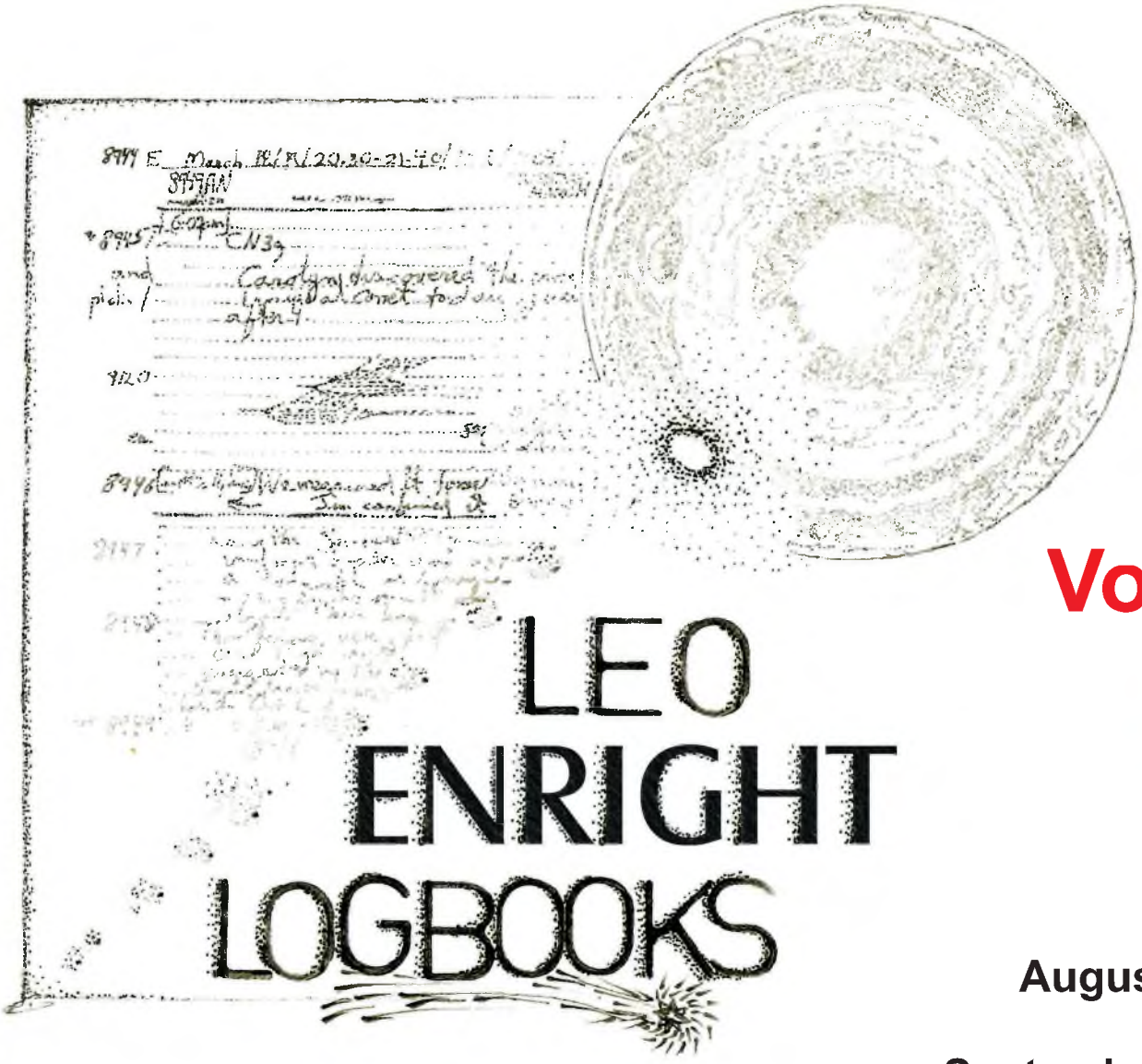


LEO ENRIGHT LOGBOOKS

Volume 7

August 27, 1991
to
September 19, 1992

7

FANCO

cahier SCIENCE book

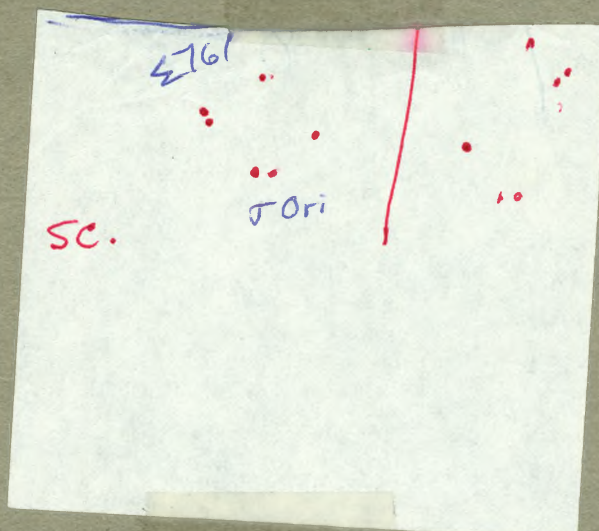
PAPIER EPAIS — HEAVYWEIGHT PAPER — 100 PAGES

name. nom Leo Enright - Observing Log

subject. sujet August 27, 1991 - September 19, 1992.

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

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


Σ761
σ Ori
SC.

Observing Log 1991, 1992.

Code:

Year	Day	Date	Time	Place	Sky Conditions	Instrument(s)	Object(s) Observed
e.g.:							
1991	Th.	Aug. 29	18:15-18:25 UT	ss	ss	C-8, 32, 28, 20, 15.5	sun

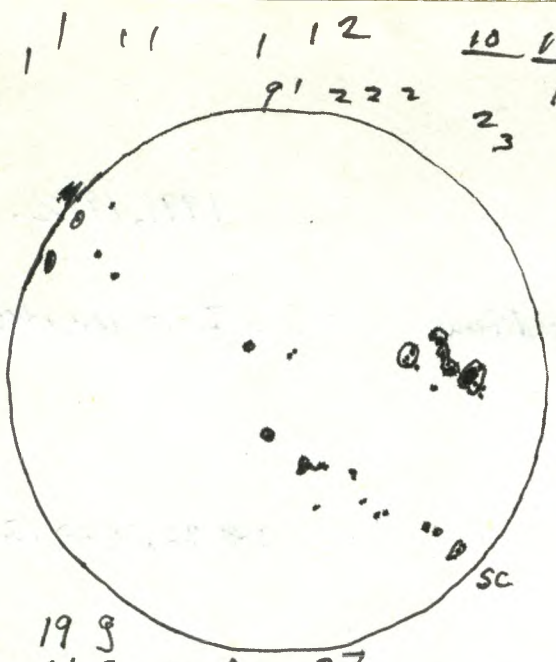
Time:
- UT - Universal Time
- n - night
- m - morning
- f - forenoon
- a - afternoon
- e - evening

Place:
- y - yard
- oo - Oso Observatory
- ss - solar station
- nd - north deck
- sh - shoreline of lake
- t - tabletat solar station
- in - indoors, through window

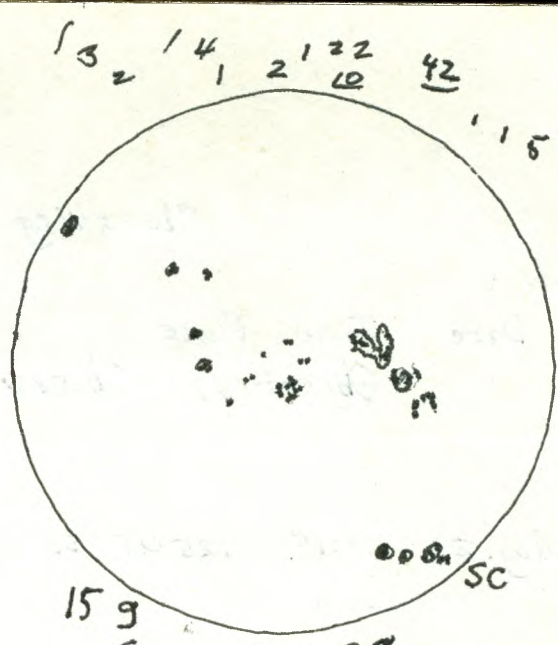
Sky Conditions:
- S - Seeing
- T - Transparency
- 0-10 scale: 0 = nil or extremely poor
- 10 = absolutely superb
- cml - crescent moonlight
- gml - gibbous moonlight
- fml - full moonlight
- tw - twilight

Instrument(s):
- C-14 - Celestron 14
- C-8 - Celestron 8
- Ast - ~~Astroscan~~ 2000
- EG - Easy Guider
- EG/f - Easy Guider, lens forward
- EG/b - Easy Guider, lens back
- 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 - piggy back
- o/a - off-axis
- Ba - Barlow lens

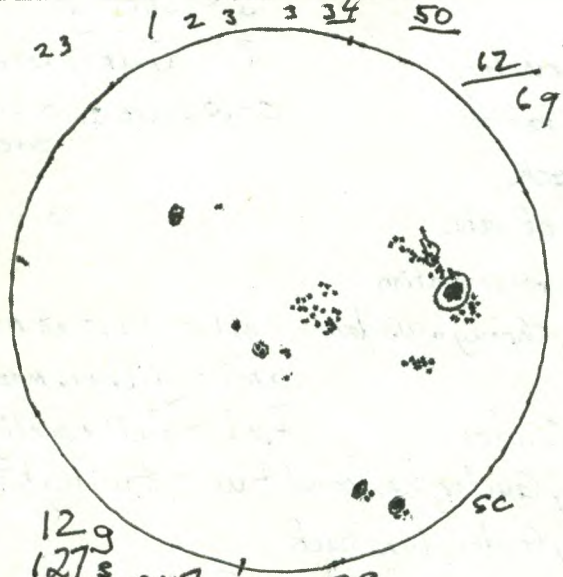
Object(s)
- PN - Planetary Nebula
- GC - Globular Cluster
- OC - Open Cluster
- SG - Spiral Galaxy
- EG - Elliptical Galaxy
- D - Double Star



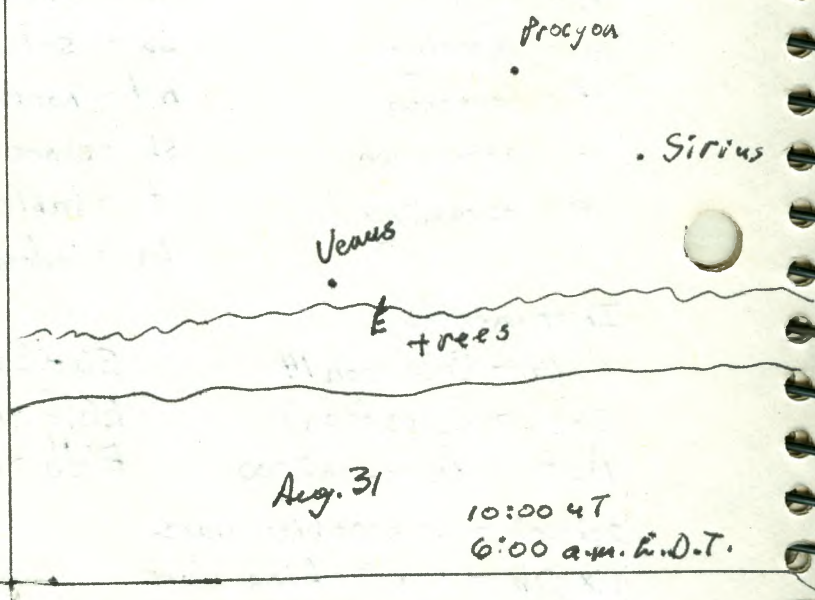
19 g
61 s
RSN 251 Aug. 27
19:10-19:25 UT



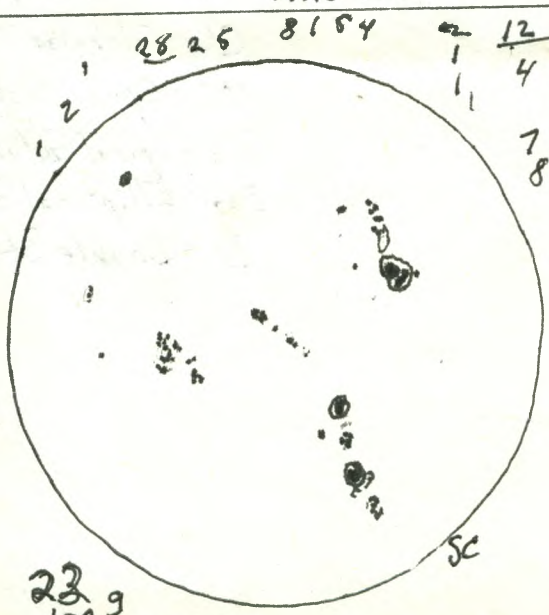
15 g
s
RSN Aug. 28
20:40-20:50 UT



12 g
127 s
RSN 247 Aug. 29.
19:10-19:25 UT

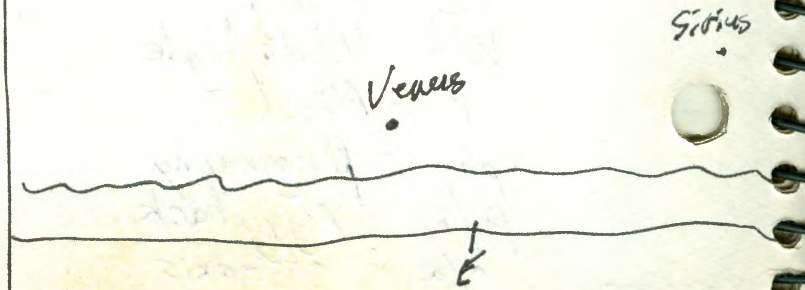


Aug. 31
10:00 UT
6:00 a.m. E.D.T.



23 g
102 s
RSN 322 Aug. 31.
19:55-20:05 UT

Sketch and notes Aug 31-Sept 1.



1991

Tu. Aug. 27 19:10-19:25 UT ss c-8, 32, 28; -20, 15.5
sun 19g 61s RSN 251

W. Aug. 28 20:40-20:50 UT ss hazy c-8, 32, 28, 20, 15.5
sun 15g 78s RSN 228

Th. Aug 29 m 09:05-09:10 UT dock, sh tw ne
winter constellations - Orion, Taurus, Gemini; Sirius up

Th. Aug. 29. 19:10-19:25 UT ss c-8, 32, 28, 20, 15.5.
sun 12g 127s RSN 247

Th-F: Aug 29-30 01:45-03:00 UT y twand gml 20x100b; 9x63b
20x100b: M22, Uranus, Neptune, areas of summer Milky Way, M13, M92.
9x63b: M11, Milky Way Areas, Co1299.

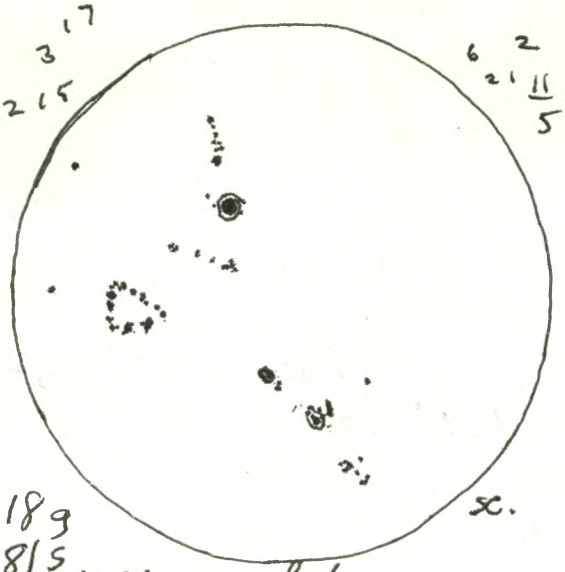
Sa. Aug. 31 m 09:45-10:10 UT dock near sh tw+gml ne
V Venus seen just above trees in E.

Sa Aug 31 a 19:55-20:05 UT ss c-8, 32, 28, 20, 15.5
sun 22g 102s RSN 322

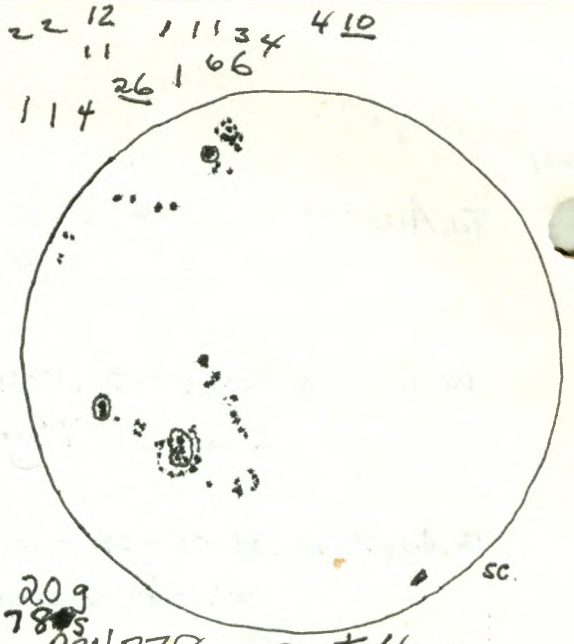
Sa-Su. Aug. 31-Sept. 1 01:45-03:00 UT oo c-14, 32, 15.5, 13, 8
M57 (tried to see central star), M22, M11
Saturn, NGC 7331 and area of Stephads Quintet

03:00-04:08 UT y ne
A very interesting and quite spectacular Aurora.
appearing as strong glow in N. up to 10°-15° at first
and some spiking in N.W.; later developing into intense
flaming up to the zenith and over most of N. sky,
dying down near 04:00 UT - coronal activity and some red

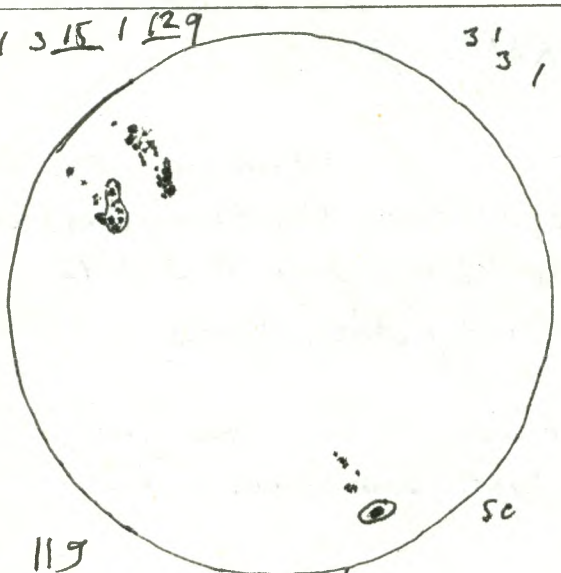
Su. Sept. 1. m 10:05-10:10 dock near sh. tw gml. ne
V Venus in E about 2° above trees



18 9
81 S
RSN 261 Sept. 1.
18:50-19:00 UT



20 9
78 S
RSN 278 Sept. 4



11 9
50 S
RSN 160 Sept. 6
21:20-21:30 UT

1991.

Su. Sept. 1 18:50-19:00 UT SS C-8, 32, 28, 20, 15.5
sun 18 g 81 s RSN 261

S.-M. Sept. 1-2 02:30-02:45 UT yard at Read s8(?) T9. ne
some Auroral glow in N. and one vertical band, but not a spectacular display.

M.-T. Sept. 2-3 23:50-23:55 UT in car on road in Richland Twp. ne
very clear view of earth's shadow in E. - up 10°.
02:00-03:00 UT SS andy s8-9(?) T8.5-9 C-8, 19; 9x63b
C-8: Saturn and 3 moons at least, M22, M13, βCyg, M57, M15
9x63b: Uranus, Neptune, M22, M33, M31 area, h+χ Per.
M. 09:55-10:00 UT dock near sh. tw & cml ne
Venus up about 3°-4° above trees in E.
(Mercury and possibly Jupiter might have been seen if I had used binoculars

W. Sept. 4 20:40-20:50 UT SS C-8, 32, 28, 20, 15.5
sun 20 g 78 s RSN 278

W.-Th. Sept. 4-5 05:30 UT 8nd ne
- fairly strong Auroral glow in N.

Ast, 28, 19, 15.8
M 09:45-10:15 UT dock near sh cml, tw 9x63b
- crescent moon about 3d 1h before new,
- slim crescent Venus about 10° above E horizon
- searched unsuccessfully for ~~Venus~~ Mercury, Jupiter, and Regulus near Venus but did not spot them.

TH. Sept. 6 m 01:45-01:55 UT dock near sh some clouds cml, tw ne
Venus and crescent moon about 2d before New Moon

F. Sept. 6 21:20-21:30 UT SS C-8, 32, 28, 20, 15.5
sun 11 g 50 s RSN 160

Mercury
Venus
Jupiter
Moon 24h 50m from New
seen with b.

E

M.R.: 9:33 UT (5:33 E.D.T.)
Sunrise: 10:36 (6:36 E.D.T.)

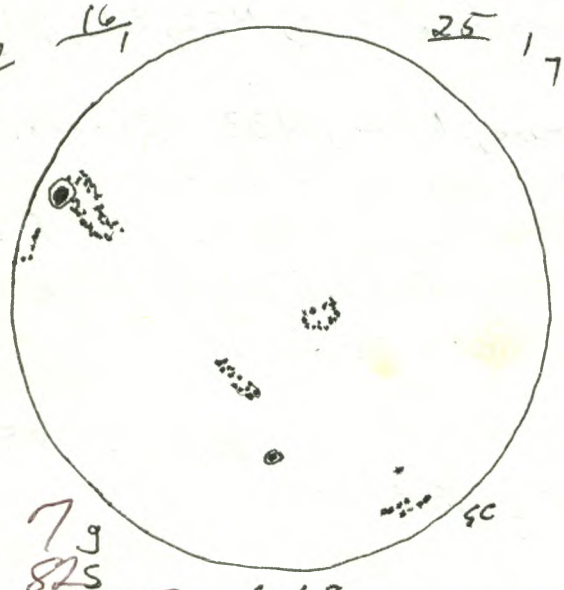
Sept. 7 10:10-10:12 UT
(6:10 - 6:12 E.D.T.)

Mercury
Venus
Jupiter

E

- Seen from near Thomasburg.

Sept. 8
9:45 - 10:15 UT



7 g
82 S
RSN 152

Sept. 8.
20:15 - 20:20 UT

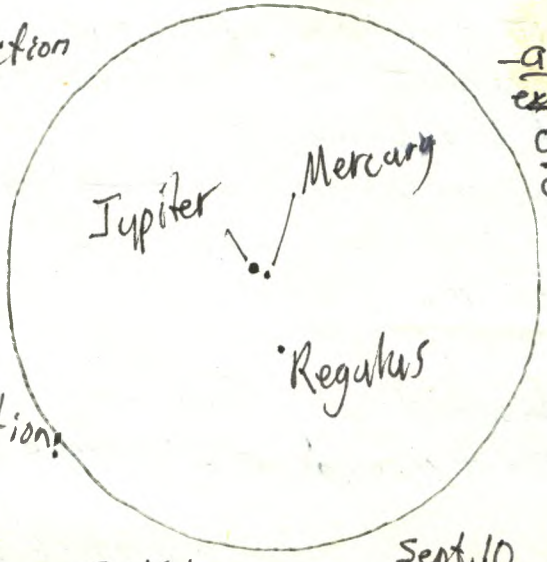
Mercury
Venus
Jupiter
Regulus

E

Sept. 9.
9:45 - 10:10 UT

Conjunction of Jupiter and Mercury

Separation: 0.07°



9x63b view

~~an extremely~~ close conjunction

Sept. 10
09:45 UT

11 g
48 S
RSN 158

Sun
Sept. 10
21:45 - 22:00 UT.

1991

F.-S. Sept. 6-7 04:00-05:00 UT y partly cloudy ne
a few constellations, one meteor, about mag. 1, probably a Perseid

m 09:40-10:20 UT dock near sh. mtw ne; 9x63b
in E., Venus up about 10° and to its left Mercury and
VMJ Jupiter and later at about 10:10-10:12 UT the
very slender crescent moon about 3°-5° above the
old moon horizon. The moon was only 24h 50m before New
which was listed as 11h 01m on Sun. Sept. 8. The 3
planets were easily seen ne before 10h UT; the
moon could be seen only with the binoculars

S-S. Sept. 7-8 01:30-04:30 UT Walter MacDonald's farm about 5 km E. of Thomasburg haze, intermittent cloud Walters 17" + telescope 20x100b
Walters 17" telescope: M13, M27, M57
20x100b: M31, Uranus, Neptune, Saturn, Alcor + Mizar,
M8, M11 and R Scuti, M33.
Cloud cover halted the observing.

09:45-10:15 UT near Thomasburg tw, clear in E 9x63b, ne.
VMJ Venus, Mercury, Jupiter in E.

Su. Sept. 8 20:15-20:20 UT C-8, 32, 28, 20, 15.5
Sun 7g 82s RSN 152

S-M. Sept 8-9 09:45-10:10 UT dock near sh mtb ne, 9x63b
VMJ ne: Jupiter, Mercury, Venus easily seen
9x63b: 3 planets and Regulus.

M.-T. Sept 9-10 03:30 UT y ne
Auroral arc up 30° in N.

m 09:40-09:55 UT dock near sh some cloud; tw 9x63b
VMJ - Venus seen easily ne, but because of clouds
Jupiter and Mercury very near an extremely close
conjunction could be seen only with the b.
Their listed separation was only 0.07 at 10h UT.
Regulus was also very close

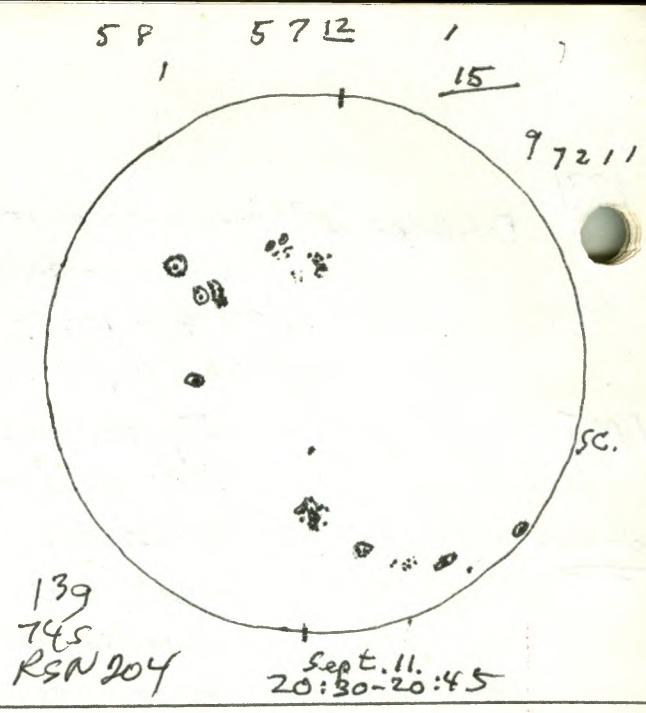
Tu. Sept. 10 21:45-22:00 UT SS C-8, 32, 28, 20, 15.5
sun 11g 48s RSN 158

Jupiter Regulus Venus

Mercury

E

Sept. 11 09:40-09:45 UT



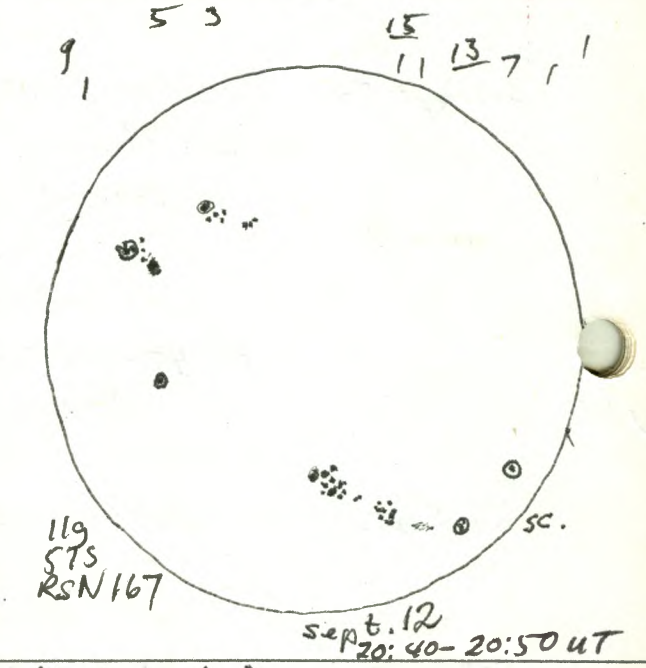
Jupiter Regulus

Venus

Mercury

E

Sept. 12 09:45 UT

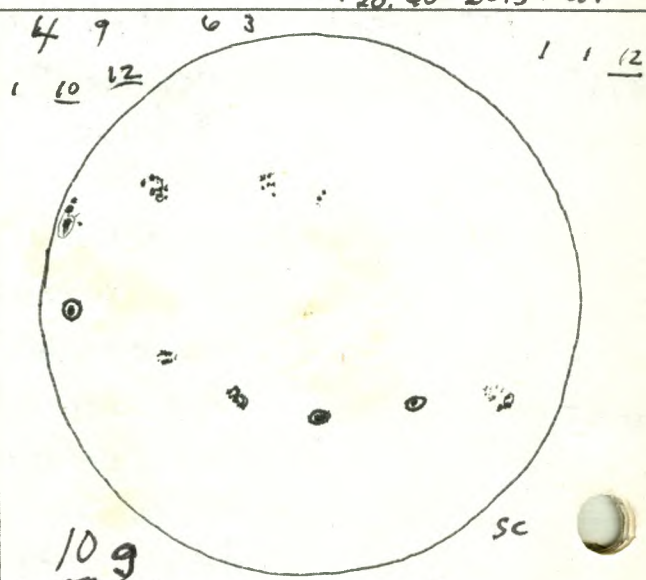


Mercury Jupiter Regulus ?Venus

Cloud Bank

E

Sept. 13. 09:40-09:45 UT
5:40-5:45 E.D.T.



