25 UT

C-8, 32, 28, 20, 15.5.

sun 5g 16s RSN/66

F.-S. June 10-11 05:10-06:00 UT y

20x100b.

After the Kingston Centre meeting, I tried to observe but was frustrated by cirrus clouds. I did manage to see M8 and NGC 7789 among the clouds.

In the N.E. the clouds were not as bad - in the area of Cassiopeia.

"Fireball" at 5:44 UT - appearing like "point meteor - mag -6 for 4 sec az 45° Alt 44° then fainter going to horizon

"Fireball"  
?-reentering  
space junk

Sa. June 11 20:15-20:20 UT SS

C-8, 32, 28, 20, 15.5

sun 6g 15s RSN/75

Su June 12 19:40-19:45 UT SS

C-8, 32, 28, 20, 15.5.

sun 6g 17s RSN/77

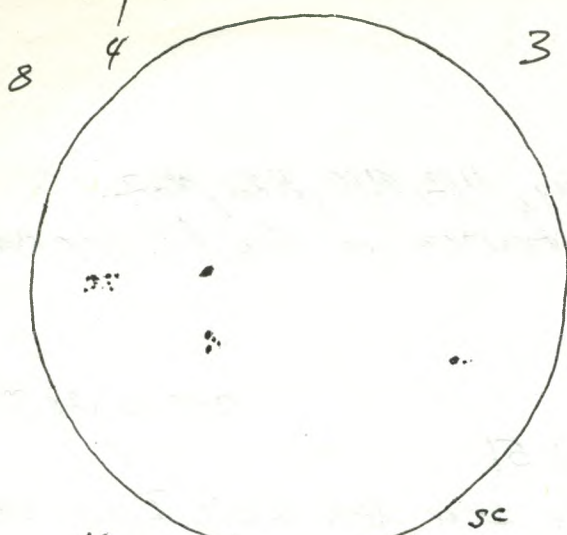
S.-M. June 12-13 00:55-03:00 UT Silver Lake

tw1 9x63, cameras

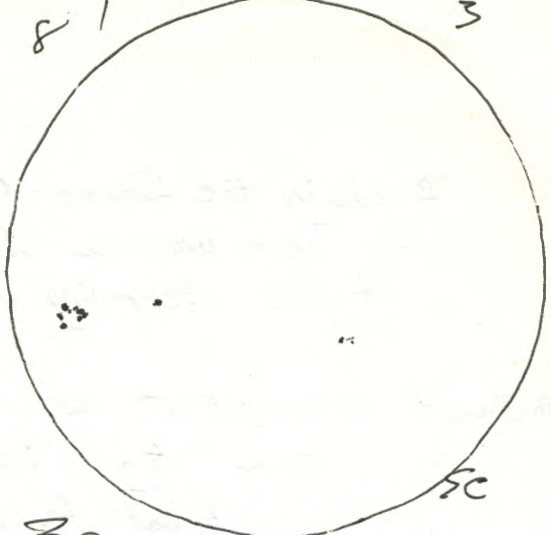
From just after sunset until the moon set, or at least disappeared behind trees low in the W, I observed under excellent conditions the conjunction of the  $3\frac{3}{4}$  day old crescent moon, Venus and Castor and Pollux. The moon and Venus were about 8' apart, and Venus was about 5° from Castor

I photographed the area of the sky.

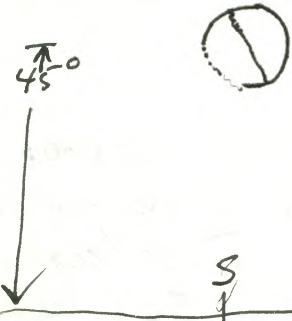
conj



4g  
16s  
RSN 56  
June 15  
18:35-18:40 UT

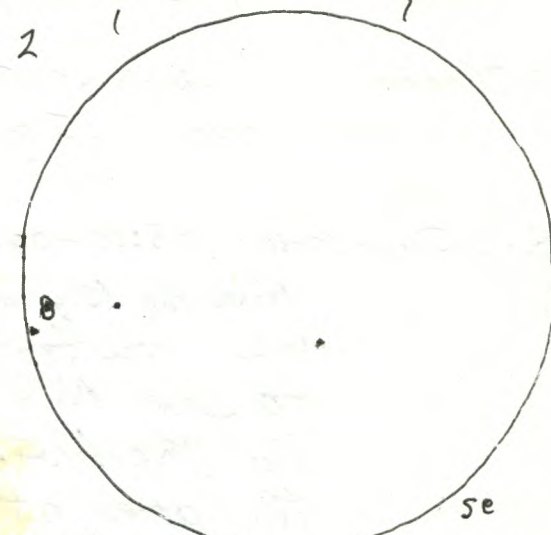


3g  
14s  
RSN 44  
Th June 16  
18:35-18:40 UT

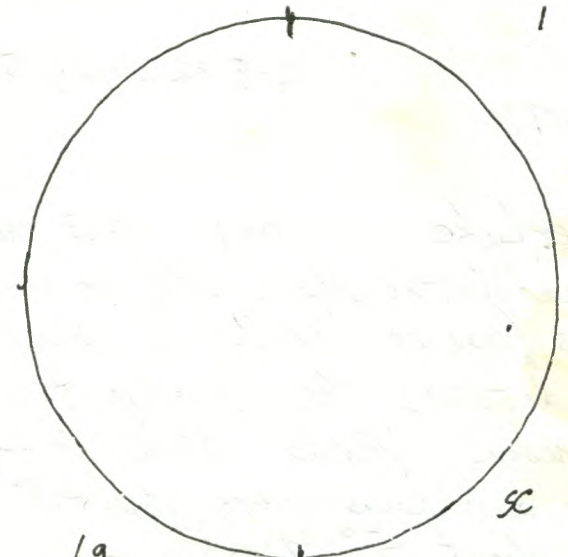


Sea in  
WNW was about  
10° altitude

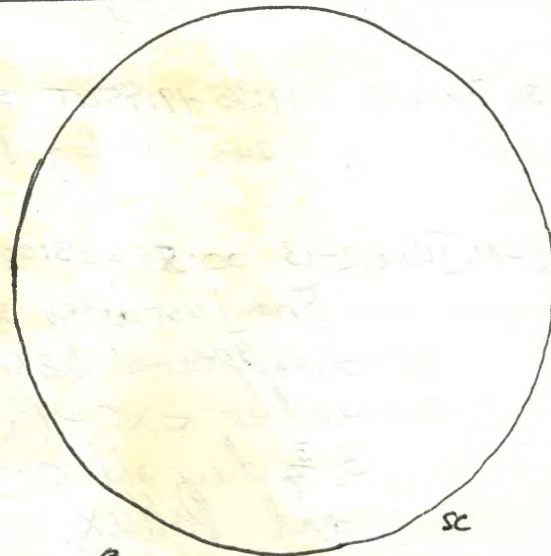
Orientation of Moon viewed  
naked eye  
June 16-17 23:00 UT  
(Moon 3 hours after First Quarter)



3g  
4s  
RSN 34  
June 17  
19:30-19:35 UT



19  
15  
RSN 11  
June 18  
19:10-19:15 UT



0g  
05  
RSN 0  
June 19  
19:10-19:15 UT

04:00 - 05:00 y 5-9(?) T 9 20x1006.  
Cygnus area, Jupiter, M4, M80, M8, M20, M21,  
M17, M11 and R Scuti, Comet Takimazawa-Levy  
(1994f.)

W. June 15 18:35 - 18:40 UT SS C-8, 32, 28, 20, 15.5  
sun 4g 16s RSN 56

Th. June 16 18:35 - 18:40 UT SS C-8, 32, 28, 20, 15.5  
sun 3g 14s RSN 44

Th.-F. June 16-17 23:00 - 23:30 UT patio ne  
- about 1.5<sup>h</sup> before sunset - viewed the moon  
almost due S with the orientation of the  
terminator such that it was about 30° from the  
perpendicular

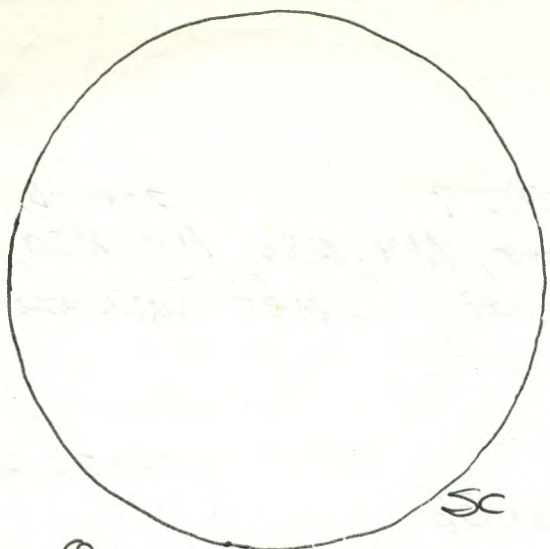
F. June 17 19:30 - 19:35 UT C-8, 32, 28, 20, 15.5  
sun 3g 4s RSN 34 (hazy conditions)

F.-S. June 17-18 01:40 - 02:40 UT periodically t gnl C-8, 19, 15.5, 7.6  
Jupiter - good seeing and bands quite clear, esp  
with 19mm eyepiece (at 105x) and 15.5mm eyepiece  
(at 129x). Sky conditions were very hazy  
because of the intense heat-wave of recent  
days.

Sa. June 18 19:10 - 19:15 UT SS C-8, 32, 28, 20, 15.5  
sun 1g 1s RSN 11

Su. June 19 19:10 - 19:15 UT SS C-8, 32, 28, 20, 15.5  
sun 0g 0s RSN 0

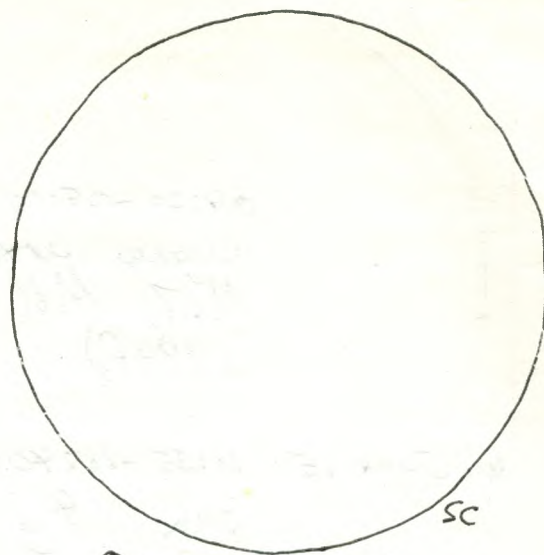
Tu. June 21 19:15 - 19:20 UT SS C-8, 32, 28, 20, 15.5  
sun 0g 0s RSN 0



Og  
OS  
RSNO

June 21  
19:15-19:20 UT

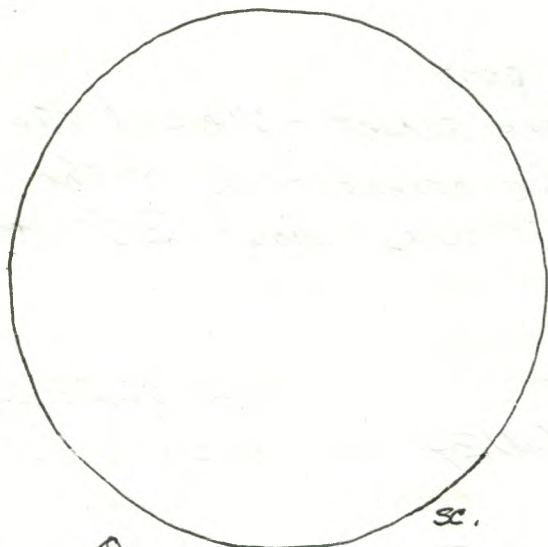
SC



Og  
OS  
RSNO

June 22  
21:35-21:40 UT

SC



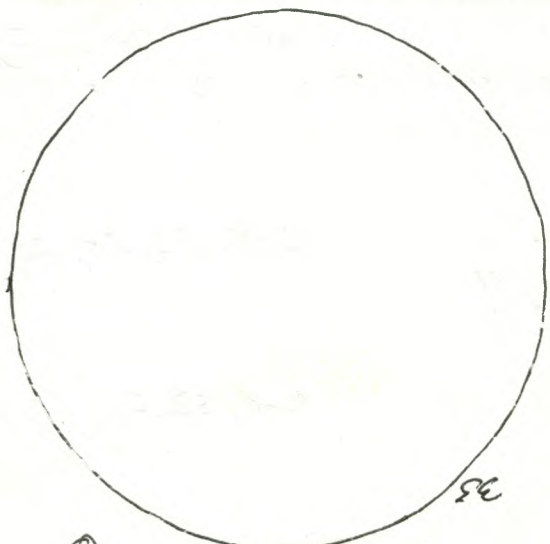
Og  
OS  
RSNO

June 23  
18:00-18:05 UT

SC

Recent Reports of  
Bright Fireballs:

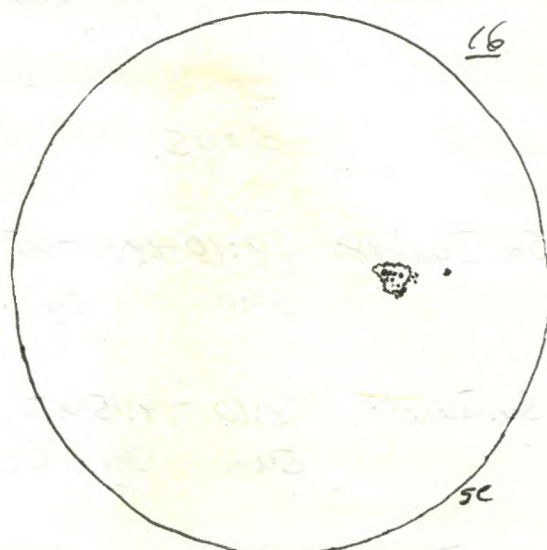
- (1) T.-W. June 14-15. (evening)  
Eastern Ontario and Quebec.  
Very bright, at least 2 pieces of  
meteorite recovered, one near  
St. Robert, N. of Montreal
- (2) S.-S. June 18-19 (evening) 8:30-9:30 p.m.  
E.D.T. very bright, seen in  
E. or SE. sky, greenish



Og  
OS  
RSNO

June 25  
20:10-20:15 UT

SC



29  
175  
RSN37

June 29  
19:10-19:15 UT

16

SC

1994

W. June 22 21:35-21:40 UT SS

C-8, 32, 28, 20, 15.5

sun Og Os RSN0

W.-Th. June 22-23 03:30-03:35 UT t

fml C-8, 19, 15.5

Jupiter and 4 moons all on the W. Side. Seeing was only moderate at both powers used (105X and 129X).

~~Th.~~ June 23 18:00-18:05 UT SS

C-8, 32, 28, 20, 15.5

Sun Og Os RSN0

Sa. June 25 20:10-20:15 UT SS

C-8, 32, 28, 20, 15.5

Sun Og Os RSN0.

Tu.-W. June 28-29 03:35-04:05 UT y

S-8 T 8.5 20X1006

A. Jupiter, M22, M4, M80, NGC 7789,  $\beta$  Cyg, M11 and R Scuti; Col 299. Auroral glow in N. and for a while there appeared to be a vertical Auroral column about  $10^\circ$  W. of North and up about  $35^\circ$  to  $40^\circ$

Th. June 29 19:10-19:15 UT SS

C-8, 32, 28, 20, 15.5.

sun 2g 17s RSN 37

W.-Th. June 28-30 04:15-04:45 UT

S-9(?) T 7.5-8

20X1006

M4, M80,  $\beta$  Cyg, Deneb area, M22, M28, M8, M20, M21, M51

Th. July 7 20:15-20:20 UT SS

C-8, 32, 28, 20, 15.5

sun 4g 27s RSN 67

F. July 9 18:25-18:30 UT SS

C-8, 32, 28, 20, 15.5

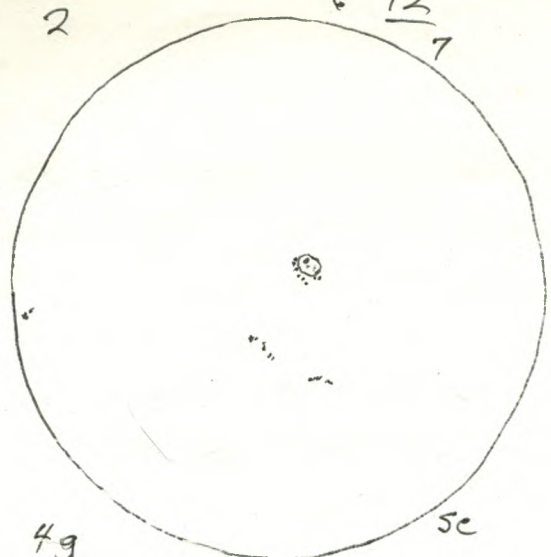
sun 3g 21s RSN 51

su. July 10 20:15-20:25 UT SS

C-8, 32, 28, 20,

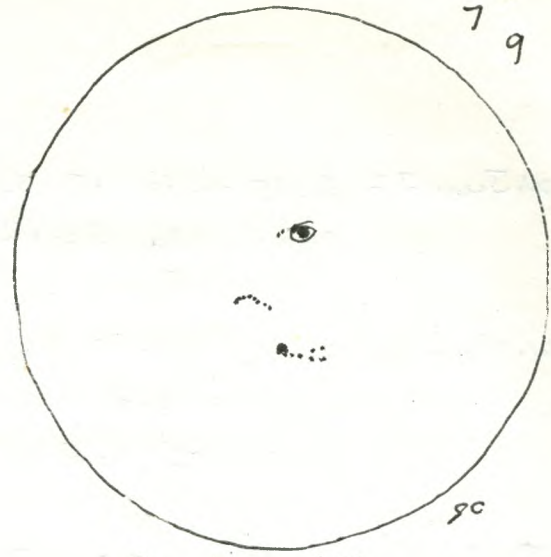
sun 6g 25s RSN 85





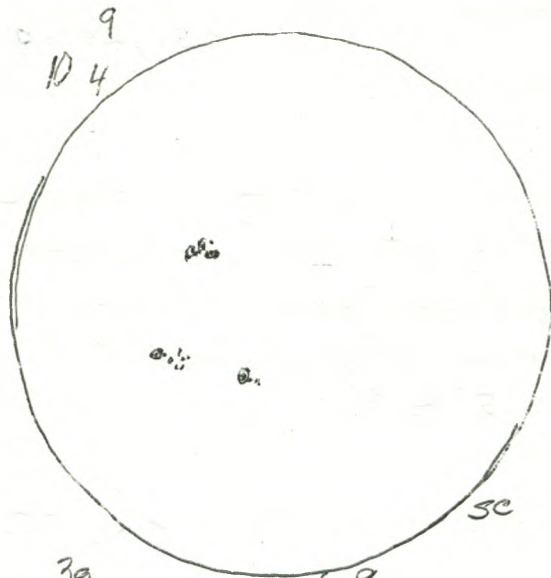
4g  
275  
RSN 67

July 7  
20:15-20:20 UT



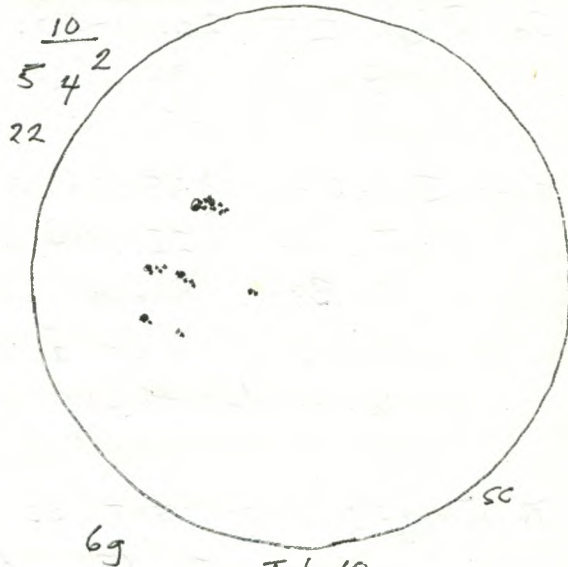
3g  
215  
RSN 51

July 8  
18:25-18:30 UT



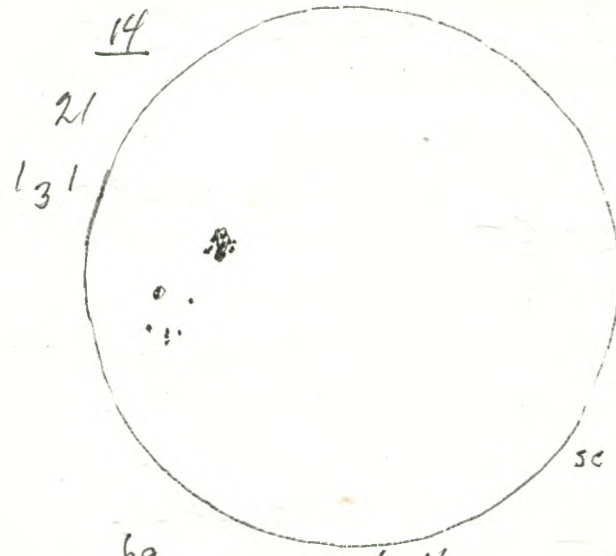
3g  
235  
RSN 53

July 9  
22:10-22:15 UT



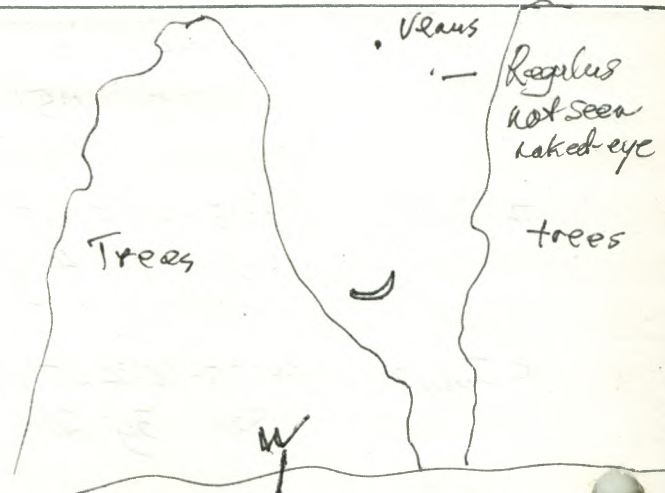
6g  
255  
RSN 85

July 10  
20:15-20:25 UT



6g  
225  
RSN 82

July 11  
19:50-19:55 UT



July 11-12  
01:15-01:30 UT

Crescent Moon  
3 days, 3 hours old

1994

S.M. July 10-11 03:00-05:00 UT 00 3-9(?) T 9.5(!) C-14, 32, 55; 20x100b

C-14: Jupiter and moons; Veil Nebula.

20x100b: M4, M80, Jupiter, M8, M20, M21, M17, M22, M8, M11 and R Scuti, Uranus and Neptune, SS Cyg and its area including UCy9 (75 Cyg), WCy9, CP Cyg, M39, NGC 7082, NGC 6978 - OC in North America Nebula (See U 85 and U 86), M57, M101

Uranus: R.A.:  $19^h 47^m$  Dec.  $-21^\circ 43'$ Neptune: R.A.:  $19^h 35^m$  Dec.  $-21^\circ 01'$ 

M. July 11 19:50-19:55 UT SS.

C-8, 32, 28, 20, 15.5

sun g S RSN

M. July 11-12 01:15-01:30 UT y

twl ne

- Uranus with crescent moon directly below it.  
- photographed them.

02:00 - 04:00 And 06:00 - 07:00 00 S-9 T 9.5(!) C-14, 32; 20x100b

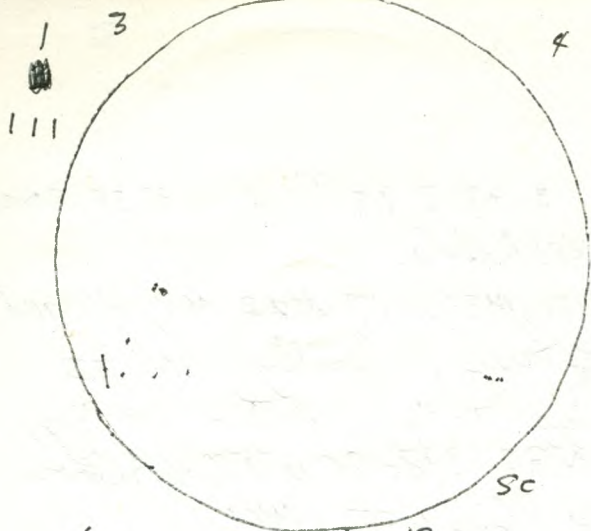
C-14: Jupiter, M13, M22, M57

- piggyback photographing of Uranus, Neptune areas, M11 and R Scuti area, area of  $\alpha + \beta$  Capricorni.20x100b: M4, M80, M10, M12, M9, nearby GC 6356, area of Nova Ophiuchi (R.A.  $17^h 35^m 34^s$ ; Dec.  $-19^\circ 17.6'$ ) which now seems to have faded considerably and did not stand out - and so must probably be at about mag. 11 or 12 (see U. 388) (See June 3-4, 1994), M31, SS Cyg - faint but seen - and its area, R Cor Bor, T Cor Bor, U and EU Del, M17, M22, M28, Uranus and Neptune, M15, M11 and R Scuti, M10, M12, I 4665 - OC in Oph.

