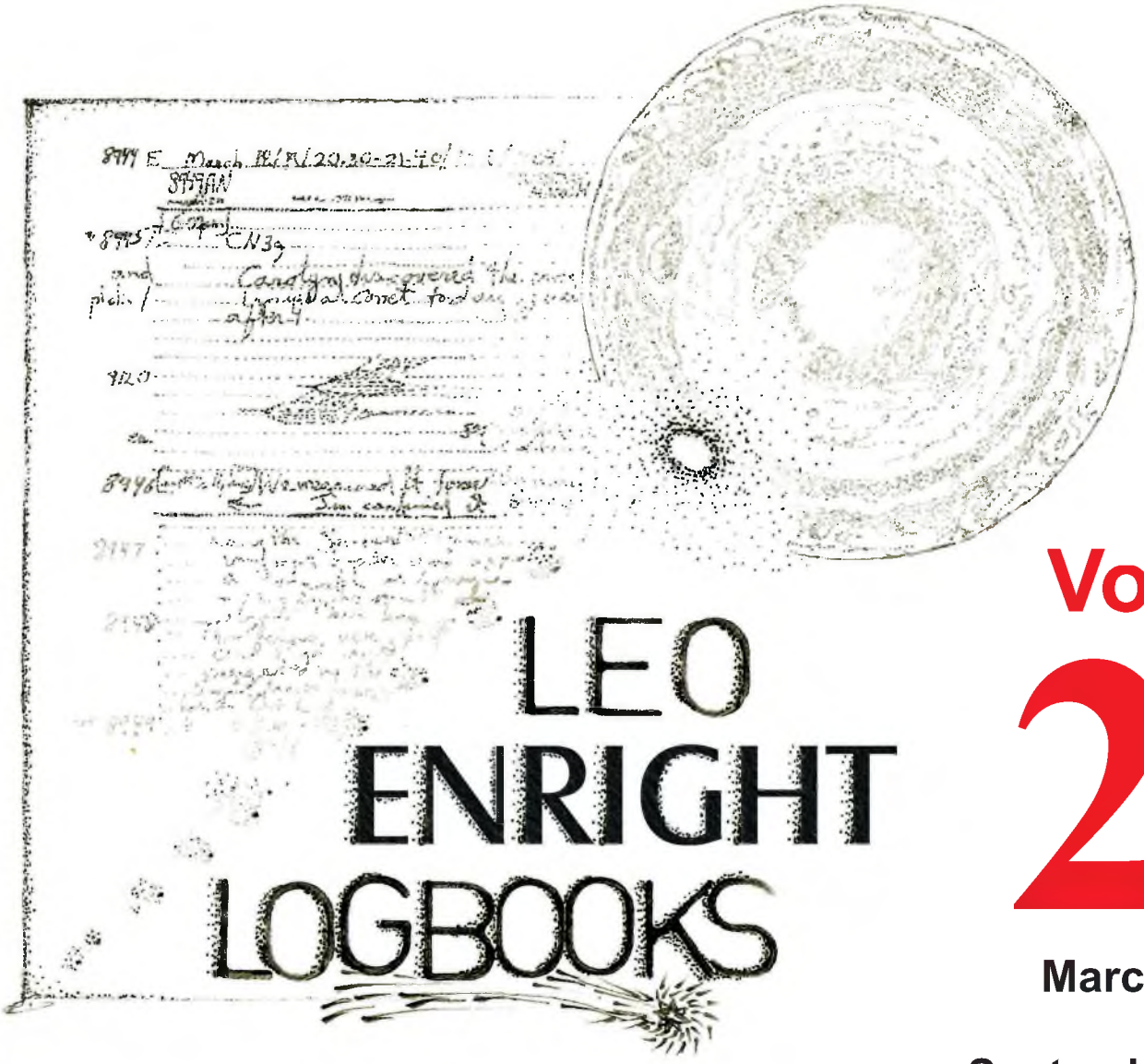

LEO ENRIGHT LOGBOOKS

Volume 22

March 18, 2004
to
September 7, 2004

22

Hilroy

Venus Transit
2004, June 8.

- Heavyweight paper
- Papier épais

Leo Enright
Observing Log

Mar. 18, 2004 -
Sept. 7, 2004.

80 Pages

26.7 x 20.3 cm

MATHS/SCIENCES

MADE IN CANADA
FABRIQUÉ AU CANADA ™

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Calendar for 2004

JANUARY						
S	M	T	W	T	F	S
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FEBRUARY						
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DECEMBER						
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Observing Log

Code:

Year Day Date Time Place Sky Conditions: S=Seeing T=Transparency Instrument(s)

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

Places:
oo = Oso Observatory
nd = north deck
sd = south deck
sh = shoreline of lake
ss = solar station
t = table at solar station
in = indoors
r = roof of house
ice = ice on lake
y = yard
1a = laneway by = backyard
FL = Florida: pl = at Condo swimming pool

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
l/p = light pollution

Instruments:
C-14 = Celestron 14 - 35.5cm SCT
C-8 = Celestron 8 - 20cm SCT
Ast = Astroscan 2001 - 10.5cm RFT
12½" = Denise's 32cm Meade
20x100b = 20x100 binoculars
11x80b = 11x80 binoculars
9x63b = 9x63 binoculars
7x35b = 7x35 binoculars
18x50 ISb = 18x50 IMAGE STABILIZED binoculars

EG = "Easy Guider"
EGlf = "Easy Guider," lens forward
EGlb = "Easy Guider," lens back

32 = 32mm ocular
32-2 = 32mm 2" ocular
K = Kellner
O = Orthoscopic
Ko = König
WA = Wide Angle
P = Plössl
ph = photography
p/b = piggyback
o/a = off axis
Ba = Barlow
APF = Astro-Physics Solar Filter
T.O.F = Thousand Oaks Solar Filter