1991

T:W. Sept 10-11 09:40-09:45UT dock nearsh. tw. ne
VMJ Venus, Jupiter with Mercury 1° below and Regulus very close to Jupiter - a spectacular E view in very clear skies (Mercury + Jupiter now 1° apart.)

W. Sept. 11. 20:30-20:45UT ss. C-8, 32, 28, 20, 15.5
sun 13 g 74 s RSN 204

W.-Th. Sept. 11-12 m 09:40-09:45UT dock nearsh mtw. ne
VMJ Venus, Jupiter, Mercury and Regulus making spectacular view in morning twilight (Mercury and Jupiter now about 2° apart.

Tconsecutive V

Th. Sept. 12 20:40-20:50UT ss C-8, 32, 28, 20, 15.5
sun 11 g 57 s RSN 167

Th:F. Sept. 12-13 m 09:40-09:45 dock nearsh. tw ne
MJ - Mercury and Jupiter with Mercury now 3° below Jupiter. Venus hidden by clouds. Regulus near Jupiter.

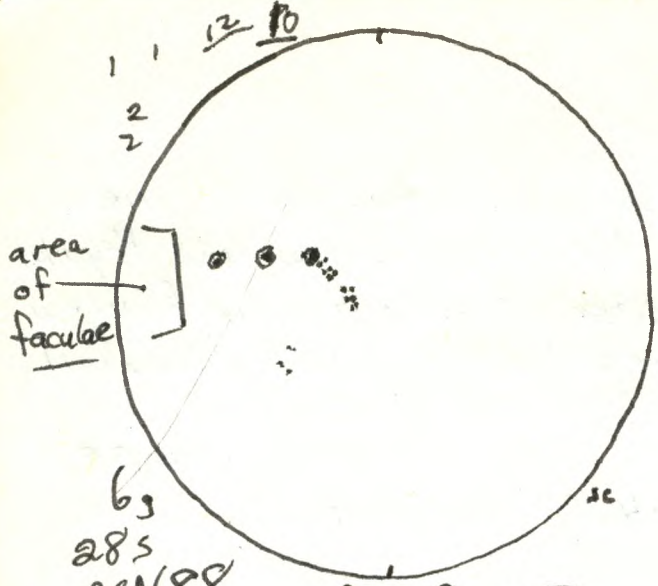
seven consecutive MJ

Sa. Sept. 14 17:50-18:05 UT ss C-8, 32, 28, 20, 15.5
sun 10 g 59 s RSN 159

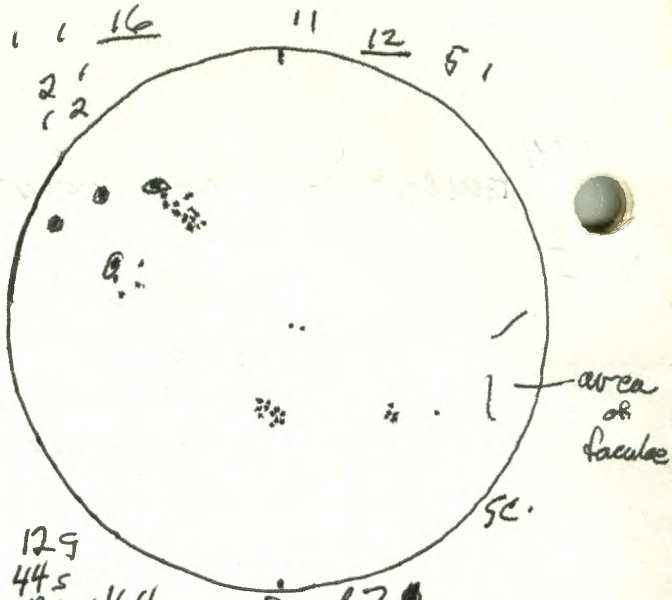
T.-W. Sept. 17-18 01:25-01:35UT y gml 20x100b
lunar craters with terminator near Copernicus, Saturn, M31, M15.

Th. Sept. 19 20:35-20:40UT ss C-8, 32, 28, 20, 15.5.
sun 6 g 28 s RSN 88
large area of faculae

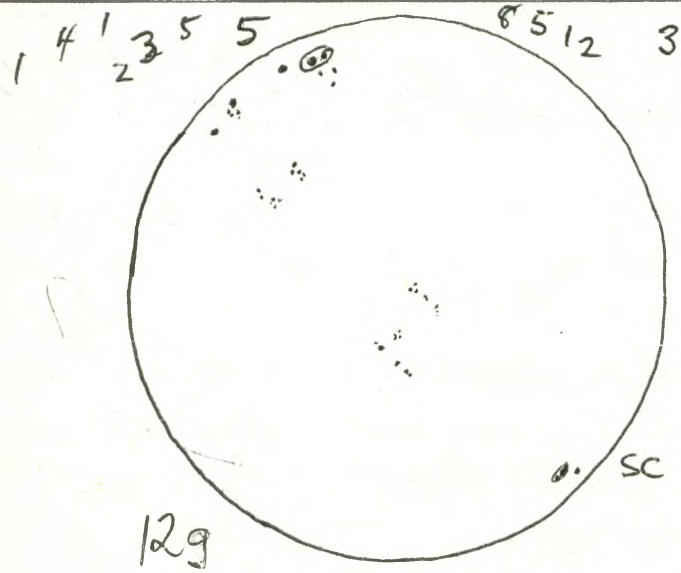
Sa. Sept. 21 20:15-20:25UT ss C-8, 32, 28, 20, 15.5.
sun 12 g 44 s RSN 164



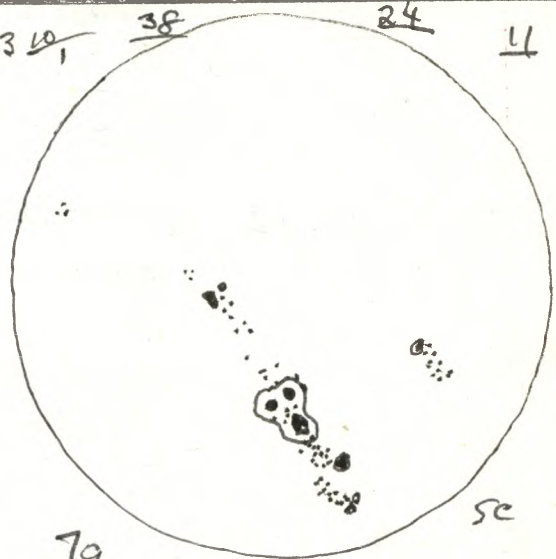
6g
28s
RSN88
Sept. 19
20:35-20:40 UT



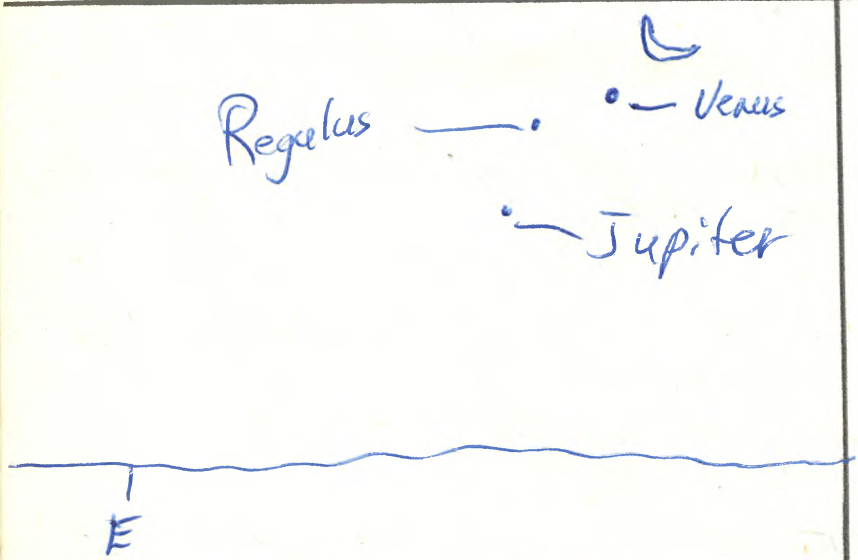
12g
44s
RSN164
Sept. 20
20:15-20:25 UT.



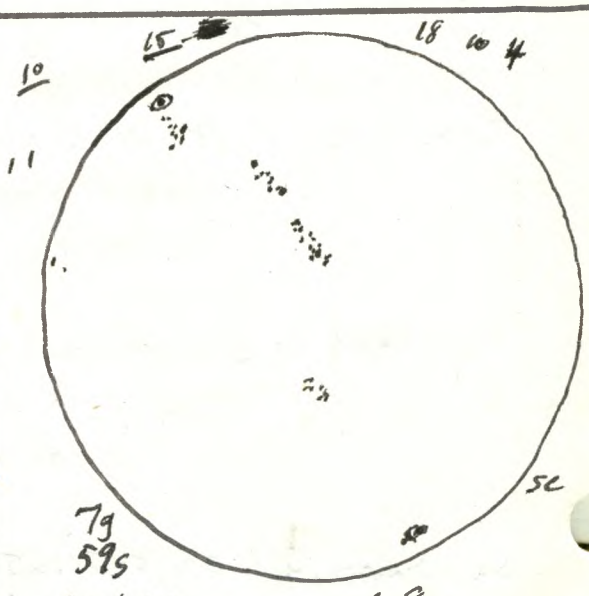
12g
40s
RSN160
Sept. 23
20:00-20:35 UT



7g
90s
RSN160
Sept 29
20:05-20:15 UT



Oct. 3-4. 09:45 UT
(5:45 E.D.T.)



7g
59s
RSN129
Oct. 8
20:30-20:40 UT

1991 M. Sept. 23 21:00-21:35 UT ss. C-8, 32, 28, 20, 15.5
Sun 12g 40s RSN160

M-T. Sept. 23-24 00:00 UT y fml with Denise ne
Mir Space Station (in all probability) going from NW to NE, at about 2nd mag.

Su. Sept. 29 20:05-20:15 UT ss C-8, 32, 28, 20, 15.5
Sun 7g 90s RSN160

Th-F. Oct. 3-4 m 09:45-09:50 UT dock the ne
Venus, Jupiter, and Regulus near moon in morning sky.

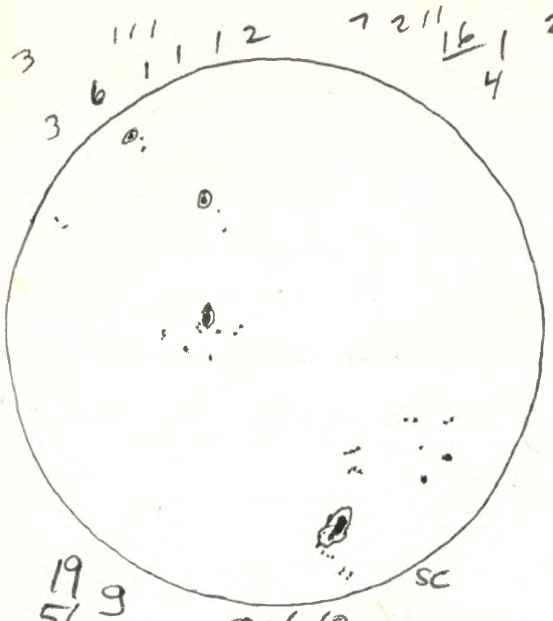
S.-M. Oct. 6-7 04:15-05:00 UT y 5.8(?)T9. 20x100b.
- M36, M37, M38, M15, M42, Pleiades, Hyades, M1
- bright Auroral glow in N. during session, with vertical spikes extending upward about 30° or more during the 15 min from 04h45m UT to 05h00m UT. Also, some reddish colour was seen E. of N. for a period of time.

Tu. Oct. 8 20:30-20:40 UT ss C-8, 32
Sun 7g 59s RSN129

T.-W. Oct 8-9 03:15-03:20 UT nd some cloud ne
- slightly reddish Auroral glow in N. with one spike extending upward about 20°.

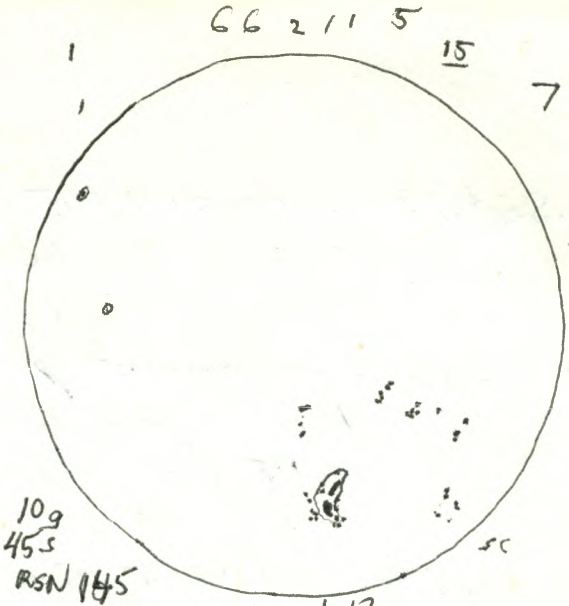
Th. Oct. 10 20:40-20:50 UT ss C-8, 32, 28, 20, 15.5
Sun 19g 56s RSN246

Sa Oct. 12 17:50-18:00 UT ss C-8, 32, 28, 20, 15.5
Sun 10g 45s RSN145



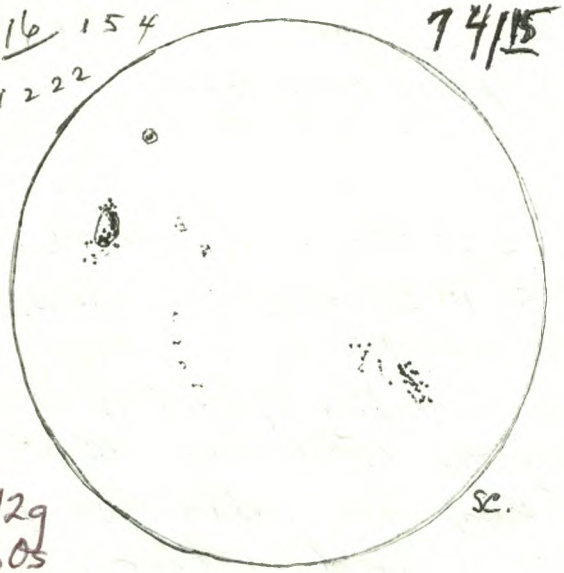
19 9
56 S
RSN 246

Oct. 10
20:40-20:50 UT



10 g
45 S
RSN 145

Oct. 12
17:50-18:00 UT



12 g
60 S
RSN 180

Oct. 17
20:30-20:40 UT.

Regulus
Jupiter
Venus

E

mornings of Oct. 28, 29.

10 g
17 S
RSN 277

Oct 29
18:45-19:00 UT

1991 Th. Oct. 17 20:30-20:40 UT SS C-8, 32, 28, 20, 15.5.
Sun 12g 60s RSN180

S.-M. Oct. 27-28 m10:30 UT in ne
Venus, Jupiter and Regulus high in the SE.

M. Oct. 28 21:10-21:20 UT ne; #14 Arc Welders Glass
sun: One or two dark areas or spots visible
in the S. hemisphere

M.-T. Oct. 28-29 18:30-07:00 periodically ne.
A. A very active Aurora, for the first hour
mainly a bright arc and glow in the N,
then becoming very active around 2h UT
to 3h UT with flaming and a very large
very active coronal area in the zenith.
The coronal activity extended down about 30°
from the zenith. In the E. there was a
very red area and redness was seen in the
N.W.
M 10:00 UT in ne;
Aurora continuing with flaming in N. - evidently
a strong Aurora throughout the night.
Venus, Jupiter, and Regulus high in SE.

Tu. Oct 29 18:45-19:00 UT SS e-8, 32, 28, 20, 15.5
Sun 10g 177s RSN277 one enormous group

Th.-F Oct. 31-Nov. 1 23:15-00:00 UT nd ne
- a very active and colourful Aurora easily
evident over 20 min before the end of
astronomical twilight (which was at about 23:34 UT)
- glow in N. and up to zenith, red patches in
N.W and NE including red vertical band in
N.W. Auroral patches in S and SW.
Some flaming. Clouds ended good viewing.

• Regulus

• Jupiter

• Venus

☾ Crescent Moon

E

Morning Sky 10:57 UT Mon. Nov. 4, 1991 S
(5:57 EST)

• Jupiter

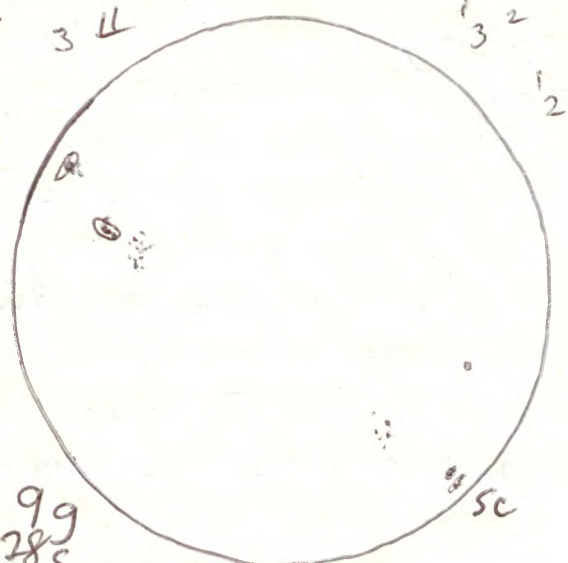
• Venus

E S

Morning Sky

4 3 2 1

3 2



99
28
S

SC

RSN 118 Nov. 17
18:30-18:40 UT

1991

S.-M. Nov. 3-4 m. 10:57 UT in tw ne
Regulus, Jupiter, Venus and crescent moon forming a beautiful long line in SE sky.

M.-T. Nov. 4-5 00:00-02:00 UT periodically nd ne
- interesting Aurora, red in NW for awhile, with flaming and spikes in NW, N, and NE, up almost to zenith

m. 11:00-11:10 UT sh ne
Regulus, Jupiter, Venus, but very old crescent moon was not seen - probably not yet up or up high enough.

Th.-F. Nov. 7-8 04:15-05:15 UT y 5-8(?) T 8-9 20x100b.
M42, M43, M78, M35, M36, M37, M38, M31, M33, R Lep (near max ab about mag. 6.5-7.0) o Cet (Mira), M1, RX Eri

F.-S. Nov. 8-9 23:30-23:45 UT in car driving to Kingston ne
A. Aurora - flaming large vertical bands in N. and NE with considerable redness in NE.
05:00-06:00 UT in car driving from Kingston to and Syracuse ne
Aurora - N. half of sky filled with large vertical bands, spikes and areas of pulsation - some redness, and perhaps slightly greenish areas.

S.-S. Nov. 16-17 m 10:15 UT in ne
Venus and Jupiter in SE morning sky.

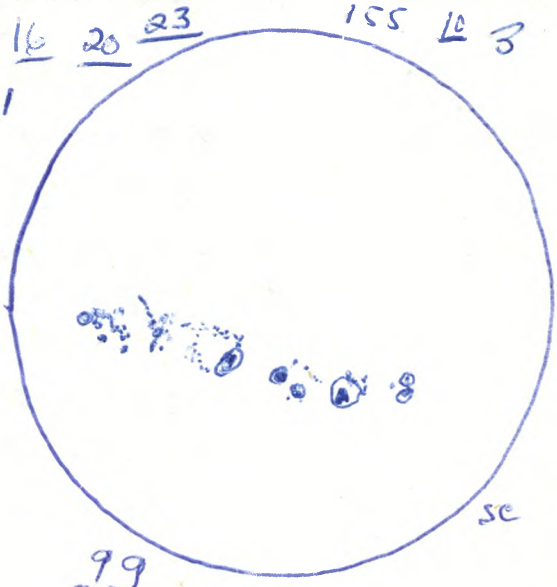
Su. Nov. 17. 18:30-18:40 UT ss c 8, 32, 28, 20, 15.5.
sun. 9g 28s RSN

S.-M. Nov. 17-18 00:30-00:50 UT on road between Read and Sharbot Lake gml ne
Aurora in N.: spikes and vertical bands, some green colour
01:40-01:50 UT gml Ast, 15.5 WF
Pleiades, Moon

5 9
12 S
RSN 62 Nov. 30 19:00-19:15 UT

9 9
42 S
RSN 132 Dec. 22 17:50-17:55 UT

9
130 S
RSN 220 Dec. 27 17:15-17:25 UT



9 9
84 S
RSN 174 Dec. 28 19:00-19:10 UT

- clouded out for partial lunar eclipse of Dec. 20-21

1991

M.-T. Nov. 25-26 22:40-22:41 UT y tw.; partly cloudy ne

Mir Space Station seen briefly amid fairly heavy clouds. It briefly seemed to appear quite bright, perhaps mag. -2.

15.5

Sa. Nov. 30 19:00-19:15 UT ss seeing very poor C-8, 32, ~~28, 20~~

sun 5g 12s RSN 62

F.-S. Dec. 13-14 05:50-06:25 UT y S8T9 ne

observed Geminid meteor shower near its peak (listed in O.H as at Dec. 14 17 h UT and in Astronomical Calendar as Dec. 14 11 h UT) seeing perhaps 1 meteor per minute, at least for a while and on average perhaps 5 (counted 17 to 20); some quite bright, being 0 to -2 in magnitude

Te Be

Su. Dec. 22 17:50-17:55 UT ss C-8, 32, 28, 20, 15.5.

sun 9g 42s RSN 132

F. Dec. 27 17:15-17:25 UT C-8, 32, 28, 20, 15.5

sun 9g 130s RSN 220

F.-S. Dec. 27-28 23:30-02:30 UT y S8T8 slight haze / Mount Pinatubo dust effect 20x100b

12M 8V M36, M37, M38, M35, M45, M31, M33, M42, M43, M41, M15, M78, ER Ori (near β Ori), RX Lep, RR Lep, RLep (near max. - beautiful), RX Eri, W Ori (near ε Ori), CK Ori, FO Ori.

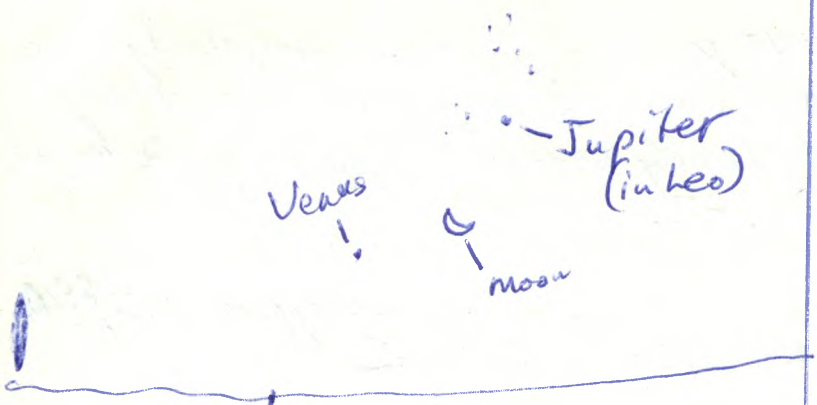
There seemed to be a faint slightly reddish glow in the NE, perhaps an Auroral glow.

One slow meteor seen moving from E to W high in SE sky.

Sa. Dec. 28 19:00-19:10 UT ss some haze C-8, 32, 28, 20, 15.5

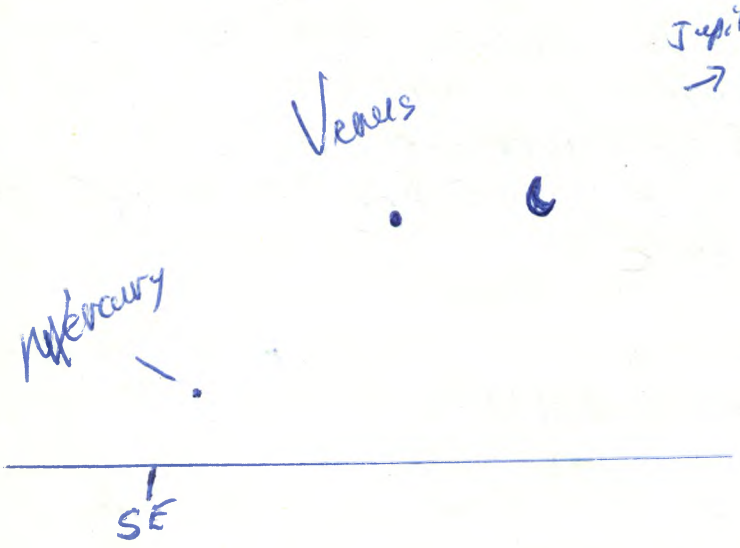
sun 9g 84s RSN 174

12 23 34 1 17 17 3 61



morning sky - Dec. 30
10:50 UT

109
105 S
RSN 205 Dec. 30.



Dec. 31 12:00 UT

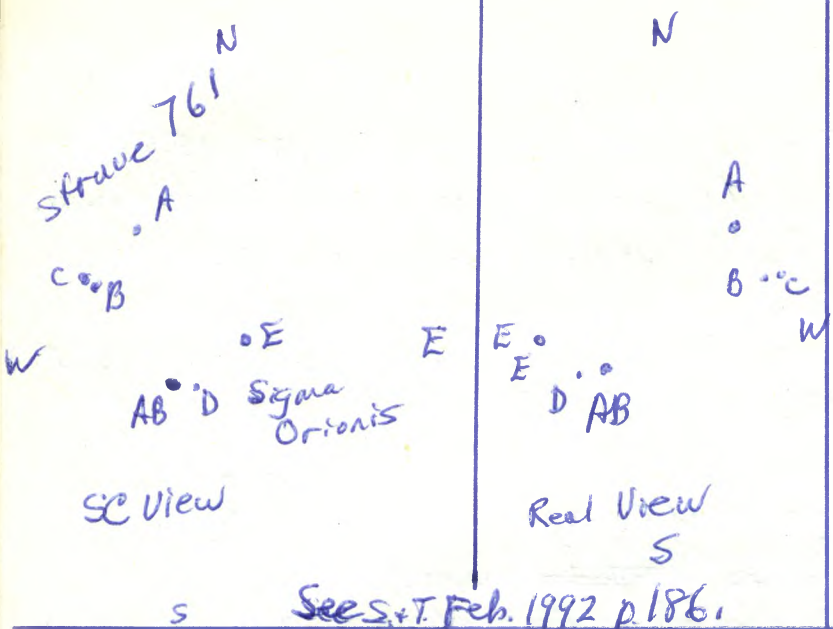
1991

Dec. 29-30 m 10:50-11:22 UT ss C-8, 32, 15.5
Jupiter and 4 moons, Lunar craters on waning crescent moon.
in observatory from floor: Venus - gibbous phase.

Dec 30 17:40-17:50 UT ss C-8, 32, 28, 20, 15.5.
sun 10 g 105 s RSN 205

M.T. Dec 30-31 23:30-00:15 UT ss AST., 21m
- searched near ~~Aries~~ Delphinus - ~~Pegasus~~ border for newly discovered comet (as heard on Skyline, discovered by Brewington and another amateur, ephemeris not yet known, reported going SE about 1° day from a position about 1° N of NGC 7006 (I-52) in Del.
01:30-06:55 UT y S8T9 Pinatubo effed noticeable 20x100b
M42, M43, CK Ori, VV Ori, RX Eri, R Lep (near max. - very red) RX Lep, RR Lep, EK Ori, S Canis Minoris (quite faint. - ? mag 10.2) (found from Map in S and T, Nov. 1991 p. 517), M36, M37, M38, R Leonis, Jupiter and 4 moons, M31, M33, area of S Monocerotis and NGC 2244 Mon, M51, area of T Pyxidis.
m 11:40-12:00 UT sh ne
saw and photographed Venus, Crescent moon, Mercury
Mercury low - about 5° above horizon.

1992 F.-S Jan 3-4 06:00-06:30 UT ~~fog~~ S8(:)T8 haze about 30% ne
- observed the Quadrantid Meteor Clouded Shower
near time of predicted peak of the shower
(O.H. 6h UT (1:00 a.m E.S.T.) and 10h UT
according to other sources (5:00 am E.S.T.)
saw 7 meteors, some fairly bright - of
2nd or 1st magnitude
08:20-08:40 UT (3:20-3:40 a.m. E.S.T.)
Even though the sky was about 90% - 95%
overcast, I saw 3 bright meteors, 2 of them
through cloud. The must have been -3 to -5 magnitude



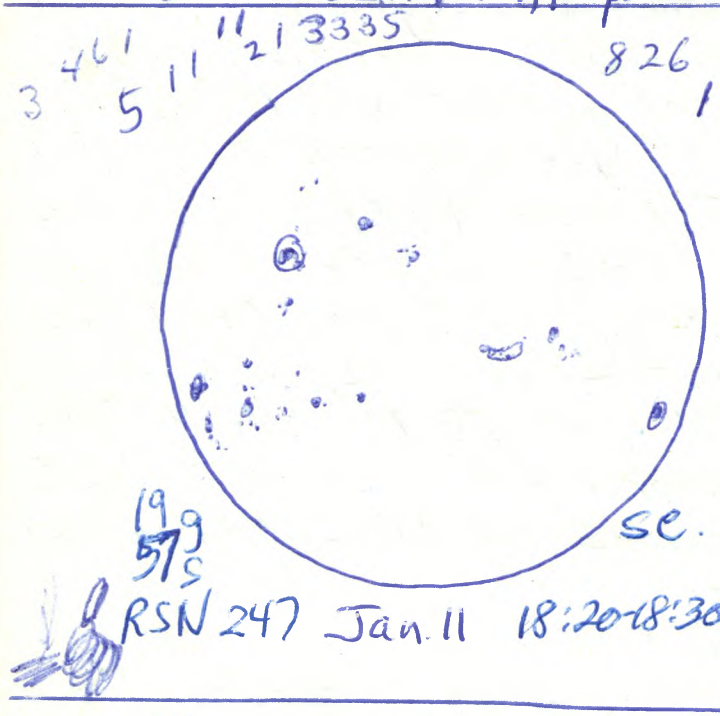
See S+T Feb. 1992 p186.