Tu. July 12 21:45-21:50 UT SS

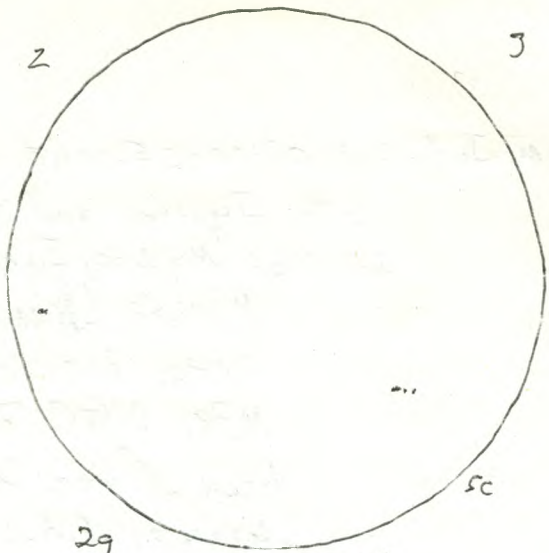
C-8, 32

sun 6g 115 RSN 71



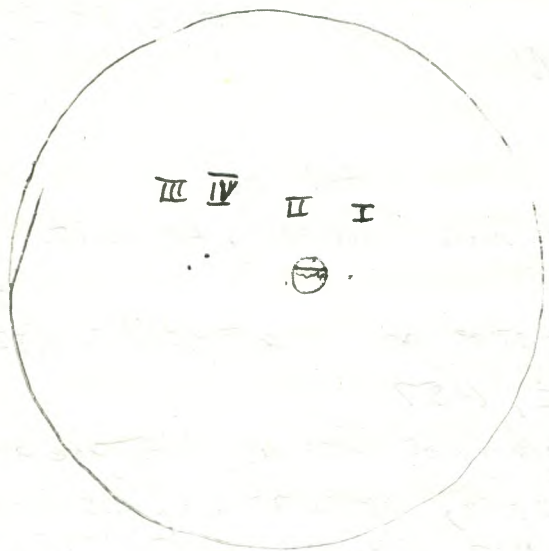
69  
115  
RSN 71

July 12  
21:45-21:50UT

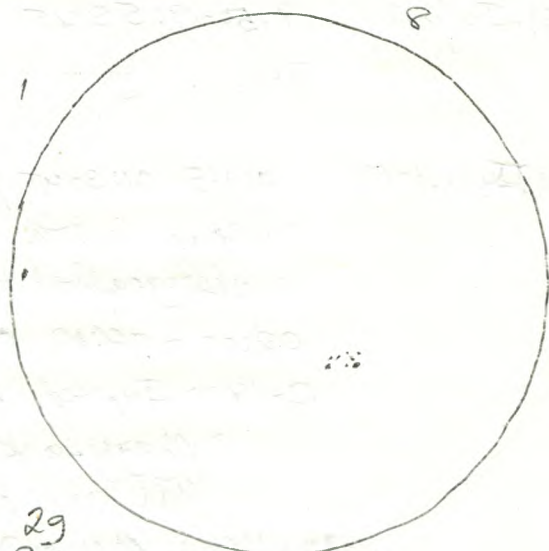


29  
53  
RSN 25

July 13  
18:30-18:35



July 14 02:00UT | Astroscan view  
of Jupiter and moons



29  
95  
RSN 29

July 14  
21:10-21:15UT

1994

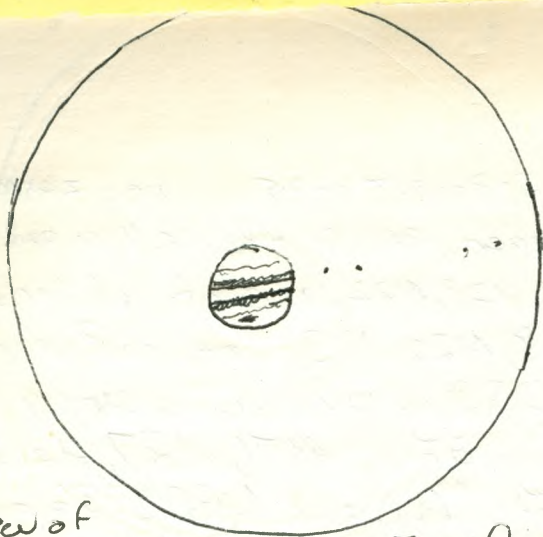
T.-W. July 12-13 03:40-05:00 UT y S-8-9(?) T9-9.5 ne; 20x100b  
 ne: constellations of summer; earlier 4 day cr. Moon and Venus.  
 20x100b: M16, M17, M18, M24, M28, M22, area of and including  
 Uranus and Neptune, M8, M20, M13, area of Barnard's Star,  
 M31, M33, NGC 7789,  $\delta$  Cyg which was barely  
 visible and surrounding area,  $\mu$  71, M27, U and EU  
 Del, M11 and R Scuti, M9 and NGC 6356 and  
 area of Nova Ophiuchi, M10, M12, I 4665,  $\lambda$  and  
 $\beta$  Cap, R Cor Bor, T Cor Bor

W. July 13 18:30-18:35 C-8, 32, 28, 20, 15.5  
 sun 2g 5s RSN 25

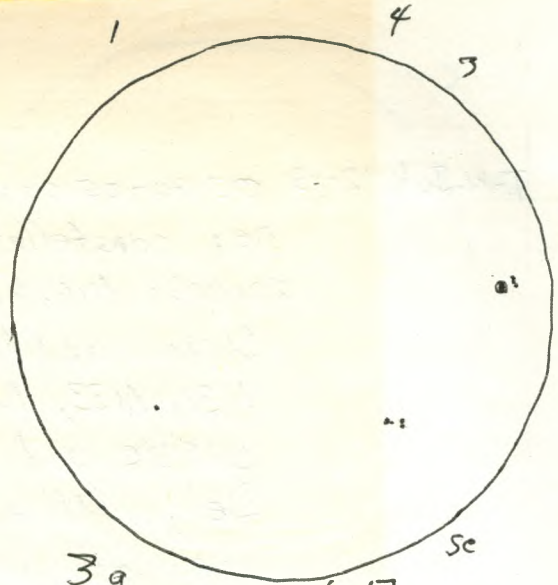
W.-Th. July 13-14 00:45-03:00 <sup>Outlet Beach</sup> Sandbanks Provincial Park S-8T9 <sup>during and Ast, 15.5</sup> <sup>near end of</sup> <sup>ast. twilight</sup> and 8  
 - before talk by Denise and me - observing the 5 day old  
 crescent moon  
 - after slide show - observing Jupiter and 4 moons  
 Europa (II) had just finished its transit and was very  
 close to the disk. Its shadow, in transit  
 was not noticed in the Astroscan at 55.6X.  
 There was a long lineup of people.  
 Afterward I turned to  $\beta$  Cyg and M13  
 and saw M13 in an Odyssey 13 which had  
 been brought to the site by a member of  
 the Belleville club. The view in his telescope  
 did not seem to be very good.

Th. July 14 21:10-21:15 UT ss C-8, 32, 28, 20, 15.5  
 sun 2g 9s RSN 29

Th.-F. July 14-15 04:15-04:45 UT y S-8-8(?) T8.5 20x100b  
 Uranus, Neptune, M16, M17, M18, M22, M28, M8, M20,  
 NGC 7789,  $\mu$  Cep,  $\delta$  Cep area, M15, M11 and R Scuti.

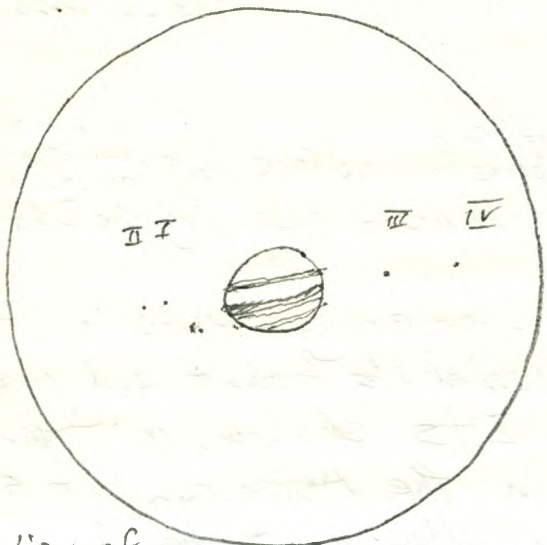


View of  
Jupiter and Jupiter's Four Galilean  
Moons on night of impact of first  
fragments of Comet Shoemaker-Levy 9.



39  
85  
RSN/38

July 17  
18:00-18:10UT



View of  
Jupiter and Its Galilean Moons  
on Second Night of Impacts of  
Fragments of Comet Shoemaker-Levy 9

1994

July 16-17 01:15-04:30 UT 00 and 4 twl, al. c-14, 32, 19, 19, 40, C-8, 19, 17, 17

c-14: Jupiter and 4 moons between times of impacts of Fragment A and B Comet Shoemaker-Levy 9 - little difference from what was usual in the southern part of the disk of Jupiter except for perhaps a dark spot at high southern latitude

dark spot

Times of impact:

Fragment A 20:15 UT 4:15 p.m. E.D.T

B 02:54 UT 10:54 p.m. E.D.T

We did not observe any "flash" on the moons at the time of predicted impact of Fragment B.

There was a problem with the planet being behind a tree. Therefore the C-8 was used on the table.

Also  $\beta$  Cyg, M57

c-8: - Jupiter - observed until about 04:00 UT from the table, because it was low among the trees.

Su. July 17

18:00-18:10 UT SS

C-8, 32, 28

sun 3g 8s RSN38 - considerable cirrus and haze

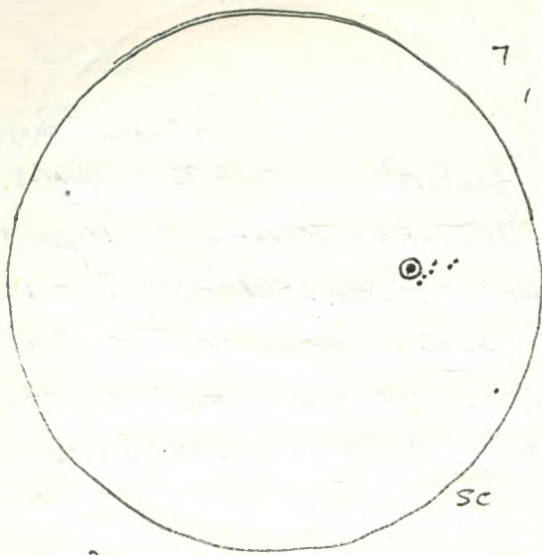
S.-M. July 17-18

01:30-03:30 UT 00 and 4 gml and twl C-14, 20, 19; C-8, 19, 17, 15.5

c-14: Jupiter - observed shortly after impact of 6<sup>th</sup> fragment, Fragment F, which was to occur at 00:27 UT (8:27 p.m. E.D.T.) It was difficult to detect any substantial difference in the appearance of the southern hemisphere of Jupiter.

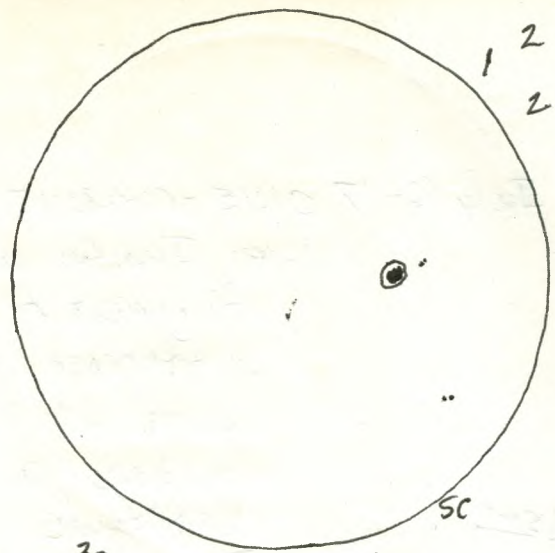
photographed lunar craters on moon about 10 days old, using eyepiece projection, and similarly photographed Jupiter.

c-8. After Jupiter went behind trees, we observed it using the C-8 at the table. Viewing was frustrating because of clouds frequently interfering. Guests were Mike and Luke Proctor.



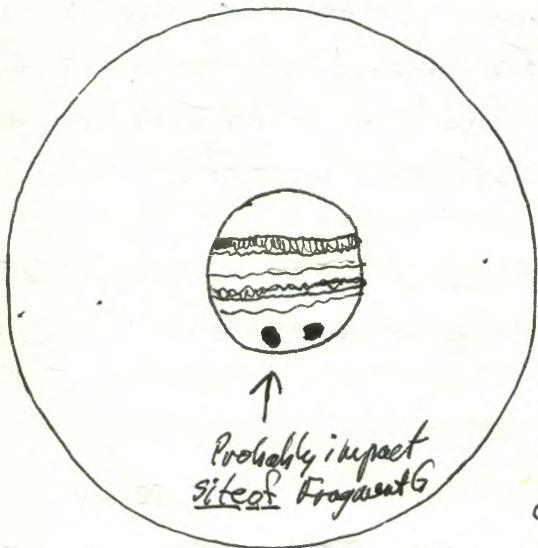
29  
85  
RSN28

July 18  
20:15-20:20 UT



39  
55  
RSN35

July 19  
20:15-20:20 UT

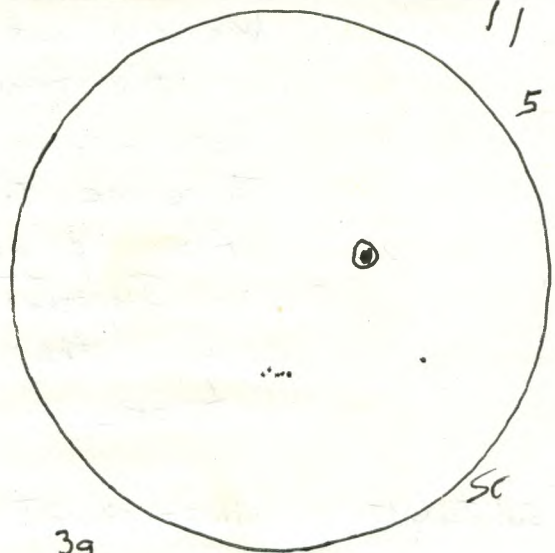


↑  
Probably impact  
sites of Fragment 6

Field of  
13 mm 2"  
ocular

July 19-20 01:15 UT - during twilight

two scars from impacts of Comet  
Shoemaker-Levy 9 clearly visible



39  
TS  
RSN37

July 20  
17:20-17:25 UT

1994

M. July 18 21:15 - 21:20 UT SS  
sun 2g 8s RSN 28

C-8, 32, 28, 20, 15.5

M.-T. July 18-19 01:30 - 02:30 UT 00 S-9 (T 4 to 7 (haze bad)  
C-14, 19

Jupiter and 3 of the moons seen in spite of the haze which hindered the viewing considerably. None of the impacts of fragments of Comet Shoemaker-Levy 9 was scheduled for the time of this observing session or within the last few hours. Mosquitoes prevalent!

Tu. July 19 20:15 - 20:20 UT SS  
sun 3g 5s RSN 35.

C-8, 32, 28, 20, 15.5

T.-W. July 19-20 01:15 - 02:30 UT 00 and + gml and twl C-8, 32, 20, 19, 17  
C-14: Jupiter and 4 moons - 2 large scars

2 impact scars

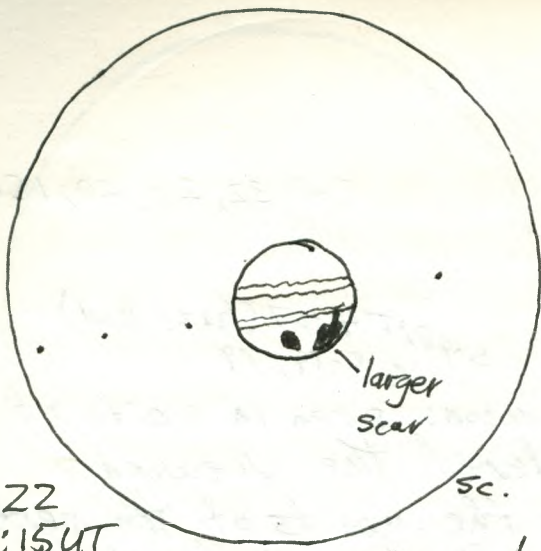
easily visible in Southern Hemisphere - the impact sites from fragments of Comet Shoemaker-Levy 9. Fragment G - one of the largest of all - had hit about 07:28 UT on July 18 i.e. about 42 hours previously. That would have been about 4 complete Jovian rotations plus about  $\frac{1}{2}$  of another rotation which would have brought the scar feature to the approximate area of the Central Meridian. Evidently, some of the impacts - such as Fragment G - have been more spectacular than predicted.

C-8 - Jupiter observed clearly, but because of its smaller size, it was not as well seen. The areas of impact were very difficult to discern. - Mosquitoes prevalent.

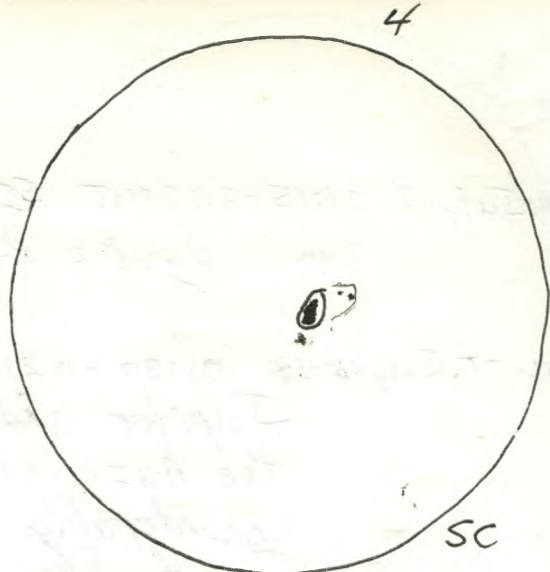
W. July 20 17:20 - 17:25 UT  
sun 3g 7s RSN 37

C-8, 32, 28, 20, 15.5

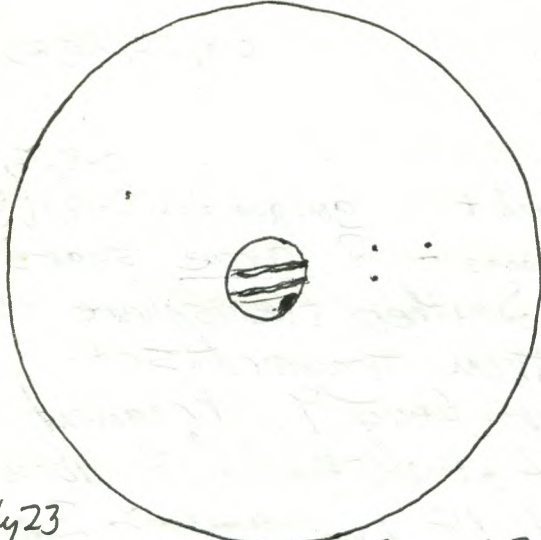




July 22  
 02:15 UT  
 View of Jupiter showing two large  
 impact scars from impacts of fragments  
 of Comet Shoemaker-Levy 9.



4  
 1g  
 4s  
 RSN 14  
 July 22  
 21:50-21:55 UT  
 SC



July 23  
 02:30 UT View of Jupiter and 3 moons  
 in C-8 - with hint of impact scar

1994

W-Th. July 20-21 02:15-02:30 t

C-8 (attempted only)

Jupiter  
ne  
only.

The telescope was set up to see Jupiter, if possible, in spite of prevalent clouds. I caught a momentary glimpse of Jupiter naked-eye and was hopeful of seeing impact scars from recent impacts of fragments of Comet Shoemaker-Levy 9! However, the clouds did not allow it.

Th-F July 21-22 01:30-02:50 UT 00 and t twl <sup>ne;</sup> C-14, 13; (8), 7.5

AE: from 01:15-01:30 UT - Venus - very bright and up about  $10^\circ$  in W.

C-14: - waited in frustration for  $\frac{1}{2}$  hour to see Jupiter - with NW sky quite clear and the SW sky overcast with Jupiter about  $5^\circ$  from the edge of the clouds - but behind them. Then at about 02:03 UT (10:03 p.m. E.D.T.) Jupiter became visible for short periods of time, but by then it was getting behind the trees as viewed from the observatory and was getting lower. It was however easy to see that there were two major impact scars from Comet Shoemaker-Levy 9. (See diagram). To obtain a view unobscured by trees, I put the C-8 on the observing table.

2 major  
scars

Mosquitoes abundant!

C-8: Jupiter and 4 moons and especially the two major impact scars. The larger one may be a combination of several impact scars.

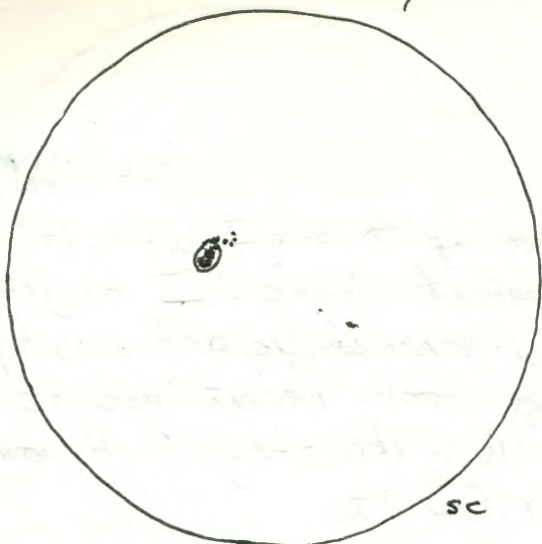
F. July 22 21:50-21:55 UT SS  
scn 19 45 RSN14

C-8, 32, 28, 20, 15.5

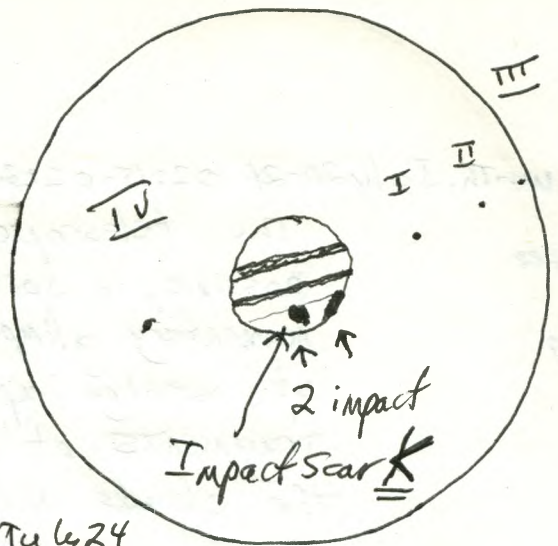
F-S. July 22-23 01:00-03:00 UT 00 and t twl <sup>C-8, 15.5</sup> C14 NOT used

C-14 - set up to photograph Jupiter and impact scars from Comet Shoemaker-Levy 9, but clouds made it very frustrating - giving only occasional

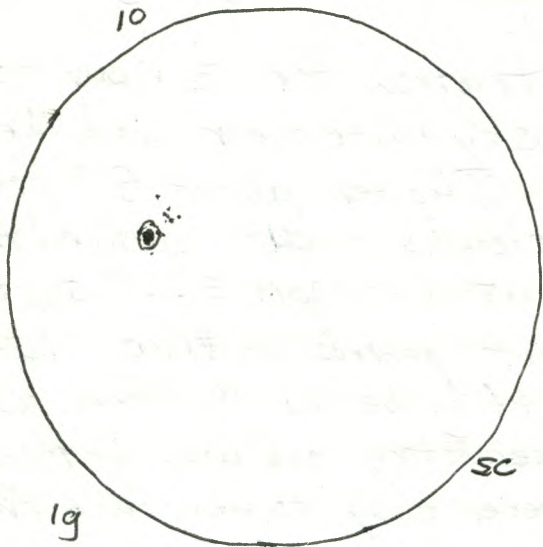
clouds!!