σ Ori mag.

A 4.0 } very massive binary
B 6.0 } " 0.2 apart
A+B 3.7] 11"
C 10.3] 13"
D 7.5] 42" C is SW of AB
E 6.5] 3.5 (210") away

Struve 761

A 7.9] 68"
B 8.2]
C 8.7] 9"



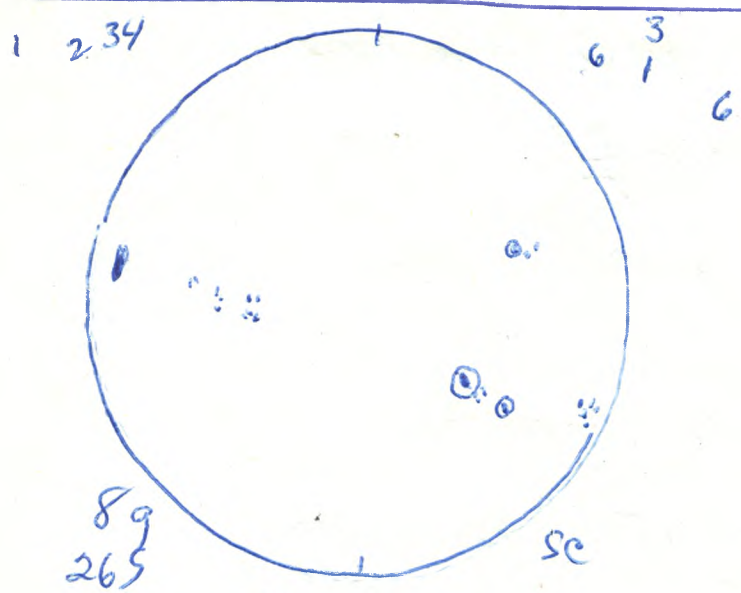
RSN 247 Jan. 11 18:20-18:30 UT.

0506-08 ER Eri 9.3-10.0V
on AAVSO Chart 83

0506-08 ER Ori 9.3-10.0V
on AAVSO Chart 107

Jupiter
Jan. 12
I - Io
6h UT 3:42 UT Ec D
6:59 Oc R

Jan. 12



RSN 106 Jan. 15
18:50-19:00 UT

Venus; seen from indoors in clear, cold morning S.E. sky on Jan 15, 16.

1992

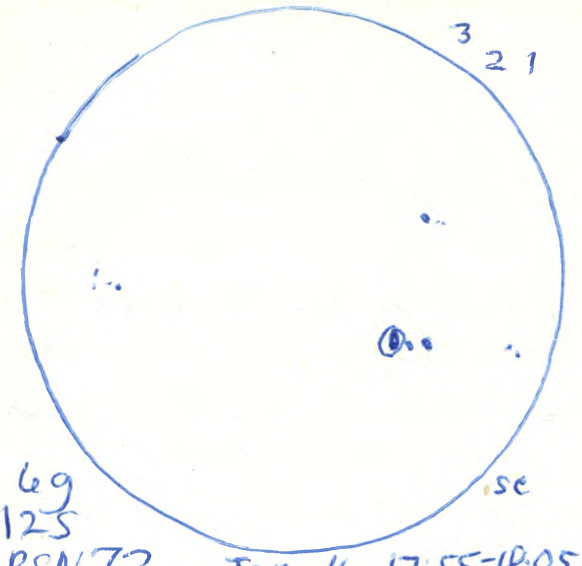
It was evidently a good year for the Quadrantids. - Too bad the night was not clearer. It was largely overcast, especially as the night wore on toward morning. The moon was at New and the peak came during ~~hours~~ time of darkness.

F.-W. Jan 7-8 e 21:54 UT in car in village 10-15 min after sunset ne
- small crescent moon up about 30°-35° in SW
- moon also seen later during twilight
03:06 - 03:25 UT ss C-8, 15.5, 5
M42, M43, Trapezium, the Sigma Orionis group of stars - 3 seen easily AB, D, and E, and the nearby Struve 761 of which components A, B, and C were also easily seen. (See S. & T. Feb. 1992 p. 186)

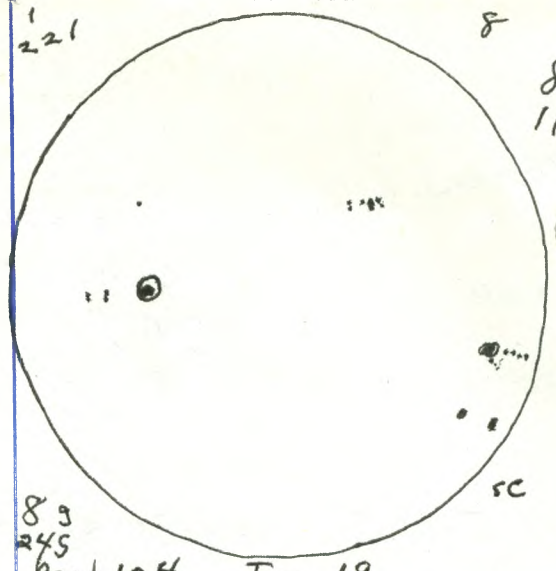
Sa. Jan. 11 18:20-18:30 UT ss. C-8, 32, 28, 20, 15.5
Sun 19g 57s RSN 247

Sa.-Su Jan 11-12 05:50-06:20 UT y after moonset 7-8-9 20x100b
M42, M43, ER Eri (near Rigel) (see note on previous page), R.X Lep, R Lep, RX Eri, area of T Pyxidis, area of σ Ori, M41, M36, M37, M38, M45, Double Cluster and nearby very open, very large cluster - Stock 2, area of Rosette Nebula, Jupiter and 3 moons very near 1 star χ Leonis. (See diagram on opposite page), M51
A bright Auroral glow persisted in the N. during the observing session - up to about 30°. At times there seemed to be hints of redness and possibly hints of spikes forming but they did not develop very much.

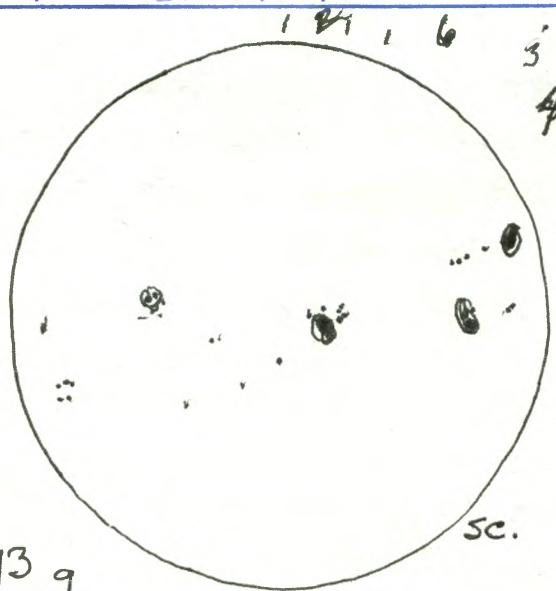
W. Jan 15 18:50-19:00 UT floor of observatory C-8, 32, 28, 20, 15.5
Sun 8g 26s RSN 106



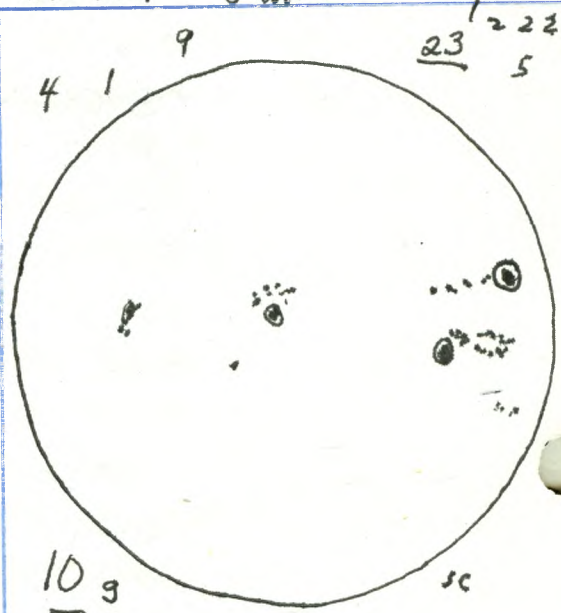
RSN 72 Jan. 16 17:55-18:05 UT



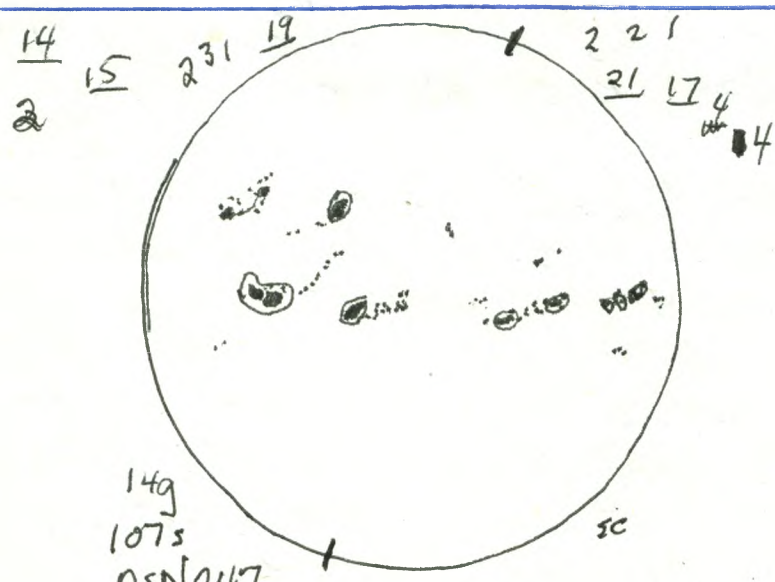
RSN 104 Jan. 19



13 g
37 s
RSN 167 Jan. 25
18:20-18:35 UT



10 g
50 s
RSN 150 Jan. 26
19:05-19:15 UT



RSN 247
Feb. 1
17:55-18:00 UT

1992

Th. Jan 16 17:55 - 18:05 UT floor in observatory seeing very poor C-8, 32, 28, 20, 15.5
sun 6g 12s RSN 72
Very poor seeing, because of haze, hindered viewing.

Sa. Jan. 19 18:15 - 18:25 UT floor in observatory seeing poor except at times C-8, 32, 28, 20, 15.5
sun 8g 24s RSN 104

Tu.-W. Jan 21-22 00:15 - 00:33 UT y 9x63b
M42, M43, R Lep, M36, M37, M38, M35, M31, M33.
Zodiacal Light easily visible.

F.-S. Jan 24-25 03:15 - 04:00 UT y S-9(?) T-8-9 20x100b.
M33, M42, M43, R Lep (near its max.) R Leonis, M78, σ Ori area, RX Eri, Jupiter and 3 moons, M45, M41. Clouds moved in.

II very close (not seen with certainty)
II Ec. D at 3:57 UT

Sa. Jan. 25 18:20 - 18:35 UT ss C-8, 32, 28, 20, 15.5
sun 13g 37s RSN 167

Su. Jan. 26 19:05 - 19:15 UT ss C-8, 32, 28, 20, 15.5
sun 10g 50s RSN 150

Sa. Feb. 1 17:55 - 18:00 UT ss C-8, 32, 28, 20, 15.5
sun 14g 107s RSN 247

Sa.-Su. Feb. 1-2 23:45 - 05:30 UT (periodically) y S9(?) T8-9 ne; 20x100b
ne: good Aurora - quite active throughout certain times - red patches and some spikes in NNE and NE around 00:00 UT - later subsiding considerably with large bright glow until about 03:00 UT when it appeared to change into bright double arc centred in N. - with some spikes and wide vertical bands - becoming less prominent near midnight but glow in N remained.
20x100b: 23:45 - 00:30 UT - periodically searched in SW

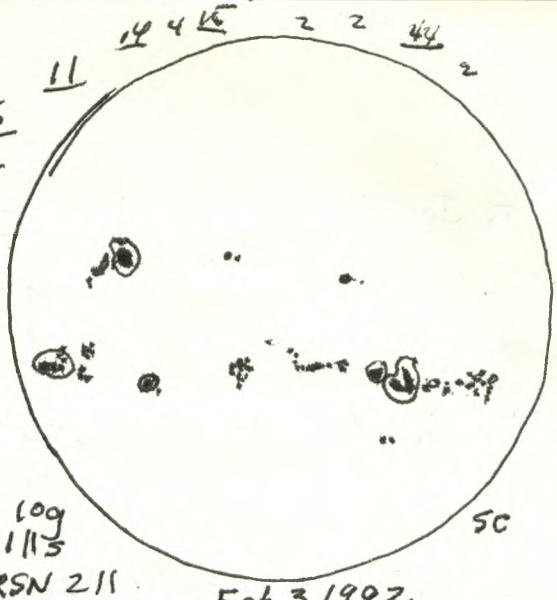
A

AAVSO Var. Star Atlas:

Chart 83: ER Eri 0506-8
(9.3-10.0V)

Chart 107: EROri 05 06-8
(9.3-10.0v)

Burnham (p. 1277) lists EROri 05088-0837
(same star) (9.3-10.0)
per 0.4234d
Ecl. Bin W UMa
type



RSN 211 Feb. 3, 1992

1992

near Cetus-Aquarius border for recently discovered Comet, but did not see it with certainty. later; M42, M43, ER Eri (see note on opposite page), RX Lep, RR Lep, R Lep, area of RX Eri, CK Ori, FO Ori, VV Ori, area of σ Ori, NGC 2244, Cr 106 and Plaskett's Star, S Mon and Christmas Tree cluster, very slight hints of the Rosette Nebula possibly, M 36, M35, M37, M35 and nearby cluster NGC 2158, M57, M45, M1, R Leonis, Jupiter and 4 moons, area of T Pyxidis, Alcor and Mizar and nearby star.

m. about 12:00 UT - in 9x63b

checked SE horizon for "very old" moon - about 31 hours from new, but did not see it

S.-M. Feb. 2-3 0:3:00 - 0 5:40 UT periodically in and y ne

Aurora - glow in N. developing into "flaming", pulsating spots and spikes in N. area of sky, at times, also a double arc with dark area in between.

6:40-7:00 UT periodically in and y. ne

Aurora developed into fantastic almost all-sky display with huge vertical bands and "flaming" and pulsating and some coronal activity. some red in NE and even some in S below constellation Leo. - a superb display which evidently continued all night.

M. Feb. 3 19:25 - 19:35 UT ss C-8, 32, 28, 20, 15.5

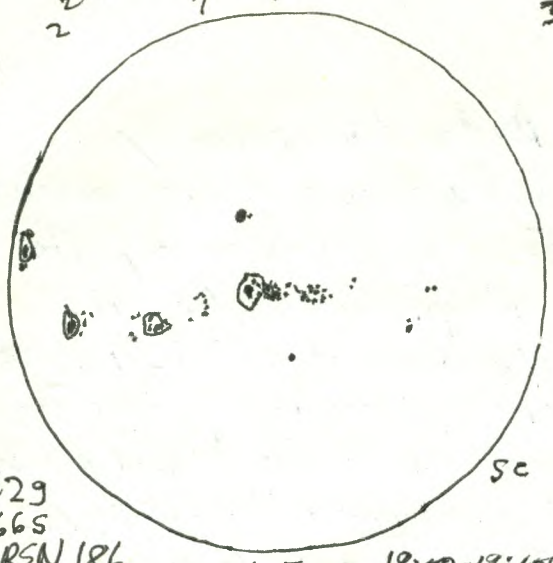
sun 10 g 111 s RSN 211

M.-T. Feb. 3-4 23:45 nd ne

Zodiacal Light - very bright, brighter than Milky Way and extending up to the Pleiades.

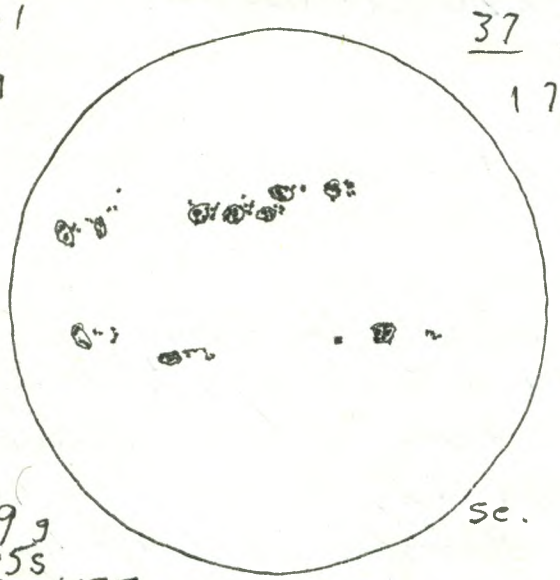
00:40 - 01:50 UT y 20x100b

M42, M43, ER Eri, RX Lep, ~~RR~~ R Lep, RX Eri CK Ori, FO Ori VV Ori, area of σ Ori, R Leonis,



129
665
RSN 186

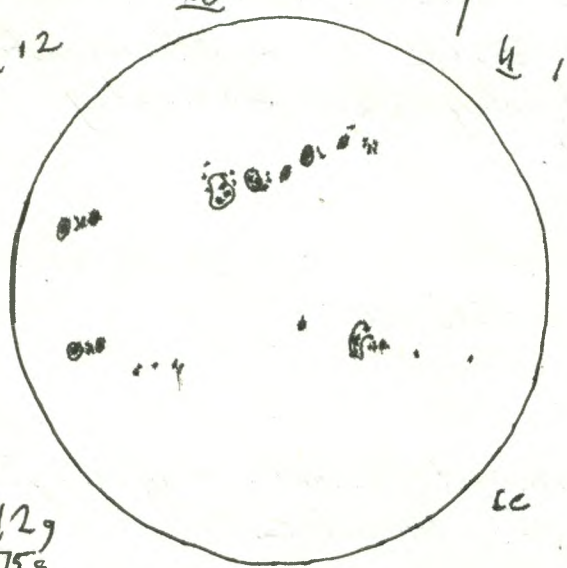
Feb. 5. 19:00-19:10UT



99
955
RSN 185

Feb. 11 21:00-21:10UT

solar flare
Feb. 6.



129
753
RSN 195

Feb. 12
19:00-19:10UT

1992

A area of SCMi, M41 - very little Aurora seen.

W. Feb. 5 19:00-19:10UT SS C-8, 32, 28, 20, 15.5
sun 12g 66s RSN 186

W.-Th. Feb. 5-6 23:00-23:30UT in car between Verona and Sharbot Lake ne
- during twilight - good view of slender crescent moon in W. - about 52 hours old
23:33UT - clear view of zodiacal light during twilight.

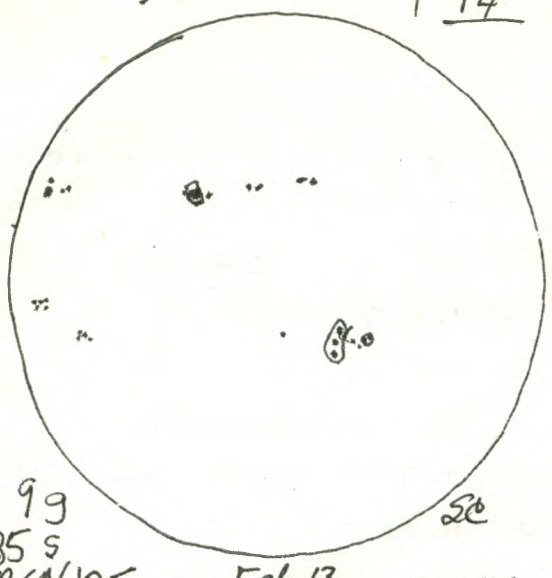
Th.-F. Feb. 6-7 23:40-00:00UT Sharbot Lake Public School yard with Scouts and Paul Ferguson Ast, 15
3-day old crescent moon, Orion Nebula.
Then heavy clouds moved in.

S.-S. Feb. 8-9 7:27-7:32UT in. ne
A very extensive and very active Auroral display evident now after midnight when sky was clear enough to observe it, though it had been cloudy earlier. apparently an all-night, almost all-sky display. - arc and vertical band in N.

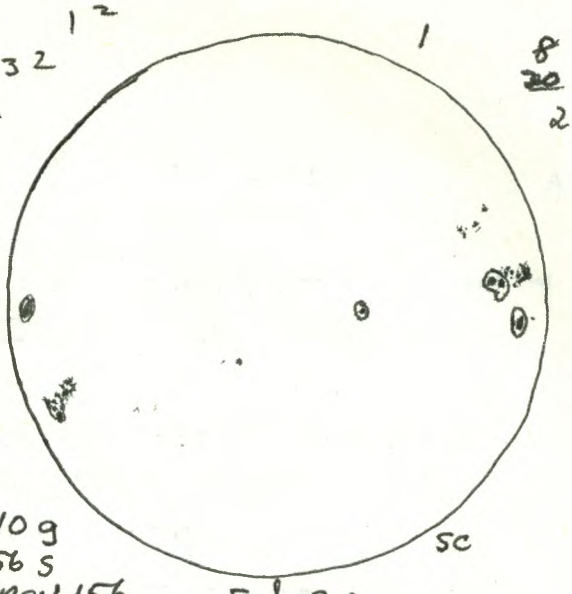
11:18-11:20UT in ne
A - intense Auroral display in N with vertical band seen even though it was about 41 min. after the beginning of astronomical twilight which began about 10:37UT (5:37am E.S.T.)

Tu. Feb. 11 21:00-21:10UT SS C-8, 32, 28, 20, 15.5
sun 9g 95s RSN 185
sun fairly low in W

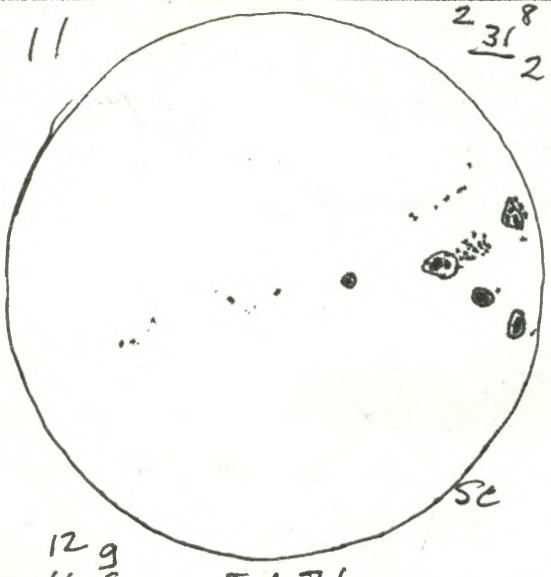
W. Feb. 12 19:00-19:10UT SS C-8, 32, 28, 20, 15.5
sun 12g 75s RSN 195



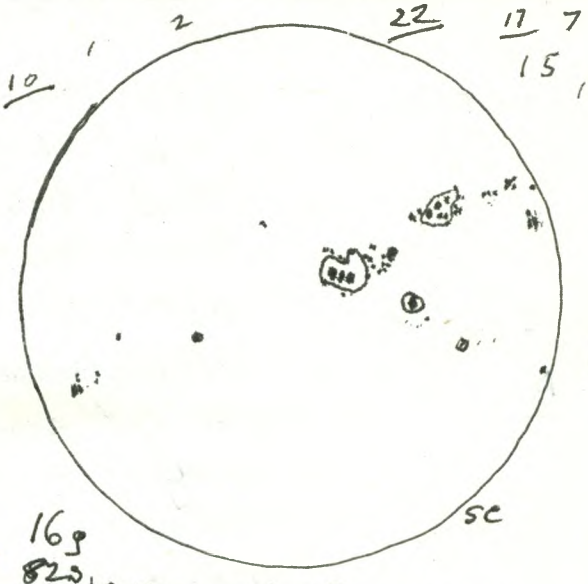
9 g
35 s
RSN 125
Feb. 13
20:40-20:45 UT



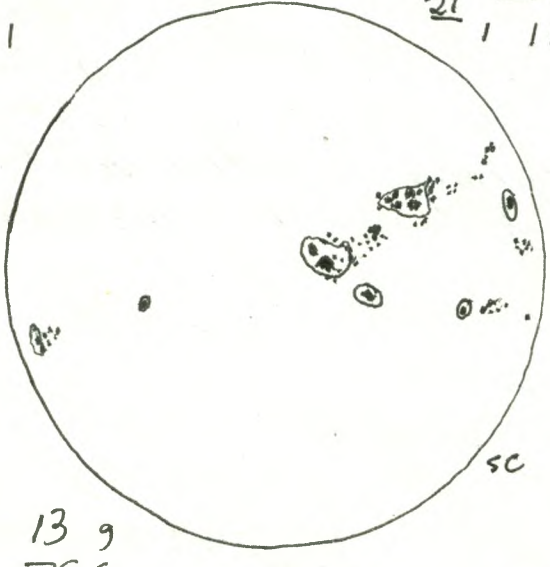
10 g
56 s
RSN. 156
Feb. 20
18:20-18:35 UT



12 g
66 s
RSN 186
Feb. 21
18:35-18:45 UT



16 g
82 s
RSN 242
Feb. 23
19:20-19:35 UT



13 g
78 s
RSN 208
Feb. 24
20:00-20:10 UT

1992

Th. Feb. 13 20:40-20:45UT very hazy, some cloud C-8, 32, 28, 20, 15.5
sun 9g 35s RSN 125
Because of considerable haze, some spots may not have been seen.

Th. Feb. 20, 18:20-18:35UT ss C-8, 32, 28, 20, 15.5
sun. 10g 56s RSN 156

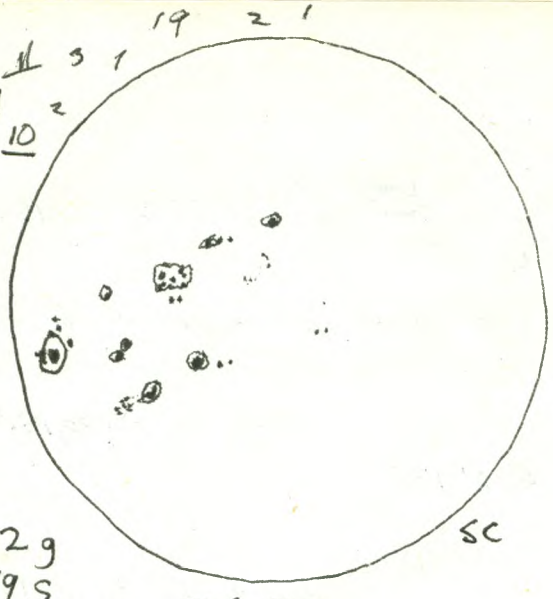
F. Feb. 21 18:35-18:45UT ss C-8, 32, 28, 20, 15.5
sun 12g 66s RSN 186

F.-S. Feb. 21-22 02:15-02:20 UT s-7-8(?)T7-deteriorating 20x100b
R Lep, area of RX Eri but star not seen with certainty, RR Lep, CK Ori, M31, M41, M42, M43, area of R Leonis, Jupiter and 3 of its moons, area of R Leonis, Alcor and Mizar, M45, Zodiacal Light easily seen in early part of observing session.
Increasing cloud and haze made observing difficult.
- did not see newly announced Nova Cygni 1992 discovered Feb. 19.720 (?) by Peter Collins of Colorado, at 2000.0 coordinates: RA. 20h 30.5m; Dec.: 52° 38' - very low in NNW at end of twilight and up in NNE at beginning of morning twilight.
- clouded out for attempt to view the nova at about 10:40 UT (5:40 a.m. E.S.T) in the morning.

Su. Feb. 23 19:20-19:35UT ss C-8, 32, 28, 20, 15.5
sun 16g 82s RSN 242

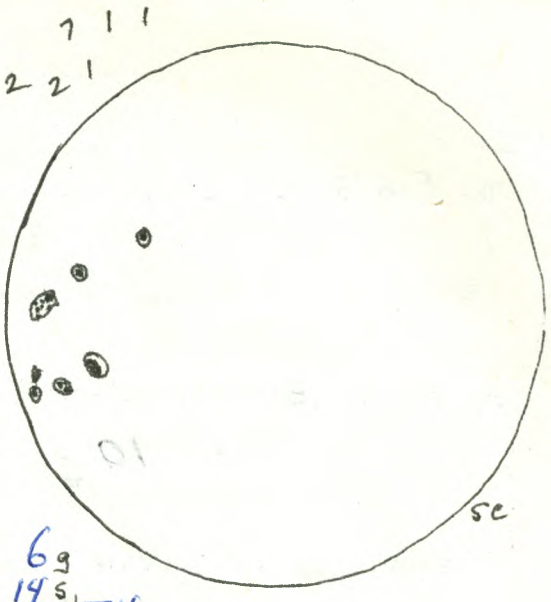
S.-M. Feb. 23-24 00:30-00:50UT 9th Concession of Tyendinaga s-8(?)T8-9 with Peter ne, 9x63b
- looked for and probably saw (but not for certain) the above mentioned Nova Cygni 1992, R Lep area, winter Constellations

M. Feb. 24 20:00-20:10UT ss C-8, 32, 28, 20, 15.5
Sun 13g 78s RSN 208 some haze



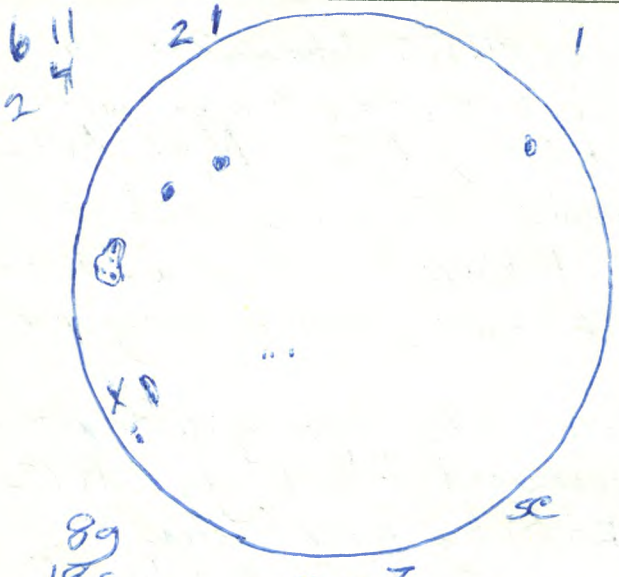
12 g
49 s
RSN 169

Feb. 29
19:40-19:50 UT



6 g
14 s
RSN 74

Mar. 2
18:10-18:50 UT



8 g
18 s
RSN 98

Mar. 3
17.55-18:05 UT

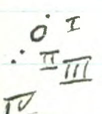
1992

F.S. Feb. 28-29 09:30-10:20UT in andyardnd S(?)T8 ne, 9x63b
- with binoculars observed Nova Cygni 1992, discovered Feb. 18 by Peter Collins, now about mag 5, located at RA. $20^h 30.5^m$ Dec. 52°38′ (2000.0 coordinates), now in the morning before astronomical twilight well up in N.E. - about 40°-45°. Though circumpolar, it is very low in N. earlier in night, i.e. around midnight. - observed old crescent moon in S.E.
- photographed area of Nova Cygni 1992.

N

Sa. Feb. 29 19:40-19:50UT ss C-8, 32, 28, 20, 15.5
sun 12g 49s RSN 169

Sa-Su Feb. 29-Mar. 1 02:15-02:50UT y s(?)T 4-6 haze, clouds 20x100b
M42, M43, CK Orionis, M45, M41, Jupiter and 4 moons.



S.-M. Mar. 1-2 02:30-04:00UT y and t S7-9 T8½ 20x100b; C-8 9mm
with 20x100b: R Lep, area of ER Ori(?), RX Lep, CK Ori, area of FO Ori, VV Ori, M45, M1, R Leonis, M51, area of T Pyxidis, Jupiter
with C-8: Jupiter, about 49 hours after opposition which was Feb. 29 01^hUT, about 4 belts visible in moments of good seeing.

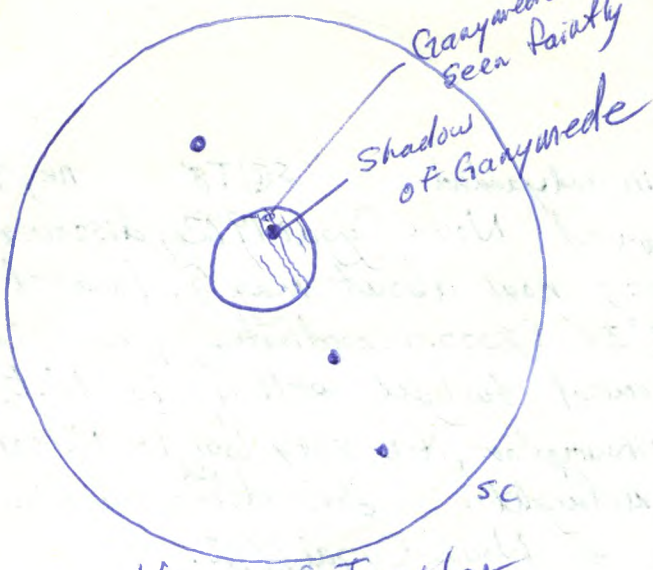
M. Mar. 2 18:40-15:50UT ss C-8, 32, 28, 20, 15.5
sun 6g 14s RSN 74

M.-T. Mar 2-3 04:45-04:55UT y ne
winter constellations, Jupiter

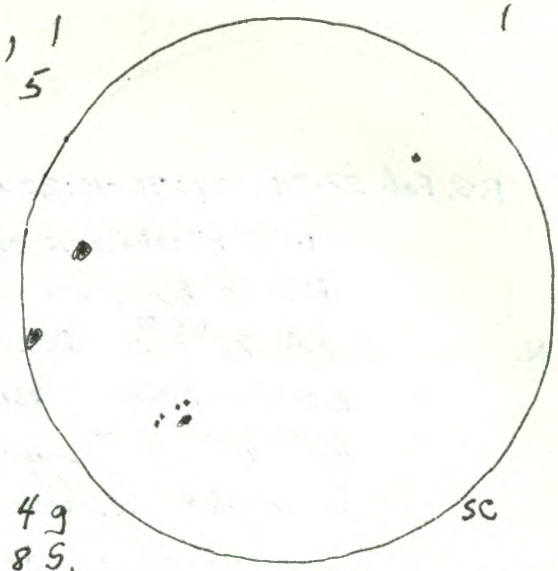
m 10:05-10:10UT in 9x63b
- just before beginning of astronomical twilight, viewed Nova Cygni 1992, located N. of Deneb

N

T. Mar. 3 17:55-18:05UT ss C-8, 32, 28, 20, 15.5
sun 8g 18s RSN 98

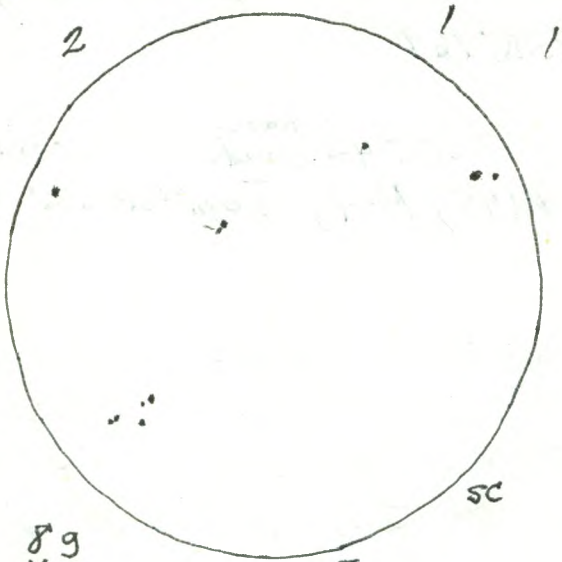


View of Jupiter
Mar. 4 02:50 UT



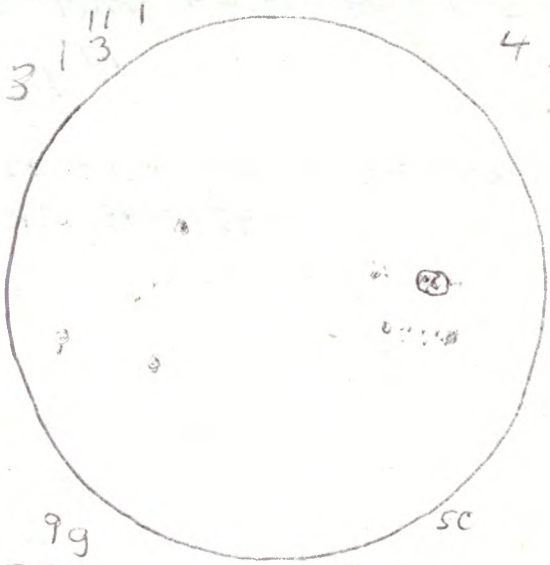
4 g
8 S
RSN48

Mar. 4
17:55-18:00 UT



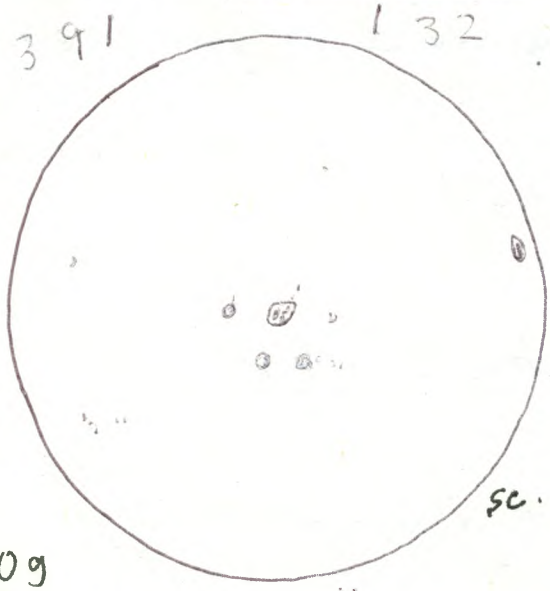
8 g
11 S
RSN91

Mar. 5
19:05-19:10 UT



9 g
37 S
RSN 127

Mar 13
19:10-19:20 UT



10 g
27 S
RSN 127

Mar 16
17:40-17:50 UT

6 g
26 S
RSN 86

Mar. 18
19:20-19:30 UT

1992

T.-W. Mar. 3-4 02:30-02:55 UT t SS-9 T7 Some cloud C-8, 19, 15.5, N

Jupiter observed during a transit of Ganymede and its shadow. Seeing was quite good during certain moments.

m 10:15 UT in 9x63b

Nova Cygni 1992 about 8° N. of Deneb, easily seen in b. at about mag 5.

W. Mar. 4 17:55-18:00 UT ss C-8, 32, 28, 20, 15.5

sun 4g 8s RSN48 some haze and cloud

W-Th. Mar. 4-5 00:30 nd ne

winter constellations. Zodiacal light quite clear

Th. Mar. 5 19:05-19:10 UT ss C-8, 32, 28, 20, 15.5

sun 8g 11s RSN91

Th.-F. Mar. 5-6 00:30-02:00 UT y S-8(?) T6-7 20x100b

M41, M42, M43, R Leonis, R Lep, RX Eri, RX Lep, ER Ori CK Ori, FO Ori, VV Ori, M78, M45, Hyades, Jupiter, Alcor and Mizar

Area of Tlyxidis was too hazy to make a satisfactory observation.

F. Mar. 13 19:10-19:20 UT ss C-8, 32, 28, 20, 15.5

sun 9g 37s RSN 127

M. Mar 16 17:40-17:50 UT C-8, 32, 28, 20, 15.5.

sun 10g 27s RSN 127

W. Mar. 18 19:20-19:30 UT C-8, 32, 28, 20, 15.5.

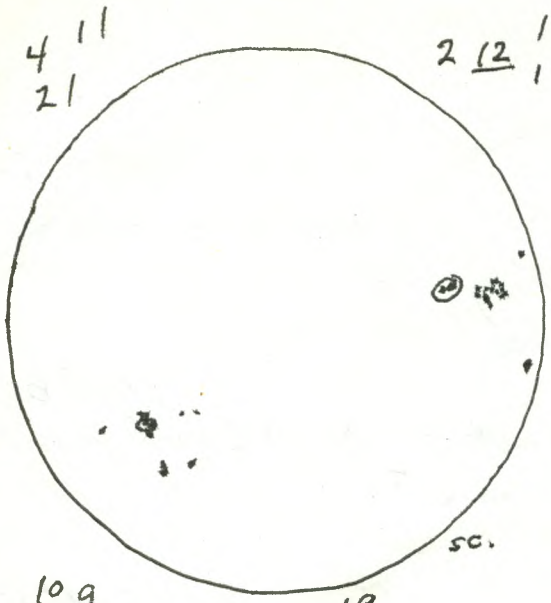
sun 6g 26s RSN86

Th. Mar. 19 17:50-18:00 UT ss C-8, 32, 28, 20, 15.5

Sun 10g 26s RSN126

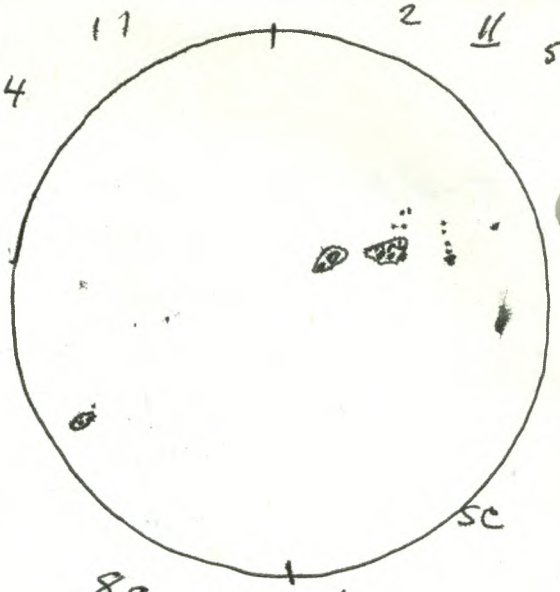
Th.-F. Mar. 19-20 00:45-01:10 y S-9(?) T9 20x100b

Jupiter and 4 moons, M41, M42, M43, M44, M45, R Lep, R Leonis, RX Eridani areal uncertain of seeing if).



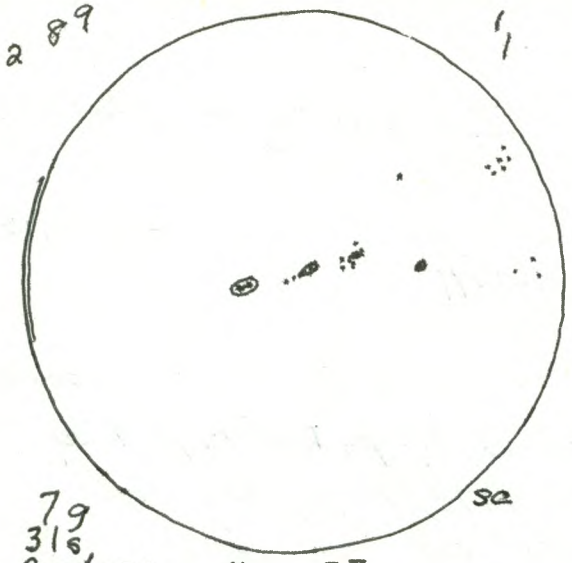
10 g
26 s
RSN 126

Mar. 19.
17:50-18:00



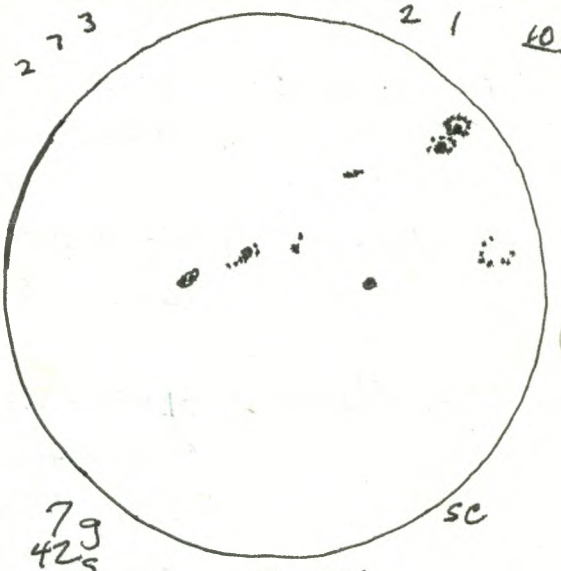
8 9
26 s
RSN 106

Mar. 21
18:45-18:50 UT



7 9
31 6
RSN 101

Mar. 23
18:40-18:50 UT.



7 9
42 s
RSN 112

Mar. 24
17:50-18:00 UT

1992

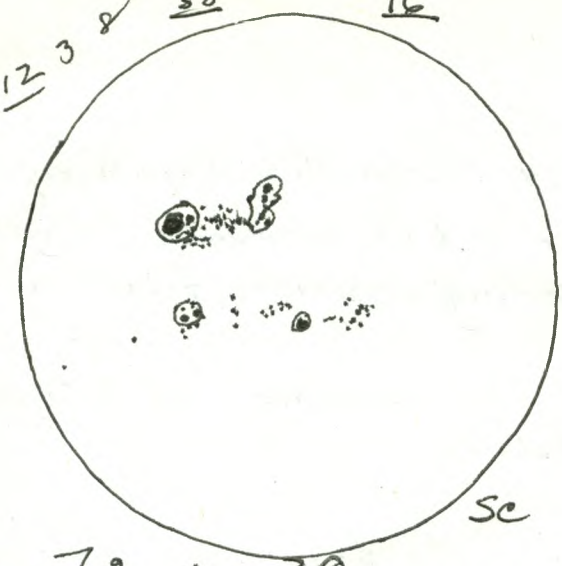
Zodiacal light was bright. Winter Milky Way was very evident. Moon rising 2 min. after end of astronomical twilight made for a short observing session for faint objects.

Sa. Mar. 21 18:45-18:50 UT ss somehaze C-8, 32, 28, 20, 15.5
Sun 8g 26s RSN106

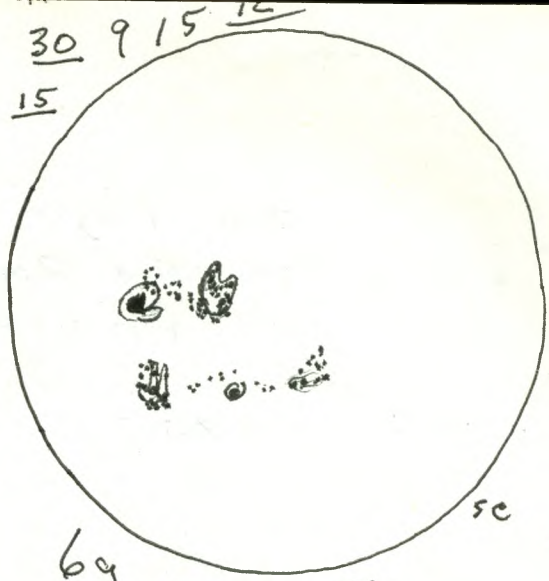
C-8, 15.5
Sa.-Su. Mar. 21-22 00:45-02:40 UT y S-9(?) T 8-9 20x100b;
ne: - constellations, Zodiacal light.
20x100b: - M41, M42, M43, M45, area of R Lep, CK Ori, FO Ori, R Leonis, Alcor and Mizar, Cor Caroli, M51, Vesta in constellation Leo, ~~Leo~~ Jupiter in constellation Leo, M36, M37, M38, S Mon area, NGC 2244.
C-8, 15.5: Jupiter and 2 moons, occasionally fairly good seeing (Io and its shadow being in transit and Ganymede, for part of session being in eclipse.)
ne.: Aurora becoming evident in N at 02:12 UT, about ~~an hour~~ 10 minutes before time of moonrise — several spikes and vertical bands, areas of redness and later white arcs in N. up to about 40°. Aurora had subsided considerably by time of moonrise at about 03:23 UT

M. Mar. 23 18:40-18:50 UT ss C-8, 32, 28, 20, 15.5
Sun 7g 31s RSN101

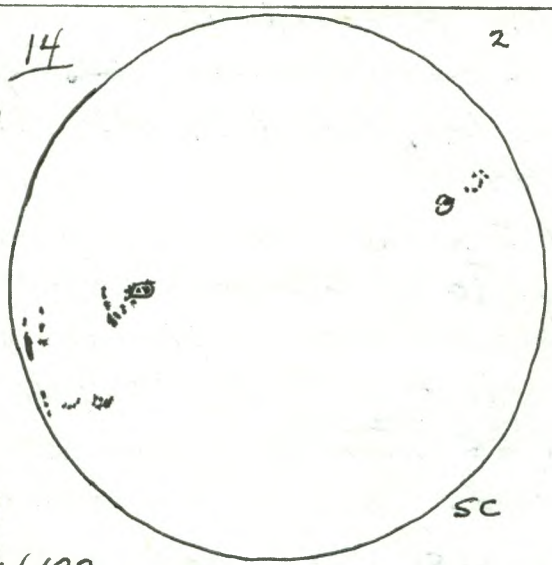
C-8, 15.5
M:T. Mar. 23-24 01:30-02:50 UT y and ss S-9 T 7→4 20x100b;
20x100b: M41, M42, area of CK Ori, Jupiter, R Leonis, 2 clusters distinguishable of the 3: M36, M37, and M38, Vesta in Leo; area of T Pyxidis too hazy to distinguish many of the stars, Alcor and Mizar, Cor Caroli.
129x C-8, 15.5mm.: Alcor and Mizar, Cor Caroli, γ Leonis, Jupiter and 4 moons and bands seen quite well
167x also C-8, 12mm: Jupiter's bands seen quite well.



7g 9s Mar. 30.
RSN 1920:15-20:25UT



6g
7 2S Mar. 31
RSN 132 19:20-19:30UT



8g
4 2S
RSN 122 Apr. 3 19:30-19:50UT

1992.

Tu. Mar. 24 17:50-18:00 UT C-8,32,28,20,15.5.
sun 7g 42s RSN 112

T.-W. Mar. 24-25 02:15-03:40 UT y S 8(?) T9 20x100b.
M41, M42, M1, M36, M37, M38, Vesta in Leo, Jupiter and 4 moons, T Pyxidis area clearly seen, M35 SMon and Christmas Tree cluster, Hubble's Variable Nebula, NGC2244, R CorBor

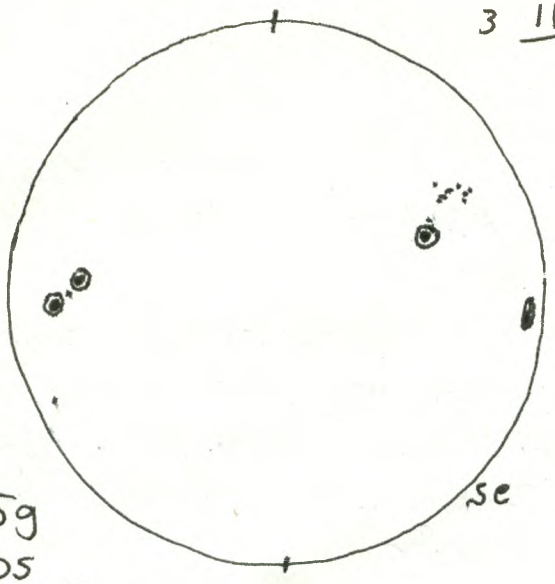
S.-M. Mar 29-30 * 02:45-03:10 UT y S-8-9 T8 20x100b; C-8,12
20x100b: M35, M36, M37, M38, R Leonis, area of Vesta in Leo, Jupiter
C-8,32: Jupiter and 4 moons; several bands visible
* earlier in evening at about 00:45 UT, while in car travelling from Read to S.L., east of Enterprise - a very slow bright meteor in N.E. about mag. -5.

M. Mar. 30 20:15-20:25 UT ss C-8,32,28,20,15.5
sun 7g 79s RSN 149
one very large spot in the group of 38

T. Mar. 31 19:20-19:30 UT ss C-8,32,28,20,15.5
sun 6g 72s RSN 132

F. Apr. 3, 19:30-19:50 UT ss. cloud C-8,32,28
sun 8g s RSN
Considerable delay in viewing - because of clouds

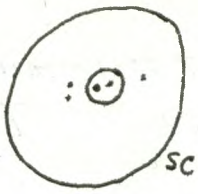
F.-S. Apr. 3-4 02:10-03:50 UT y and t S(8-9)T8-9 20x100b; Ast;12k
20x100b: area of T Pyxidis, R Leonis, Jupiter and 4 moons, M35, M36, M37, M38, R CorBor, T CorBor, M104 - looked for asteroid Kleopatra nearby (mag. 12)
Ast;12k: Jupiter and 4 moons, r Leonis, r Virginis, Cor Caroli; M104, looked for asteroid Kleopatra nearby (mag. 12.0) (S.+T, Apr. 1992, p. 427)



5g
205
RSN 70

Apr. 5
17:50-18:00 UT

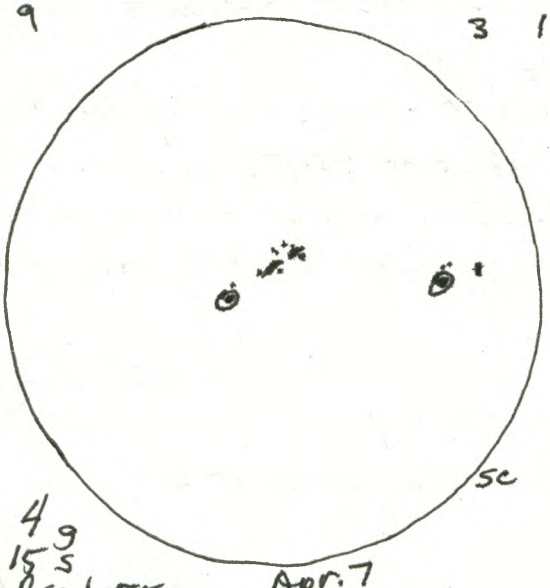
Jupiter
M.-T. Apr. 6-7



Apr. 6 22 35 II Tr. I.
22 59 I Tr. I.
23 48 I Sh I

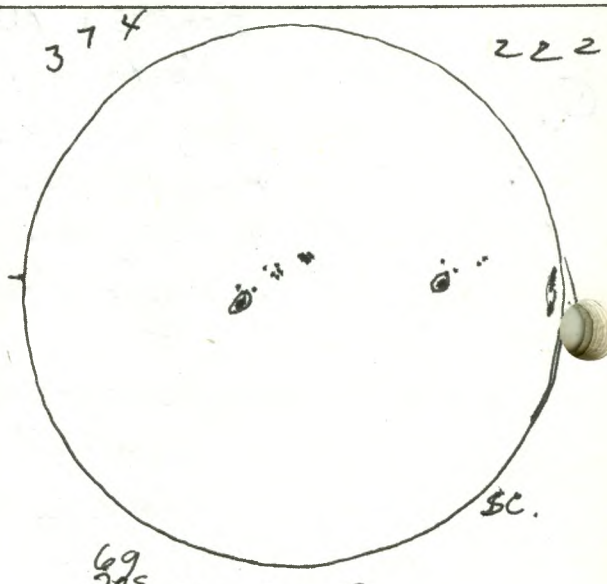
Apr. 7 00 17 II Sh I
01 14 I Tr. E.
01 21 II Tr E
02 03 I Sh E
03 03 II Sh E.

Double Shadow Transit (for 1h 46m)



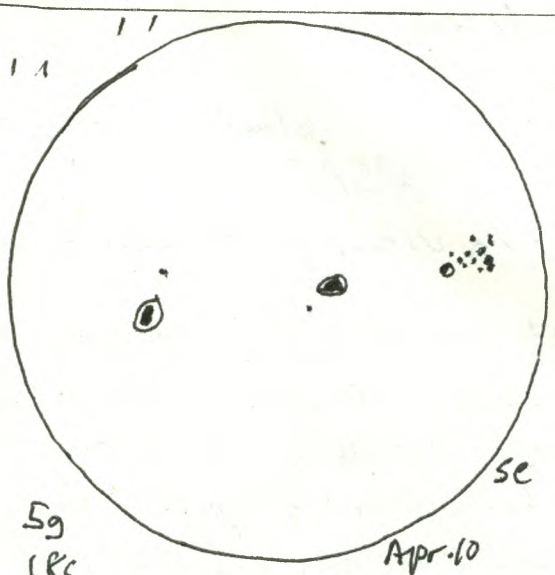
4 9
15 s
RSN 55

Apr. 7



6g
20s
RSN 80

Apr. 8
18:55-19:00 UT



5g
18s
RSN 68

Apr. 10
16:55-17:10 UT

1992

Su. Apr. 5 17:50-18:00 UT ss C-8, 32, 28, 20, 15.5
sun 5g 20s RSN70

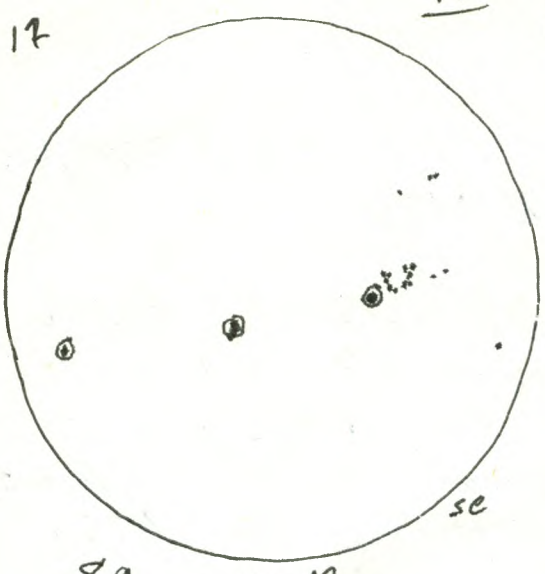
S.-M. Apr. 5-6 02:00-04:10 UT y SS(?) T 6-8 20x100b
rough area of T Pyxidis but considerable cloud in area and noted good view of immediate area, area of M104, Vesta in Leo, Jupiter and 3 of the moons, R LeoAis, R CorBor, area of T CorBor, M35.
Increasing haze and cloud hampered viewing.
Earlier in evening while on Road from Read to Sharbot Lake, I saw earthshine on the small crescent moon in the W. Moon was less than 3 days old.

M.-T. Apr. 6-7 00:10-02:10 UT oo SSTZ-7 cml C-14, 32
observing - lunar craters on moon less than 4 days old, Jupiter during a double shadow transit
- view sporadically because of persistent clouds
photographing - crescent lunar craters, Jupiter during the "double shadow transit. (See previous page). Numerous periods of cloud cover prevented the proper viewing of the transits for very long at the time, except for just a few occasions.