19  
75  
RSN17 July 23  
20:25-20:30 UT



July 24  
02:20 UT  
View of Jupiter and moons



19  
105  
RSN20 July 24  
17:05-17:10 UT

glimpses of the planet. It was impossible to photograph Jupiter before it had gone behind the tree to the west

C-8: At the table it was possible to see Jupiter for a while and with 15.5 mm eyepiece at 129x to get a hint of the impact scars from the comet. (See diagram). Mosquitoes prevalent.

Sa. July 23 19:25-19:30 UT SS  
sun lg 75 RSN/17

C-8, 32, 28, 20, 15.5

Sa.-Su. July 23-24 01:00-02:00 UT 00

twl, foul C-14, camera<sup>oculars</sup> 19x15<sup>n</sup>

Jupiter in camera - to try to photograph the planet showing one or several of the impact scars from Comet Shoemaker-Levy 9 whose major impacts ended yesterday. At times it was very frustrating because clouds hid the planet for considerable periods of time.

02:00-02:40 UT t

C-8, F, 19, 20, 28,

Jupiter with two impact scars visible. In fact, movement of one of them was visible during the session. (See diagram.) From Skyline, the Impact Scar Fragment K was scheduled to transit at 02:19 UT (10:19 p.m. E.D.T.).

Su. July 24 17:05-17:10 UT  
sun lg 105 RSN/20

C-8, 32, 28, 20, 15.5.

S.-M. July 24-25 00:40-01:30 UT 00

twl C-14, camera<sup>prepared</sup>

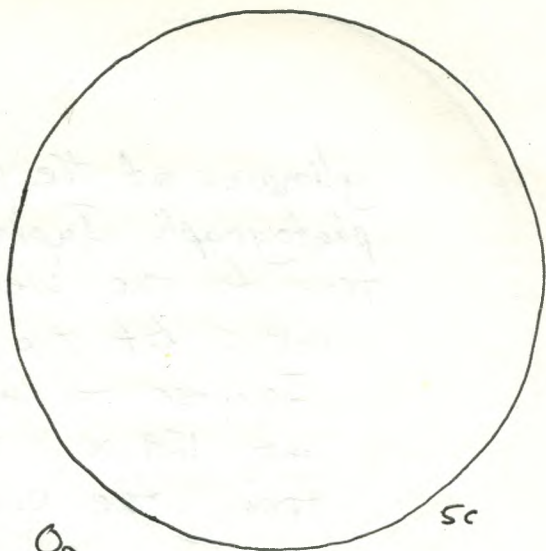
- at about sunset - opened roof and prepared to photograph Jupiter. - weather seemed promising. - then - frustration - clouds prevailed in SW in area where Jupiter was! After 1:00 UT Jupiter could be seen a few times for a few seconds each - naked-eye. I almost had the telescope



July 27  
01:15 UT

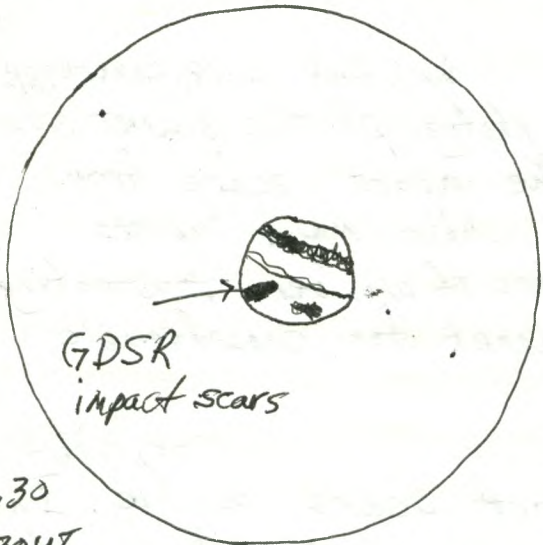
← larger, darker spot  
connected to other  
fainter spot

View of Jupiter in C-14 at 301X  
showing 2 large impact scars from Comet  
Shoemaker - Levy 9.



Og  
Os  
RSNO

July 29  
19:05 - 19:10 UT



GDSR  
impact scars

July 30  
01:30 UT

Jupiter in C-14 at 301X showing  
impact areas from fragments GDSR.

1994

aligned - then total frustration. Heavy clouds moved into the area ending the observing session.

A few minutes after the roof had been closed and I had returned to the house, I noticed that the area of sky where Jupiter was had cleared up and it might have been possible to observe it from the table but there were dark clouds about and some lightning in the area. Later there were thunderstorms in the area.

M.-T. July 25-26 01:00-02:00 00 15.5mm oc.  
twl c-14, camera-epi

Jupiter - photographed it for almost an hour and planned to observe it carefully to try to note the scars from impacts of Comet Shoemaker-Levy 9, but heavy clouds moved in very quickly, and frustrated plans to observe further. I had earlier in the day removed an elm tree W of the observatory which previously had been a problem for observing Jupiter.

T.-W. July 26-27 01:00-01:30 UT 00 c. Steve  
twl c-8, 13, 8

Jupiter with two distinct spots from the impacts of fragments of Comet Shoemaker-Levy 9

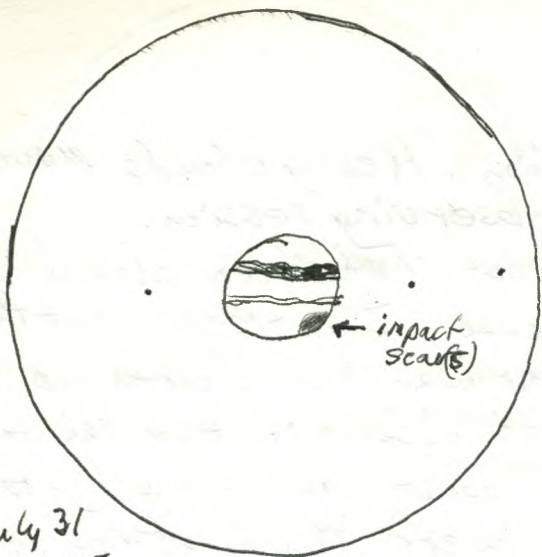
F. July 29 19:05-19:10 UT SS c-8, 32, 28, 20, 15.5  
Sun Og Os RSNO

F.-S. July 29-30 01:15-03:30 UT 00 20x100b  
twl; 5.8 T7.8 cloud c-14, 13, 55, 32;

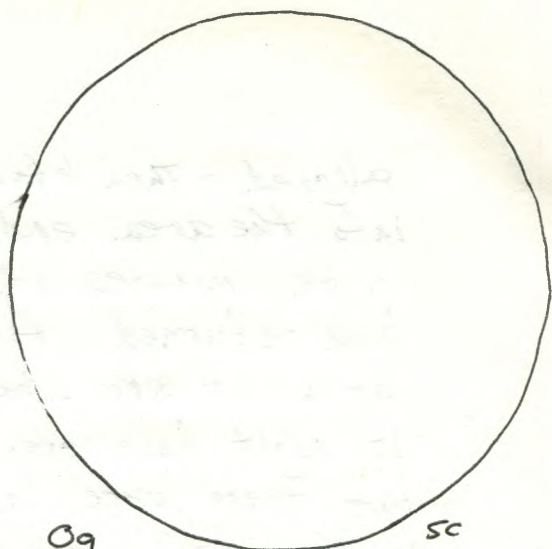
impact scars

c-14: Jupiter with one major scar from impacts of Comet Shoemaker-Levy 9. (See diagram.) It was the combined areas of impacts from fragments G, D, S, and R. According to Skyline those areas had just recently passed the Central Meridian.

20x100b: searched area near i Cas for Comet Neukirch-Nehman Macholz (whose coordinates were given on Skyline, M11 and R Scuti, M22, area of SS Cyg. Clouds in most areas of the sky made observing frustrating.



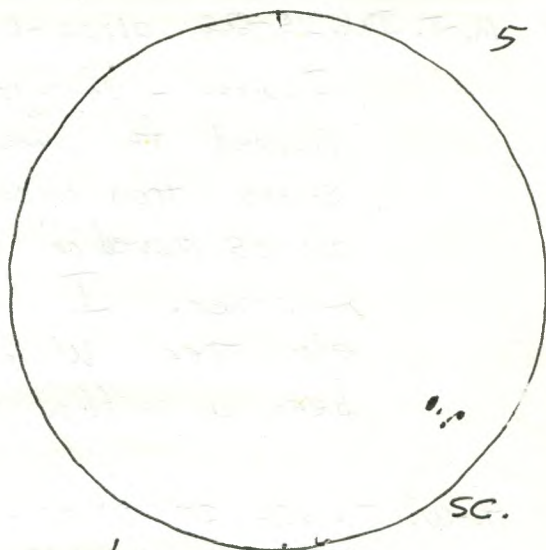
July 31  
02:00 UT  
View of Jupiter in C-8 at 400X  
showing scars(s) of Comet Shoemaker-Levy 9



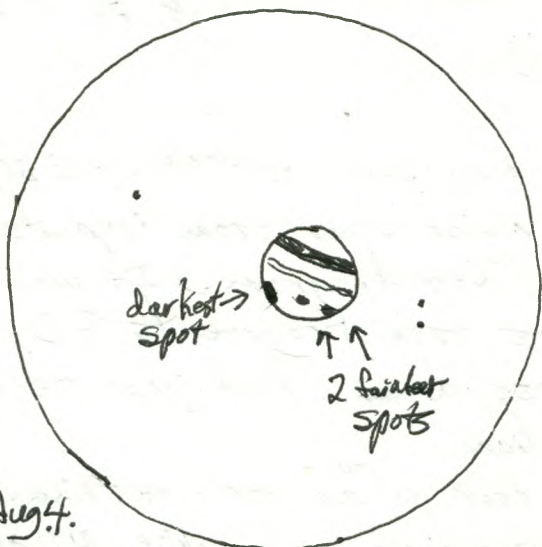
Og  
05  
RSNO  
July 31  
17:05-17:10 UT  
sc



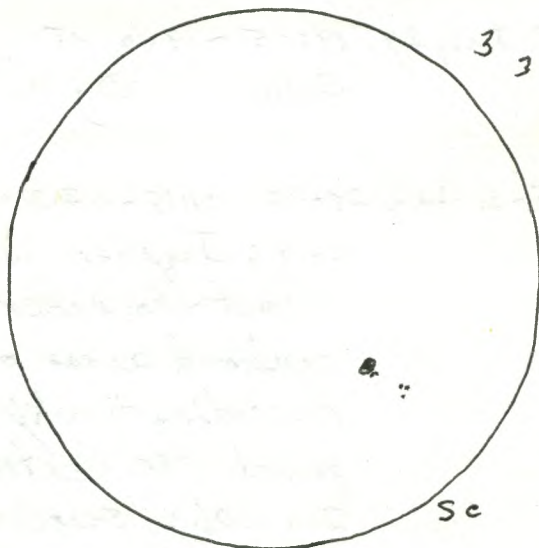
Aug. 1  
02:00 UT



1g  
5s  
RSN15  
Aug. 3.  
20:20-20:25 UT  
5  
SC.



Aug. 4.  
01:20 UT  
View of Jupiter and scars of Comet  
Shoemaker-Levy 9 - C-14 and 13mm ocular  
(301X)



1g  
6s  
RSN26  
July 5  
20:00-20:05 UT  
3 3  
sc

1994

haze 20x100b  
 S.-S. July 30-31 01:30-04:00 UT tandy twland s-8.5 T 7-8 c-8, 5, 8, 15.5  
 c-8: Jupiter with some evidence of scar(s) of Comet Shoemaker-Levy 9.

20x100b: area of SS Cyg, area of the comet Nocko-Neshinara-Macholz which I heard about on Skyline, but was not sure of seeing it (near i ~~top~~ Cas.).  
 M20, M17, M16, M18, M8, M22, M21, M31, R Cor Bor, T Cor Bor.

Sat. July 31 17:05-17:10 UT SS. C-8, 32, 28, 20, 15.5  
 Sun Og Os RSN O

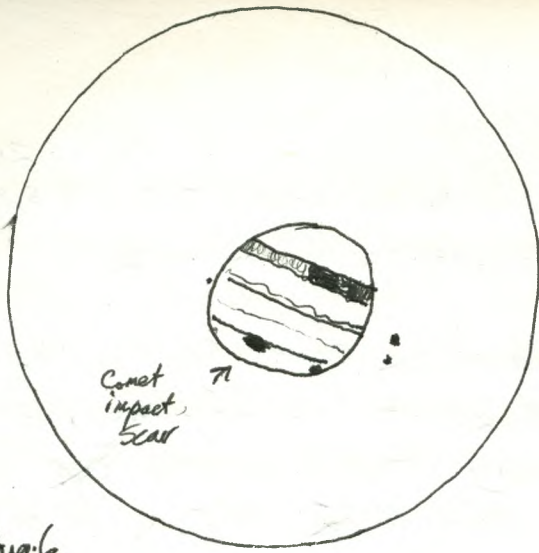
S.-M. July 31-Aug. 1. 01:55-02:05 UT <sup>t</sup> ~~SS~~ <sup>twl</sup> s-9 T 5 haze c-8, 19, 5, 8, 15.5  
 Jupiter with a scar area from impact(s) of comet Shoemaker-Levy 9. The transparency was very poor because of haze, but seeing of bands of Jupiter was surprisingly good.

W. Aug. 3. 20:20-20:25 UT SS C-8, 32, 28, 20, 15.5  
 Sun lg 55 RSN 15

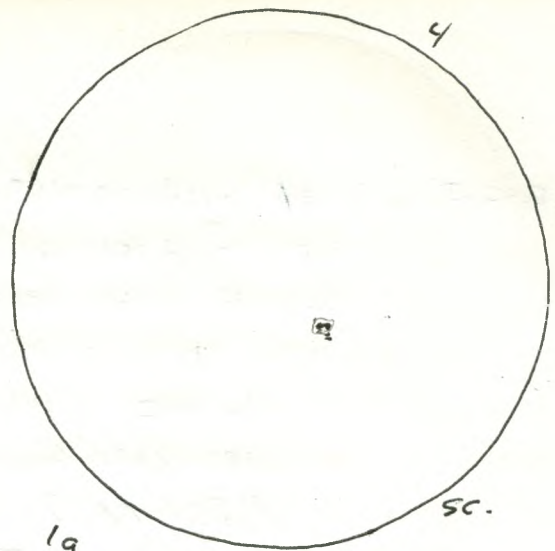
W.-Th. July 3-4 01:20-01:30 UT 00 twl C-14, 13  
 - Jupiter and 3 impact scars from Comet Shoemaker-Levy 9, one of them dark and right on the limb, and two others considerably fainter.  
 02:45-03:05 UT y s-(?) T 8-9 ne  
 - summer constellations  
 - bright Perseid meteor - about mag -3 - almost a point meteor - in Perseus in NE. - lasting only about 2 or 3 seconds. - at 03:03 UT.

F. July 5 20:00-20:05 UT SS C-8, 32, 28, 20, 15.5  
 Sun 29 65 RSN 26

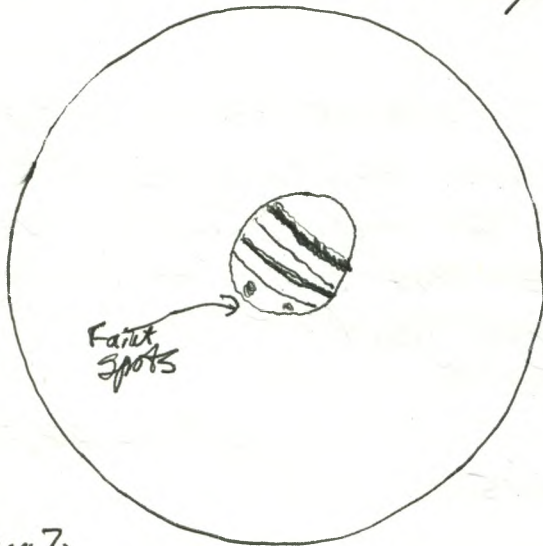




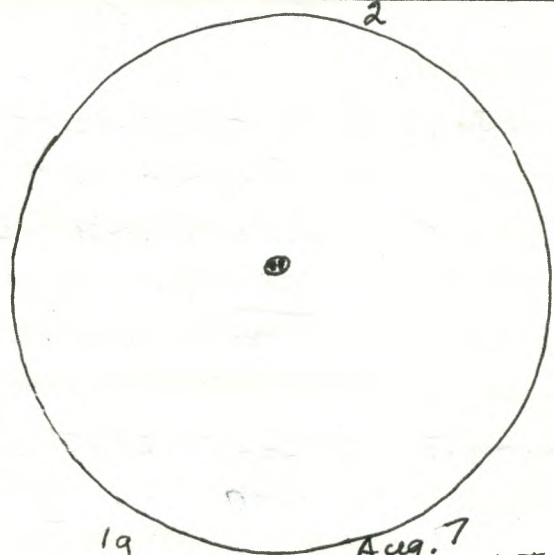
Aug. 6  
 01:45 UT View of Jupiter in C-14 at 301x  
 with impact scar of Comet  
 Shoemaker-Levy 9.



1g  
 4s  
 RSN14.  
 Aug. 6  
 18:45-18:50 UT



Aug. 7.  
 02:00 UT View of Jupiter in C8 at 250x  
 with faint impact scar(s) of Comet  
 Shoemaker-Levy 9



1g  
 2s  
 RSN12  
 Aug. 7  
 17:40-17:45 UT

1994

F.-S. Aug. 5-6 01:15-01:50 UT 00

tw1

C-14, 13

Jupiter, 3 moons, 1 scar from comet impact clearly visible. (See diagram.)

03:00-04:45 UT y

S-8-9 T9.5!

20x100b.

M16, M17, M18, M24, M8, M20, M21, M22, M28, area of Uranus and Neptune, R U Sag, M11, R Scuti, area of Barnard's star, M107, M9, NGC 6356, M6, M7, R Cor Bor, T Cor Bor,  $\mu$  Cep,  $\delta$  Cep, M31, M32, M10, M33, M30, M15, M13, several Perseid Meteors

Sa Aug. 6 18:45-18:50 UT SS

C-8, 32, 28, 20, 15.5.

Sun 19 45 RSN14

Sa-Su Aug 6-7 01:30-02:15 UT SS

C-8, 15.5, 8

Jupiter with bands clear at times of good seeing, but impact scars from comet not very clearly defined. One or two were probably faintly visible in times of good seeing; M13, Mizar,  $\beta$  Cyg.

04:10-05:00 y

S-8(?) T9-9.5(!)

20x100b

M8, M20, M21, M11, R Scuti, T Cor Bor, R Cor Bor, Double Cluster in Perseus, M31, M32, M10, M33, area of  $\delta$  Cyg, area of Uranus and Neptune.

Several Perseids and other meteors were seen.

Su. Aug. 7 17:40-17:45 UT SS

C-8, 32, 28, 20, 15.5

Sun 19 25 RSN12

S.-M. Aug 7-8 07:10-05:15 UT y

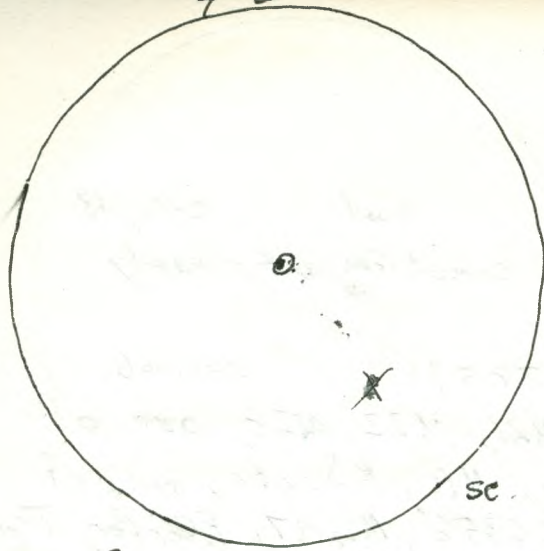
S-8(!) T9.5-10(!)

20x100b

(Comet)

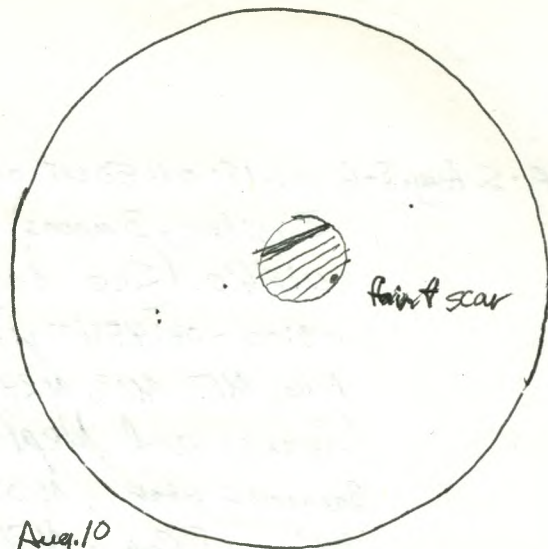
Comet Nackimano-Nishimano-Macholz, near 35 Cas faint at about mag. 9. - my first view of the Comet (See Skyline announcement of coordinates on Aug. 5.) Uranus, Neptune, M16, M17, M18, M24, M25, M22, M28, M8, M20, M6, M7, M31, M32, M10, M33, areas of Cygnus, NGC 7789 Cas, R Cor Bor, T Cor Bor.

Several Bright Perseid and other meteors.



29  
6s  
RSN26

Aug. 8  
20:15-20:20UT



Aug. 10  
3:00UT

View of Jupiter and scar  
of Shoemaker-Levy 9 in  
C-8 at 129x

1994

M. Aug. 8 20:15-20:20 UT 85  
sun 29 65 RSN 26

c-8, 22, 28, 20, 15.5

T.-W. Aug. 9-10 01:00-02:00 UT y twl ne

Venus - very bright in beautifully clearing W. sky  
Jupiter, Stars of summer sky

02:00-03:00  $\pm$  clear twl c-8, 8, 15.5

Jupiter with faint image (probably seen though with difficulty) of impact scar of Comet

Shoemaker-Levy 9, M22, M4

03:00-05:20 UT y S-8(?)  $\pm$  9.5-10 (!) 20x100b

M16, M17, M18, M24, M23, M25, M8, M20, M21, M22, M28, M11, RScuti, M10, M12, M9, M107, area of M103, R Cor Bor, T Cor Bor, area of SS Cyg, North America Nebula; area of comet in Cas., but not sure of seeing it, without coordinates at hand (See Aug. 7-8 above.)

Several Perseid Meteors (at least 6) some of which were quite bright.

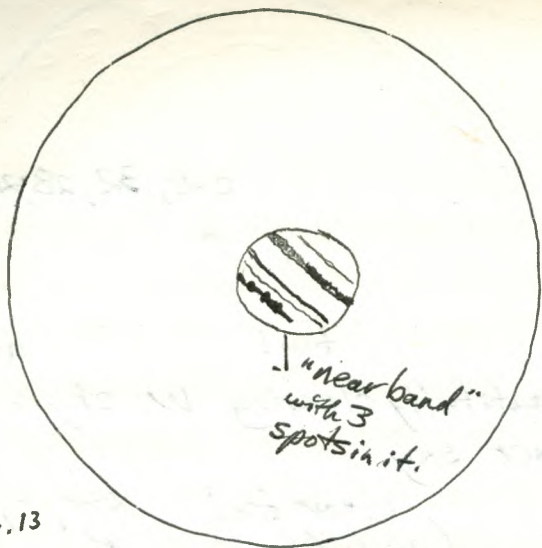
W.-Th. Aug. 10-11 00:40-03:20 UT Sandbanks Provincial Park twl and T-6-7 <sup>cloud</sup> Ast, 15.5, 8.

- Before Denise's talk - viewing of  $3\frac{3}{4}$ -day-old moon in W. - large numbers of people interested in observing.\*
- After the talk - viewing of Alcor and Mizar, and M13. Many people, including many youngsters, were interested in looking through the telescope.

\* Before the talk there were also some views of Jupiter, but in the cloud and haze, it was difficult or impossible to see the moons.

Th.-F. Aug. 11-12 01:00-03:00 UT 00 S-8(?) T8-9 C-14, 13.

- Jupiter, though seen only briefly at intervals because of clouds in that area of the sky.
- piggyback photography of various areas of the Summer



Aug. 13

01:30 UT

View of Jupiter and impact scars  
from Comet Shoemaker-Levy 9 as seen in the  
16" Cave Telescope on Darling Hill.

1994

Milky Way.

03:00-06:45 y S-8? T 8.5-9.5 ne

From lawn chaise, I observed the Perseid Meteor Shower, but was not impressed by the numbers since there seemed that there were not nearly as many as were expected. I saw a few fairly bright ones, but fell asleep eventually, but when I awoke and continued to observe there just did not seem to be very many, even though the sky conditions seemed to improve as the night went on.