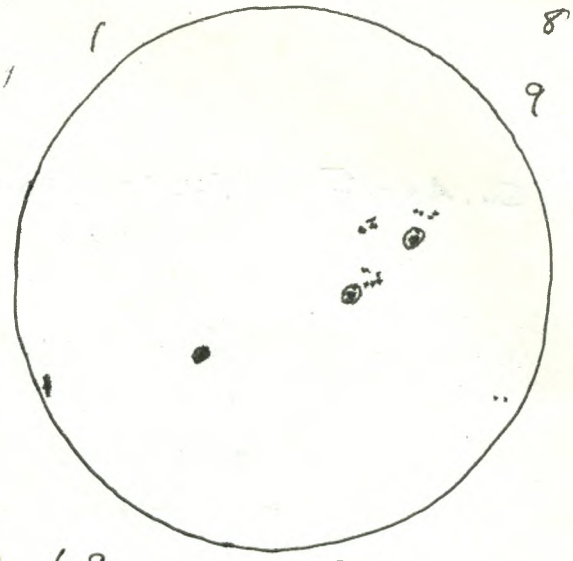
T. Apr. 7 18:25-18:35 UT SS C-8, 32, 28, 20, 15.5.
sun 4g 15 RSN55

W. Apr. 8 18:55-19:00 UT SS C-8, 32, 28, 20, 15.5
sun 6g 20s RSN80

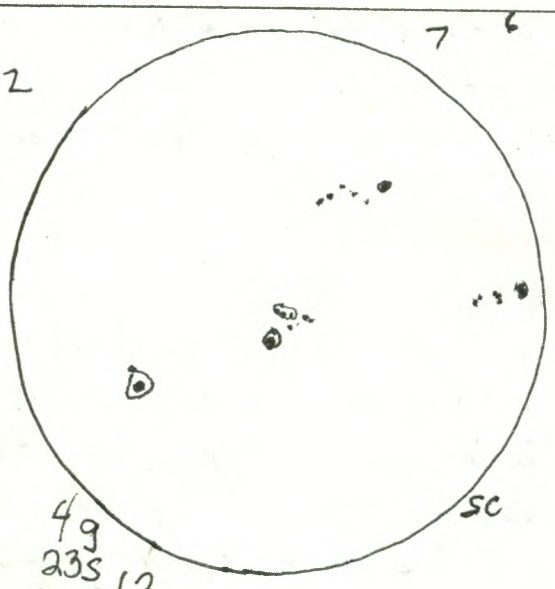
F. Apr. 10 16:55-17:10 UT SS C-8, 32, 28, 20, 15.5.
sun 5g 18s RSN68
considerable haze - made viewing a problem



8 9
20 S
Apr. 12
RSN 100 17:15-17:20 UT.



69
26S
RSN 86
Apr. 13
17:30-17:35 UT

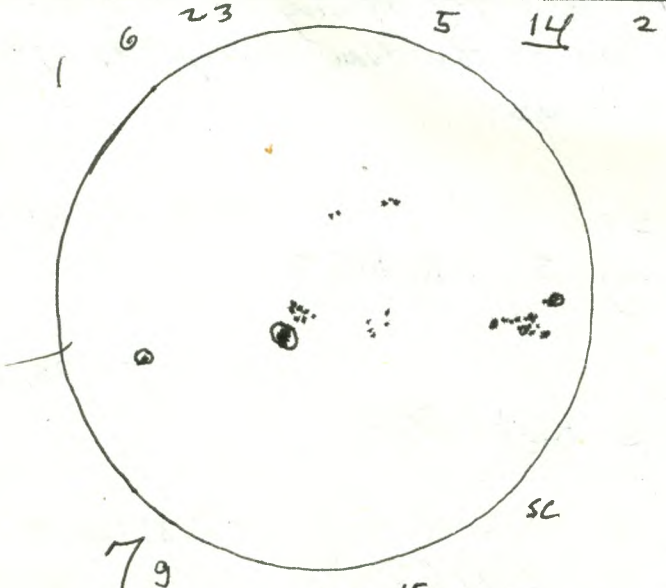


4 9
23S
RSN. 63
Apr. 14
18:05-18:15 UT

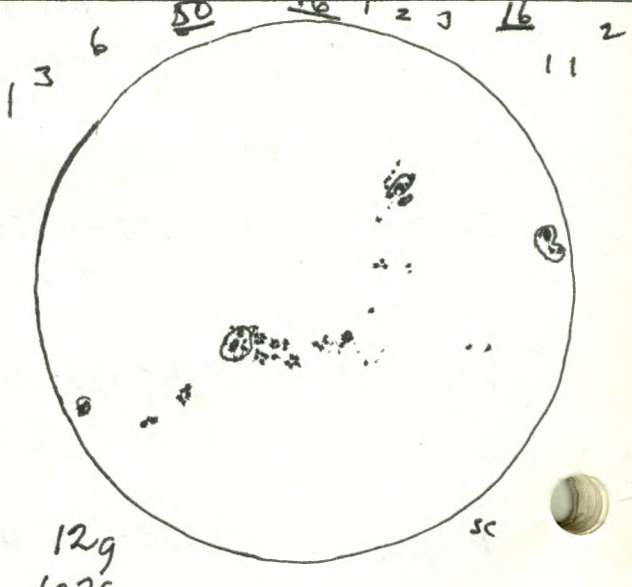
Apr. 13-14, 1992

00:46	I	Tr. I	
00:58	II	Tr. I	
01:43	I	Sh. I	
02:55	II	Sh. I	"Double Shadow Transit" 1h 03m
03:02	I	Tr. E	
03:45	II	Tr. E	
03:58	I	Sh. E	
05:40	II	Sh. E	

Second "Double Transit" This Month.



7 9
33 S
RSN 103
Apr. 15
18:05-18:15 UT



12 9
102S
RSN 222
Apr. 22
18:05-18:15 UT

1992

Su. Apr. 12 17:15-17:20 UT SS C-8, 32, 28, 20, 15.5.
sun 8g 20s RSN 100

M. Apr. 13 17:30-17:35 UT SS C-8, 32, 28, 20, 15.5
sun 6g 26s RSN 86

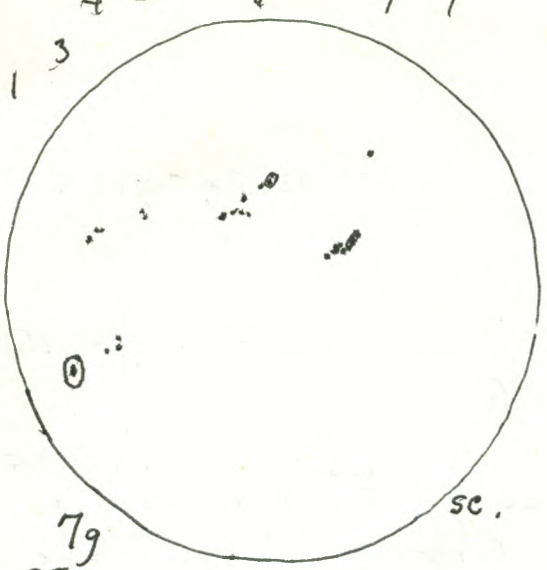
M-T. Apr 13-14 01:00-04:20 UT 00 and SS 9m/some cloud C-14, 15.5 C-8, 12
C-14: Jupiter at times before and during "double transit" of shadows of Io and Europa. photographed, using e.p.p. and 15.5 mm and 20 mm oculars, Jupiter during "double transit" and lunar craters of the 10-day-old moon
C-8: observed Jupiter before and during "double transit".

T. Apr. 14 18:05-18:15 UT SS C-8, 32, 28, 20, 15.5
sun 4g 23s RSN 63

W. Apr. 15 18:05-18:15 UT SS C-8, 32, 28, 20, 15.5.
sun 7g 33s RSN 103

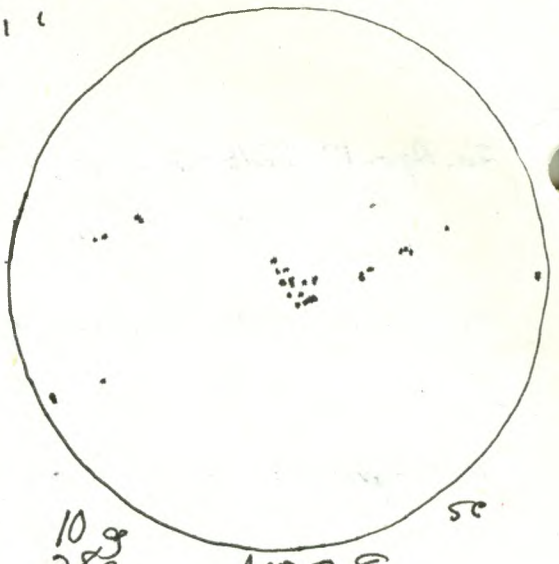
M.-T. Apr. 20-21 UT 03:00-05:40 UT SS and 00 S-8(?) T8 haze C-14, 15.5 C-8, 20, 12 Ast, 15.5, 12.5
Ast: - Jupiter, 2 moons in transit - not seen
C-8: - Jupiter, 2 moons in transit (I & II) - not seen, and shadow of Io in transit
C-14: - α CMa (Cor Caroli), MSI, Jupiter and 1 moon (Io) seen in transit.
- waited to see and possibly photograph the "double shadow transit" (of Io and Europa) between 05:32 and 05:52 UT but was clouded out because of clouds moving in about 05:15 UT
- photographed Jupiter prior to the clouds moving in.

W. Apr. 22 18:05-18:15 UT SS C-8, 32, 28, 20, 15.5
sun 12g 10.2s RSN 222



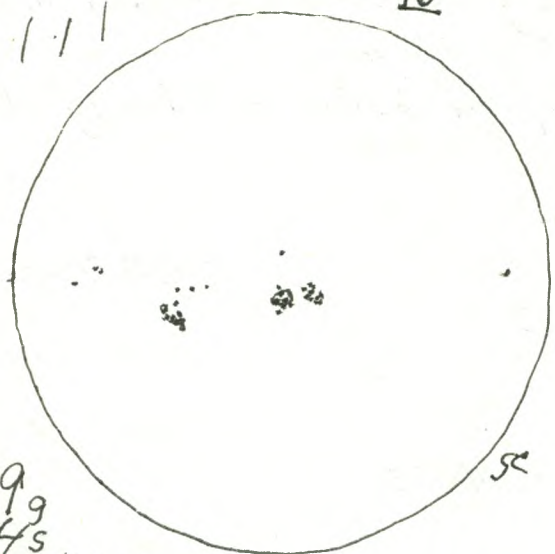
7g
25S
RSN 95

Apr. 27.
18:00-18:10UT



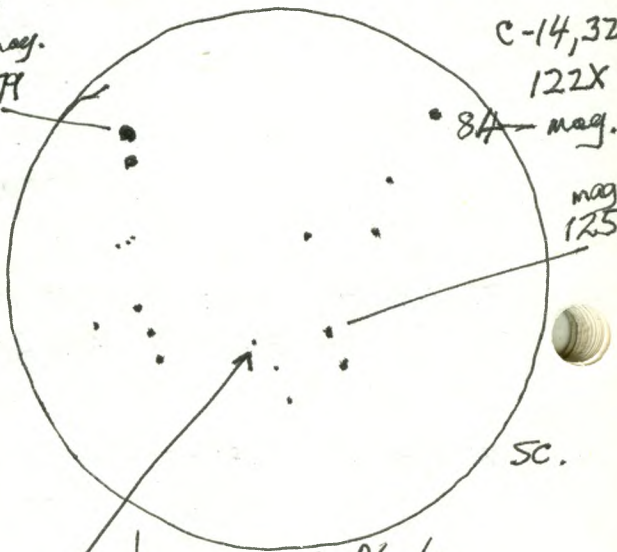
10g
28S
RSN 128

Apr. 28



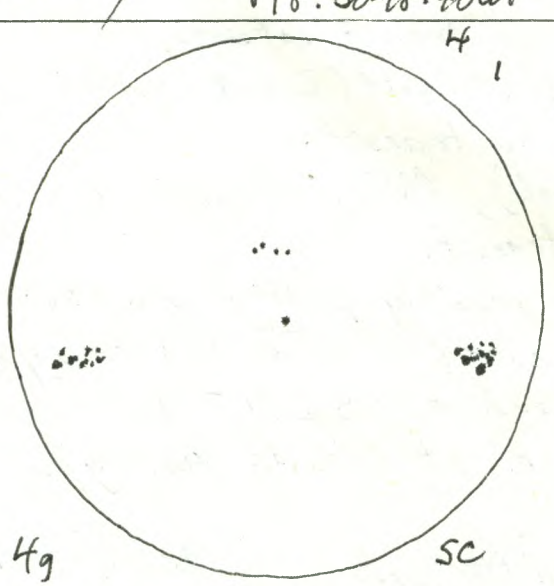
9g
34S
RSN 124

Apr. 29.
18:30-18:40UT (Haze)



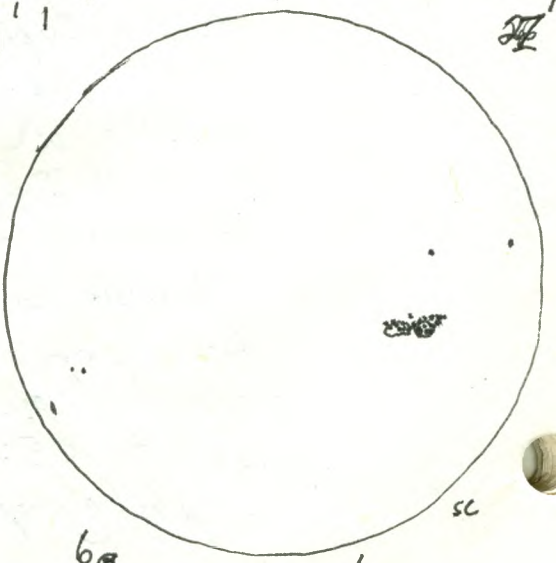
Pluto mag. 13.7

Area of Pluto
1992, Apr. 29 04:00-05:00 U.T.



4g
28S
RSN 68

May 4
21:20-21:30UT



6g
32S
RSN 92

May 6
21:30UT

1992

M. Apr. 27½ 18:00-18:10 UT ss C-8, 32, 28, 20, 15.5.
sun 7g 25s RSN95

T. Apr. 28 18:15-18:20 UT ss C-8, 32, 28, 20, 15.5
sun 10g 28s RSN128

T.-W. Apr. 28-29 03:00-05:00 UT ~~03:00-05:00 UT~~ oo s-(8-9) T 8.5-9 Pinatubo effect C-14, 32 Kö

Pluto

M51, αCVn (Cor Caroli), M13, M5, Pluto — after very carefully and thoroughly searching and studying the star map (to about mag. 14) in Sky and Telescope, May 1992 page 545 — star hopping from M5 to μ Ser and 36 Ser and then almost straight westward to area shown on map in Sky and Telescope Pluto was faint (mag. 13.7) and probably more difficult because of the Pinatubo Effect.

W. Apr. 29 18:30-18:40 UT ss haze C-8, 32, 28, 20, 15.5
sun 9g 34s RSN124

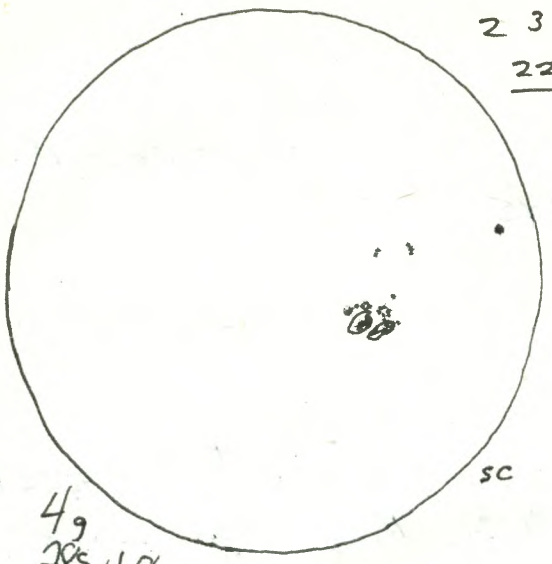
S.-M.

~~Sat~~ May ~~3-4~~ ~~08:15-08:30~~ UT y s(?) T9 ↑ (after beginning of morning tw) ne ~~nil~~

- summer constellations ~~nil~~ and Milky Way very clearly seen
- looked for the Eta Aquarid meteors, which were to peak at 15h UT on May 4 (about 6½-7 hours hence); but did not see much activity, possibly one faint one in the Southern sky. The radiant was low in the E. and twilight was starting to be more evident in the E.

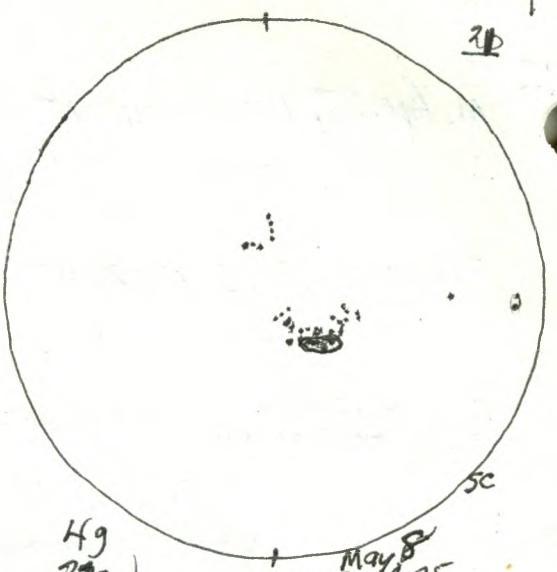
M. May 4 21:20-21:30 UT ss C-8, 32, 28, 20, 15.5
Sun 4g 28s RSN68

W. May 6 21:30 UT-21:40 UT ss C-8, 32, ~~28~~, 20, 15.5.
sun 6g 32s RSN92



4g
28s
RSN 68

May 7
16:10-16:15 UT



4g
32s
RSN 72

May 8
18:25-18:35

1992

W.-Th. May 6-7 03:50-04:00 UT y cml ne
- Jupiter and spring constellations

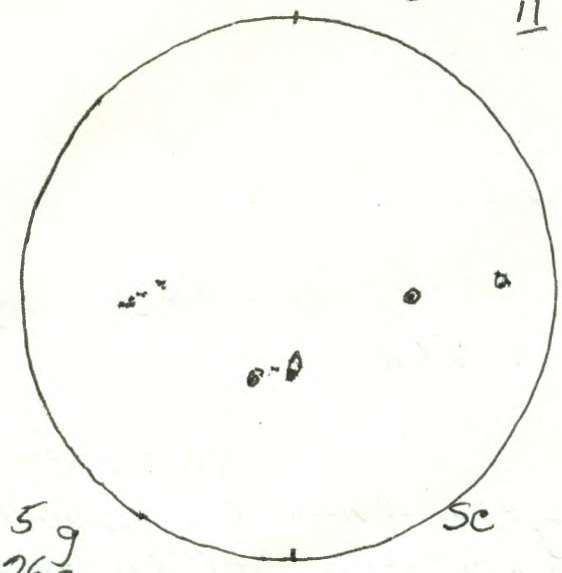
Th. May 7 16:10-16:15 UT SS C-8, 32, 28, 20, 15.5
Sun 4g 285 RSN 68

Th.-F. May 7-8 05:15-05:25 UT S-7(?) T8.5(?) ne
- just at and following time of moonset - observed spring and summer constellations - slight haze or "Pinatubo effect" noticed.
- possibly some faint Aurora noticed in N, which seemed to be up to about 40° in alt.

F. May 8 18:25-18:35 UT C-8, 32, 28, 20, 15.5.
Sun 4g 325 RSN 72

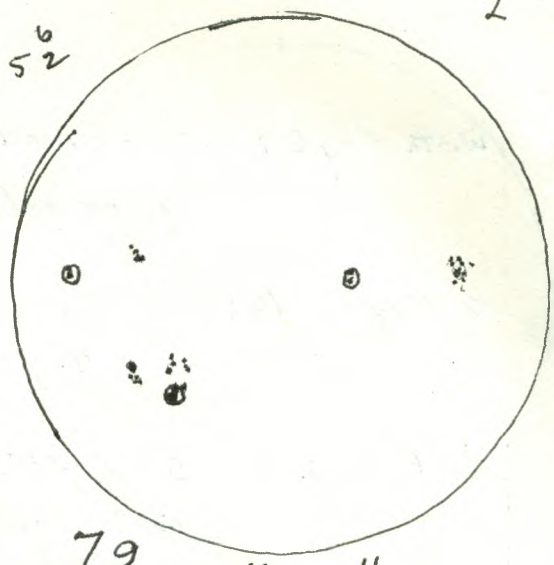
S.-S. May 9-10 01:00-01:20 UT near Murney Tower, Kingston ne
- In spite of some rain, Ian Levstein, David Stokes, and I were at the MacDonald Park site in order to have an Astronomy Day "Star Night". The moon and Jupiter appeared only briefly amid the heavy clouds and intermittent rain. We did not see others waiting to observe and left after about 20 - 30 min.

06:35 - 07:10 UT y and nd. ne
Aurora.
After being asleep and receiving a call about Aurora from Walter MacDonald, I observed and photographed a very strong Auroral display which filled half or more of the sky. In the N, there was intense, very rapid pulsations and flaming up to the zenith. At times there was rapid activity in a large area near and at the zenith. There was some colour - such as red in the NW especially, but it was not extremely colourful. Perhaps there was a hint of yellow and slight green.
- photographed Aurora also.



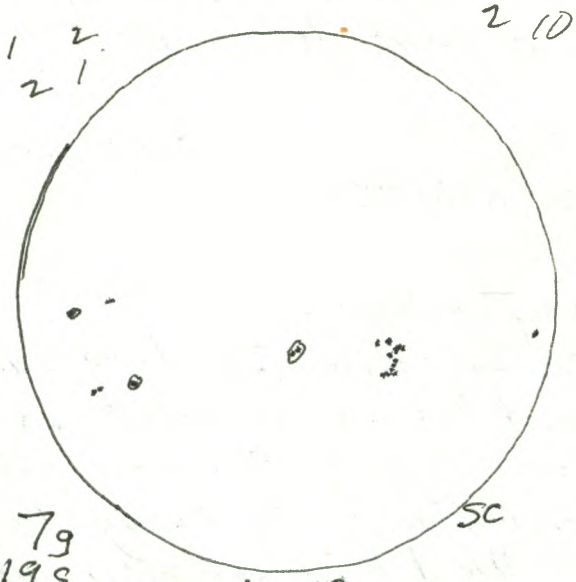
5 g
26 s
RSN 76

May 10
17:30-17:40 UT



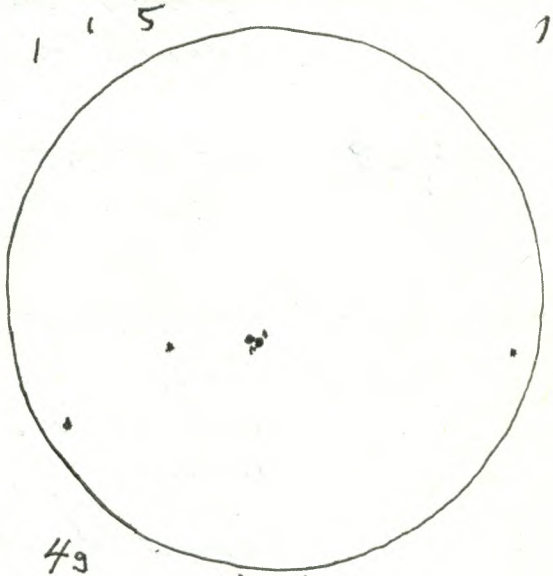
7 g
28 s
RSN 98

May 11
18:15-18:25 UT



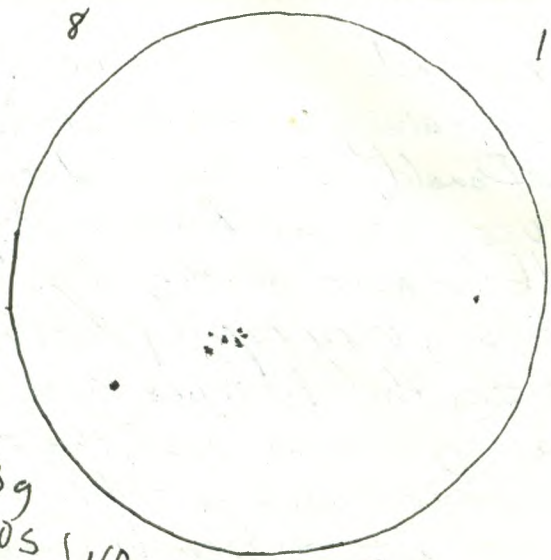
7 g
19 s
RSN 89

May 12
18:05-18:10 UT



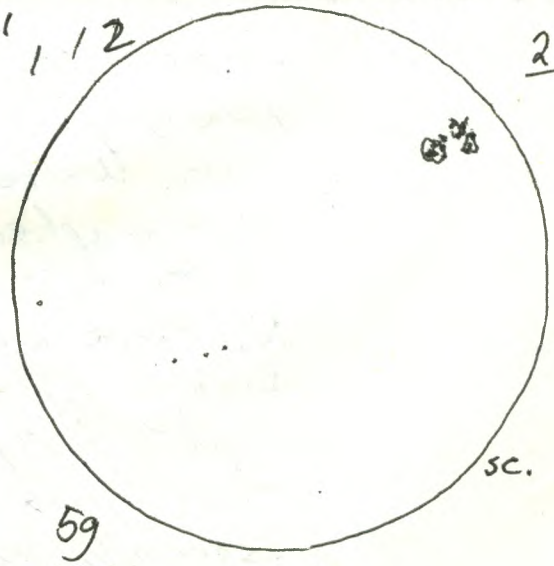
4 g
8 s
RSN 48

May 14.
18:20-18:25 UT



3 g
10 s
RSN 40

May 15
18:~~20~~-18:25 UT.



5 g
32 s
RSN 82

May 19
18:00-18:05 UT

1992

Su. May 10 17:30-17:40UT ss. C-8, 32, 28, 20, 15.5.
sun 5g 26s RSN 76

S.-M. May 10-11 01:30-03:00UT - in car coming from Read gm/. ne
- with Dearse, I observed a very strong Auroral display, after having seen it while in car while returning from Read. Throughout, the predominant feature was "flaming" with quite intense regions. At times it almost filled the sky. Intense aurora observation later died down somewhat after about 03:00 UT

M. May 11 18:15-1825UT ss C-8, 32, 28, 20, 15.5
sun 7g 28s RSN 98

M.-T. May 11-12. 01:30-03:30UT 00 S-9T8(e) with Dearse and Father Brennan C-14, 32
Jupiter, M13, Alcor and Mizar, lunar craters, M51

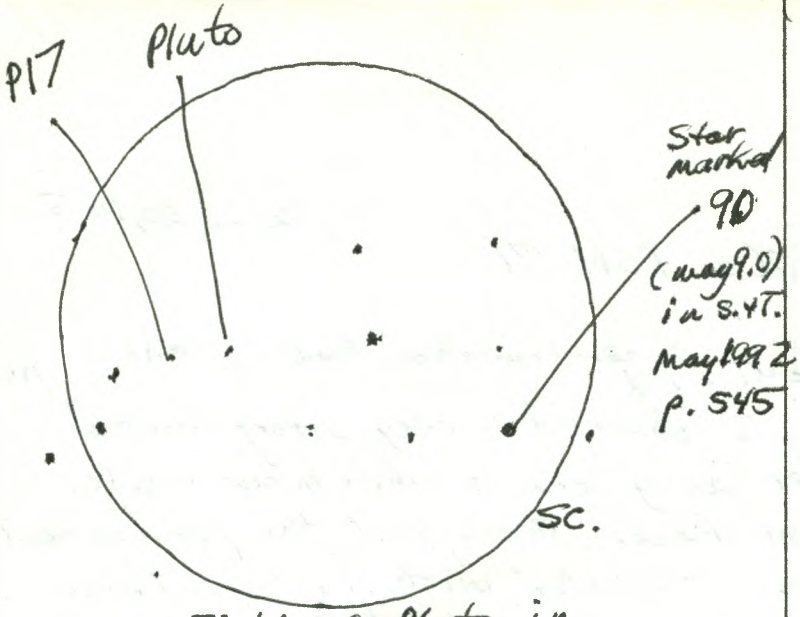
T. May 12 18:05-18:10UT ss C-8, 32, 28, 20, 15.5
Sun 7g 19s RSN 89

Th. May 14 18:20-18:25UT ss C-8, 32, 28, 20, 15.5
sun 4g 8s RSN 48

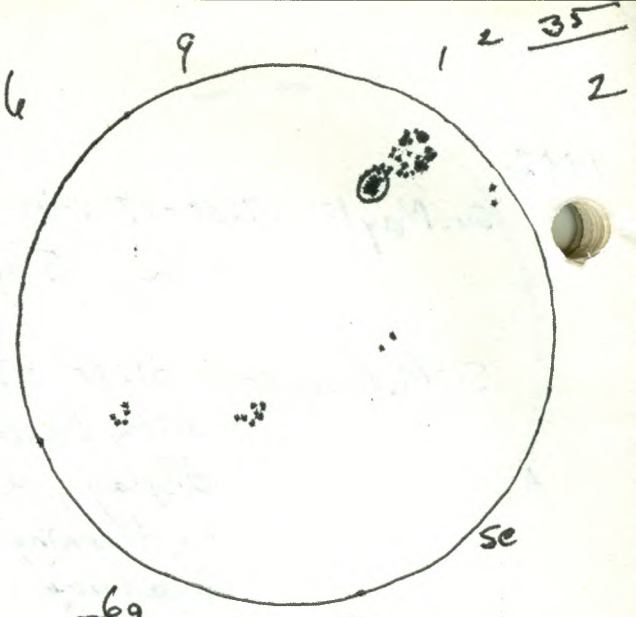
F. May 15 18:20-18:25UT C-8, 32, 28, 20, 15.5
sun 3g 10s RSN 40

M.-T. May 18-19 02:30-03:30UT t Ast, 19, 12, 8+2xBa
Jupiter and 4 moons (IV between Occultation and Eclipse), looked for Comet Yanota(?)-Machholz near ε Cas, γ Leo, γ Vir.
- possibly some Aurora in N. - glow up to about 40°.

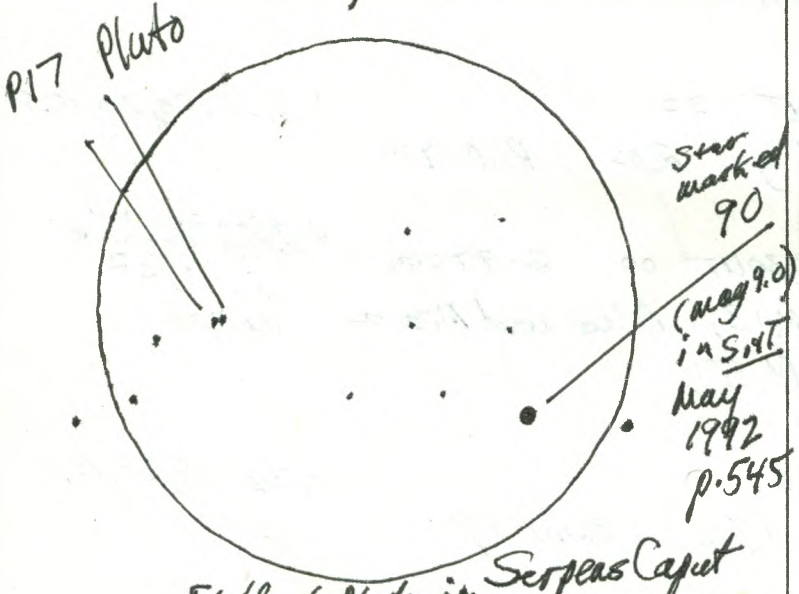
T. May 19 18:00-18:05UT ss C-8, 32, 28, 20, 15.5.
Sun 5g 32s RSN 82



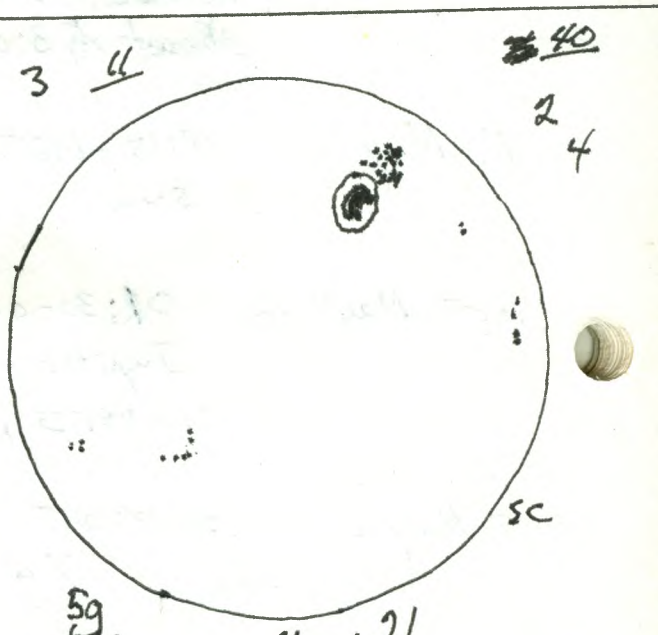
Field of Pluto in Serpens Caput
1992, May 20, 02:25-02:30 UT



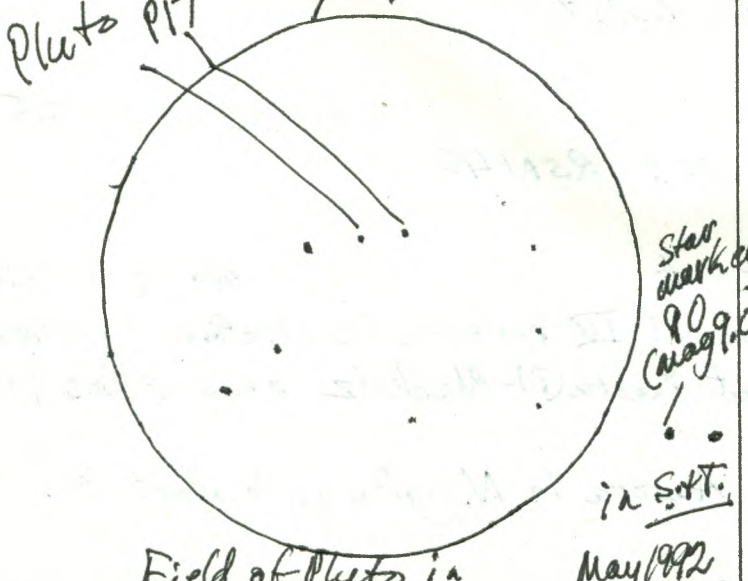
55 69 s.
RSN 115 May 20



Field of Pluto in Serpens Caput
1992 May 21, 03:40-4:40 UT



59
60s
RSN 110
May 21
18:35-18:45 UT.



Field of Pluto in Serpens Caput
1992 May 22. 03:00-03:30 UT
May 1992 p. 545.

1992, T.-W. May 19-20 01:50-03:45UT 00 5-9T9 C-14, 32

with Denise for ½ hr.

M51, M13, M5(!), M104, Jupiter and 4 moons, Pluto - using Map in Sky and Telescope, May 1992, p. 545 (See diagram at left), γ Leonis, γ Virginis - both split nicely, NGC 4565. One bright meteor was seen (about 2:30 UT) moving N. in Draco - about mag. -1. A glow in N. seemed to be that of an Aurora, with a slight reddish tint at times.

W. May 20 17:45-17:55 UT ss C-8, 32, 28, 20, 15.5

Sun 6g 55s RSN 115

32
28, 20, 15.5, 9, 13, ~~10~~, 55,

W.-Th. May 20-21 03:30-04:40UT 00 S9 T9-9.5 C-14, 32,

Cor Caroli, Alcor and Mizar, M5, Pluto which was very near (3-4 arc seconds) to a star called P17 in Serpens Caput (See map in S. & T, May 1992, p. 545) An occultation of this 13.4 mag. star had been predicted for about 6h UT or less than 2h after my observing session, but Skyline had announced that later calculations showed the path of occultation would pass above the N. Pole of the earth. (See diagram at left.)
- also Jupiter and 3 of the Galilean moons.

Th. May 21 18:35-18:45 UT C-8, 32, 28, 20, 15.5

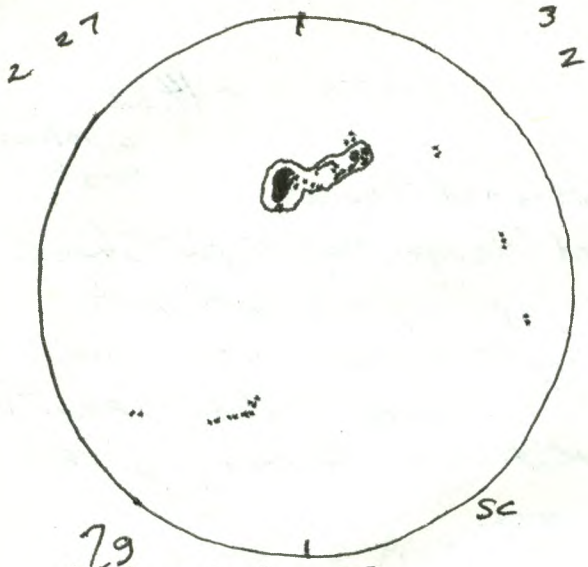
Sun 5g 60s RSN 110

C-14, 32.
Ast, 15.5

Th.-F. May 20-22 02:20-04:20UT + and 00 S9T9

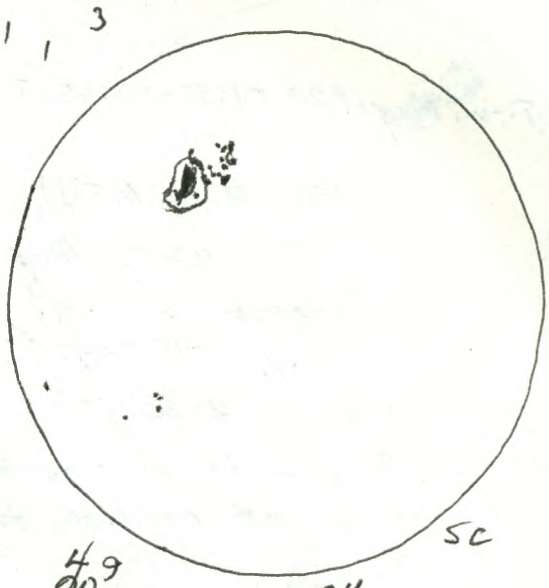
- with Ast, 15.5: Jupiter, Alcor and Mizar, R Leonis, M13, M5, area of e Cas looking for Comet (P) Zanotta-Machholz, Phil
- with C-14: M5, M51, Pluto for 3rd consecutive night and now on other side of star P17 (See diagram at left), M13, M92, Jupiter and 3 moons, γ Leonis, γ Virginis, α CrV Auroral glow in N. up about 20° and quite distinct at the end of the session.

27



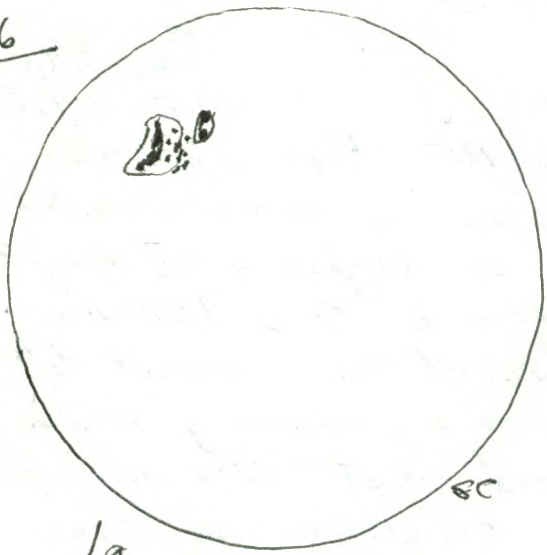
7g
45s
RSN115
May 22
17:50-18:00 UT

15

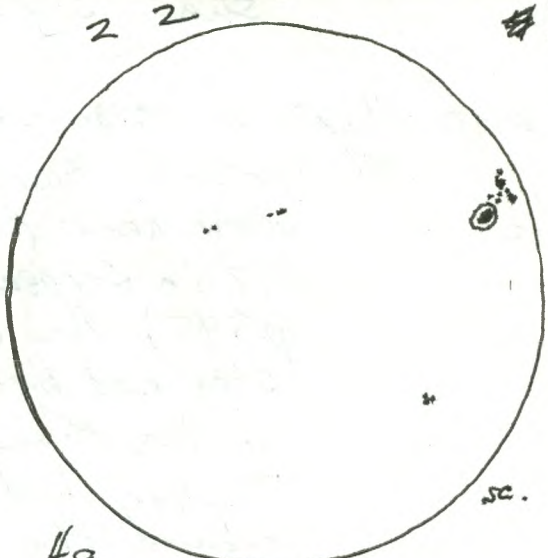


4g
20s
RSN.60
May 24
18:40-18:45 UT

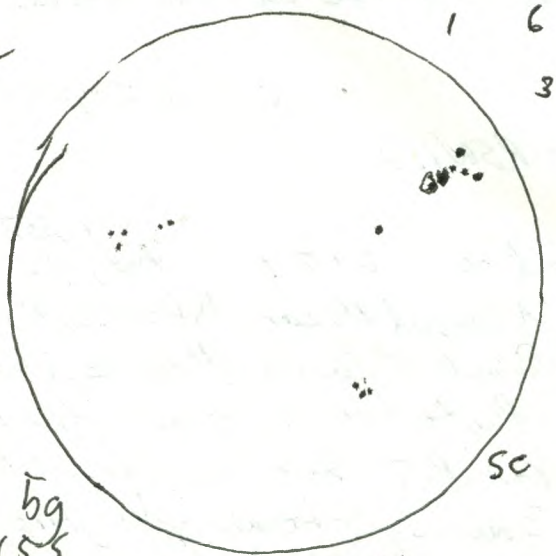
16



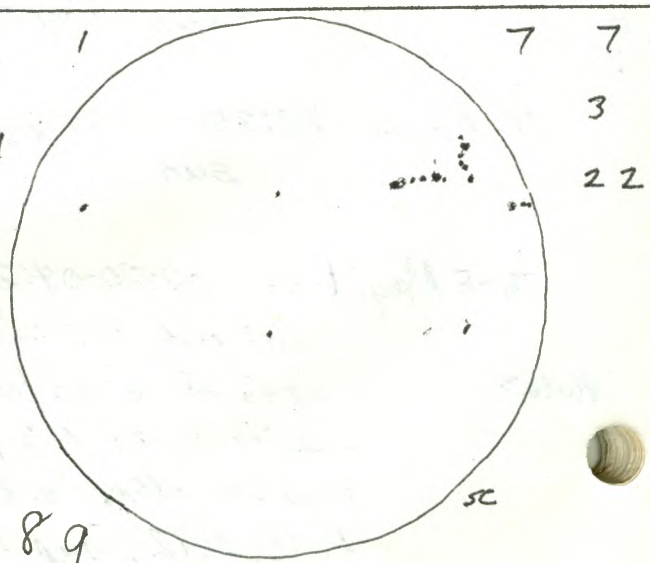
1g
16s
RSN26
May 25
17:30-17:35 UT



4g
14s
RSN54
June 2
18:15-18:20 UT



5g
15s
RSN65
~~Aug~~ June 3
19:05-19:~~10~~ UT.



8g
24s
RSN 104
June 4
18:50-19:00 UT

1992.

F. May 22 17:50-18:00 UT SS C-8, 32, 28, 29, 15.5
sun 7g 45s RSN 115.

F.-S. May 22-23 01:00-03:30 UT H.H. Langford Public School S. of Napanee Asf, B
Jupiter, Alcor and Mizar.
- gave a talk to 40 to 50 young students and their parents. - with Denise and Bill Broderick who also had a telescope

Su. May 24 18:40-18:45 UT C-8, 32, 28, 20, 15.5
sun 4g 20s RSN 60
- checked also with arcwelder's glass; not sure of seeing the large spot

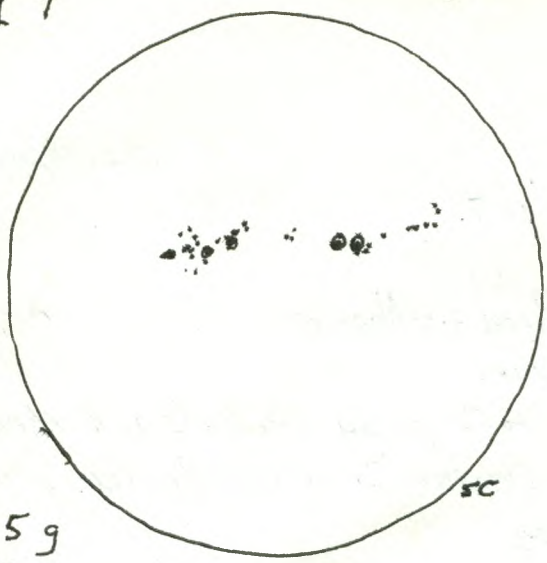
M. May 25 17:30-17:35 UT C-8, 32, 28, 20, 15.5
sun 1g 16s RSN 26

Tu. June 2 18:15-18:20 UT SS C-8, 32, 28, 29, 15.5
sun 4g 14s RSN 54

T.W. June 2-3 01:40-02:30 UT 00 tw. C-14, 19
Jupiter and 4 moons, α CrV
(Crescent moon seen N.E. in WNW.)
03:40-04:00 UT C-14, 32KS
After moonset, searched for and found field of Pluto but before seeing it (Pluto) with certainty, clouds moved into the area; M57.

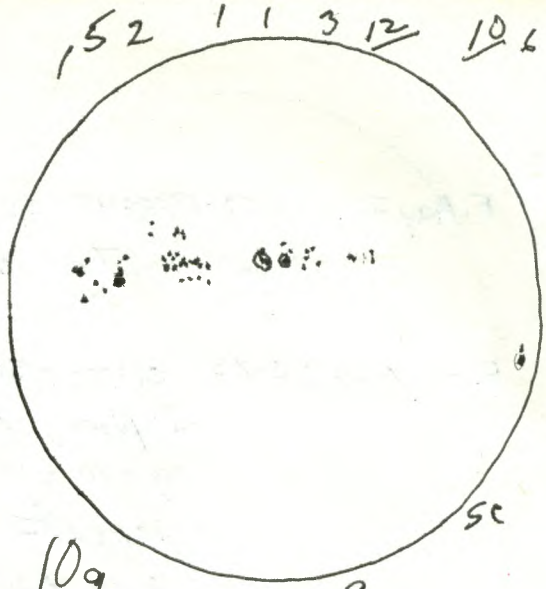
W. June 3 19:05-19:10 UT SS C-8, 32, 28, 20, 15.5
sun 5g 15s RSN 65
Some haze and cloud.

Th. June 4 18:50-19:00 UT SS C-8. 32, 28, 29, 15.5
sun 8g 24s RSN 104



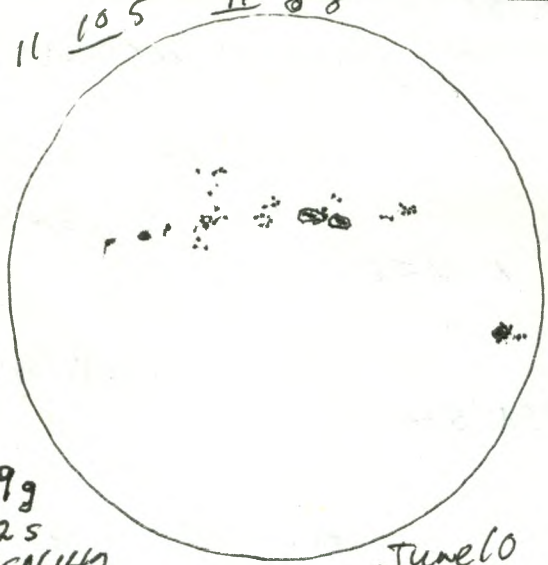
5g
34S
RSN84

June 8
18:15-18:25UT



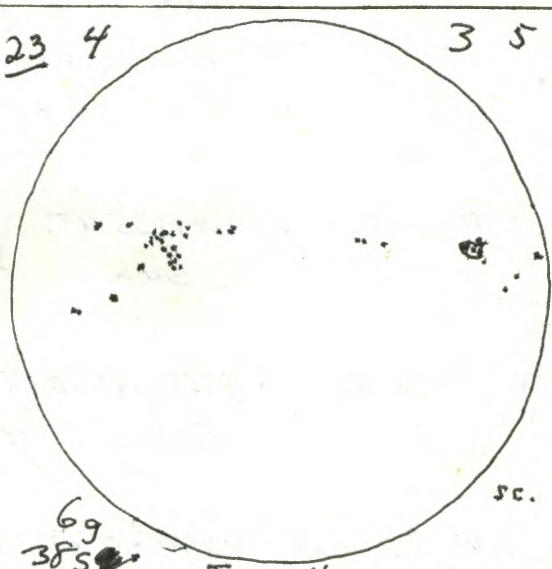
10g
43S
RSN143

June 9.
19:35-19:50UT



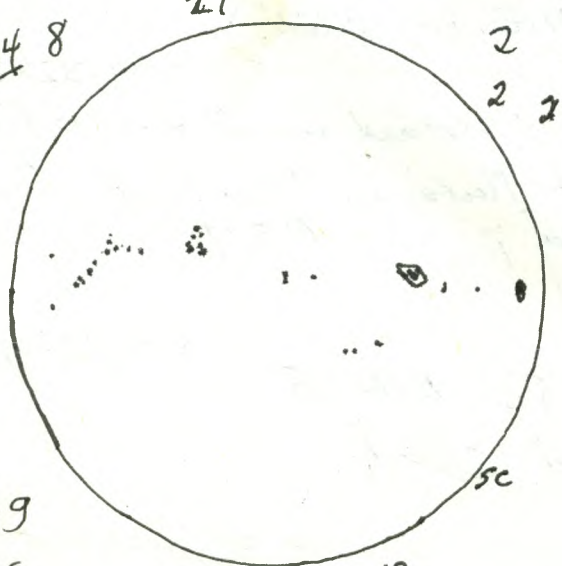
9g
52S
RSN142

June 10
19:30-19:40UT



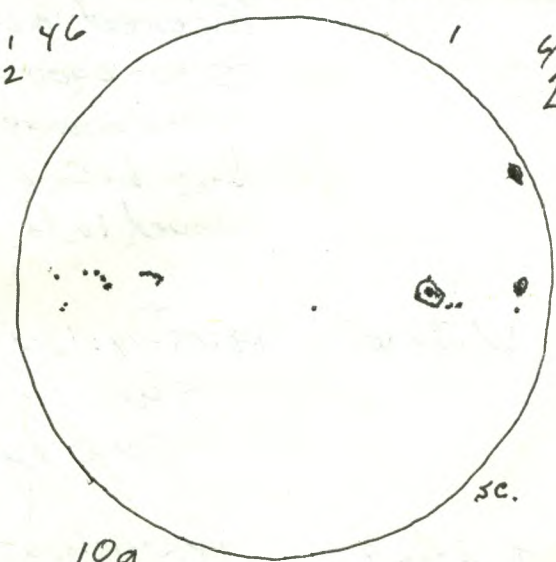
6g
38S
RSN98

June 11
18:35-18:45UT



17g
36S
RSN 156

June 12
17:35-17:45UT



10g
23S
RSN 123

June 13

1992

M. June 8 18:15-18:25 UT C-8, 32, 28, 20, 15.5.
sun 5g 34s RSN84.

M.-T. June 8-9 06:20-06:25 nd ne
- in middle of night, observed bright glow in N. from NW to NE and up 60°; this bright Aurora was not apparently active at that time, though considerable cloudiness prevented seeing that area of the sky clearly. It was after moonset.

Aurora

Tu. June 9 19:35-19:50 UT ss. C-8, 32, 28, 20, 15.5
SUN. 10g 43s RSN143

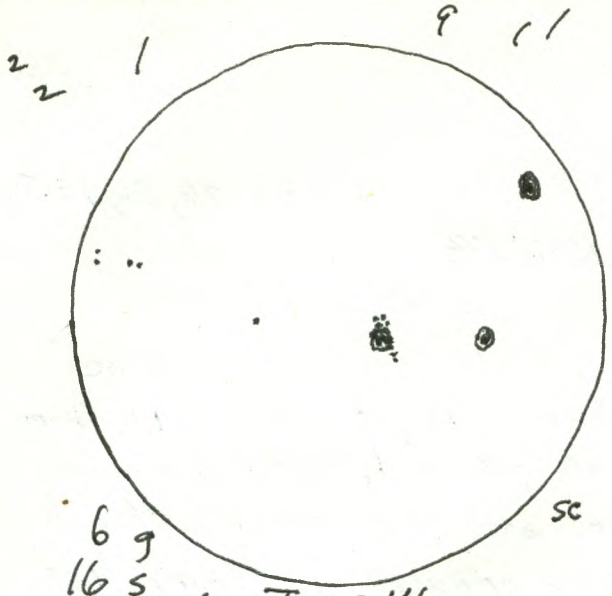
T.-W. June 9-10 01:40-02:40 UT oo 5-3 (Poor) tw C-14, 32, 19, 12, 9, 36
- Jupiter during Europa's shadow transit, but because of poor seeing, the bands and shadow were seen best at relatively low power - best with 32mm and 36mm oculars; not well seen with 19mm, 12mm, nor 9mm oculars.
- also lunar craters such as Copernicus, and also the straight wall, Mizar and Alcor.

W. June 10 19:30-19:40 UT ss. C-8, 32, 28, 20, 15.5.
sun 9g 52s RSN142

TH June 11 18:35-18:45 UT C-8, 32, 28, 20, 15.5.
sun 6g 38s RSN98 ~~C-8, 32, 28, 20, 15.5.~~

F. June 12 17:35-17:45 UT C-8, 32, 28, 20, 15.5
sun 12g 36s RSN156

Sa June 13 18:15-18:25 UT ss. C-8, 32, 28, 20, 15.5.
sun 10g 23s RSN123



6 9
16 s
RSN76 June 14
19:40-19:45 UT

Partial Lunar Eclipse of S.-M. June 14-15, 1992.

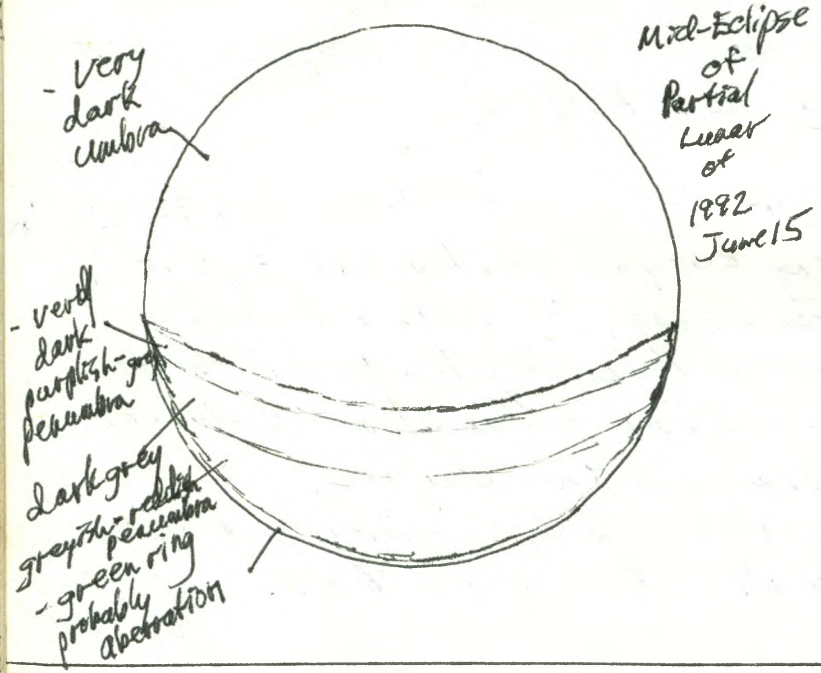
1st Penumbral Contact: 02:09.8 UT
P_1 10:09 E.D.T.

1st Umbral Contact: 03:26.6 UT
U_1 11:27 E.D.T.

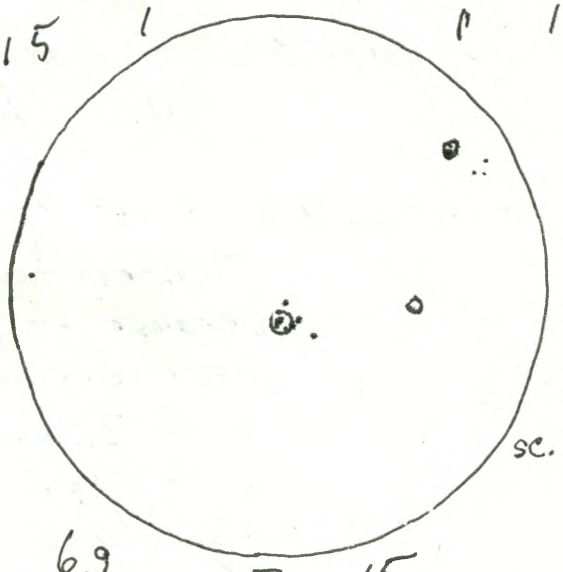
Mid-Eclipse: 04:57.0 UT (Mag. 0.687)
12:57 pm E.D.T.

4th Umbral Contact: 06:27.3 UT
U_4 2:27 a.m. E.D.T.

Last Penumbral Contact: 07:45.1 UT
P_4 3:45 am E.D.T.



Mid-Eclipse of Partial Lunar of 1992 June 15



6 9
12 s
RSN72 June 15
19:00-19:08 UT

1992.

Su. June 14 19:40–19:45 UT ss C-8, 32, 28, 20, 15.5

sun 6 g 16 s RSN 76

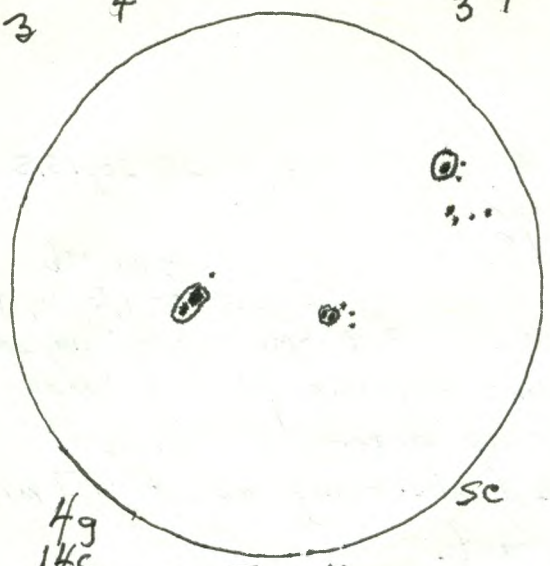
S.–M. June 14–15 02:30 – 06:10 UT y and oo S-9 T-good -M1 20x100b C-14, EG1b, 19mm C-14, EG1b, camera

- excellent, very clear conditions for the partial lunar eclipse from almost an hour befor 1st Umbral Contact until I stopped observing about 17 min. before 4th Umbral Contact.
The umbra appeared very dark, almost black except near the very edge, when it was studied through 20x100 binoculars and the C-14.
The penumbral darking became noticeable about an hour before U_1, quite noticeable by 3^h UT and very evident within last 10^{min} before U_1.
As a penumbra it was very dark, appearing almost like an umbra in last $5^{min.}$ before U_1.
As umbral phase increased, many stars (probably better than 4th mag.) became visible.
- with C-14, GE1b, 19mm: Jupiter and 4 moons, Mizar
- with C-14, GE1b, camera: moon during session from U_1 until about 06:00 UT, frequent photographs of the eclipse, metering from bright part of moon with a few photographs of the dark area with times of 8^{sec}, 10^{sec}, and 15^{sec}.
- with ATI camera, 50^{mm} f 1.2 lens: attempt to take single frame, multiple exposure of eclipse at $10^{min.}$ intervals. An error was made by rewinding at about the 6th exposure
- with 20x100b: frequent observations of eclipse, noting the darkness of the umbra, a purplish-grey area near edge of umbra, brownish greyish areas further from the umbra.