F.-S. Aug. 12-13 01:00-03:15 UT <sup>Syracuse Summer</sup> Seminar on Darling Hill <sup>intermittent</sup> cloud <sup>16" telescope</sup> and use

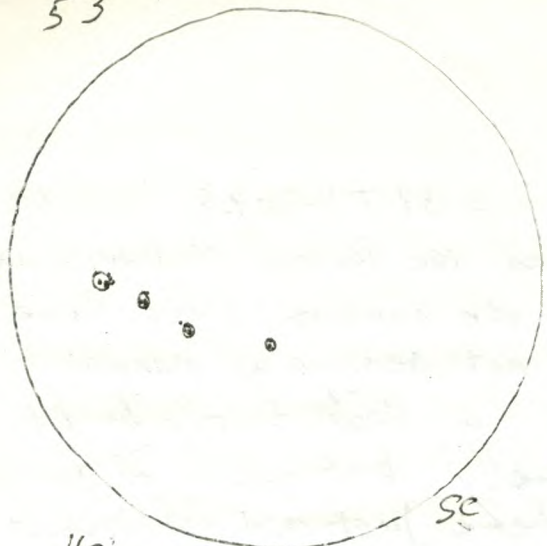
16" telescope: Jupiter with "near band" of impact scars from Comet Shoemaker-Levy 9 - quite clear in spite of cloudy conditions. There were 3 dots or spots within the "near band".  
ne: crescent moon near Jupiter; about two faint Perseids, and a few stars.

Generally conditions were very cloudy. We returned about midnight to Denise's mother's place. There was a thunderstorm during the night and rain the following day.

Attendance was not good. Only 3 people entered the photography contest: Gary Susik, Lori England of Syracuse, and I. There were only about 4 "paper talks." Denise and I did one, on "Recent Events in Astronomy in Canada."

I mentioned the G.A. Trip, and my observing. Denise mentioned observing on her Caribbean cruise of last March. The featured speaker, David Thompson, <sup>from Goddard in Maryland</sup> talked about "EGRET, The Energetic Gamma Ray Telescope", and the sky as an emitter of gamma-rays. There was no observing on Saturday night because of dense cloud and rain.

53 #

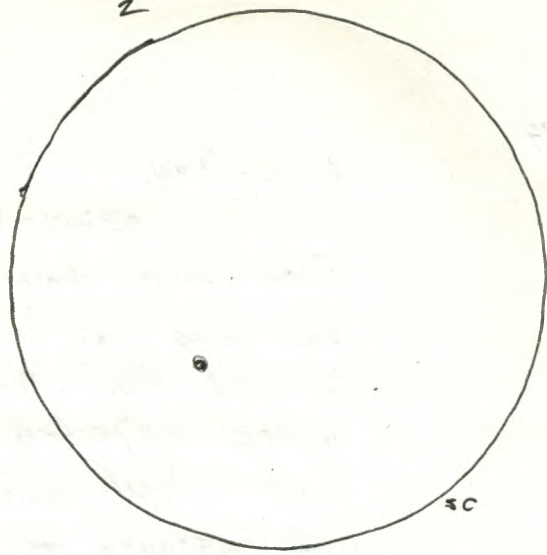


49  
135  
RSN 53

Aug. 16  
17:35-17:40 UT

SC

2

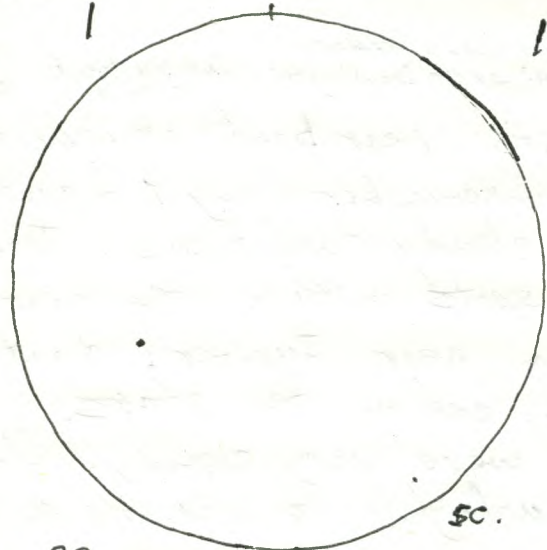


19  
25  
RSN 12

Aug. 21  
20:20-20:25 UT

SC

1

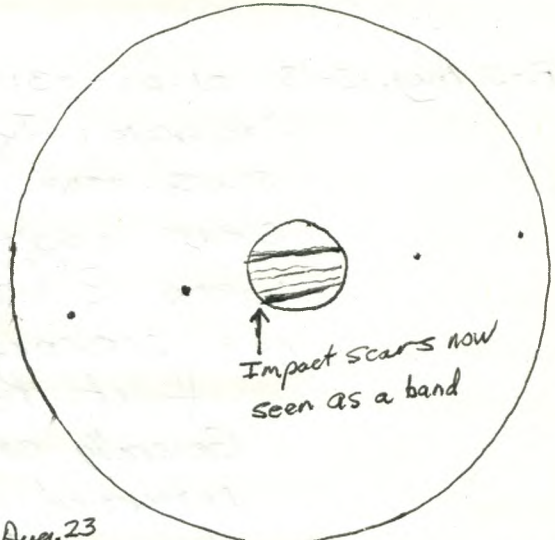


29  
25  
RSN 22

Aug. 22  
20:10-20:15 UT

SC

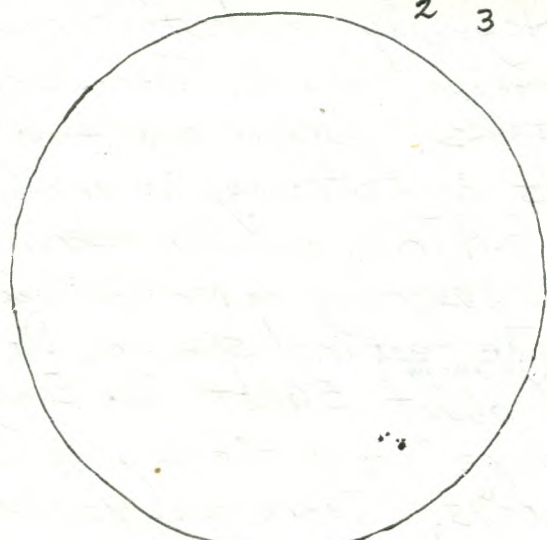
1



Impact scars now  
seen as a band

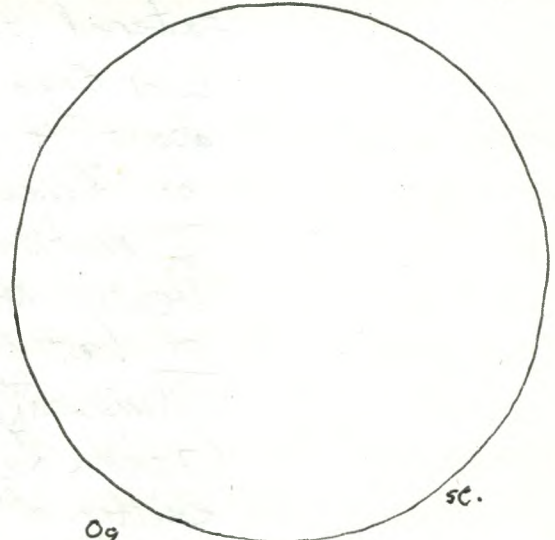
Aug. 23  
01:10 UT  
View of Jupiter in C-8 at 129x  
showing band from scars of impact of  
the comet Shoemaker-Levy 9.

2 3



29  
55  
RSN 25

Aug. 23  
21:10-21:15 UT



09  
05  
RSN 0

Aug. 27  
19:30-19:35 UT

SC

1994

S.-M. Aug. 14-15 02:30-04:20 UT y f g m l; <sup>otherwise excellent</sup> transparency ne; 20x100b.  
 ne: summer constellations; one bright Perseid, though I expected to see more; glow in the N. which may have been Aurora

20x100b: area of Comet Nakimano-Nishimano-Macholz in Cas near  $\beta$  Cas, but not sure of seeing it as I had been previously, on Aug. 7-8, NGC 7789, NGC 129, TV Cas, DL Cas. (See 435 in area of  $\beta$  Cas.) M31, M32, M110, M33, M16, M17, M18, M22, M28, M20, M21, Uranus and Neptune, M11 and R Scuti.  
 clouds moved in at about the time of moonset, at 04:20 UT.

T. Aug. 16 17:25-17:40 UT ss C-8, 32, 28, 20, 15.5  
 sun 4g 13s RSN 53.

Su. Aug. 21 20:20-20:25 UT ss C-8, 32, 28, 20, 15.5  
 sun 1g 2s RSN 12

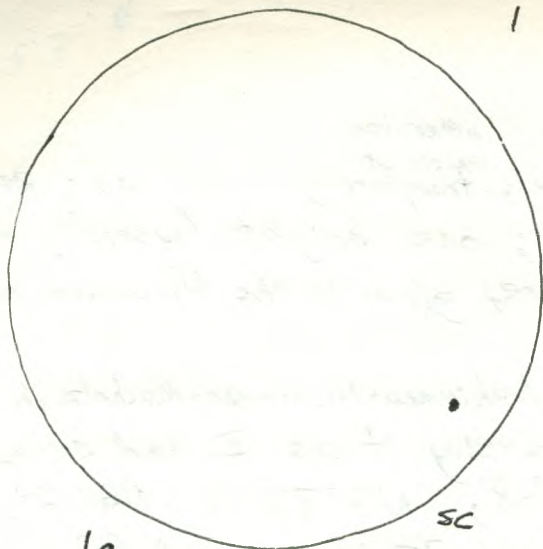
M. Aug. 22 20:10-20:15 UT ss C-8, 32, 28, 20, 15.5  
 sun 2g 2s RSN 22

M.-T. Aug. 22-23 01:10-01:20 UT t {twl} c-8, 28, 15.5, 8  
 Jupiter and 4 moons - low in W. - Impact scars now seen as a band, seen best with 15.5 mm ocular - at 129X.

T. Aug. 23 21:10-21:15 UT ss C-8, 32, 28, 20, 15.5  
 sun 2g 5s RSN 25

T.-W. Aug. 23-24 00:10-00:12 UT <sup>in canoe</sup> on lake twl ne  
 earth's shadow in E from NE to SE up about 5° in clear sky (Sunset was at 00:00 UT - 08:00 PM E.D.T.)  
 00:15-00:20 UT <sup>in canoe</sup> on lake twl ne  
 Venus seen in W about 10° above horizon about 15 min. after sunset.

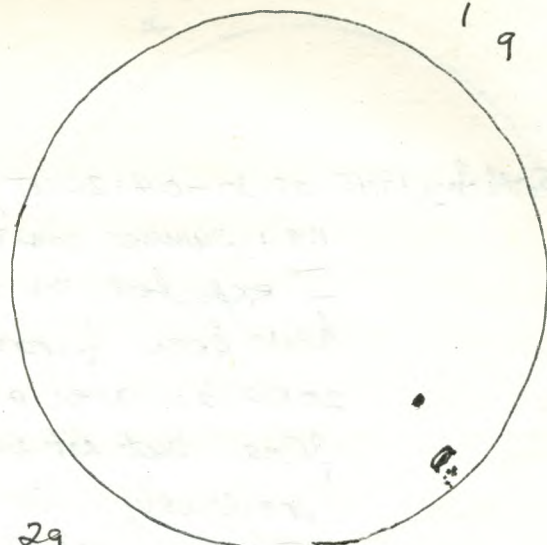




19  
15  
RSN 11

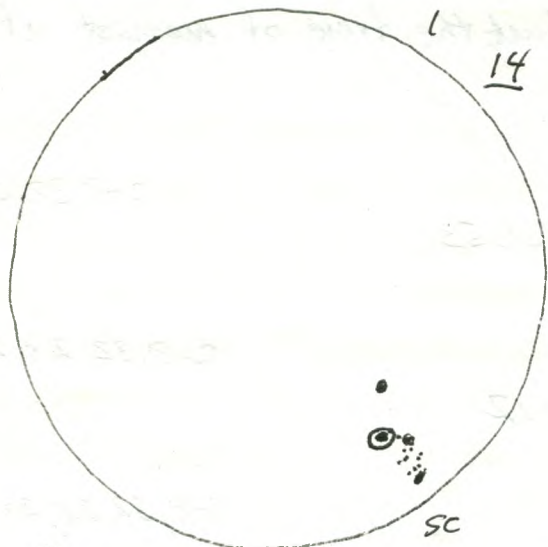
Aug. 29  
20:20-21:25 UT

SC



29  
105  
RSN 30

Aug. 30  
20:15 - 20:20 UT



29  
155  
RSN 35

Sept. 1  
20:00-20:05 UT

SC

1994

Sa. Aug. 27 19:30-19:35 UT ss C-8, 32, 28, 20, 15.5  
 Sun 09 05 RSN 0

Su-M. Aug. 28-29 01:00-03:30 UT 00, t 15.5, 15.5  
 S-8 T9.5 (!) C-14, 20x100b; C-8,  
 C-14: M13, M57 with attempts to see central star  
 using 5<sup>mm</sup> ocular, Saturn and several moons, M27,  
 M11

20x100b: M16, M17, M18, M24, M25, M22, M28, M31, M32,  
 M10, M33, Uranus, Neptune, M11 and R Scuti,  
 R Cor Bor, T Cor Bor, M51, Double  
 Cluster in Perseus, S5 Cyg which may have been  
 in outburst since it was not at usual minimum.

C-8: used on table to see Jupiter, Alcor and  
 Mizar

M. Aug. 29, 21:20-21:25 UT ss C-8, 32, 28, 20, 15.5  
 Sun 19 15 RSN 11

M.-T. Aug. 29-30 01:30-03:30 UT y intermittent cloud ne; 20x100b.  
 ne: constellations

20x100b: M16, M17, M18, M24, M25, M20, M8, M21, M28, M22,  
 Uranus, Neptune,  
 The sky became overcast

T. Aug. 30 20:15-20:20 UT ss C-8, 32, 28, 20, 15.5  
 Sun 29 10s RSN 30

Th. Sept. 1 20:00-20:05 UT ss C-8, 32, 28, 20, 15.5  
 Sun 29 15s RSN 35

F.-S. Sept. 2-3 03:20-03:25 UT Aurora Star Party s-? T89 20x100b  
 Near Alliston, Ont.  
 After the introductory presentations in the large tent, I  
 observed near where my car was parked and saw  
 20 Messier Objects in 5 minutes: M11, M26, M16,  
 M17, M18, M24, M25, M23, M20, M21, M8, M22,

1994.

M28, M15, M13, M31, M32, M110, M33, M101, M57; Uranus, Neptune

Sa.-Su. Sept. 3-4 02:00-03:30 <sup>Huronian Star Party</sup> near Alliston, Ont. <sup>some cloud near</sup> <sup>end of session 20x100b</sup>

- I observed with Dale Armstrong near where my car was parked on a night that had some clouds near the end of the session, but was generally good later on.

- observed Uranus, Neptune, M11 and R Scuti area, M28, M22, M17, M101, M20, M21. Denise and I had seen some other telescopes, but did not look through any.

S.-M Sept. 4-5 02:00-04:00 <sup>Huronian Star Party</sup> near Alliston, Ont. <sup>some</sup> <sup>cloud</sup> <sup>20x100b</sup>

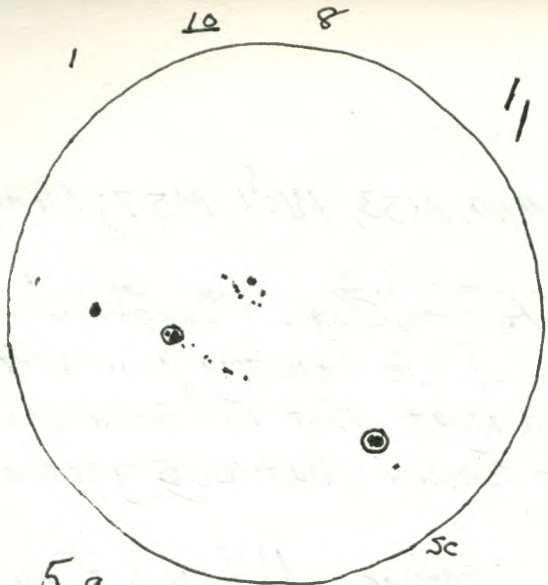
With my binoculars I observed M22, M28, M17, M18, M24, R Cor Bor, T Cor Bor, area of S Scyg and I thought it was up to about mag 8.

The day had been sunny and hot. I had been one of those who presented a talk - mine being A College of Astrophotography. It seemed to be well received. It was an excellent star party. Meals were excellent. The people in charge were warm and friendly, and had done an excellent job of preparing for the event.

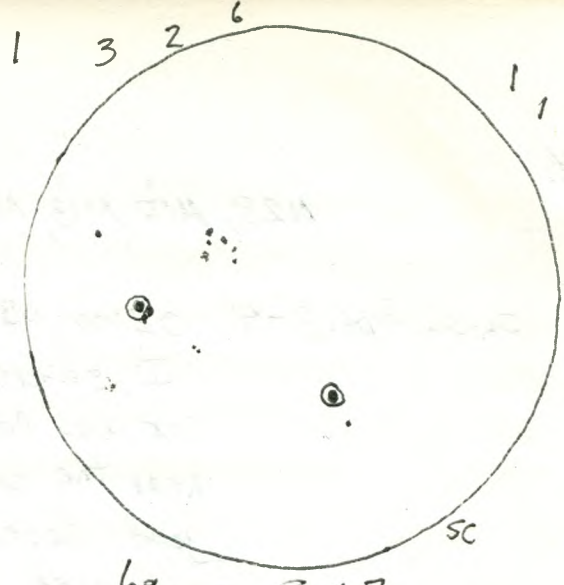
Between 03:00 and 04:00 UT I spent some time looking through several telescopes.

A 20" Obsession owned by a person from the Peterborough area gave a superb view of NGC 7789. A Ceravolo 8.2"

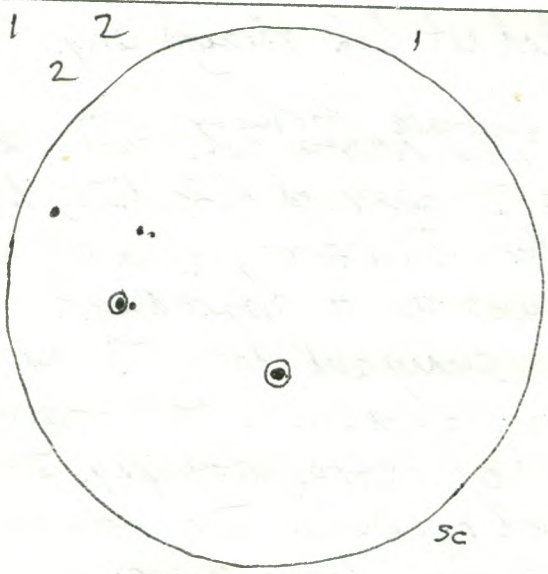
Maksutov-Newtonian gave superb views of Saturn and good views of M17. It was owned by Terry Dickinson. Nearby was a 6" Starfire refractor which also had good views of Saturn and M17. Another member of the South Simcoe Amateur Astronomers was



59  
215  
RSN71  
Sept. 6  
21:10-21:15 UT

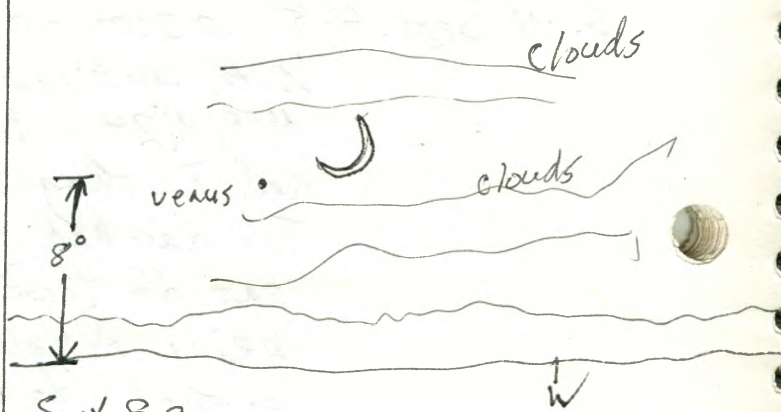


69  
145  
RSN74  
Sept. 7



49  
65  
RSN46  
Sept. 8  
20:45-20:50 UT

Jupiter



Sept. 8-9 00:10 UT  
View of Moon-Venus conjunction  
from Silver Lake

1994.

doing CCD imaging and had a screen to show the views of M17 and M31. They were excellent.

It was an excellent star party with good skies for 3 nights in a row.

M.-T. Sept. 5-6 03:20 - 03:50 UT y S-6(?) T8-8.5 <sup>some</sup> cloud 20x100b  
M16, M17, M25, M22, Uranus, Neptune, M11 and R Sauti area, Saturn, M13, M92, R Cor Bar, T Cor Bar, area of SS Cyg, ~~the proceeds of which~~ seemed again to be above average brightness.

T. Sept. 6 20:10 - 21:15 UT SS C-8, 32, 28, 20, 15.5  
sun 5g 21s RSN 71

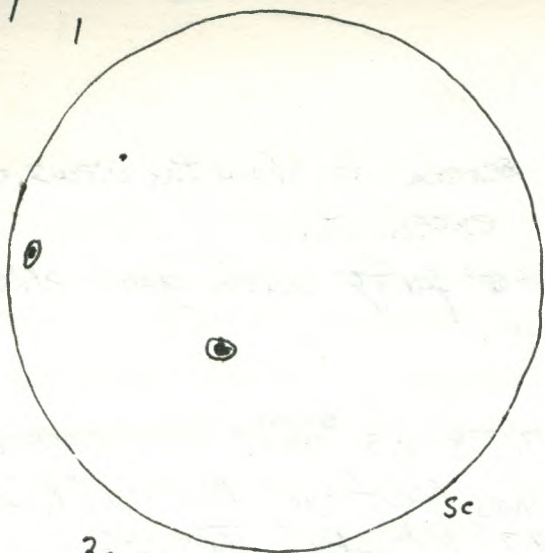
W. Sept. 7 21:00 - 21:05 UT SS C-8, 32  
sun 6g 14s RSN 74

W.-Th. Sept. 7-8 23:50 - 00:00 UT <sup>in canoe</sup> on lake twl ne  
Jupiter low ( $10^\circ$  from horizon) in W  
04:40 - 04:45 UT nd S-8(?) T9 10x25b  
- using small binoculars Denise won at the Syracuse Summer Seminar, observed areas of M11, M13, M31, M33, some of Cygnus area.

Th. Sept. 8 20:45 - 20:50 UT SS C-8, 32, 28, 20, 15.5  
sun 4g 6s RSN 46 some cloud and haze

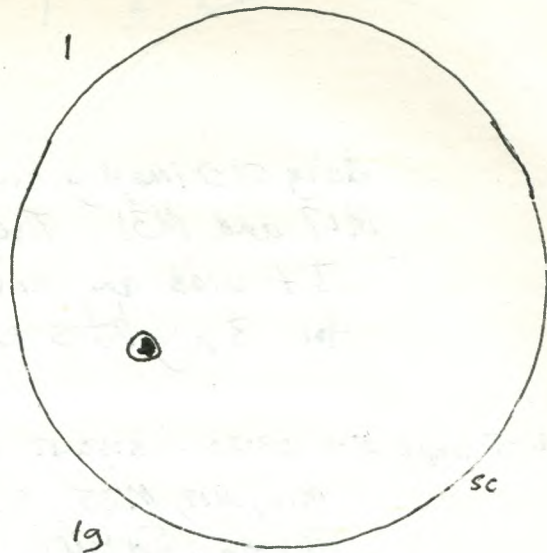
Th.-F. Sept. 8-9 00:00 - 00:30 UT <sup>Silver Lake</sup> Provincial Park twl ne; 200mm lens  
- observed and photographed the Moon-Venus conjunction. They were about  $2^\circ$  apart and at about 00:10 UT were about  $10^\circ$  above the horizon. They appeared among clouds, and clouds moved over them within a short while.

F.-S. Sept. 9-10 23:30 UT <sup>Queen's University</sup> parking lot twl. 10x50b; ne  
10x50b: Jupiter near crescent moon; Venus in W.  
ne: moon and Venus.