M. June 15 19:00–19:10 UT ss C-8, 32, 28, 20, 15.5

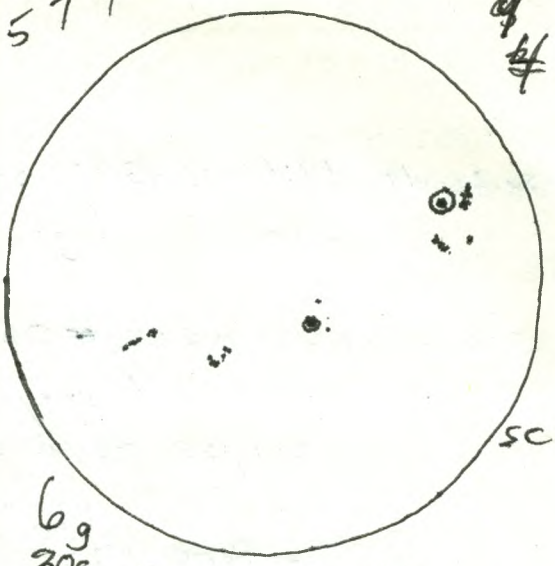
sun 6 g 12 s RSN 72

3 4 3 4



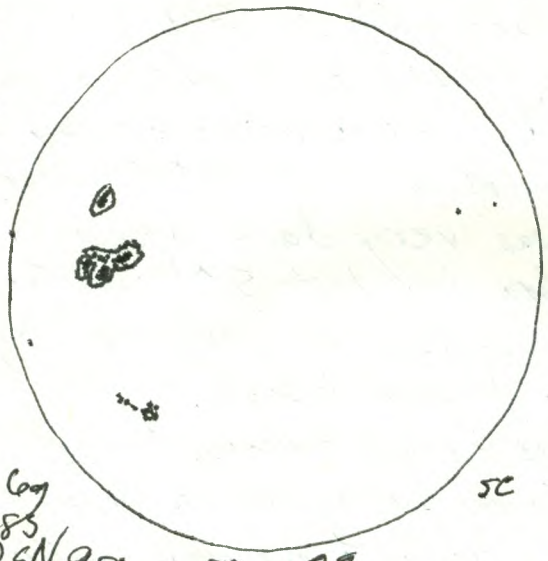
4g
14S
RSN54 June 16
18:45-18:55 UT.

5 7 4 4 1



6g
30S
RSN90 June 17
19:05-19:15 UT

1 1 1
1 20
14



6g
38S
RSN98 June 23
18:15-18:25 UT.

1992

Tu. June 16 18:45-18:55 UT ss C-8, 32, 28, 20, 15.5.
sun 4g 14s RSN54

W. June 17 19:05-19:15 UT C-8, 32, 28, 20, 15.5
sun 6g 30s RSN90

M-Tu. June 22-23 03:30-04:50 UT y S-8(?) T8-8.5 20x100b

comet. Comet Shoemaker-Levy (1991a) in Camelopardalis - somewhat difficult to see and seeming to be fainter than predicted (probably about 9th mag. rather than the approx. 8 mag. predicted) (See S.+T. June 1992, page 706.) - somewhat diffuse, and no tail evident in the binoculars.
- also M15, M22, M28, M20, M8, M4, M11, R Scuti.
- R Lyrae was evidently at minimum - mag 4.3 (calculation showed this to be so.)

Aurora - Aurora glow evident in N. up to about 30°; at about 4:00 UT vertical bands became evident but soon died down - after about 5 min. Later the Aurora subsided somewhat.

Tu. June 23 18:15-18:25 UT ss C-8, 32, 28, 20, 15.5
sun 6g 38s RSN98

T.-W. June 23-24 01:40-03:30 UT tandoo with Fr. John Bra 20x100b Ast, 15, 8+Ba S-8 T8 1 C-14, 32, 19.

- with Ast: Jupiter and 4 moons, just before II Tr I
- with C-14: Jupiter and 4 moons, just before II Tr I, M4, M5, M13, M92, M8, M51, M57, ε Lyrae, β Lib.

Aurora - An active Aurora for about 10 min. near 3:00 UT with a glow in N becoming vertical bands in NW and N., activity lasted for only about 10 min.

With 20x100b: - searched near γ Caem for Comet Shoemaker-Levy (1991a) (See S.+T, June 1992 p. 706)
Clouds moved in near end of session

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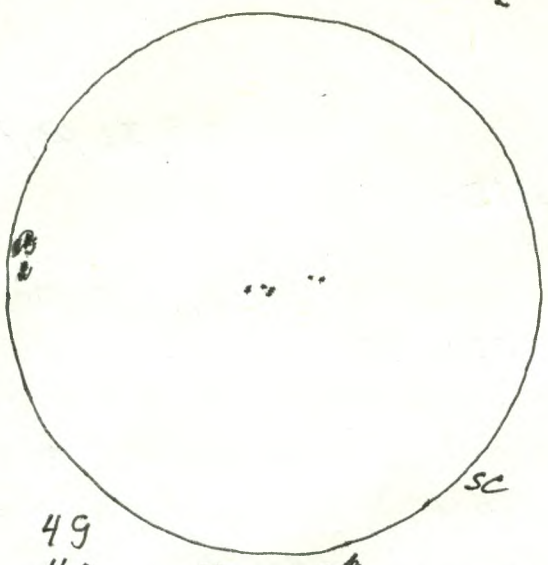
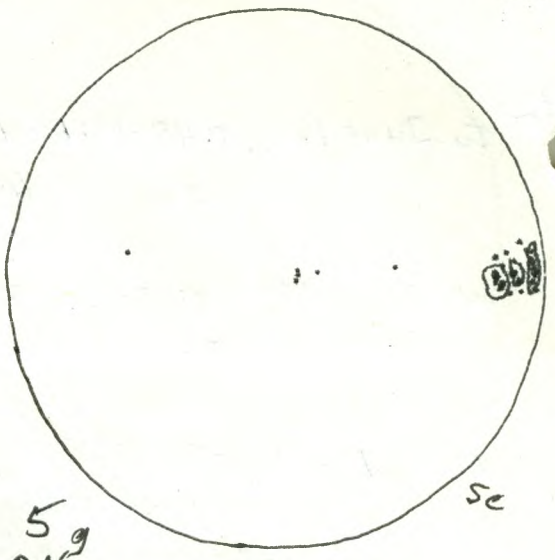


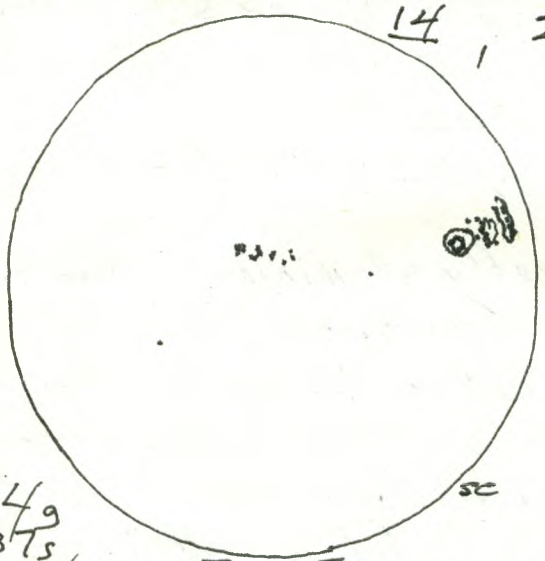
49
11S
RSN51 June 28 19:55-20:00UT

1 21 1 19



5 9
24S
RSN74 June 29 19:00-19:08UT

1 14 1 21



4 9
34S
RSN 77 June 30 20:55-21:05UT

1992

Th.-F. June 25-26 03:40-05:00UT y intermittent cloud 20x100b

- M4, M80, M8, M20, M21, M22, M28, M11, M17 M51
- looked for Comet Shoemaker-Levy (1991) but was not sure of seeing it.
- Clouds became more and more a problem later in the observing session.

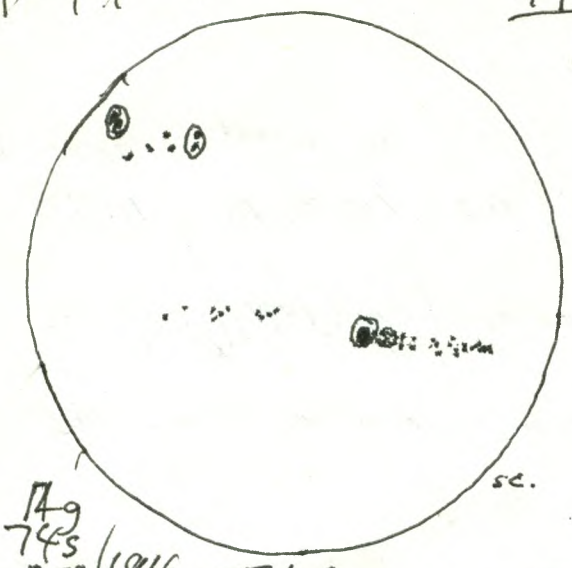
F. June 26 1955-20:00 4T C-8, 32, 28, 20, 15.5
sun 4g 11s RSN51

Sat M June 28-29 03:40-04:40UT y S-8(?)T8 20x100b
M22, M28, M4, M80, Uranus, Saturn, Comet Shoemaker-Levy (1991) in Canelopardalis (See S.&T. June, 1992, p. 706) probably somewhat fainter than the mag 7.6 predicted for June 27 in S.&T. - probably 10 or 9 mag. - quite diffuse and no binocular evidence of a tail.
Aurora changed from glow in N. at about 3:50UT. to a very bright glow and some vertical bands almost to the zenith - only very slightly reddish or greenish - mainly white; later also vertical bands in N.E. - active for only about 30 minutes - less active later but glow persisted until clouds moved in about 4:40UT. (There had been reports of a solar flare on Thu. June 25.)

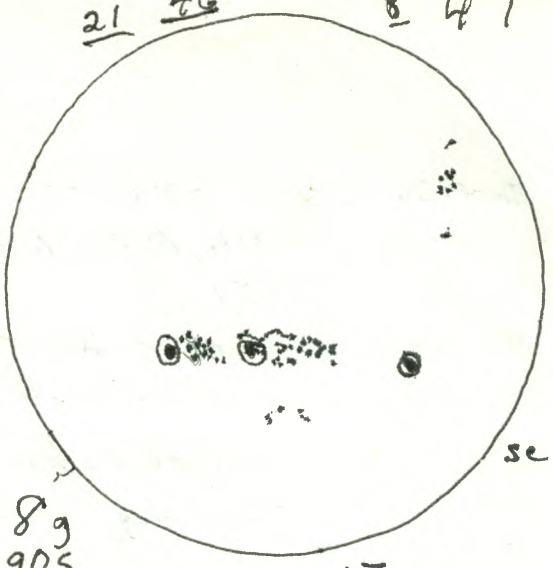
M. June 29 19:00-19:08UT ss C-8, 32, 28, 20, 15.5
sun 5g 24s RSN74

T June 30 20:55-21:05UT C-8, 32, 28, 20, 15.5
sun 4g 37s RSN77

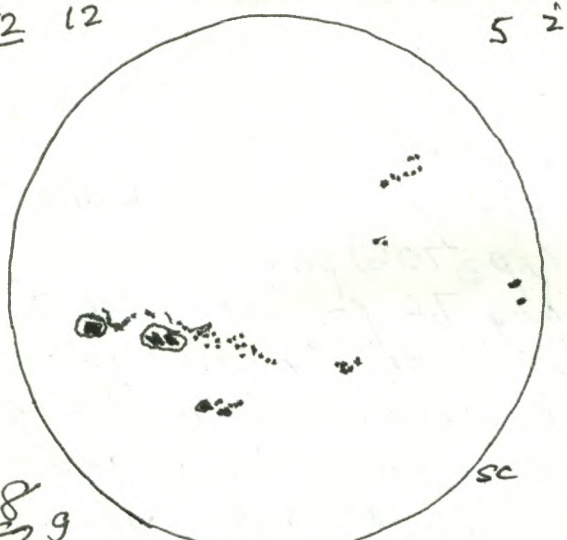
T-W. June 30-July 1 E. intermittent cloud Ast, 15.5
M27, σ1299, Bcyg, Alcor and Mizar,



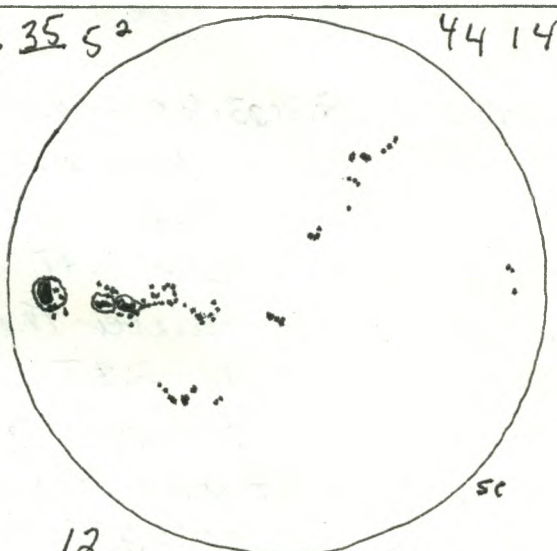
14 g
74 s
RSN 194 July 9
19:50-20:05 UT



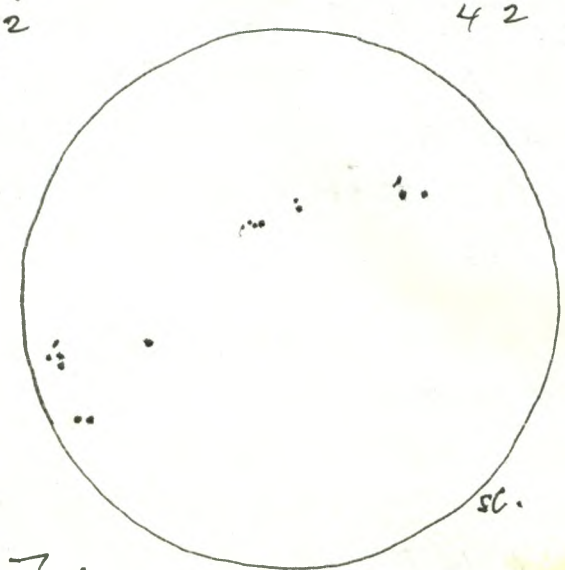
8 g
90 s
RSN 170 July 13
18:50-18:55 UT



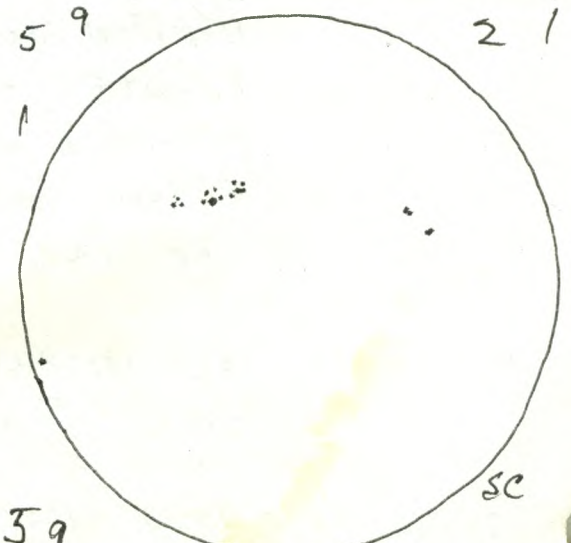
8 g
82 s
RSN 162 July 15
19:45-19:50 UT



12 g
78 s
RSN 198 July 16
19:15-19:20 UT



7 g
16 s
RSN 86 July 18
16:20-16:25 UT



3 g
18 s
RSN 68 July 19
17:55-18:00 UT

1992

μ Cep (the Garnet Star), α Librae, β Librae, M4, M80, M11.

Th. July 9. 19:50-20:05 UT C-8, 32, 28
sun 12 g 74 s RSN 194

Th-F. July 9-10 01:25-01:30 UT t gm! tw Ast, 15
the gibbous moon, Jupiter with two moons visible even though it was only a little more than ½ hour after sunset.

M. July 13 18:50-18:55 UT ss C-8, 32, 28, 20, 15.5
sun 8 g 90 s RSN 170

W. July 15 19:45-19:50 UT ss C-8, 32, 28, 20, 15.5
sun 8 g 82 s RSN 162

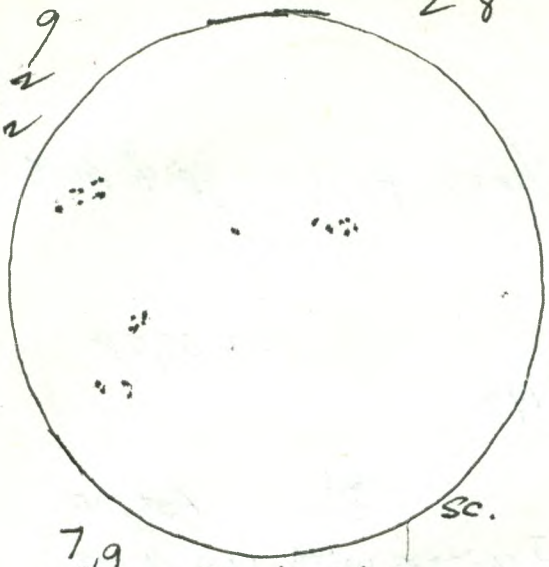
W.-Th. July 15-16 01:20-01:25 UT t tw C-8, 19
II IV III Jupiter and 3 moons - about ½ hour after sunset while Jupiter was still above the trees.

Th. July 16 19:15-19:20 UT ss C-8, 32, 28, 20, 15.5
sun 12 g 78 s RSN 198

Sa. July 18 16:20-16:25 UT C-8, 32, 28, 20, 15.5
sun 7 g 16 s RSN 86

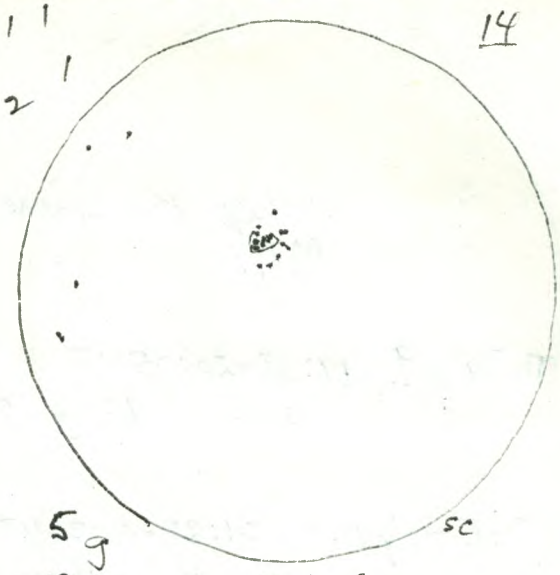
Su. July 19 17:55-18:00 UT C-8, 32, 28, 20, 15.5
sun 5 g 18 s RSN 68

S.-M. July 19-20 03:00-04:15 UT γ gm! 20x100b
Comet Shoemaker-Levy (1991a,) in Ursa Major 13° S of γ UMa - about 8 mag. and diffuse
M22, Uranus and Neptune in Sagittarius.



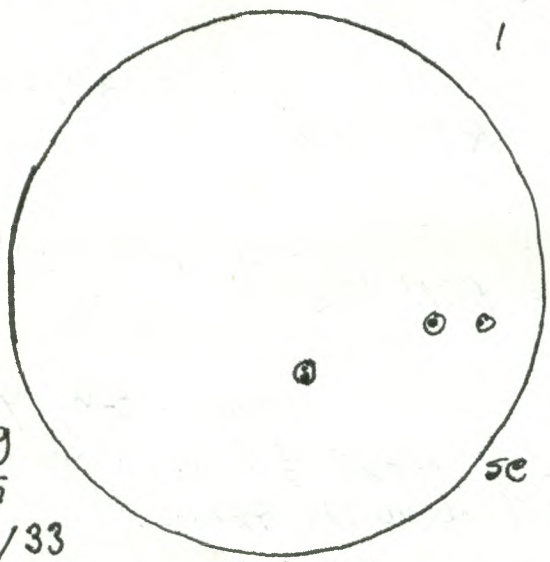
7 9
28 5
RSN 98

July 21
18:05-18:15UT



5 9
19 5
RSN 69

July 22
19:45-19:50UT



3 9
3 5
RSN 33

July 28
18:40-18:43UT

1992.

Tu. July 21 18:05-18:15 UT SS C-8, 32, 28, 20, 15:5
sun 7g 28s RSN 98

T.-W. July 21-22 01:30-04:40 UT oo andy tw s-8? T8.5-9 gm! after 03:24 UT C-14, 32 20x100b ne
C-14: Comet ~~Shoemaker~~-Levy (1991a) about mag. 6.5 in UMa about 16° S of γ UMa; M11
photographed the comet (piggy back photography) and other areas of the sky
20x100b: Comet Shoemaker-Levy (1991a), Uranus, Neptune, M22, M28, Saturn.

W. July 22 19:45-19:50 UT C-8, 32, 28, 20, 15:5
sun 5g 19s RSN 69

F.-S. July 24-25 03:00-04:00 UT Darling Hill, Vesper at S.A.S. Summer Seminar S-8(?) T-5 cloud 20x100b
- Uranus, Neptune, M31, Saturn.

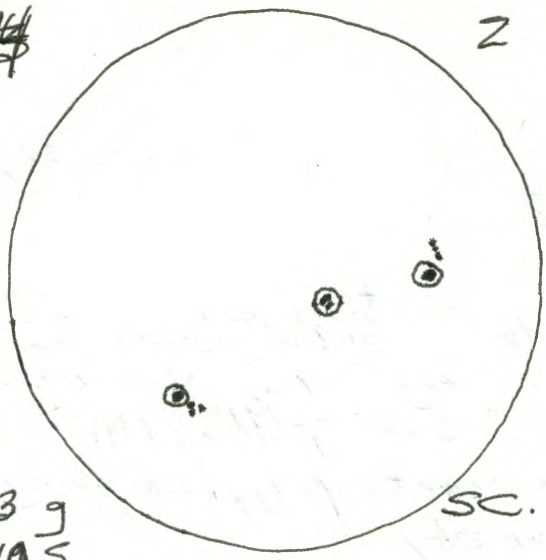
S.-S. July 25-26 03:30-04:45 UT Darling Hill, Vesper at S.A.S. Summer Seminar S-8(?) T-8 cloud 20x100b
Uranus, Neptune, Saturn M17, M12, M14, Alcor and Mizar, M31, M22

S.-M July 26-27 05:15-05:25 UT nd t-8.5 ne
- summer coastellations
- Auroral glow up 10° in NNW.

M.-T. July 27-28 05:55-06:10 UT nd+y t-9 ne
- summer coastellations, Saturn
- Auroral glow in NNW-N up 15°-20°

T. July 28 18:40-18:43 UT C-8, 32, 28, 20
sun 3g 3s RSN 33

T.-W. July 28-29 01:40-03:50 UT oo increasing cloud C-14, 32E
ε Lyrae, Alcor and Mizar, Saturn, M15.
Increasing cloud cover made observing more and more difficult and later impossible.



3 g
10 S
RSN 40

July 30
19:10-19:20UT

1992.

W.-Th. July 29-30 01:30-06:40 UT 00 S-8 T-9.5 Excellent C-14, 32K 20x100b

C-14: photographed areas of the summer Milky Way using 200mm and 400mm piggybacked

20x100b: - M22, M28, M17, M11, Saturn, Uranus, R Cor Bor, T Cor Bor, areas of S Peg and Whyr, M33, M31

- Comet ~~Levy~~ Shoemaker-Levy (1991a) low near trees in NW before end of astronomical twilight - about mag. 7

also M8, M20, M6, M7, M4

ne.: several meteors of both Perseid and S δ Aqu showers

Excellent observing conditions until about 06:00 UT (2:00 a.m. E.D.T.) when clouds appeared in W and SW and later moved into S. Sky.

Th. July 30 19:10-19:20 UT ss C-8, 32, 28, 20, 15.5

sun 3g 10s RSN40

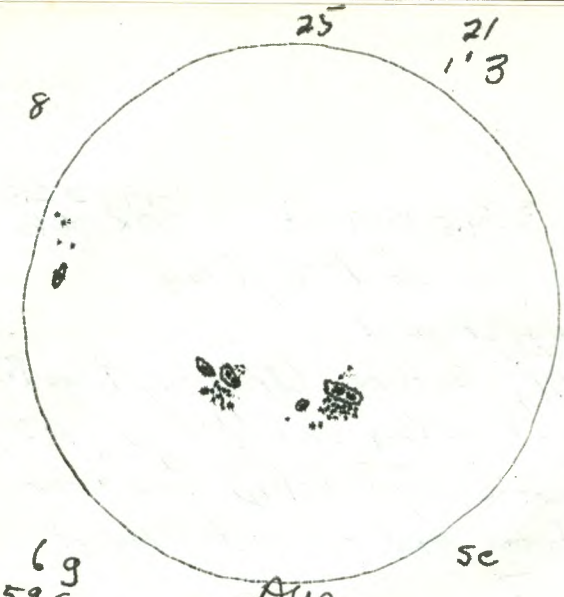
Sa.-Su. Aug. 1-2 05:10-08:00 UT y S-8 T-8.5-9 some areas of cloud 20x100b

- observed for about 3h under quite clear skies after there had been rain earlier in the night, esp. around 3:00 UT (11:00 p.m. E.D.T when I checked

- Saturn, M31, M33, U and Eu in Delphinus, M13, M27, M71, Whyrae and its area; M36, M37, M38 after Auriga rose above trees in E., M92, M11 and R Scuti, M57, area of R Aquilae.

T.-W. Aug. 4-5 02:40-03:00 UT y with Peter, David + Denise ne

- very interesting Auroral display - in NW, N, NE, many vertical bands white and yellow in colour extending up 60°, later to the zenith and beyond, and by 03:00 UT covering almost the whole sky except the extreme S. some pink and red colouring in the NE especially; considerable Coronal activity and some pulsation after 02:55 UT.



69
595
RSN 119

~~Aug~~ 7
19:54-20:00 UT

*
W.-Th. Aug 12-13 02:30-03:30 UT
y fan! with Peter
and Jonathon
ne.: observed, looking for
Perseids, seeing 2 of them
oo floor - showed Jonathon and
Peter
Saturn and Titan.

1992

F. Aug. 7 19:54 - 20:00 UT 5S C-8, 32, 28, 20, 15.5
sun 6g 59s RSN 119

S.-M. Aug. 9-10 03:00-04:00 UT y gml +7x35b ne ∧
- observed from lawn chaise, looking for Perseids.
- saw only one or two

T.-W. Aug. 11-12 01:40-03:30 UT y fml ne with Peter, Janice, Jonathan and Celena Carlo
- observed from lawn chaise looking for Perseids, even though there was a full moon
- from 02:30 - 03:30 UT (10:30-11:30 p.m. E.D.T.) saw 17 Perseids and one sporadic meteor. A few were bright - about mag. 2 or 1. - generally not as many seen, as were expected, even though there was a full moon and the area of the sky observed was not large - generally northern part of the sky, to avoid looking at the full moon.

←*

Th.-F. Aug. 13-14 00:20-00:55 UT Silver Lake Provincial Park tw 9x63b with Denise + Celina Carlo
- 17 min after Sunset at 00:15 UT (8:15 p.m. E.D.T.) observed Jupiter in W. about 7°-8° above horizon - observed Jupiter for 20 min (until 00:52 UT) i.e ~~from~~ 00:32 UT until 00:52 UT - very difficult to see ne.
- did not see Venus which was very low and to the right of Jupiter, probably only 2° to 4° above the horizon when Jupiter was seen.

01:50 - 03:00 UT y fml ne
- observed for over 1 hr to try to see some Perseids
- at 01:57 UT saw a very bright (mag. -4) point Meteor in Cepheus - lasting 3 - 4 seconds at least. It could possibly have been an exploding Perseid.