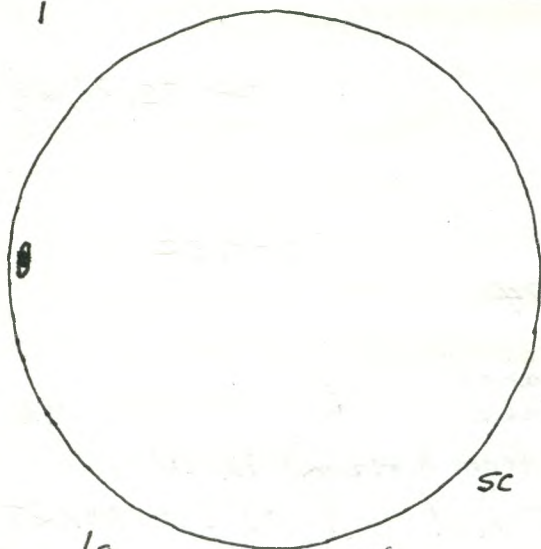
3g  
3s  
RSN33

Sept. 10  
19:35-19:40UT



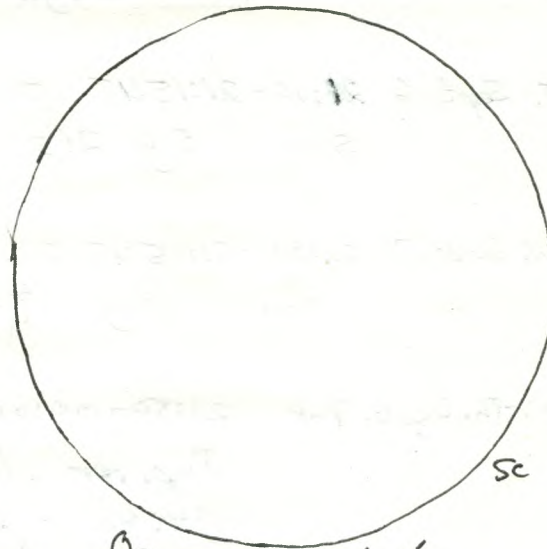
1g  
1s  
RSN11

Sept. 11  
19:05-19:10UT



1g  
1s  
RSN 11

Sept. 14  
19:55-20:00UT



0g  
0s  
RSNO

Sept. 16  
19:10-19:15UT



Gibbous  
Moon

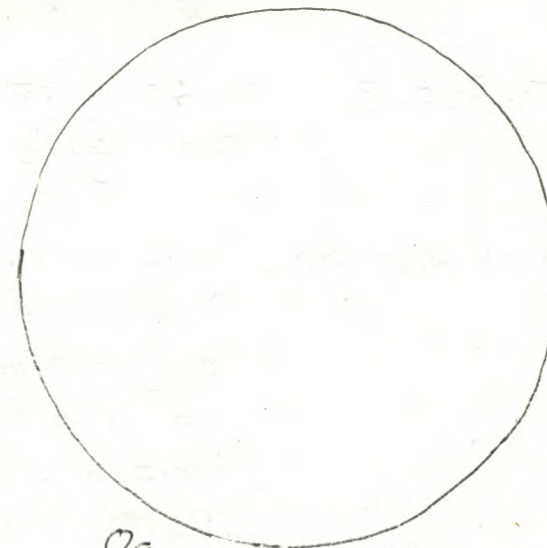
Saturn

SE

5

Gibbous Moon and Saturn

Sa-Su. Sept. 17-18 02:00 UT



0g  
0s  
RSNO

Sept. 18  
19:42-19:45UT

1994

Sa. Sept. 10 19:35-19:40 UT SS  
sun 3g 3s RSN 33

C-8, 32, 28, 20, 15.5

Sa.-Su. Sept. 10-11 01:30-03:20 UT  $\gamma$  S-9(P) T6-8 20x100b

- observed several objects in spite of hazy, partly cloudy conditions - M28, Uranus, Neptune, M16, M17, M24, M18, M11 and R Scuti, Saturn, looked for but not sure of seeing Comet Nishimura, Machimura, Machdz in Capricornus near  $\gamma$  Cap.

I slept in chair near observatory while waiting for conditions to improve, but they did not do so. I finally gave up observing for this session.

Su. Sept. 11 19:05-19:10 UT SS  
sun 1g 1s RSN 11

C-8, 32, 28, 20, 15.5

Su. Sept. 14 19:55-20:00 UT SS  
sun 1s RSN 11

C-8, 32, 28, 20, 15.5

F. Sept. 16 19:10-19:15 UT SS  
sun Og Os RSNO

C-8, 32, 28, 20, 15.5

Sa.-Su. Sept. 16-18 02:00 UT  $\gamma$  gml ne  
Moon (gibbous and waxing) near Saturn in SSE up about  $40^\circ$ . They were about  $8^\circ$  apart.  
Time of conjunction would be 11 hours later at 13:00 UT on Sun. Sept. 18.

Su. Sept. 18 19:42-19:45 UT  
sun Og Os RSNO

C-8, 32, 28, 20, 15.5  
observation amid clouds.

Su.-M. Sept. 18-19 00:15 UT  $\gamma$  gml ne  
Moon, nearly full, now past Saturn and past the time of conjunction (See diagram on next page.)

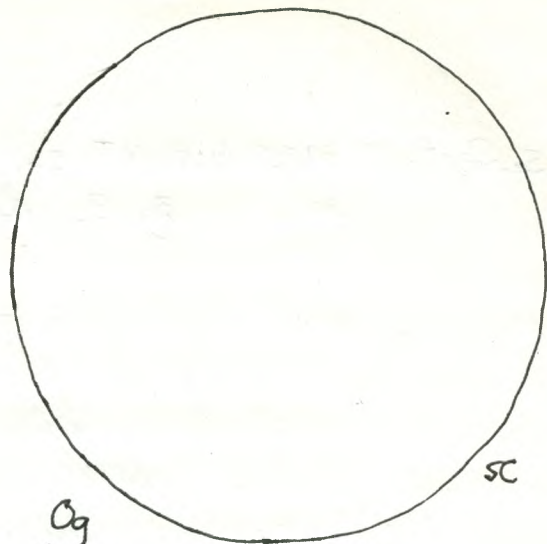
Gibbous Moon



• Saturn

E ← SE → S

Su.-M. Sept. 18-19 00:15 UT

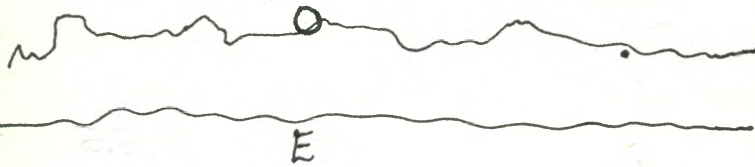


Og  
Os  
RSNO

Sept. 19  
19:10-19:20 UT

SC

← Harvest Moon rising



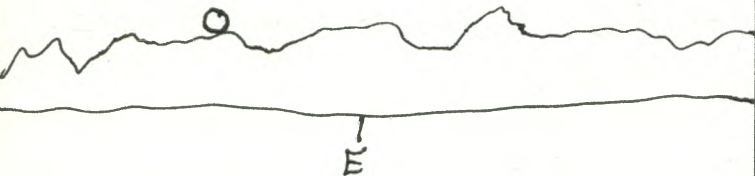
M.-T. Sept. 19-20 23:10 UT

Og  
Os  
RSNO

Sept. 20  
20:15-20:20 UT

SC

Harvest Moon rising



T.-W Sept. 20-21 23:35 UT

Og  
Os  
RSNO

Sept. 21  
19:45-19:50 UT

SC



1994

M. Sept. 19 20:10-20:15 UT SS  
sun Og Os RSNO

C-8, 32, 28, 20, 15.5

M.-T. Sept. 19-20 23:10 UT sh ne  
Harvest Moon, 3 hours after Full Moon, rising through trees across the lake to the E. It was seen about 22 minutes after predicted time of moonrise.

Tu. Sept. 20 20:15-20:20 UT SS  
sun Og Os RSNO

C-8, 32, 28, 20, 15.5

T.-W. Sept. 20-21 23:30-00:50 UT sh and y gml ne; Ast, <sup>15.5, 19</sup>8, 7, 6, 12,  
ne at sh: Moon almost full rising above trees in E  
at 23:35-25 min. later than the previous night  
Ast: Saturn, Alcor and Mizar,  $\beta$  Cyg,  $\alpha$  Her,  
& Oph.

IV  
I, III  
II  
• ○ :

Prior to observing these objects, I observed Jupiter and its 4 moons between trees in W. At 55.6x it was not possible to distinguish bands when it was so low in the atmosphere I could observe it for about 10 minutes - from about 23:50 to about 00:00 UT.

W. Sept. 21 19:45-19:50 UT SS  
sun Og Os RSNO

C-8, 32, 28, 20, 15.5

Th. Sept. 22 19:45-19:50 UT SS  
sun Og Os RSNO

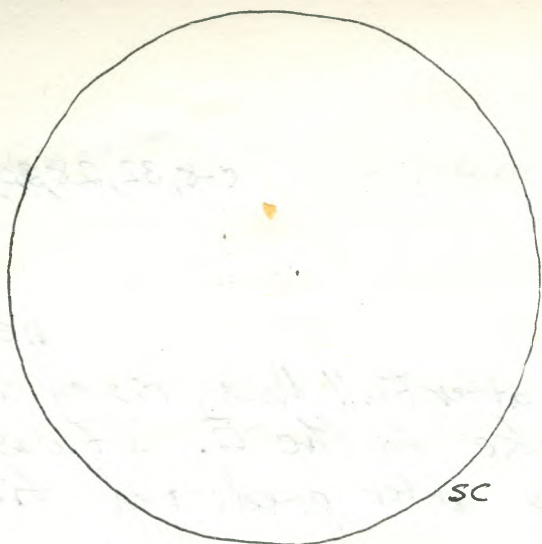
C-8, 32, 28, 20, 15.5  
-some cirrus cloud.

Su. Sept. 25 20:25-20:30 UT SS  
sun 2g 11s RSN 31.

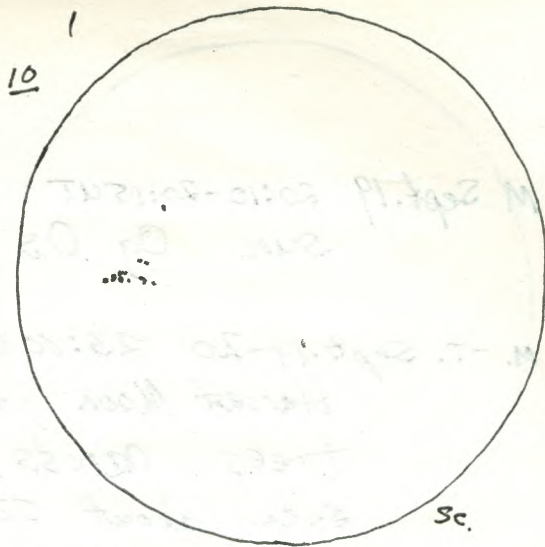
C-8, 32, 28, 20, 15.5

F. Sept. 30 20:35-20:40 UT SS  
2g 2s RSN 22

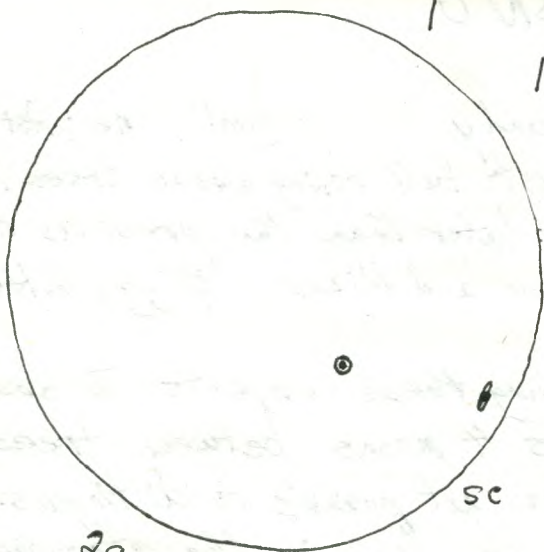
C-8, 32, 28, 20, 15.5



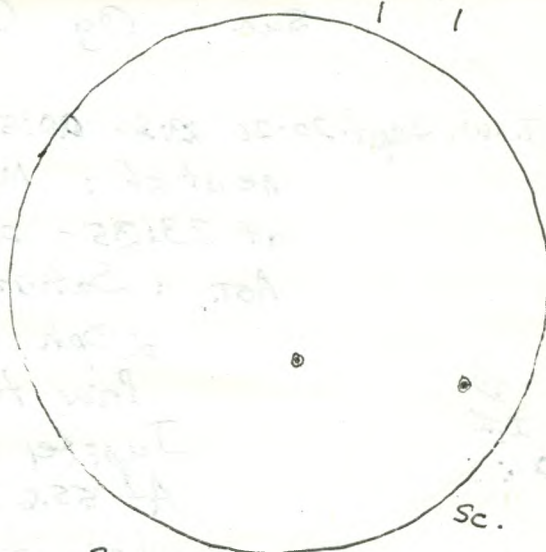
09 Sept. 22  
05 19:45-19:50 UT  
RSNO



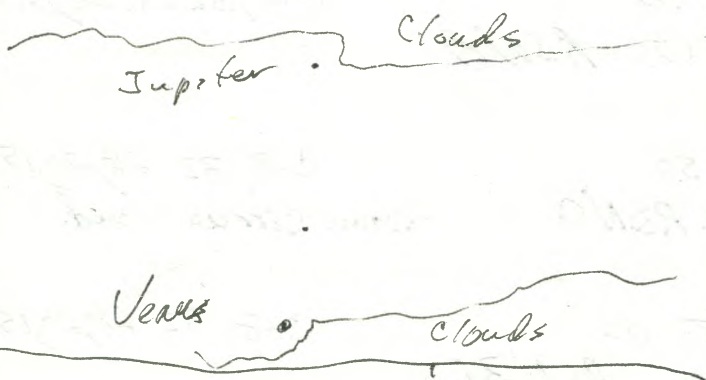
10  
29 Sept. 25  
115 20:25-20:30 UT  
RSN/31



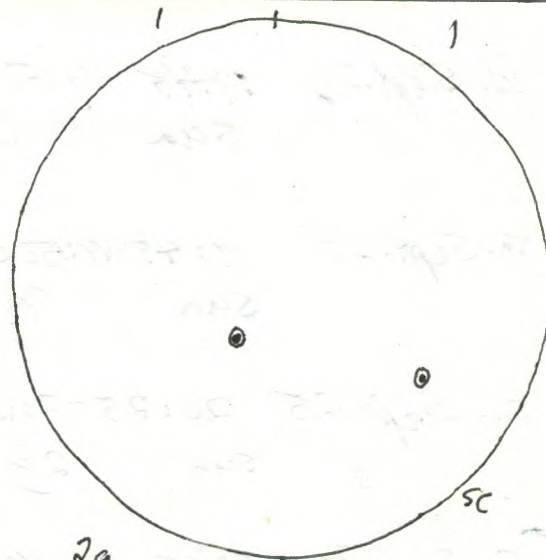
29 Sept. 30  
25 20:35-20:40 UT  
RSN/22



29 Oct. 1  
25 17:15-17:20 UT  
RSN/22



near Cole Lake  
Sun-Sun Oct. 1-2  
23:27 UT (7:27 pm EDT.)



29 Oct. 2  
25 18:05-18:10 UT  
RSN/22

1994

S.-S. Sept. 30 - Oct. 1 01:10 - 04:00 UT yard & 5-8-9 T 9-9.5 20X100b, Ast, 7.4

20X100b: Uranus, Neptune, M11, R Scuti; M16, M17, M18, M24, M25, M22, M15, Saturn, M57, M31, M32, M10, M33, Double Cluster, M36, M37, M38, M44, and various double stars  
 ♀ Psc (Excellent!), ♀ Psc (Excellent!),  
 ♀ Dra (Very good!) ♀ Dra (Superb!),  
 ε Hygrae, γ Lyrae, 57 Aql (Excellent), δ Cep (Excellent)  
 α Cap, β Cap, γ Cap, δ Cap areas, (M13)  
 Ast. Saturn and Titan, M13

Doubles

Sa. Oct. 1, 17:15 - 17:20 UT

C-8, 32, 28, 20, 15.5

Sun 29 2s RSN 22

Sa-Su. Oct. 1-2 23:27 UT (7:27 p.m. E.D.T.) <sup>on road to Kingston</sup> <sup>along Highway 38</sup> <sup>near Cole Lake</sup> twl ne

J, V.

About 45 min after sunset while on trip to Kingston, Denise and I saw Jupiter and Venus low in W. Venus was only about 3° above the horizon, but very bright, greatest brilliancy (mag. -4.6) being only a little more than 3 days before.

Sa. Oct. 2, 18:05 - 18:10 UT SS

C-8, 32, 28, 20, 15.5.

Sun 29 2s RSN 22

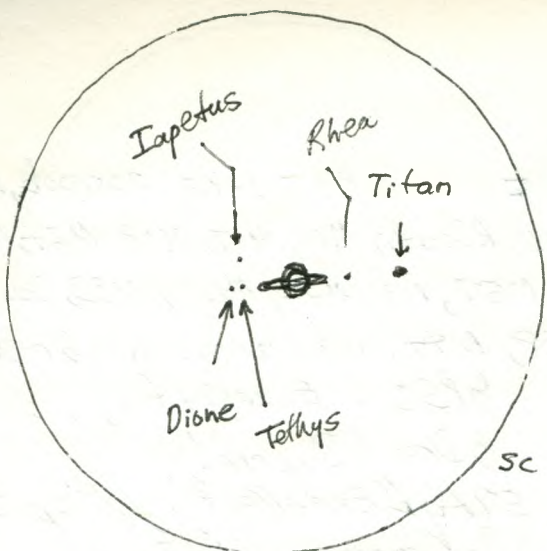
Su-M. Oct. 2-3 01:00 - 04:00 UT yard oo

ne; C-14, 32.

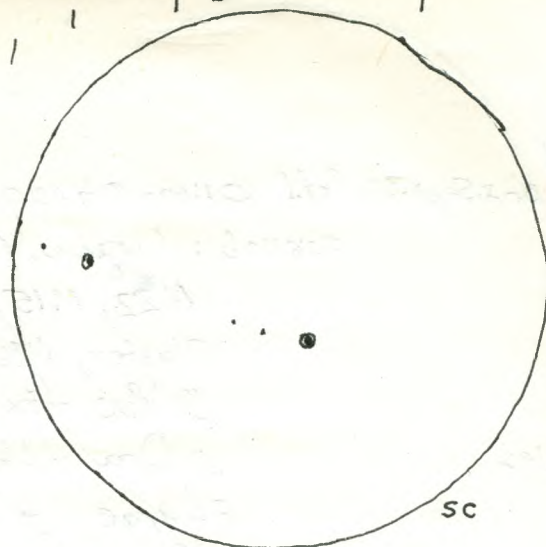
ne: constellations,

Aurora

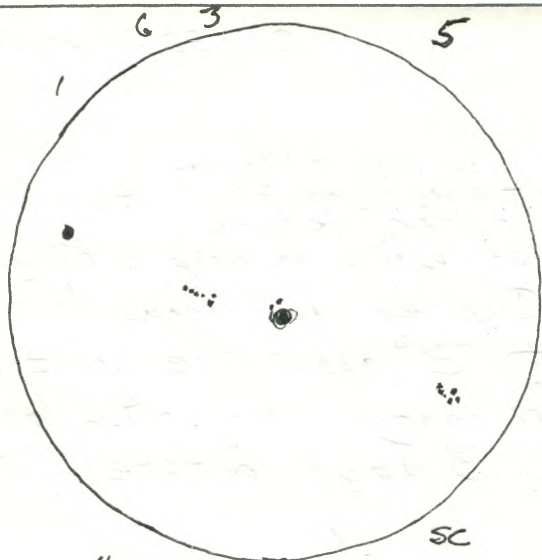
- very interesting Auroral display, first seen as whitish brightness low in NW to N, below the Big Dipper. Then it became at 01:15 UT a single arc in N, white in colour. At about 01:30 UT it was a double arc with the second one at altitude about 40°. Later there was evidence of a third arc, with dark areas between them. Brightness in the yard was obvious because of the Aurora. There were only occasional hints of colours such as a slight pink or red. Spots of Aurora continued especially in NW in area of Boötes and Hercules. The



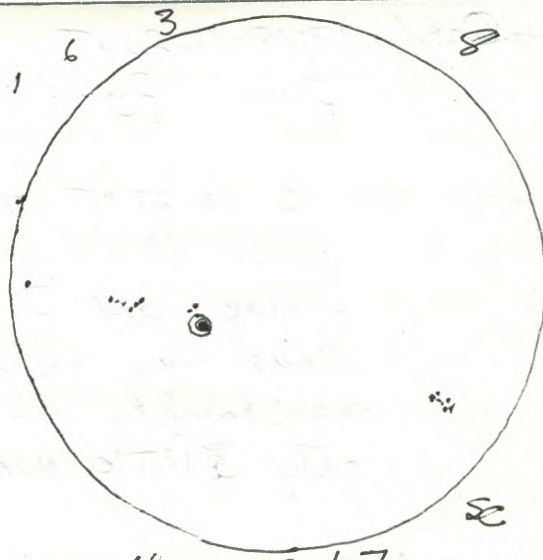
Saturn and 5 moons  
S.-M. Oct. 2-3 01:00 UT C-14  
(22.2X) SC



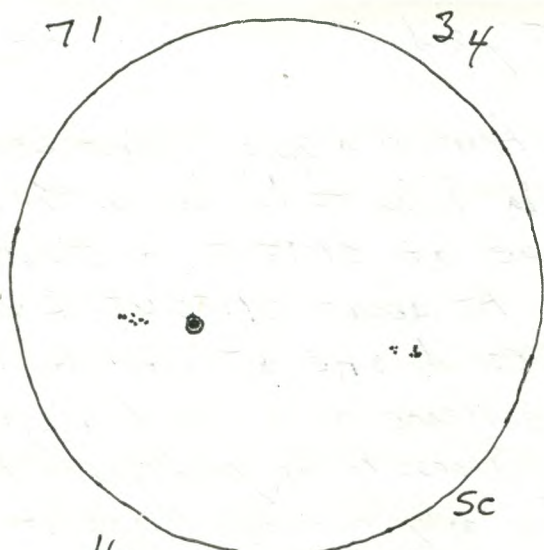
5g  
5s  
RSN 55 Oct. 5  
20:20 - 20:25 UT. SC



4g  
15s  
RSN 55 Oct. 6  
19:35 - 19:40 UT SC



4g  
18s  
RSN 58 Oct. 7  
19:45 - 19:50 SC



4g  
15s  
RSN 55 Oct. 8  
18:30 - 18:35 UT SC

F.-S. Oct. 7-8  
23:03 - 23:05 CET <sup>from car</sup> - on road to school  
for Commencement and at school.

Crescent Moon at 2<sup>d</sup> 19<sup>h</sup> in WSW  
up about 10°. Very easily seen.



W

1994

intensity varied from time to time. By 04:00 UT when I stopped observing, there was a very bright glow. It may have continued all night since it was very bright at about 05:00 UT when I went to bed.

I photographed it with the new Fujichrome Sensia 400 film. C-14: Saturn and 5 moons. See diagram with names determined from Observer's Handbook. Titan was at or very near its maximum elongation.

- piggyback photography of various areas of the sky.

W Oct. 5 20:20-20:25 UT SS C-8, 32, 28, 20, 15.5  
Sun Sg 5s RSN 55

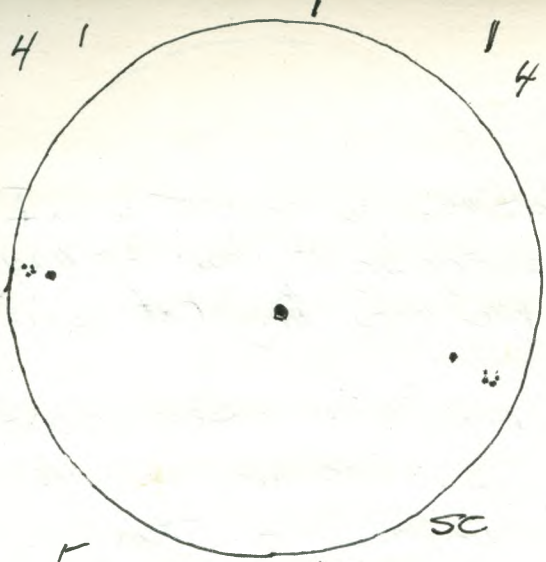
Th. Oct. 6 19:35-19:40 UT SS C-8, 32, 28, 20, 15.5  
Sun 4g 15s RSN 55

Th.-F. Oct. 6-7 03:00-03:20 UT y s-9(?) T8-7 <sup>clouds;</sup> deteriorated 9x63b  
M44, Double Cluster, Saturn, Elyrae, M39, Cygnus and Sagitta areas

F. Oct. 7 19:45-19:50 UT SS C-8, 32, 28, 20, 15.5  
Sun 4g 18s RSN 58

F.-S. Oct. 7-8 03:10-05:00 UT y s-9(?) T9-7 <sup>deteriorated</sup> haze. cirrus 20x100b  
← M44, Saturn, NGC 247 in Cetus, NGC 253 - bright large galaxy in Sculptor, ZZ Sculptoris (about mag. 9.0?), M57, Elyrae, Elyrae, T Cygni near E Cygni, X Cygni and V568 Cygni in Reprecht 173, Reprecht 175 - very small and faint for the binoculars,  $\psi$  Piscium - an excellent double,  $\nu$  Draconis - excellent double,  $\psi$  Draconis - a superb double, Z Cygni <sup>LPV</sup> (U 84), 16 Cygni - beautiful double - 39.0" apart (U 84), NGC 6826 (U 84) the Blinking Planetary - which "blinked" even in the binoculars, area of R Cygni, but it was too faint to be seen (range <sup>mag.</sup> 6.6-14.1, and period of 429 days)

S. Oct. 8 18:30-18:35 UT C-8, 32, 28, 20, 15.5  
Sun 4g 15s RSN 55



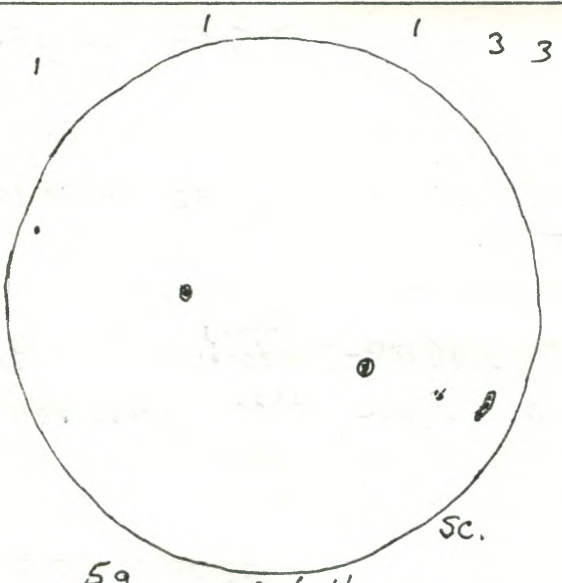
5g  
115  
RSN 61  
Oct. 10  
18:00-18:05 UT

Comet ~~Borrelly~~ Maccholz 2

	RA.	Dec.
Oct 8	9 <sup>h</sup> 41	+12.7
10	9 <sup>h</sup> 46	11.6
12	9 <sup>h</sup> 51	10.5

Comet Borrelly

	RA h	Dec
Oct 9	6 40 <sup>m</sup>	+3.7
11	6 45	4.5
13	6 50	5.3

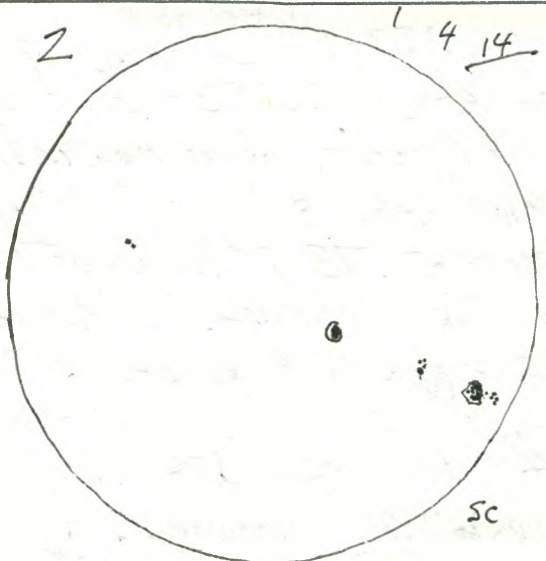


5g  
95  
RSN 59  
Oct. 11  
19:50-19:55 UT

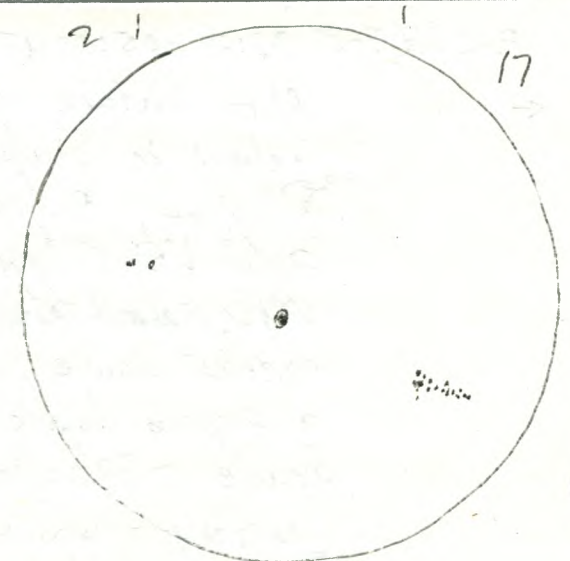
EARTH'S SHADOW as seen about 5-10 min. after sunset.

E

M.T. Oct. 10-11 - View Eastward about 22:35 UT (about 6:35 pm E.D.T) white driving  
Also Oct. 12. son Deserato sideroad



4g  
215  
RSN 61  
Oct. 12  
19:50-19:55 UT



4g  
215  
RSN 61  
Oct. 14  
20:00-20:05 UT

1994

S.M. Oct. 9-10 04:00-04:10 UT y

S-8(?) T9.5!

ne

constellations

(4:40 - 6:00 a.m. E.D.T.)

m 08:40 - 10:00 UT y and t

S-8(?) T9.5! <sup>ne;</sup> 20x100b; C832

z.L.

ne: constellations of winter; Morning Zodiacal Light which was superb and up as high as Gemini. - Very bright and well defined, because of the excellent transparency.

comet Borrelly

20x100b: Comet Borrelly - quite faint and small in Monoceros E. of Rosette Nebula at about R.A.:  $6^h 43.5^m$  Dec:  $4^\circ 2'$  (C227) - about mag. 9.5.

- searched area near R Leonis for Comet Machholz 2 but was not sure of seeing it. A star-like object was seen which may have been the comet.

R Leonis - faint - about mag. 10. M42, M43,

R Lep - faint - about mag. 10.; R $\chi$  Eri - faint, about mag. 16.0

c-8: searched area near R Leonis for Comet <sup>Machholz 2</sup> ~~Borrelly~~, but was not sure of seeing it; Mars in Gemini

M. Oct. 10 18:00 - 18:05 UT ss

C-8, 32, 28, 20, 15.5

sun 5g 11s RSN 61

T. Oct. 11 19:50 - 19:55 UT ss

C-8, 32, 28, 20, 15.5

sun 5g 9s RSN 59

T.-w. Oct. 11-12 05:20 - 05:22 UT nd

S-8(?) T9.5

ne

constellations, Auroral glow low in N. - up about  $5^\circ$ 

W. Oct. 12 19:50 - 19:55 UT ss

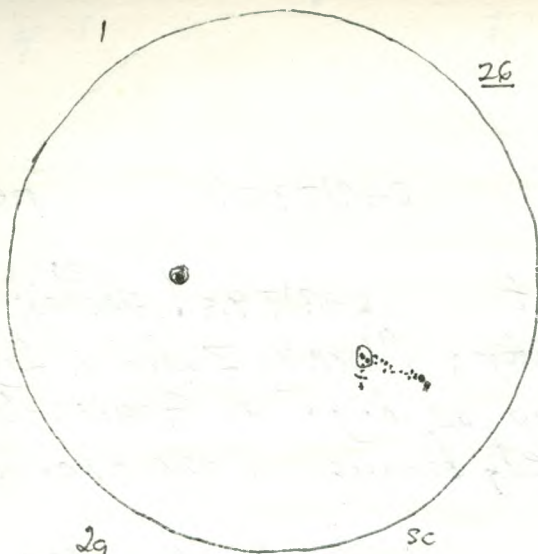
C-8, 32, 28, 20, 15.5

sun 4g 21s RSN 61

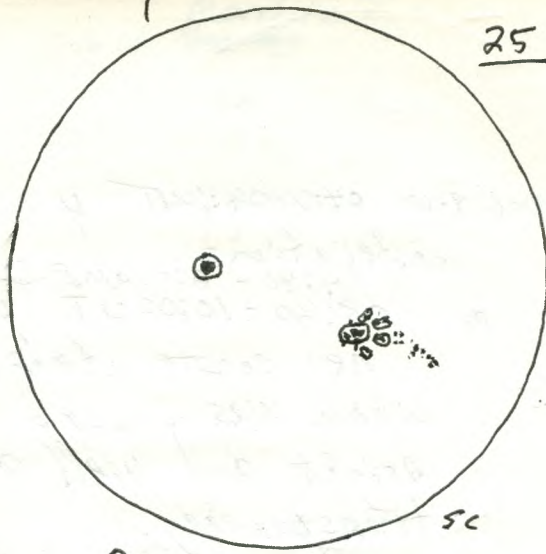
F. Oct. 14 20:00 - 20:05 UT ss

C-8, 32, 28, 20, 15.5

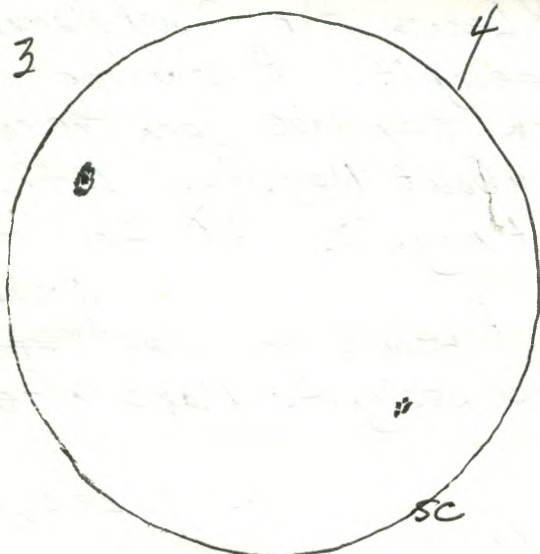
sun 4g 21s RSN 61



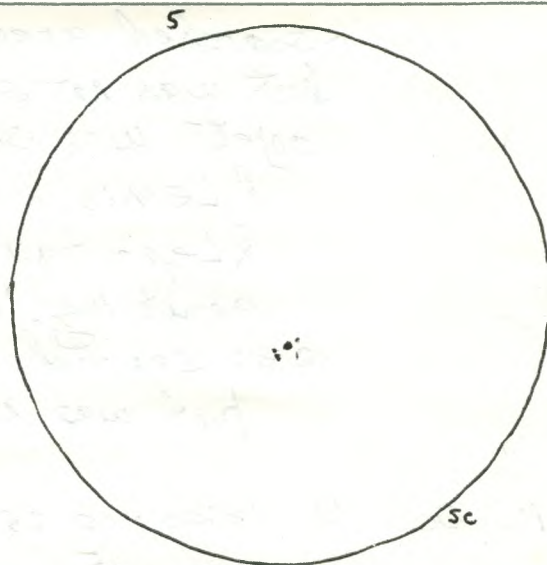
29  
27S  
RSN47  
Oct. 15  
18:50-18:55 UT



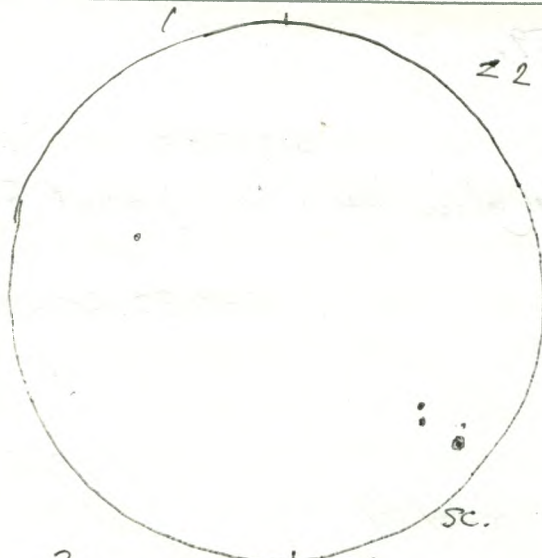
29  
26S  
RSN46  
Oct. 16  
18:40-18:45 UT



29  
7S  
RSN27  
Oct 20  
19:45-19:50 UT



19  
5S  
RSN15  
Oct. 23  
20:00-20:05 UT



39  
5S  
RSN35  
Oct. 26  
19:45-19:50 UT



1994

Sa Oct. 15 18:50-18:55 UT SS

C-8, 32, 28, 20, 15.5

Sun 29 27 s RSN 47

Su. Oct. 16 18:45-18:50 UT SS

C-8, 32, 28, 20, 15.5

Sun 29 26 s RSN 46

F. Oct. 21 19:45-19:50 UT SS

C-8, 32, 28, 20, 15.5

Sun 29 7 s RSN 27

S.-S. Oct. 22-23 23:50-00:10 UT nd

scattered cloud. ne

Aurora

fairly bright Aurora in N from N.W to N.E., beginning particularly low in NNW near handle of Big Dipper, then reaching upward to about  $45^\circ$ ; hints of an arc about as high as Polaris. - Observed from about 23:50 UT or about 2 min after the end of Astronomical twilight until about 00:10 UT or about 7 min. after moonrise. The effect of the Aurora was almost lost because of clouds.

Su. Oct. 23 20:00 - 20:05 UT SS

C-8, 32, 28, 20, 15.5

Sun 19 5 s RSN 15

S.-M. Oct. 23-24 23:45-01:00 UT y 5-9 (T) 7-8 (haze) 20x/100x.

Double Cluster,  $\psi$  Dra (Double)  $\nu$  Dra (Double), M81, M82, M45, M15, M2, M30, Uranus, Neptune, M22, M28, Barnard's Star, Saturn, M13, IC 4665, M25, a Double in Aquila S. of  $\eta$ , probably 57 Aq<sup>1</sup>.  
(The moon rose and it became quite hazy as I ended the observing session.) Also M33, M31, M32, M110.

W. Oct. 26 19:45-19:50 UT SS

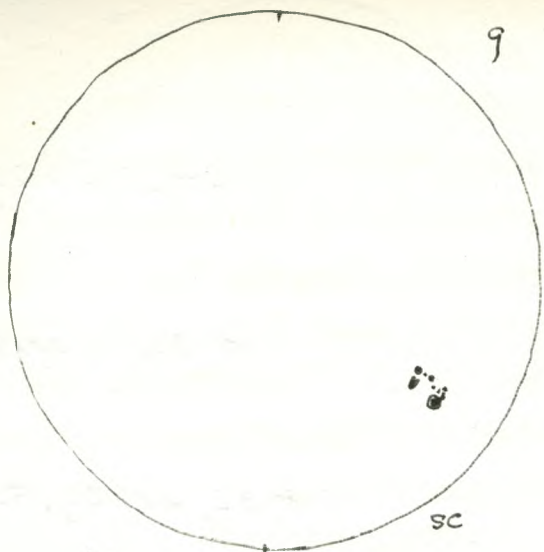
C-8, 32

Sun 39 5 s RSN 35

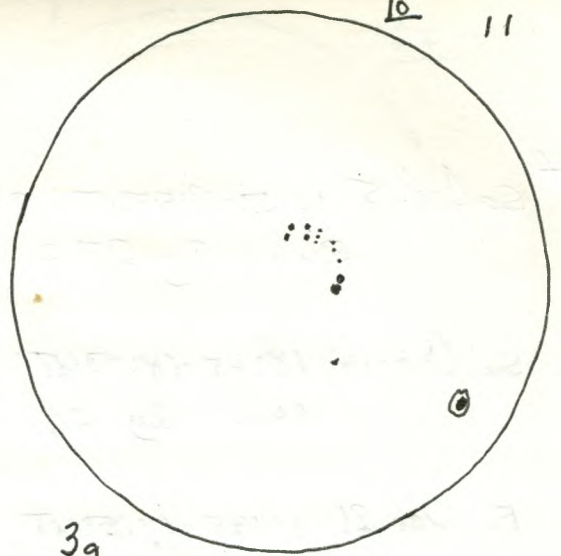
W.-Th Oct. 26-27 23:00-23:45 UT y

fwl, quite cloudy ne

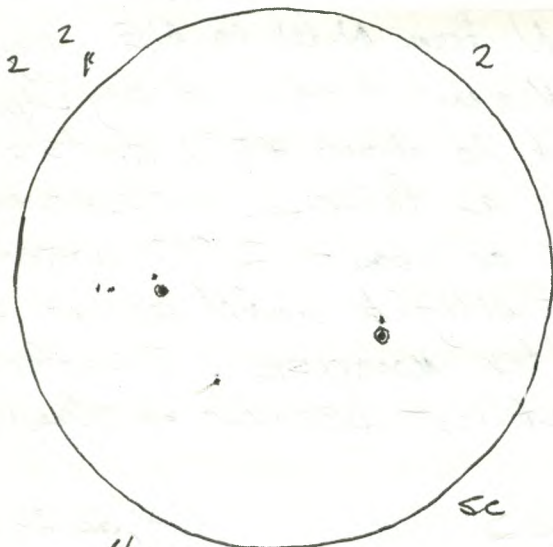
Three students from my Astronomy Class at Algonquin



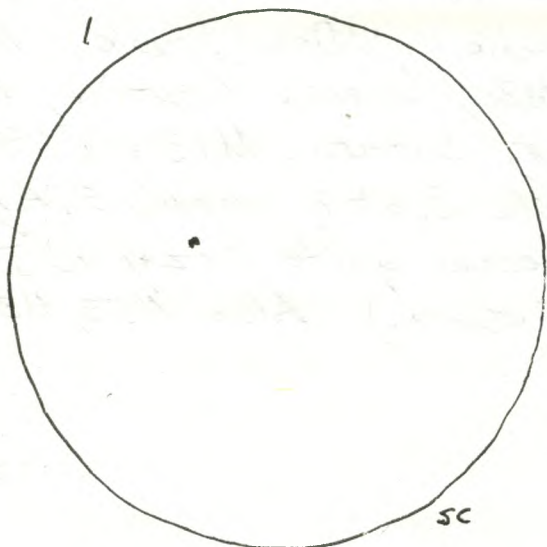
19  
95  
RSN 19  
Oct. 27  
20:36-20:40 UT



39  
125  
RSN 42  
Oct. 30  
18:48-18:52 UT



49  
75  
RSN  
Nov. 2  
20:55-21:00 UT  
(drawn from alt-azimuth)



19  
15  
RSN 11  
Nov. 11  
20:15-20:20 UT

1994.

College came to the observatory, hoping to be able to observe, and to see the observatory. It was far too cloudy to observe. Only a very few stars could be seen periodically. In fact, ~~only~~ rain fell occasionally - a light sprinkle. I showed them various parts of the observatory and we then went inside and talked. I closed the roof after they left. The students who came were: (1) Peg O'Connor and her friend Lisette, (2) Halina Shanna and her son Damon, (3) Shirley Lunsden and her husband Jim.

Th. Oct. 27 20:36-20:40 and 20:54-20:58 SS and t C-8, 32, 28, 20, 15.5  
sun 1g 7s RSN 19. clouds interfered at first.

Sun. Oct. 30 18:48-18:52 UT SS C-8, 32, 28, 20, 15.5  
sun 3g 12s RSN 42

W. Nov. 2 20:55-21:00 UT on ground in yard C-8, 32, 28, 20, 15.5  
sun 4g 7s RSN 47 - behind trees from SS and table  
observed from ground in yard NE of observatory.

W.-Th. Nov. 2-3 03:30-03:40 UT y S-8(?) T9 20x1006  
- short session - M42, M43, M36, M37, M38, M35, M45

Th.-F. Nov. 10-11 05:45-06:15 UT y S-8(?) T8.5-9 20x1006.  
M42, M43, area of R Lep, RX Eri, M44, Mars.

F Nov. 11 20:15-20:20 UT SS and t C-8, 32, 28, 20, 15.5  
sun 1g 1s RSN 11

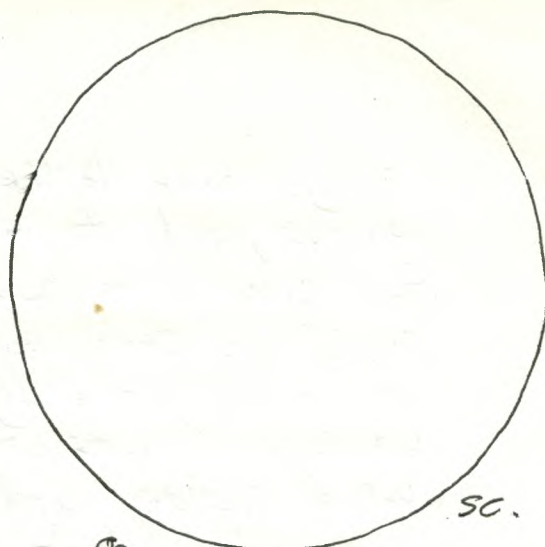
Nov. 11-12 21:50-22:00 UT from car on road to Kingston (twice) re  
For 10-15 min. after sunset - saw earth's shadow  
rising in the E.

Times of  
Penumbral Lunar Eclipse  
of Nov. 18, 1994

P1: 4:25.7 UT

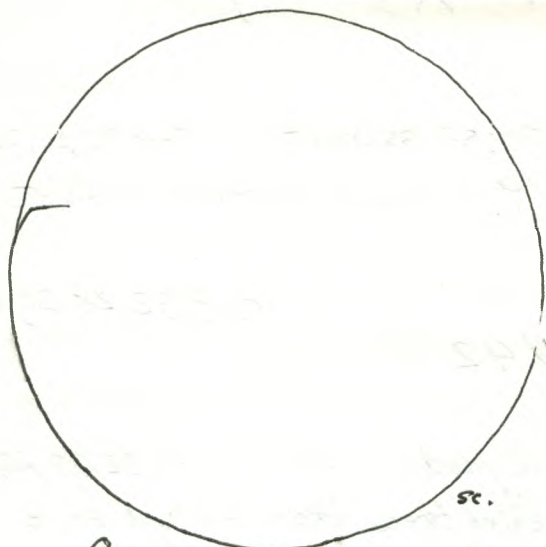
Mid: 6:43.9 UT

P4 9:02.2 UT



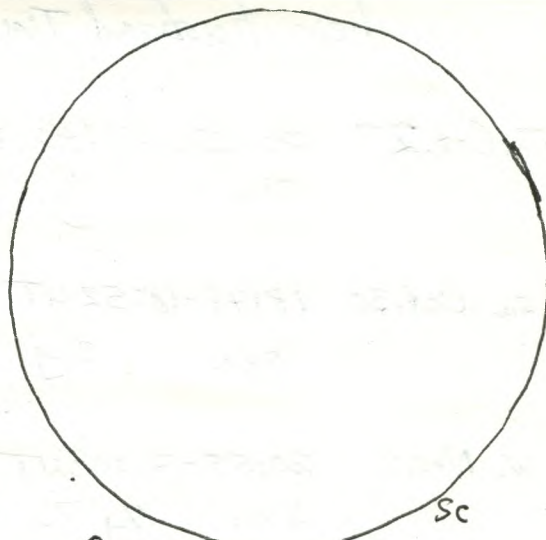
Og  
Os  
RSNO

Nov. 19  
18:30-18:35 UT



Og  
Os  
RSNO

Nov. 20  
18:15-18:20 UT



Og  
Os  
RSNO

Nov. 22  
20:23-20:25 UT

1994

Sa-Su. Nov. 12-13 02:00-03:00 UT ss. and t gml C-8, 32, 15.5  
Saturn low in W, M42, Trapezium, Pleiades,  
M31, one of the Auriga clusters - probably M36  
(guests: Denise's cousin Candy and her boyfriend, Joe)

T.-W. Nov. 15-16 21:30-21:45 dock on sh. twl ne  
- in 15-20 min. after sunset, observed the  
earth's shadow rising in the ENE

Th.-F. Nov. 17-18 06:50-07:30 UT largely cloudy ne  
For about 40 minutes after mid-eclipse I observed the  
penumbral Lunar Eclipse. The time of mid-eclipse  
was 06:44 UT (1:44 a.m. E.S.T.). Through  
occasional glimpses through heavy clouds I could  
detect a darkening in the northern area of the  
moon. There was a break for about one  
minute near the end of the observing session when  
it could be detected that the darkening was  
near the "1-to-2-o'clock" position on the lunar  
disk.