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16 11
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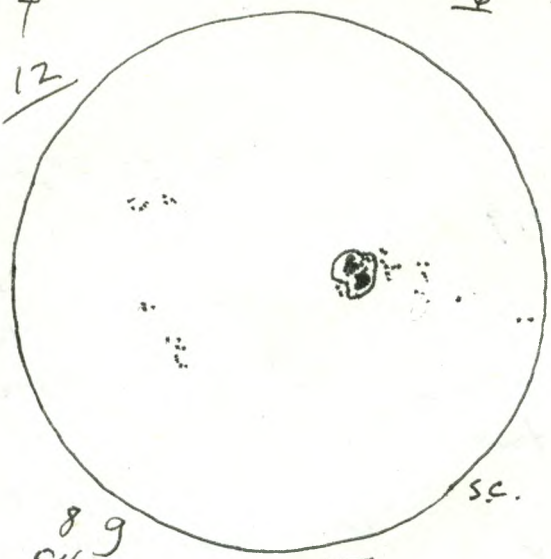
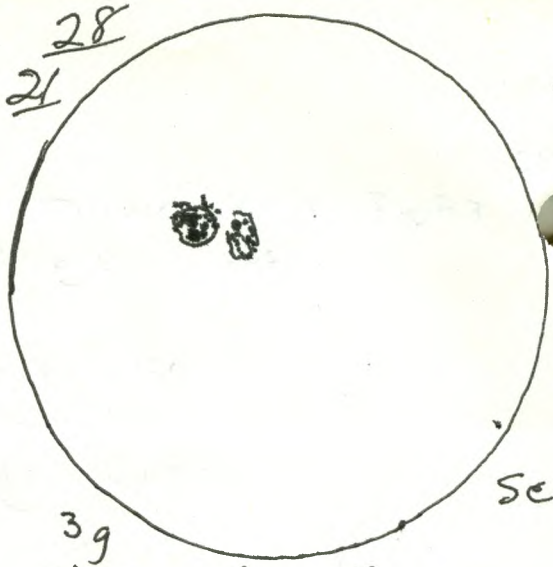


8 9
54 S
RSN 134 Aug. 15
18:00-18:50 UT

28
21

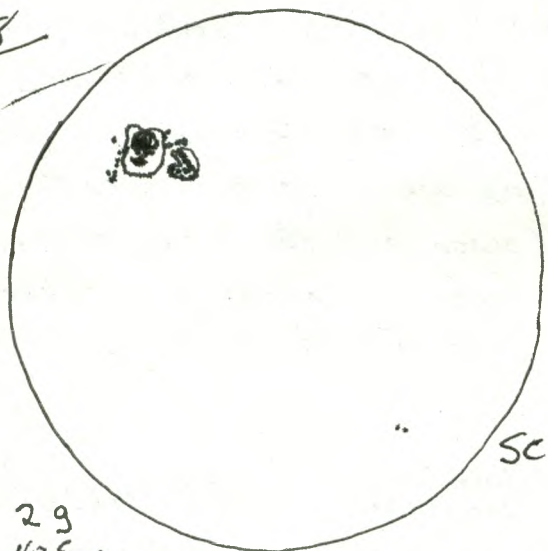
1



39
50 S
RSN 80 Aug. 19
21:15-21:25 UT

38

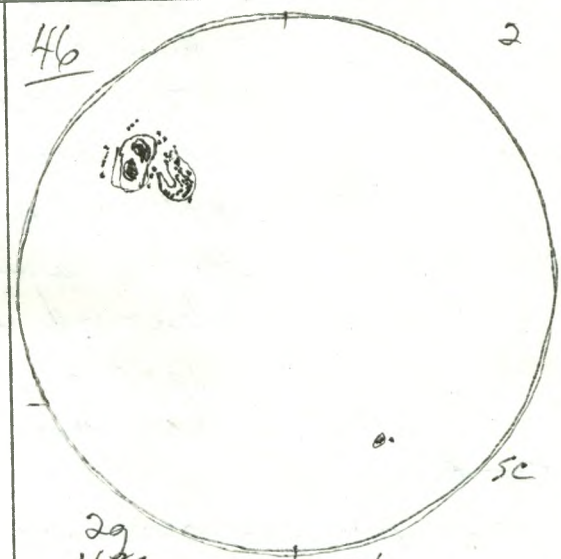
2



29
40 S
RSN 60 Aug 20 20:40-20:50 UT

46

2



29
48 S
RSN 68 Aug. 21.
18:50-18:55 UT

F.-S. Aug 21-22 23:50-00:40 UT
Silver Lake Provincial Park
- amid very clear skies except for some slight clouds in W. - looked for Venus and Jupiter about 1 day before their conjunction, but did not see them

1992

Sa. Aug. 15 18:00-18:50 UT ss. a amid clouds C-8, 32, 28, 20, 15.5
sun 8g 54s RSN 134

T.-W. Aug. 18-19 01:15-01:45 UT 00 tw C-14, 19 ; 20x100b.
C-14 : Saturn and Titan
20x80b : Saturn, Uranus, Neptune, M22, M28.
area of α Cas
Observing session ended because of clouds moving in.

W. Aug. 19 21:15-21:25 UT ss with Denise, Sara, Meghan C-8, 32, 28, 20, 15.5
sun 3g 50s RSN80

W.-Th. Aug 19-20 01:20-03:20 UT RKY Camp near Parham tw and later amid clouds Ast, 15m, 8m
Saturn and Titan very near greatest western elongation,
M28, M22, βCyg, , Alcor and Mizar.

Th. Aug. 20 20:40-20:50 UT Clouds moved in. C-8, 32
sun 2g 40s RSN60

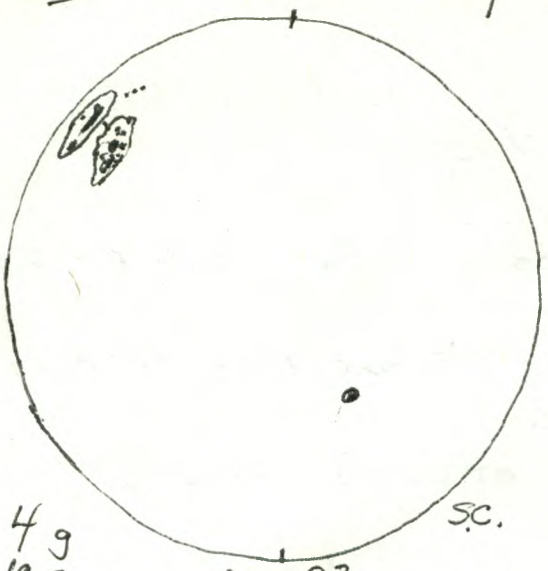
Th.-F. Aug. 20-21 01:35-04:00 UT 00 S-8(?) T-9.5 (!) later ml. after 03:03 UT 20x100b Ast, 8
20x100b: M8, M20, M21, M16, M17, M18, M24, M25, M28, M22, Uranus, Neptune, Saturn and Titan, M15, areas of U and EU Del, R CorBor, T CorBor, M11 and R Ser, Y Sag, λ Cap, β Cap. U Sag in M25
Ast : Saturn and Titan, M13 - shown to Denise and Sara and Meghan

F. Aug. 21. 18:50-18:55 UT ss. C-8, 32, 28, 20, 15.5
sun 2g 48s RSN68

F.-S. Aug 21-22 01:40-04:30 UT 00 5-8 T-9.5 (!) until ml. 20x100b C-14, 19
20x100b : M16, M17, M18, M24, M23, M25, Y Sag, M28, M22, M8, M20, M11, R Scuti, Uranus and Neptune, Saturn and Titan, T CorBor, R CorBor, M31, M33,

3 3 12

1



SC.

4 9
19 5
RSN59

Aug. 23
17:55-18:03 UT

1992.

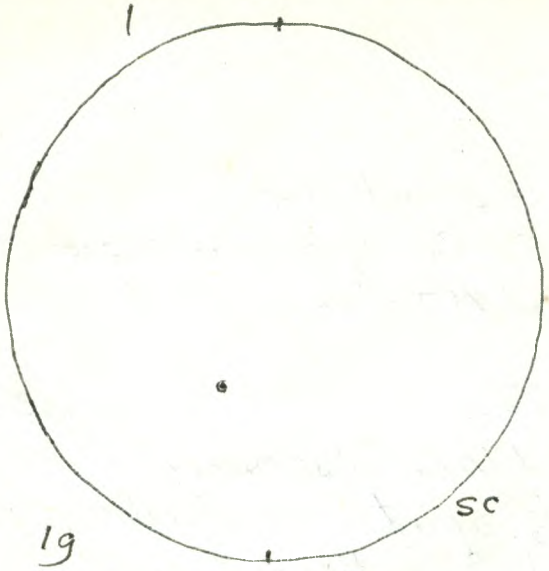
αCap, βCap, M21, area of Barnard's Star
C-14: Saturn and Titan, M57, Cor Caroli, Alcor and Mizar
7x35 b: (from dock) M6 and M7 - low in SSW

S.-S. Aug. 22-23 00:00-00:30 UT Silver Lake Provincial Park tw 9x63 b
looked for Jupiter and Venus which were in conjunction about 1/3° apart - considerable cloud cover up to about 15° in W. and near sunset point - did not see them

02:00 - 04:00 UT y S-8 some T-7 cloud 9x63 b
- summer constellations - Saturn, area of α x β Cap Col 399, M11, M16, M17.
Aurora - very bright in large area of N. up 40° at first increasing to 90° and past zenith largely as whitish glow at first and then covering northern half of sky; from 03:40-04:00 UT (11:40-12:00 p.m. E.D.T.) becoming very active in the corona activity in the zenith and South of the zenith. - flaming and pulsations very noticeable for about 20 minutes but not with much colour.
- photographed the Aurora.

Su. Aug. 23 17:55-18:03 UT ss C-8, 32, 28, 20, 15.5
sun 4g 19s RSN 59

S.-M. Aug. 23-24 01:50-04:15 UT Robert Dick's Observatory at Rideau Ferry 58 T8-8.5 20x100 424"
- observed with Robert Dick and astronaut trainee Dave Williams, and for part of the session two film makers from TV Ontario
- After eating at Noonan's Restaurant in Perth we observed at the huge observatory using my 20x100 b and Rob's 24" telescope operating at the Newtonian focus. For a while the film crew operated with their lights; then they



lg
ls
- RSN11

Aug. 25
20:10-20:15 UT

1992

left and only Dave, Rob, and I observed

20x100 b: M16, M17, M18, M24, M23, M25, M22, M28, M8, M20, M21, M11, M15, M13 R Scuti and nearby red star, T CorBor, Uranus, Neptune, Pleiades, M31, M33, Double Cluster, Alcor and Mizar

24" : M57, M13, M92, M17

Haze seemed to increase near S and SW horizon

Tu. Aug. 25 20:10-20:15 UT ss c-8, 32, 28, 20, 15.5

Sun 19 1s RSN 11

S.-S. Aug. 29-30 04:30-06:30 UT y 5-8(?) T 9.5! 20x100b

M2, nearby variables RW Aqu, RV Aqu, EM Aqu (see Uranometria 254 and 255), Mira-naked eye (about mag. 4.), Pleiades, M36, M37, M38 in E. rising above trees, M1 with Mars nearby, Perseus Double Cluster, β Cyg, M57, M27, M33 and possibly some of its spiral arms - possibly seen because of the excellent transparency., M71, M11 - low in the W. among the trees.

S.-M. Aug. 30-31. 02:30-03:30 UT y 5-8 clouds 7-9 moving in 20x100b.

M11 and R Scuti, M16, M17, M18, M24, M25, M23, M28, M22, M8, M20, M21, M2, M13 T CorBor, area of Barnard's Star, R CorBor, area of ε Her, Uranus and Neptune.

M.-T. Aug. 31-Sept. 1. 00:00 UT y tw about 15m after sunset ne

Sleader crescent moon seen in WSW about 10°-15° above the horizon

00:44 - 00:47 y tw c. Dearse ne

- almost 1 hr after sunset - observed passage of Mir from SW to E going N. of Altair - very bright - about mag. -2. At about the same

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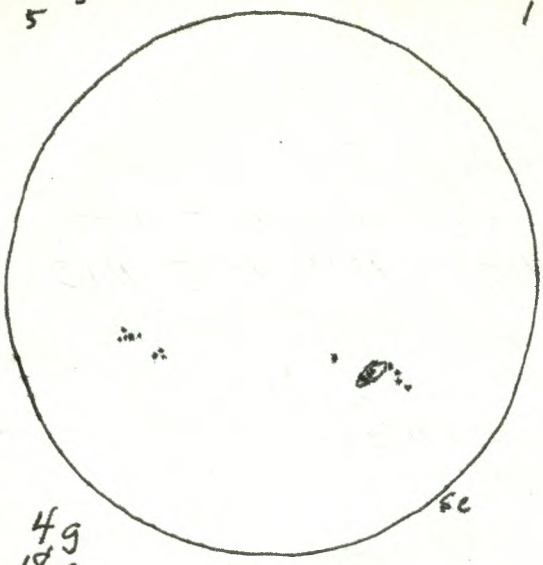
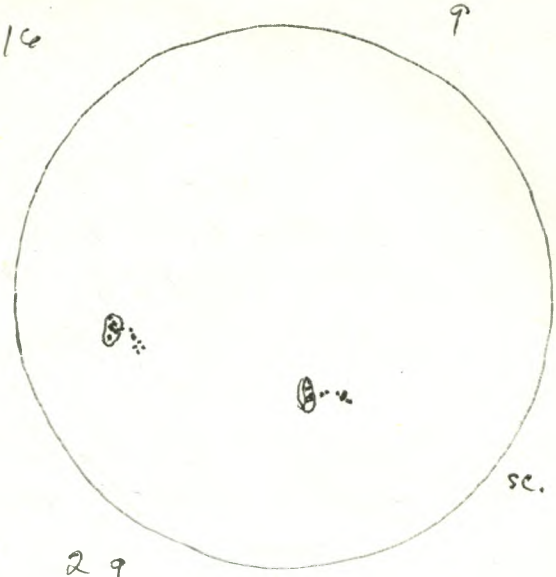


4 9
18 S
RSN 58

Sept. 1
17:55-18:00 UT

16

9

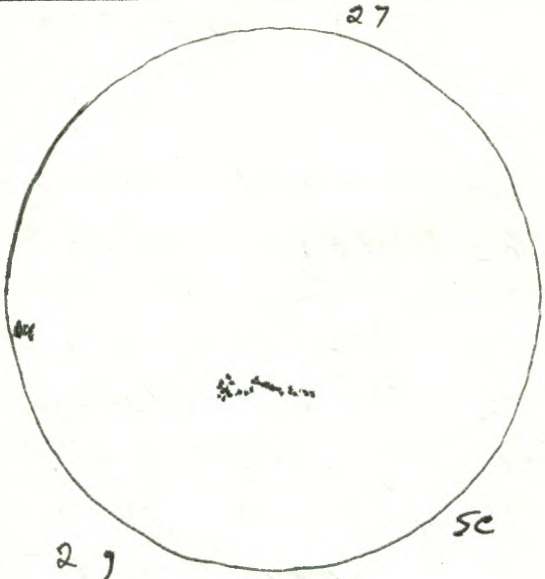


2 9
25 S
RSN.45

Sept. 2.
18:10-18:20 UT

6

27



2 9
33 S
RSN 53

Sept. 4
18:58- 19:02 UT

1992

time as it appeared high in SW, another satellite appeared SE of Altair moving S. to N and their paths intersected "and they almost appeared to collide" NE. of Altair about in area of Delphinus. This polar axis satellite was not as bright – about mag. 2 at brightest. Mir was seen for about 2 minutes. – photographed Mir

01:30-02:45UT y S-8(?) T-8 some haze+cloud 9x63b

M11, M16, summer Milky Way, North America Nebula which appeared dark surrounded by stars, area of Uranus, M16, M17.

Tu. Sept. 1 17:55-1800UT SS C-8,32,28,20,15.5.

Sun 4g 18s RSN58

T.-W. Sept. 1-2 01:28-01:30UT with Denise ne

[redacted] – observed passage of space station Mir from W. through handle of Big Dipper – near Mizar Eastward below Polaris and to area of Cas.

02:00-05:00 UT OO S-8 T 9.5(!) C-14, 40 20x80b. NGC 7207

M16, M17, M24 (NGC 6603) M22, M13, M2, NGC 7331 and Stephan's Quintet, Uranus and Neptune (which were also seen as disks using 9mm ocular) M11, red star W. of it, RScuti, γ-Del – seen as nice double, ε Her, Double Cluster in Perseus, NGC 404 near β And., Saturn

20x100: M33, M31, M45

W. Sept. 2 18:10-18:20UT SS C-8,32,28,20,15.5.

Sun 2g 25s RSN45

F. Sept. 4 18:56-19:02UT SS C-8,32,28,20,15.5

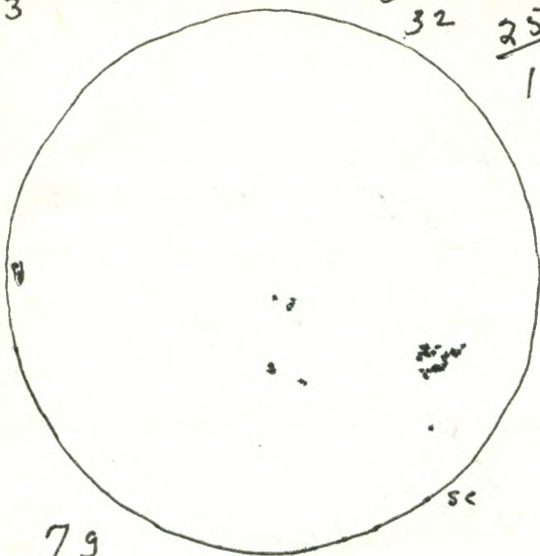
Sun 2g 33s RSN53

3

1 3

32

25
1



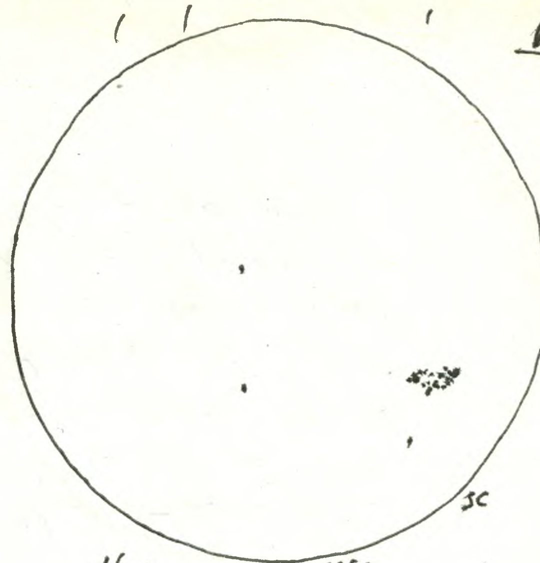
sc

7 g
38 s
RSN

Sept. 9.
18:15-18:20UT

1 1 1

19



sc

4 g
22 s
RSN62

Sept. 10
21:05-21:15 UT

1992. F.-S. Sept. 4-5 04:20-07:15 UT y S-8(?)T8-9 20x100b.

Saturn, M2, asteroid Pallas near αOph, area of NGC6826 (the Blinking Planetary) but it was difficult to see with the binoculars, RCyg which was quite bright - probably mag. 7. (Both are found in Ur. 84), RX Cyg (also on Ur. 84, but possibly not a variable star according to Burnham), TAqu and area of YAqu (on Ur. 254) - both found W. of βAqu and SW of M2, M2, looked for the 4 very close galaxies near 4 and 5 Aqu (also on Ur. 255) but did not see them, U and EU Del, M36, M37, M38 in Auriga low in E, Mars near M1, M1; M42, M43 - both low in SE.; oCet (Mira) which was also naked-eye - about mag. 4.5.; M15, M27, M45, Hyades, area of the stars 5, θ, and η Ceti

A faint Aurora was visible for much of the session. 2 or 3 spikes up to about 45° in NNW and N from about 04:50-05:00 UT (12:50-1:00 a.m. E.D.T.) They subsided and what remained was mainly a glow.

T.-W. Sept. 8-9 02:20-03:20 UT y gml ne & 7x35b

ne constellations, Aurora glow in N. quite intense at times but low, at times spreading to N.W. - up about 10° - bright moonlight seemed to prevent it being more obvious

7x35b: M13, M31, M92 area, Alcor and Mizar.

W. Sept. 9 18:15-18:20 UT ss c-8, 32, 28, 20, 15.5

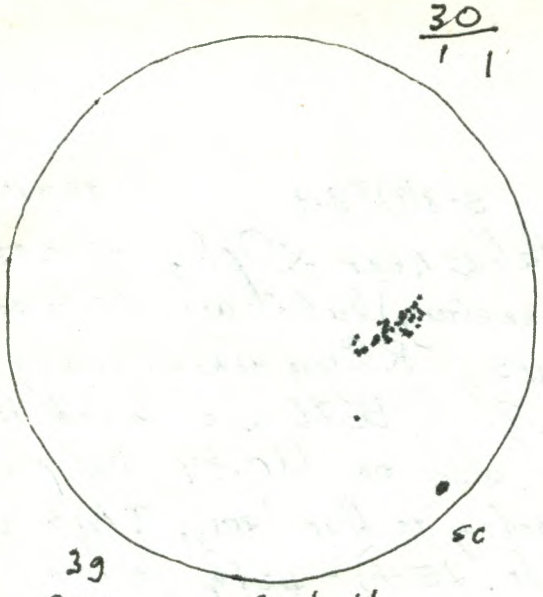
sun 7g 38s RSN 108

Th. Sept. 10 21:05-21:15 UT ss c-8, 32, 28, 20, 15.5.

sun 4g 22s RSN 62

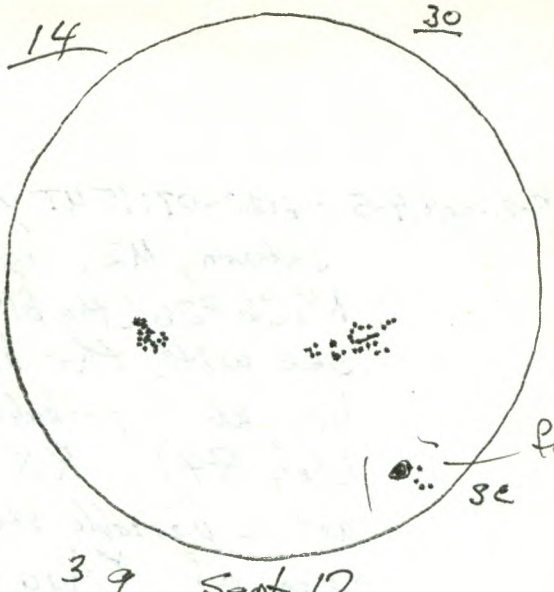
Th.-F. Sept. 10-11 02:15 UT nd gml ne

saw some faint Aurora in N. faint because of moonlight.



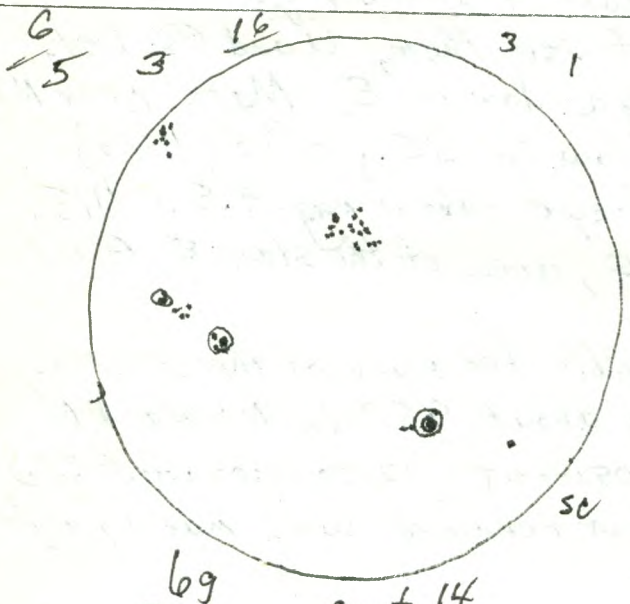
3 9
325
RSN 62

Sept. 11.
19:15-19:20 UT.



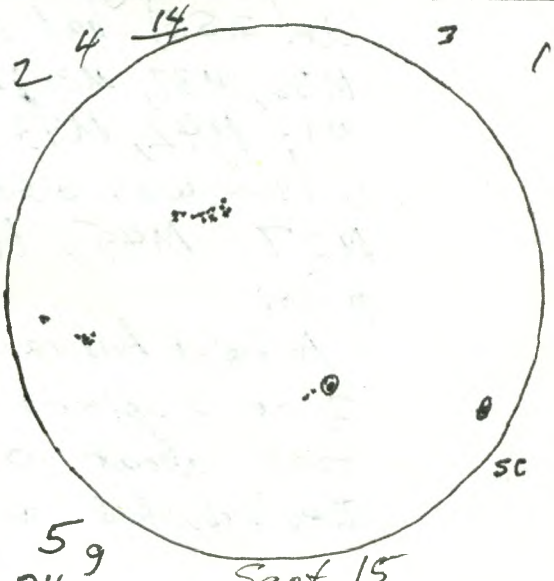
3 9
505
RSN 80

Sept. 12
19:35-19:40 UT.



6 9
34 s
RSN 94

Sept. 14
17:55-18:03 UT

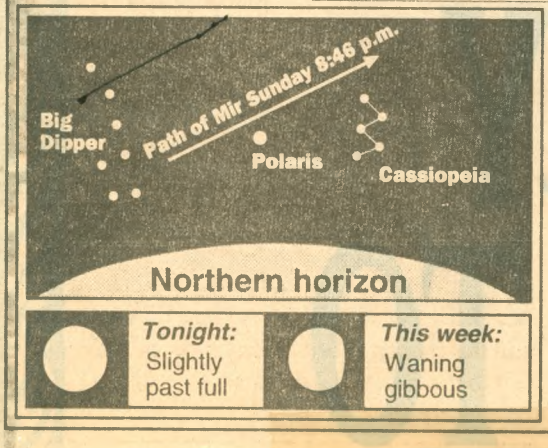


5 9
24 s
RSN 74

Sept. 15
19:05-19:15 UT

Nightsky by Terence Dickinson

Evening sky view



Big Bang experts Richard Bond and Simon Lilly will be speaking at the Ontario Science Centre main auditorium tomorrow at 2 p.m. The Russian space station Mir cruises over Ontario tomorrow at 8.46 p.m. moving NW to SE passing near Polaris and Cassiopeia. On Tuesday, moving NW to SE, Mir passes overhead at 8.39 p.m., very close to the star Vega.

1992 F. Sept. 11 19:15-19:20UT ss C-8, 32, 28, 20, 15.5.

sun 3g 32s RSN 62

S. Sept. 12 19:35-19:40UT ss C-8, 32, 28, 20, 15.5

sun 3g 50s RSN 80

S.-S. Sept. 12-13 ~~23~~ 7:45 - 7:55 p.m. E.D.T. 23:45-23:55UT roof of house tw & fml ne & 7x63b

Venus - seen for certainty for the first time on the current elongation up about 4°-5° in W. - probably would not have been visible from the yard near the observatory — spotted with binoculars but was also easily seen ne.

S.-M. Sept. 13-14 00:40-00:50UT y

- observed and photographed passage of the Mir Space Station from a point near Mizar going toward the SE passing through Draco and Cepheus and disappearing into the earth's shadow. The sky was bright because of full moonlight.

See diagram ↙

M. Sept. 14 17:55-18:03UT ss C-8, 32, 28, 20, 15.5

sun 6g 37s RSN 94

T Sept. 15 19:05-19:15UT ss C-8, 32, 28, 20, 15.5

sun 5g 24s RSN 74 - some haze..

T.-W. Sept. 15-16 0:35-0:45UT y Some clouds ne with Fr. J. Brennan

- observed passage of Mir Space Station from NW to SE between Vega and Altair over a period of about 1 minute

F.-S. Sept. 18-19 05:25-05:27UT y ml ne

Mars in E in Taurus; third quarter moon also in Taurus

Relative Sunspot Numbers

1991	My Observation	AAVSO	SIDC Brussels
Aug.	27	251	131	147
	28	228	142	157
	29	247	132	171
	31	322	166	167
Sept.	1	261	164	170
	4	278	134	147
	6	160	125	137
	8	152	131	135
	10	158	110	127
	11	204	109	123
	12	167	130	130
	14	159	129	147
	1988		93	84
	21	164	109	115
	23	160	120	129
	29	160	136	144
Oct	8	129	115	116
	10	246	145	140
	12	145	131	129
	17	180	113	111
	29	277	252	248
Nov.	17	118	80	75
	30	62	82	80
Dec.	22	132	129	80
	27	220	160	132
	28	174	152	130
	30	205	150	151
1992 Jan.	11	247	136	155
	15	106	75	96
	16	72	80	87
	19	104	91	92
	25	167	118	114
	26	150	125	155

	My Observation	AAVSO	SIDC Brussels
Feb.	1	247	206	238
	3	211	180	194
	5	186	170	164
	11	185	172	168
	12	195	146	141
	13	125	139	148
	20	156	127	117
	21	186	140	137
	23	242	156	150
	24	208	173	188
	29	169	154	176
Mar.	2	74	114	124
	3	98	90	106
	4	48	78	92
	5	91	77	65
	13	127	132	138
	16	127	102	107
	18	(86)	66	75
	19	126	70	78
	21	106	90	91
	23	101	94	96
	24	112	93	114
	30	149	120	102
	31	132	110	111
Apr.	3	122	68	88
	5	70	59	57
	7	55	57	64
	8	80	52	57
	10	68	58	54
	12	100	53	66
	13	86	69	68
	14	63	80	79
	15	103	76	82
	22	222	168	171

	My Observation	AAVSO	SIDC Brussels
Apr.	27	95	90	96
	28	128	101	101
	29	124	105	106
May	4	68	82	98
	6	92	85	96
	7	68	68	72
	8	72	86	82
	10	76	61	67
	11	98	62	63
	12	89	73	80
	14	48	60	78
	15	40	55	65
	19	82	57	54
	20	155	78	62
	21	110	98	110
	22	115	103	106
	24	60	83	93
	25	26	65	66
June	2	54	51	36
	3	65	78	72
	4	104	95	74
	8	84	62	60
	9	143	83	70
	10	142	80	74
	11	98	86	82
	12	156	106	102
	13	123	85	86
	14	76	80	77
	15	72	68	60
	16	54	64	64
	17	90	75	64
	23	98	88	73
	26	51	55	59
	29	74	75	75
	30	77	75	67
July	9	194	106	102
	13	170	118	115
	15	162	134	156
	16	198	142	159

July	18	86	107	108
	19	68	75	88
	21	98	66	65
	22	69	65	67
	28	33	46	53
	30	40	55	47
Aug.	7	119	107	86
	15	134	92	76
	19	80	74	69
	20	60	73	59
	21	68	59	44
	23	59	35	36
	25	11	14	20
Sept.	1	58	44	47
	2	45	51	49
	4	53	53	46
	9	108	63	57
	10	62	60	54
	11	62	60	59
	12	80	70	63
	14	94	75	77
	15	74	70	69

TELESCOPE MAGNIFICATION

OCULAR in	C-14(3910^{m}FL)	C-8(2000^{m}FL)	ASTROSCAN(445^{m}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

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 1991~~

For 1992:

$$L.M.S.T. = 6.^{h}59470267 + 0.^{h}0657098243d + 1.^{h}00273790934t - 5.^{h}11123737$$

Longitude: W. 76^{o} 40' 06."818
$76.^{o}66856055$
$5.^{h}11123737$
$5^{h}\ 06^{m}\ 40.^{s}454532$

Latitude: N. 44^{o} 45' 32"
$44.^{o}758$