Lunar  
Eclipse

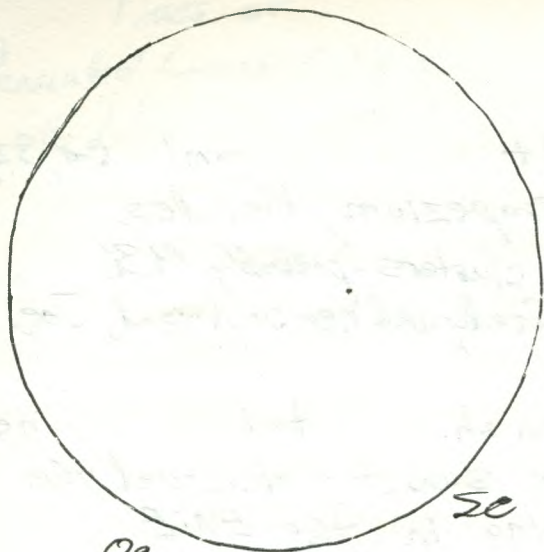
Sa. Nov. 19 18:30-18:35 UT ss C-8, 32, 28, 20, 15.5  
Sun Og Os RSN O

Su. Nov. 20 18:15-18:20 UT ss C-8, 32, 28, 20, 15.5  
Sun Og Os RSN O

Tu. Nov. 22 20:23-20:25 UT ~~ss~~ t C-8, 32  
Sun Og Os RSN O

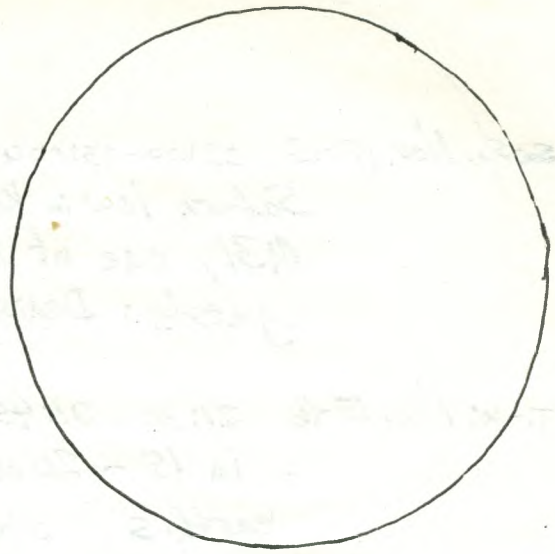
W.-Th. Nov. 23-24 01:10-02:10 UT y 5-8 T9 20x100b.  
Saturn, asteroid Flora at mag. P.2 at R.A.  $5^h 1.7^m$ ,  
Dec. +14° 27' (See U 179 and map in S.+T. Nov. 1994 p. 72);  
also R. Orionis at R.A.  $4^h 59^m$  Dec. +8° 8' (U 179) not seen  
because it was probably at or near minimum - a LPV with a

Flora



50

09  
05  
R5NO Nov. 27  
18:20-18:25 UT



1994

Mag. range from 9.0 - 13.5; Hyades; area of R Tauri but the star was not seen because it also was probably at or near minimum - range from 8.1 to 14.7, also an LPV; (See U178 and U179); M42, M43, M36, M37, M38.

Sa.-Su Nov. 26-27 01:30 - 04:00 UT <sup>Varied.</sup> S-8 (P) T8-9.5 20x100b.

North America Nebula, some of which could be distinctly seen; area of SS Cyg but the star was not seen, M42, M43, M35 and nearby cluster; asteroid Flora at RA:  $4^h 58^m$  Dec  $14.6^\circ$  and at mag about 8.1 (See U179 and map in S. & T, Nov. 1994, p. 72);

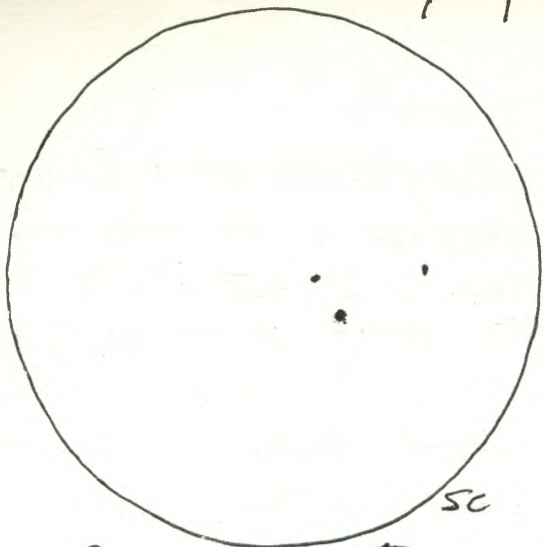
Comet Borrelly (See U102 and map in S. & T, Dec. 1994, p. 76) at R.A.:  $8^h 47^m$ , Dec.:  $33.4^\circ$  and about at mag. 8 - no tail visible in the binoculars and not well defined in the binoculars, RZ Cancri - about mag. 8.5 near the area of the comet (an eclipsing binary with period of 21.64 - See Burnham p. 340) - mag range 8.2 to 9.4; NGC 2683 in Lynx - also near area of the comet - mag. 10.6 and almost edge-on and so seen with difficulty (See Burnham p. 1127); area of SS Cyg though the star itself was not seen; area of North America Nebula, some of which could be fairly easily seen, M39, RX Eri, area of R Lep.

Some Auroral glow seen low in N. during most of the session. There seemed to be some evidence of the Zodiacal Light Band along the ecliptic during times of good transparency.

Sa. Nov. 27 18:20 - 18:25 UT SS C-8, 32, 28, 20, 15.5.  
Sun 09 05 RSN0 slightly hazy conditions

F. Dec. 2 20:30 - 20:35 UT south deck C-8, 32, 28, 20, 15.5  
Sun 09 05 RSN0.

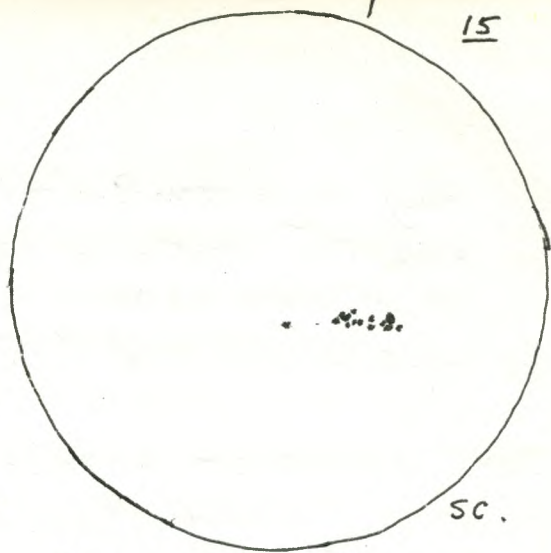
F.-S. Dec. 2-3 02:30 - 05:45 UT 00 S-8 T9-9.5! C-14, 32; 20x100b.  
C-14: Pleiades, M1



2g  
2S  
RSN22

Dec. 8.  
20:15-20:20UT

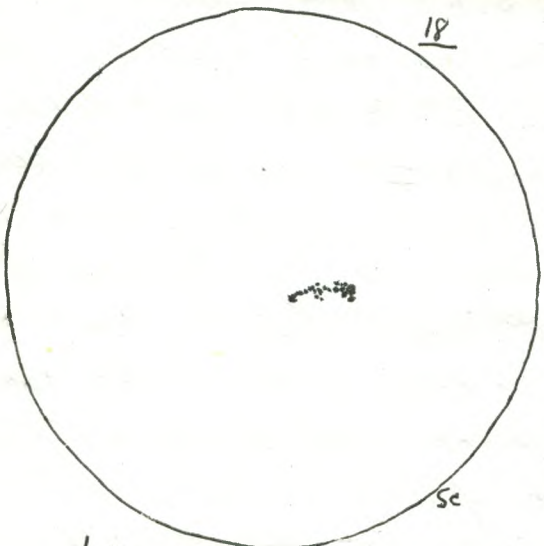
sc



2g  
16S  
RSN36

Dec. 11  
20:02-20:03UT

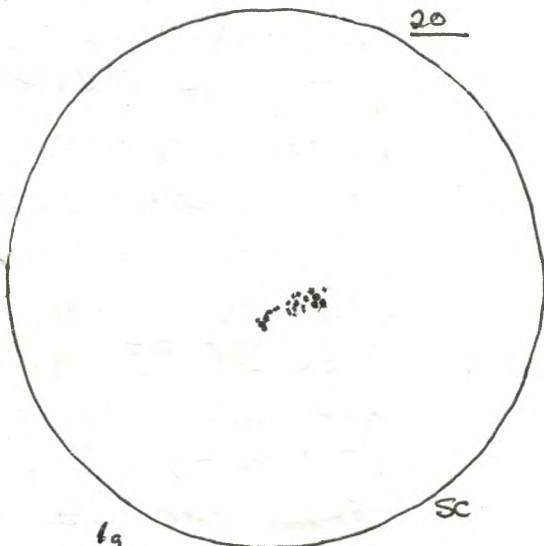
sc.



1g  
18S  
RSN28

Dec. 12  
20:15-20:20UT

sc



1g  
20S  
RSN30

Dec. 13  
20:20-20:25UT

sc



1994

20x100b: area of R Lep, but the star was unusually faint,  
 M41, M42, M43, area of  $\gamma$  Orionis, RX Eri,  
 M44, M67, Comet Borrelly at about mag. 8.2,  
 and at R.A.  $9^{\text{h}} 01^{\text{m}}$  Dec  $+38.3^{\circ}$  (4103); area of  
 Rosette Nebula and area of S Mon; area of R Leonis;  
 The star <sup>R Lep</sup> was very faint and scarcely seen in the  
 binoculars, if seen at all. The star R Leonis was also  
 quite faint, at about mag. 10

R Lep. very faint  
 R Leonis.

Th. Dec. 8 20:15-20:20 UT ss and south deck c-8, 32, 28, 20, 15.5  
 sun 29 25 RSN 22

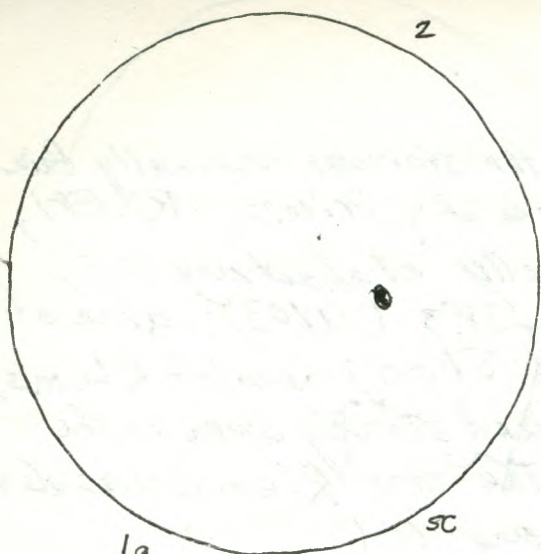
Th.-F. Dec. 8-9 07:08-07:16 UT y 5-8(?) T 9.5(!) 9x63b  
 - superb transparent skies - winter Milky Way spectacular,  
 M42, area of R Lep, M36, M37, M38, NGC 2244, area  
 of R Leonis.

F.-S. Dec. 9-10 06:40-07:00 UT y 5-8(?) T 9-9.5(!) 20x100b.  
 - After a snow storm bad enough to prevent us from getting to  
 the Kingston Centre meeting (including the annual banquet)  
 since we went as far as Verona and then returned, the  
 weather cleared up and the skies were great after  
 the setting of the First Quarter Moon.  
 - M42, area of R Lep, RX Eri, Rosette Nebula and  
 area of NGC 2244, S Mon, M41, M50, Double Cluster,  
 area of R Leonis  
 Several short meteors, perhaps members of the Geminids

Su. Dec. 11, 20:02-20:03 UT ss clouds moving in <sup>fast</sup> c-8, 32  
 sun 29 16s RSN 36

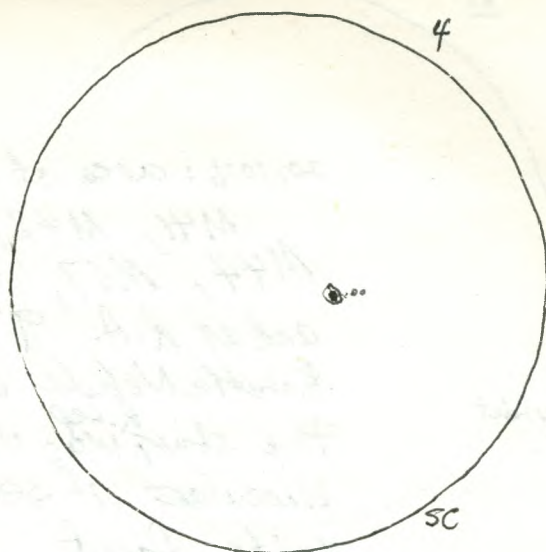
M. Dec. 12 20:15-20:20 UT south deck c-8, 32, 28, 20, 15.5  
 sun 19 18s RSN 28

T. Dec. 13 20:20-20:25 UT south deck c-8, 32, 28, 20, 15.5  
 sun 19 20s RSN 30



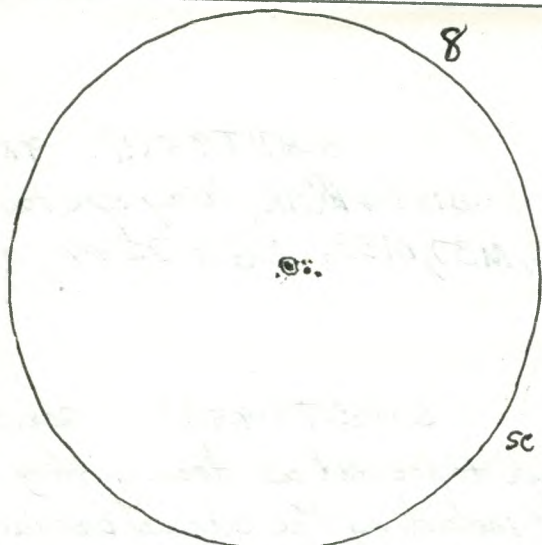
1g  
25  
RSN12

Dec. 19  
16:55-17:00 UT



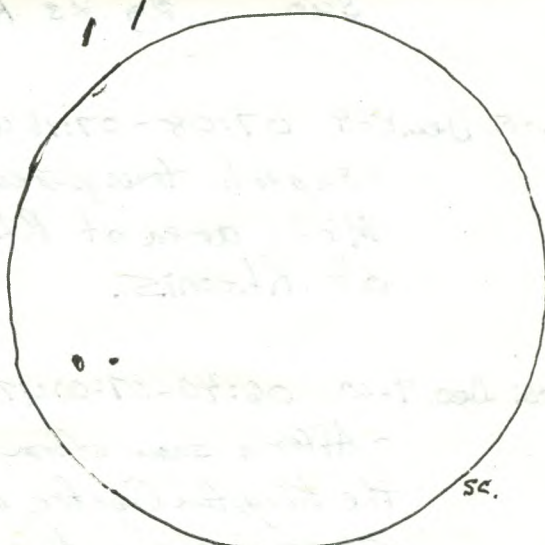
1g  
43  
RSN14

Dec. 21  
16:55-17:00 UT



1g  
85  
RSN18

Dec 22  
16:55-17:00 UT



29  
25  
RSN22

Dec. 26  
18:45-18:50 UT

- - Venus
- ☾ - Moon
- - Jupiter

(!)

~~Dec 28-29 Morning Planetary Configuration~~

5

Telescopic Views <sup>SE</sup>



Venus



NOT Extremely clear

1994

M. Dec. 19 16:55-17:00 UT t

C-8, 32, 28, 20, 15.5

Sun 1g 2s RSN12

W. Dec. 21 16:55-17:00 UT t

C-8, 32, 28, 20, 15.5

Sun 1g 4s RSN14

Th. Dec. 22 16:55-17:00 UT t

C-8, 32, 28, 20, 15.5

Sun 1g 8s RSN18

Th.-F. Dec. 22-23 01:00-02:40 UT y

S-P(?) T 7-9

20x100b.

ne: several Ursid meteors, but none very bright - generally 3<sup>rd</sup> and 4<sup>th</sup> mag. - right at maximum which was listed at 02<sup>h</sup> UT.

20x100b: M39, area of SSCyg including the star itself at about mag. 10., CPCyg, WCyg, area of Cocoon Nebula, MR Cyg - objects on U86, Saturn, M42, M43, area of R Lep which was too faint to be seen, RX Eri, NGC 2244 and area of Rosette Nebula, S Mon.

M Dec. 26 18:45-18:50 UT t

C-8, 32, 28, 20, 15.5

Sun 2g 2s RSN22

W.-Th. Dec. 28-29 m. 11:45-12:15 UT y and t

mid-twilight ne; C-8, 12, 17, 9.

alignment

ne: spectacular alignment in sky of Jupiter, Moon, and Venus under very clear conditions

C-8: Venus - crescent phase

Jupiter

Jupiter: not extremely clear, but there appeared to be some indistinct evidence of the band from last July's impact of Comet Shoemaker-Levy 9. (A distinct band was seen on Dec. 18 by David Levy.) This was my first telescopic view of Jupiter since ~~the impact of Comet Shoemaker-Levy 9~~ conjunction of Jupiter and its emergence on the western side of the sun in the morning sky.

• Venus

☾ Jan. 4-5

• Jupiter

☾ Jan. 3-4

☾ Jan. 2-3



F.-S. Jan. 6-7  
9:30 UT  
(5:30 a.m. AST.)

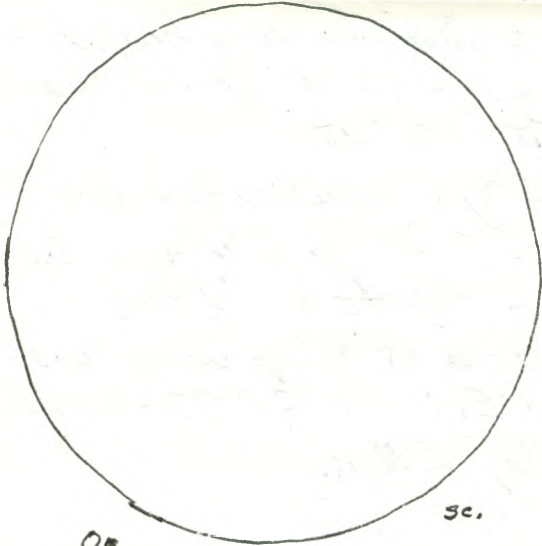
S.E

as seen in  
morning twilight  
from St. Lucia  
(Lat. 14°)

Crescent Moon

S.W

as seen in  
evening twilight  
from St. Lucia  
(Lat. 14°)



09  
05  
RSNO

Jan. 9

20:20-20:25 UT

1995

6:10 - 6:17 pm. Atlantic S.T.  
M. Jan. 2-3 22:10 - 22:17 UT on St. Lucia, W.I Long. 61° twl ne  
at Sandals at La Toc Lat. 14°00'

slim crescent moon - moon only 35<sup>h</sup> 14<sup>m</sup> old.

6:40 pm. A.S.T.  
T. Jan. 3-4 22:40 as above  
crescent moon - still slim.

5:30 pm. A.S.T.  
W. Th. Jan. 4-5 21:30 <sup>UT</sup> ~~pm~~ before sunset ne  
crescent moon seen high in W. with sun low behind hill but not yet set.

ohut - 2:20 UT as above  
T. W. Jan. 3-4 (as above) on beach some cloud ne + 9x63b  
ne. - on night of peak of Quadrantids - observed on beach from about 8:00 p.m. A.S.T. to 10:20 p.m. A.S.T., but saw none. - some cloud.  
9x63b: observed area near Canopus and Achernar - mainly facing N.E., but there was intermittent cloud.

4:30 am. A.S.T.  
7:30 UT M. Denise saw 2 Quadrantids - not unusually bright ones.

5:30 - 6:30 am A.S.T.  
F.-S. Jan. 6-7 9:30 - 10:30 UT as above generally clear 9x63b  
- finally had clear skies in the early morning and saw Venus and Jupiter in SE and all of the bright stars of Crax (the Southern Cross) for the first time, and  $\alpha$  and  $\beta$  Centauri, and  $\omega$  Centauri, a globular cluster, also seen though I had seen it the previous morning

Crax  
 $\alpha, \beta$  Cen  
 $\omega$  Cen

M. Jan. 9 20:20 - 20:25 UT  $\approx t$  c-8, 32, 28, 20, 15.5  
sun Og Os RSN O

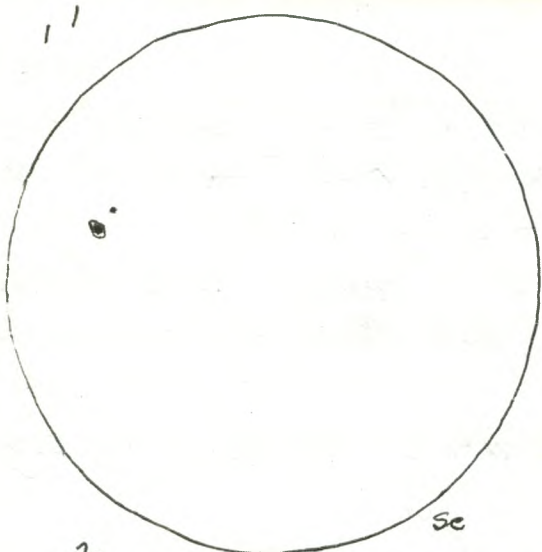
6:30 - 6:50 am. E.S.T.  
S.M. Jan. 22-23 m 11:30 - 11:50 UT y clouds; twl. 9x63b  
In spite of fairly dense clouds, I tried to observe the Occultation Reappearance of Spica, but failed to see the star though I could see the moon through the clouds. It was about a 20 min. occultation from about

Spica  
 Jupiter  
 Venus

~~Jupiter~~  
 Jupiter  
 Venus

SE  
 Jan. 24-25 morning alignment

SE  
 Jan. 25-26 morning alignment



29  
 25  
 RSN 22

Jan. 26  
 18:25-18:30 UT

Jupiter  
 Venus →

Also on  
 next page

SE  
 Jan. 26-27 - spectacular morning  
 conjunction of moon and Venus.

1995.

11:25 UT until about 11:45 UT for this location  
The amount of twilight might have made Spica difficult  
to see naked-eye at the time of reappearance,  
even though the reappearance was at the dark  
side of the gibbous moon. (See S. & T. Jan. 1995  
~~for~~ page 83-84 for details about the lunar  
occultation of the Star Spica.)

4:50 am E.S.T  
T-W. Jan. 24-25 m 9:50 UT it. ne

- on a clear morning, for a change (!) - clear for a while (!)  
saw almost in a row Spica, crescent moon,  
Jupiter, and Venus.

4:55 am + 6:10 am E.S.T.  
W-Th. Jan 25-26 m 9:55 UT and 11:10 UT it. ne

- Before and during morning twilight I saw the spectacular  
arrangement of Jupiter, the Moon, and Venus in the  
morning sky. The moon was about 2° or 3° from  
Jupiter. Conjunction was 7 hours later at 18<sup>h</sup> UT  
when the moon was 1.7° N. of Jupiter.

Th. Jan 26 18:25-18:30 UT SS C-8, 32, 28, 20, 15.5  
sun 2g 2s RSN/22

6:15 - 6:50 am E.S.T  
Th.-F. Jan 26-27 11:15 - 11:50 UT y twl ne

- observed and photographed the spectacular Moon-Venus  
conjunction (photographed using zoom lens, and tried to  
photograph using C-8 but was unable to focus properly  
using Lunicon sliding attachment device and also had a  
problem with the other T-ring attachment.)

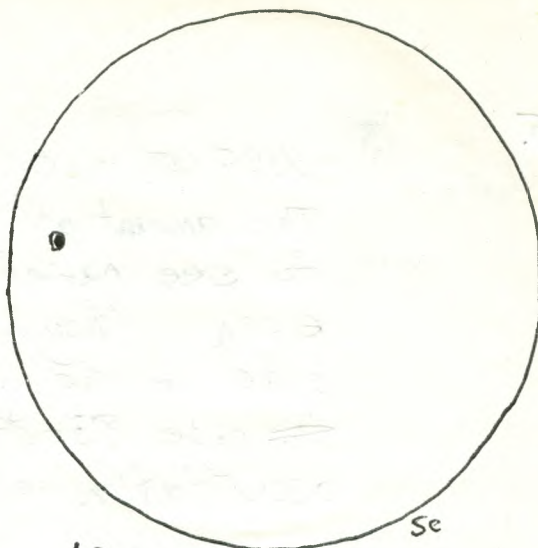
Venus and the crescent moon appeared only about  
a degree apart. The weather was also spectacularly  
clear.

Th.-F. Jan 26-27 05:45-06:30 UT y S-R(?) T9 20x100b.  
M42, M46, M47, M44, M67, Mars, area of R Leonis

Omit.  
See  
next  
page.

Venus! ☾

• Jupiter



SE  
Morning sky Jan. 27. 11:10UT

lg  
15  
RSN11  
Jan. 27  
18:35-18:40UT



1995

which was about at the mag. of the 2 nearby stars which form a triangle with it, M35 and nearby cluster, M36, M37, M38, Hyades, area of T Pyxidis, some stars near  $\eta$  Vir and near SS Vir.

Th-F  
Jan. 26-27 m 6:00 - 6:50 am E.S.T. 11:10 - 11:50 UT y twl ne and camera lens zoom

- Spectacular morning conjunction of Moon and Venus appearing only about  $1^\circ$  apart with the planet just about a degree above the Moon's "upper horn". Jupiter was about  $8^\circ$  away. The weather was very clear.

I photographed from near solar station using 200 mm lens and tried to photograph from observatory floor using C-8 at first focus but had some "technical problems".

F. Jan. 27 18:35 - 18:40 UT SS C-8, 32, 28, 20, 15.5  
Sun 1915 RSN11

F.-S. Jan. 27-28 22:02 - 22:22 sh-oalake ne  
- observed rising earth's shadow and photographed it under spectacular cloudless skies.

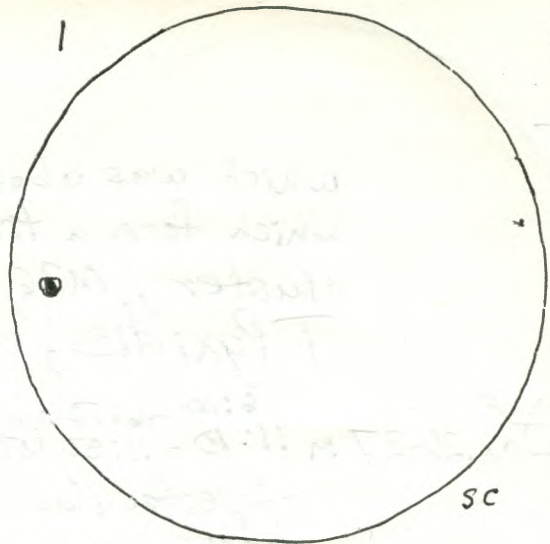
" 02:00 - 05:00 00 S-8(?) T 9.5 (!) C-14; 20x1006  
Mars C-14: M36, Trapezium, Mars. Because the planet was so bright, markings were difficult to distinguish. I tried several filters hand-held above the eyepiece, but they did not seem to help.

T Pyxidis area 20x1006: area of T Pyxidis, M42, area of Rhes which is still very faint - hardly detectable with the binoculars, the unusual variable star RW Tau (at about mag. 7.8) See U132 and S. + T Jan. 1995, p. 85, the asteroid Vesta (from the map in S. + T. Jan. 1995, p. 89. and U136) - not far from M1 and the star 5 Tau. It was about mag. 7.9 M1,

Vesta

Jupiter  
Venus  
Antares  
☾

SE  
Morning sky Jan. 28 11:10 UT



29  
25  
RSN22  
Jan. 28  
18:40-18:45 UT

Jupiter  
Venus

☾  
SE  
Morning sky Jan. 29 11:42 UT

1995

the Rosette Nebula, NGC 2244, AK Mon, S Mon, possibly Hubble's Variable Nebula - very faintly, the cluster NGC 2251, RW Mon, Cr 106 and Plaskett's Star (See U182)

" m 11:10 UT in twl ne spectacular morning sky alignment of Moon, Venus, and Jupiter during twilight.

Sat Jan. 28 18:40-18:45 UT t C-8, 32, 28, 20, 15.5  
Sun 29 25 RSN/22

Sa.-Su. Jan 28-29 23:30 UT and after <sup>between Road and</sup> <sup>in car</sup> <sup>Sharbot Lake</sup> twl ne  
Near end of twilight which was to be at 23:50 UT (at Sharbot Lake) I saw Zodiacal Light among the twilight glow in the West on a very clear evening.

Z.L.

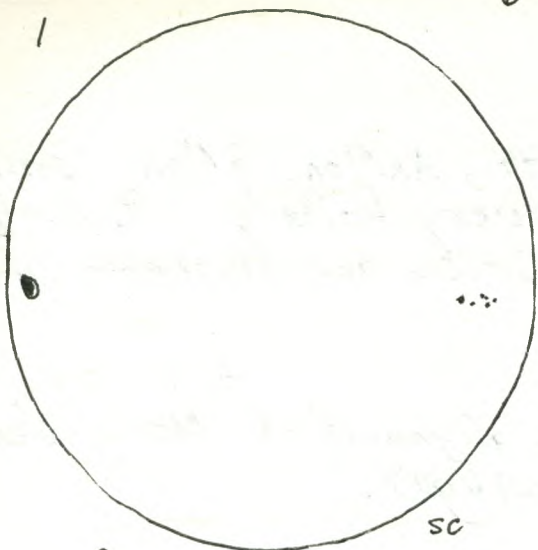
03:50-05:30 UT y S-8(?) T 9.5 (!) 20x100b  
- under superb skies observed with binoculars: M42, M43, area of R Lep but star seemed too faint to see, area of RX Eri, RW Tau and surrounding area including most stars on map in Sr.T. Jan. 1995, p. 86 (also U132), asteroid Vesta, though I was somewhat uncertain about whether <sup>which</sup> one of two close "stars" was the "asteroid", (See map on p. 89 of Jan. 1995 S.T. and U136) (It was at about R.A. 5<sup>h</sup> 41.5<sup>m</sup> Dec +22.9), and also on U136 - the area of U Orionis though the star seemed very faint or impossible to see (an LPU of range from mag. 5.4 to 12.5 - probably at faint part of its cycle) and Y Tau at about mag. 7.5 (range: <sup>mag.</sup> 7.1 to 9.5.) R Leonis, Mars and surrounding area in Leo, Pleiades, M1, "belt" of Orion area <sup>Gegenschein</sup> in Gemini and Cancer; possibly some <sup>Aurora</sup>  
6:42 a.m. E.S.T.  
11:42 UT in twl ne  
very old Crescent Moon and Venus and Jupiter in morning sky. Moon 35 hours from New

RW Tau

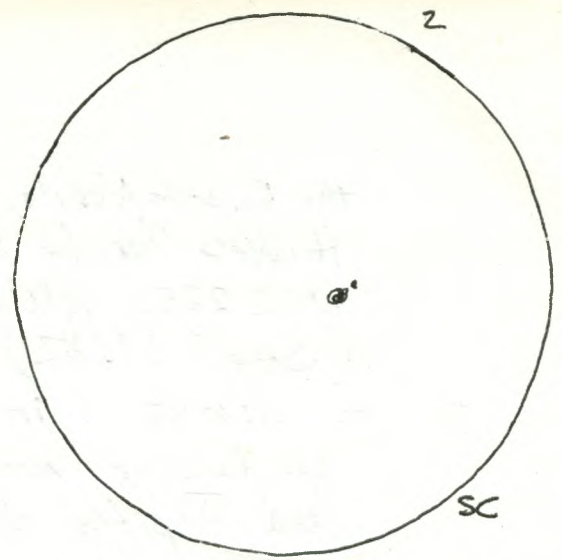
Vesta

Y Tau

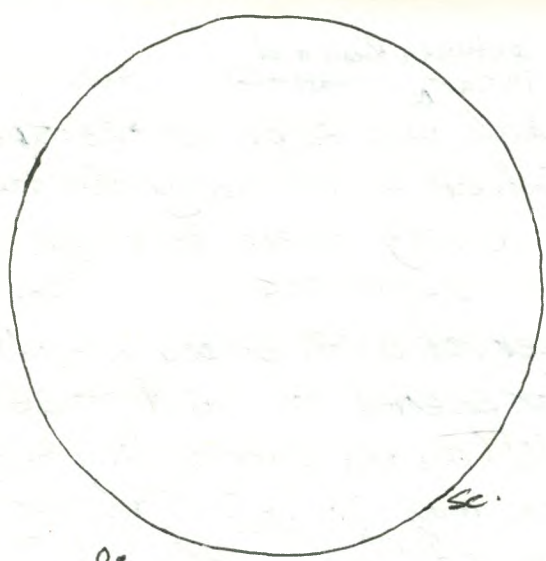
Gegenschein



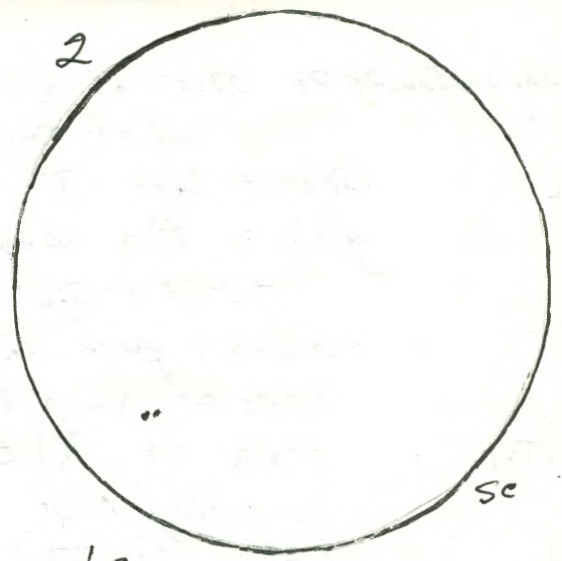
2g  
7s  
RSN27 Jan. 29  
19:30-19:35UT



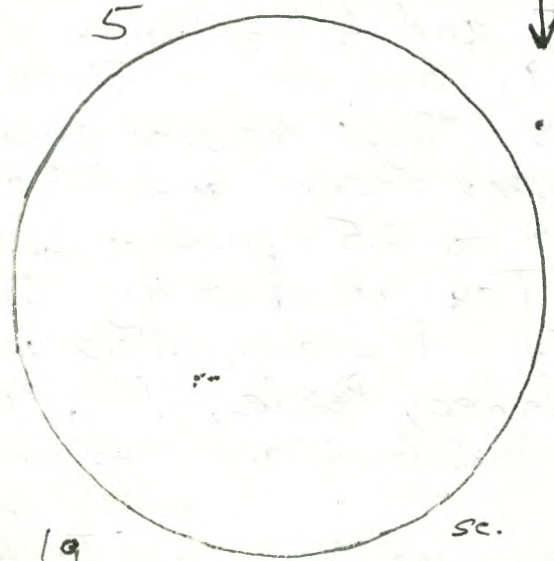
1g  
2s  
RSN12 Feb. 3  
20:15-20:20UT



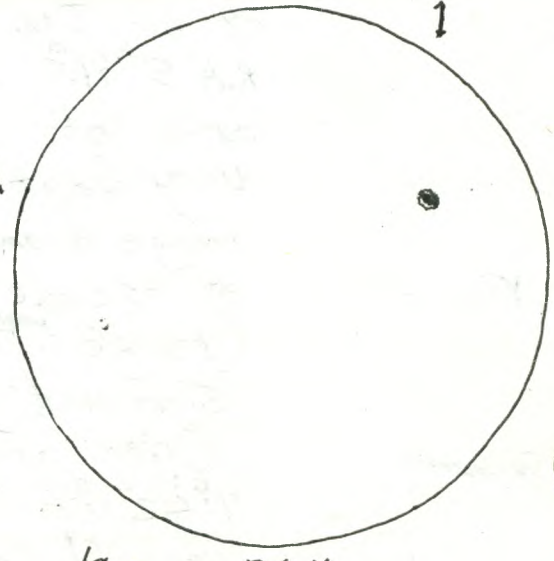
0g  
0s  
RSN0 Feb. 6.  
21:05-21:15UT



1g  
2s  
RSN Feb. 8.  
20:27-20:30UT



1g  
5s  
RSN15 Feb. 7  
20:15-20:25UT



1g  
1s  
RSN11 Feb. 11  
20:30-20:35UT

1995

Su. Jan. 29 19:30-19:35 UT ss  
sun 2g 7s RSN 27

C-8, 32, 28, 20, 15.5

Su.-M. Jan. 29-30 03:30 UT nd  
-definite Auroral glow in N. amid <sup>ne</sup> some clouds  
and up only about 25°

F. Feb. 3 20:15-20:20 UT ss  
sun 1g 2s RSN 12.

C-8, 32, 28, 20, 15.5

Su.-M. Feb. 5-6 05:30-05:45 UT y  
- Under spectacularly clear conditions, I observed naked-eye  
seeing winter and spring constellations. Mars in Leo  
and near opposition was very bright. The Gegenschein in  
Gemini, Cancer, and Leo was visible! The weather was  
very cold.

S-8(?) T 9.5+(!) ne

Gegenschein

M. Feb. 6 21:05-21:15 UT nd and ss  
sun 0g 0s RSN 0 -some interference from trees

C-8, 32

T. Feb. 7 20:15-20:25 UT ss  
sun 1g 5s RSN 15

C-8, 32, 28, 20, 15.5

W. Feb. 8 20:27-20:30 UT ss  
sun 1g 2s RSN 12

C-8, 32, 28, 20, 15.5.

Sa. Feb. 11 20:30-20:35 UT ss  
sun 1g 1s RSN 11

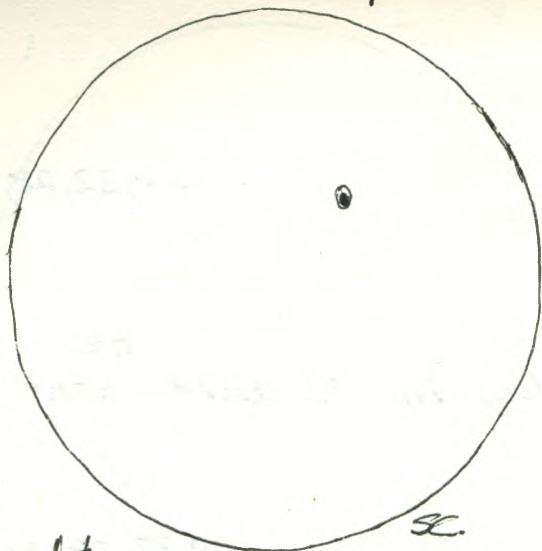
C-8, 32, 28, 20, 15.5

Su. Feb. 12 20:25-20:30 UT ss  
sun 1g 1s RSN 11.

C-8, 32, 28, 20, 15.5

S.-M. Feb. 12-13 05:00-05:15 UT t  
Mars: North Polar cap visible, but markings fairly  
indistinct - only hints of them.  
- very cold

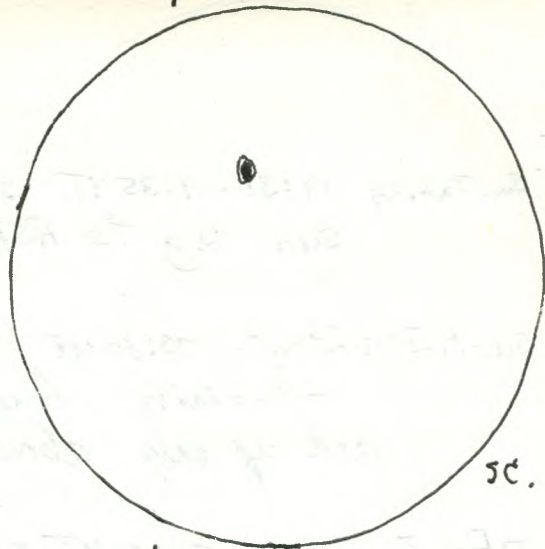
gml C-8, 12, 7.4



19  
15  
RSN11

Feb. 12  
20:25-20:30 UT

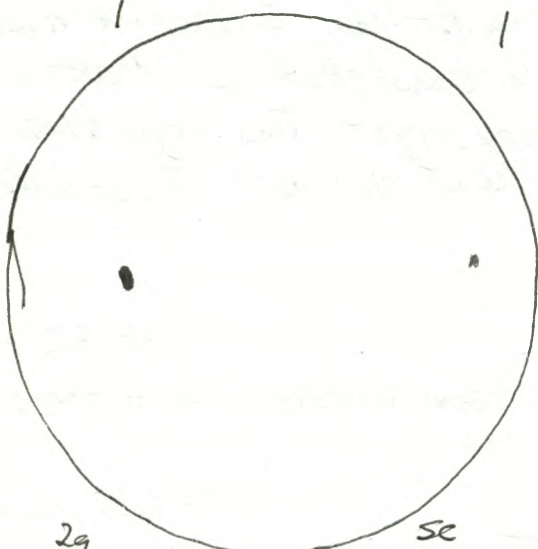
SE



19  
15  
RSN11

Feb. 13  
20:40-20:45 UT.

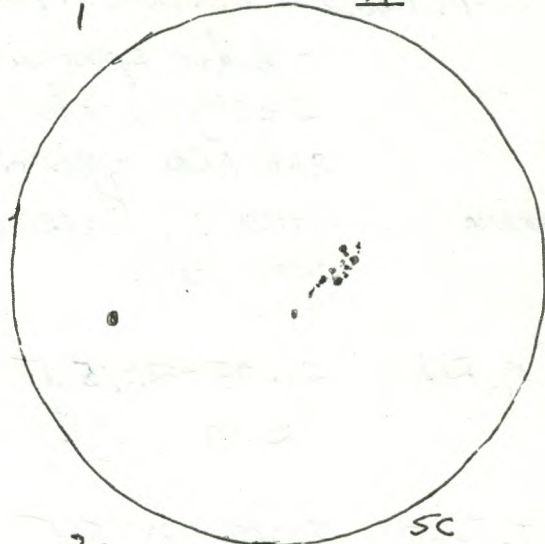
SE.



29  
25  
RSN22

Feb. 16  
20:20-20:25, 20:45

SE



39  
165  
RSN46

Feb 19  
20:05-20:10 UT

SE

Venus

Jupiter

SE

M. Feb. 20

11:00 UT  
(6:00 a.m. E.S.T.)

Jupiter

moon

Venus

Scorpius

SE

F-S. m Feb 25 10:15 UT  
5:15 a.m. E.S.T.

1995

M. Feb. 13 20:40-20:45 UT ~~ss~~ t c-8, 32, 28, 20.  
Sun 1g 1s RSN 11.

M.-T. Feb. 13-14 01:00-01:15 UT t gml c-8, 7.4, 5m.  
Mars: N. Polar Cap visible, but markings not very distinct.

Th. Feb. 16 20:20-20:25 UT and 20:45 SS c-8, 32, 28, 20, 15.5  
Sun 2g 2s RSN 22

Su. Feb. 19 20:05-20:10 UT SS c-8, 32, 28, 20, 15.5  
Sun 3g 16s RSN 46

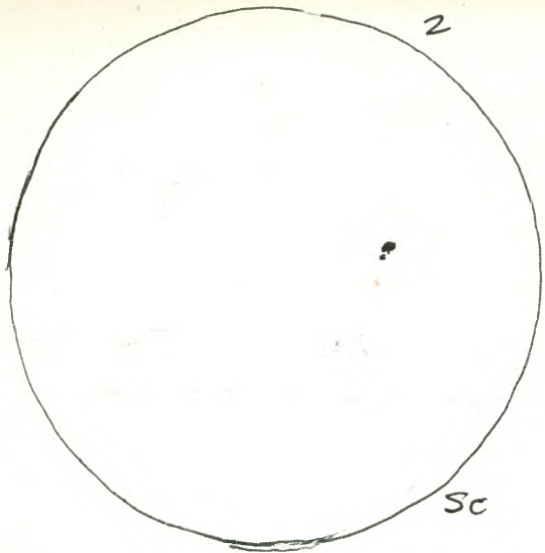
S.-M. Feb. 19-20 m 11:00 UT in twl ne  
Venus and Jupiter in SE.  
Venus fading very slightly; Jupiter increasing in brightness

T.-W. Feb. 21-22 03:50-03:55 UT nd S-(?) T 9.5! ne  
winter constellations in a very transparent sky viewed briefly after the astronomy class in Perth.

F.-S. Feb. 24-25 10:15 UT in twl ne  
in clear SE morning sky, beautiful array of Moon with Venus below and Jupiter above and to the right and also the stars of the constellation Scorpius

Sa. Feb. 25 19:15-19:20 UT SS c-8, 32, 28, 20, 15.5  
Sun 1g 2s RSN 12

Sa.-Su. Feb. 25-26 02:30-04:30 UT y S-8(?) T 9-9.5 20x100b  
M42, M43, M78, area of R Lep - almost undetectable, area of T Pyxidis, M46, M47, Mars, M44, M41, R Leonis - about mag 7, M45, Hyades, RW Tau - an unusual variable (See S. & T, Jan. 1995 p. 85-89) Vesta - near  $\zeta$  Tau (See S. & T. Jan. 1995, p. 89), M65, M66, NGC 3628, M1, Double Cluster in Perseus.



19  
25  
RSN12

Feb. 25  
19:15-19:20 UT



Relative Scaup Numbers

1894	My Observation	AAVSO	SIDE Brussels
May 27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
June 1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
8	24	37	43
9	51	41	43
10	66	45	50
11	75	50	63
12	77	53	53
15	56	54	54
16	44	48	52
17	34	41	42
18	11	32	37
19	0	25	37
21	0	2	14
22	0	14	15
23	0	22	22
25	0	26	29
29	37	21	26
July 7	67	54	47
8	51	58	60
9	53	49	49
10	85	59	60
11	82	65	72
12	71	74	68
13	25	58	59
14	29	57	45
17	38	46	53
18	28	44	48
19	35	27	29
20	37	24	29
22	14	16	19
23	17	13	16
24	20	14	14
29	0	6	7
31	0	12	10

My Observation	AAVSO	SIDE Brussels
Aug. 3	15	14
5	26	18
6	14	17
7	12	13
8	26	14
7	53	45
21	12	16
22	22	11
23	25	21
27	0	11
29	11	17
30	30	25
Sept. 1	35	38
6	71	58
7	74	54
8	46	49
10	33	31
11	11	15
14	11	9
16	0	9
18	0	20
19	0	14
20	0	10
21	0	9
22	0	10
25	31	21
30	22	15
Oct. 1	22	18
2	22	19
5	55	42
6	55	54
7	58	47
8	55	43
10	61	52
11	59	48
12	61	43
14	61	55
15	47	60
16	46	52
21	27	38

My Observation	AAVSO	SIDE Brussels
Oct. 23	15	25
26	35	47
27	19	56
Nov. 2	47	44
11	11	17
19	0	14
20	0	10
22	0	9
27	0	21
Dec. 2	0	7
8	22	22
11	36	51
12	28	40
13	30	38
19	12	24
21	14	17
22	18	25
26	22	31
Jan. 9	0	0
26	22	29
27	11	24
28	22	36
29	27	20
Feb. 3	12	40
6	0	33
7	15	16
8	12	13
11	11	14
12	11	11
13	11	13
16	22	27
19	46	52
25	12	26

1158

1190

122

**TELESCOPE MAGNIFICATION**

OCULAR in	C-14(3910 <sup>m</sup> FL)	C-8(2000 <sup>m</sup> FL)	ASTROSCAN(445 <sup>m</sup> FL)
55mm	71 X	36.4 X	
40	97.8	50	11.1 X
36	108.6	55.6	12.4
32	122.2	62.5	13.9
28	139.6	71.4	15.9
26	150.4	76.9	17.1
25	156.4	80	17.8
21.5	181.9	93	20.7
20	195.5	100	22.3
19	205.8	105.3	23.4
18	217.2	111.1	24.7
17	230	117.6	26.2
15.5	252.3	129	28.7
15	260.7	133.3	29.7
13	300.8	153.8	34.2
12.7	307.9	157.5	35
12.5	312.8	160	35.6
12	325.8	166.7	37.1
9	434.4	222.2	49.4
8	488.8	250	55.6
7	558.6	285.7	63.6
5	782	400	89
4	977.5	500	111.3
7.4	528.4	270.3	60.1

**STELLAR MAGNITUDES FOR COMPARISON PURPOSES**

- 0 Capella, Vega
- 1 Aldebaran
- 1.5 Castor
- 2 Polaris, Alpha Andromedae
- 2.5 Alpha Pegasi
- 3 Zeta Tauri, Gamma Ursae Minoris
- 3.5 Alpha Trianguli
- 4 Mu Andromedae
- 4.5 Nu Andromedae, Delta Ursae Minoris
- 5 Chi Cassiopeiae

**Local Mean Sidereal Time ~~For 1994~~**

For 1995:  
 L.M.S.T. = 6.<sup>h</sup>612669774 + 0.<sup>h</sup>0657098243d  
 + 1.<sup>h</sup>00273790934t - 5.<sup>n</sup>11123737

Longitude: W. 76° 40' 06."818  
 76.<sup>o</sup>66856055  
 5.<sup>n</sup>11123737  
 5.<sup>n</sup>06<sup>m</sup>40.<sup>s</sup>454532

Latitude: N. 44° 45' 32"  
 44.<sup>o</sup>758

354mm  
 200  
 105

Useful  
 mag.

FABRIQUE EN CHINE  
 MADE IN CHINA

0.2D 71 40 21  
 to to to  
 2D 708 400 210  
 (#D (1416) (800) 420  
 7.4 528.4 270.3 60.1