Objects:
PN = Planetary Nebula
GC = Globular Cluster
OC = Open Cluster
SG = Spiral Galaxy
EG = Elliptical Galaxy
D = Double Star
LPV = Long Period Variable

Atlases:
U = Uranometria 2000.0
U210 = Uranometria 2000.0 Chart 210
AAVSO = AAVSO Variable Star Atlas
Cam = Cambridge Star Atlas (2000.0)
MSA = Millennium Star Atlas

2004 Th.-F. Mar. 18-19 03:30-05:00 UT FL: la S8? T2-4(1/p; scattered cloud) ne; 18x50 15b

ne: Jupiter, Saturn, stars of winter in the SW. Venus had been seen high in the W. before sunset at 23:33 UT

18x50 15b: Jupiter and at least two of its moons, areas of constellations Leo, Cancer, and Gemini.

F.-S. Mar. 19-20 02:15-04:00 UT FL: la S? T6(1/p) ne; 18x50 15b

ne: Venus low in W. at the beginning of the session, Mars in the W., Saturn in Gemini, Jupiter in the constellation Leo, stars of winter in the S.

18x50 15b: M35, M44, M67, M46, M47, M41, M42, M43, M45, Hyades, 2 of the 3 Messier clusters in Auriga (M36, M37, M38), Venus, Mars near the Pleiades, Saturn, Jupiter, areas of stars in Pyxis, and Orion, and Gemini.

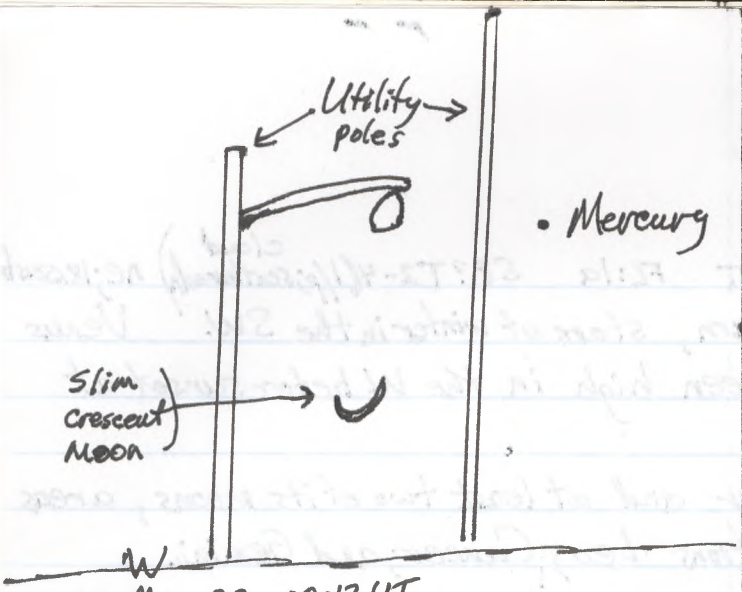
S.-S. Mar. 20-21 23:30-00:30 UT FL: la (before sunset & tw) ne

- At about 23:32 UT Venus appeared in the W. about 40° above the horizon, i.e., at about 6 minutes before sunset. Gradually it appeared brighter as twilight darkened. By about 00:22 UT Mars could be seen about 40° above the W. horizon; by then Venus was very bright, and about 30° above the W. horizon.

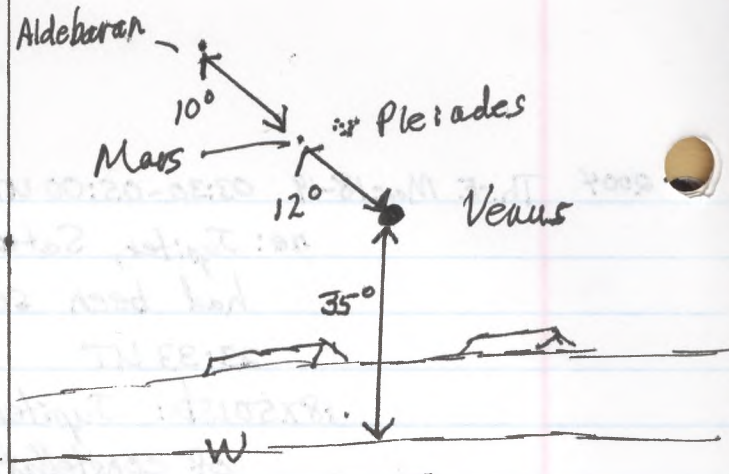
Venus before sunset

04:15-04:30 UT FL: la S7(?) T3(1/p; haze) ne

- Because of the light pollution and the haze in the S. part of the sky, only a few of the brightest stars could be seen there — Sirius, Procyon, Castor and Pollux, and the planet Saturn - the



2004, Mar. 22 00:12 UT
View low to W.



2004, Mar. 22 00:50 UT
View to W.

2004

latter three in the W.; the brightest stars of the constellation Leo with the planet Jupiter; Arcturus and Spica in the E.; the Big Dipper and Polaris in the N.

S.-M. Mar. 21-22 23:50-00:30 UT FL: entrance to the development Villages of Bonita early twl ne; 18x50 ISb

ne: Sirius and Canopus in the SSE; Venus brilliant about 40° above the W. horizon. At 00:12 UT the very thin Crescent Moon was seen very low in the W. It was about 5° to the left and down from Mercury. The moon was seen in the binoculars. Mercury was later seen naked-eye, for an extended period of time.

18x50 ISb: The very thin Crescent Moon was about 25½ hours old and was easily seen in the binoculars. (See diagram.)

5 planets and Cr. Moon seen this evening

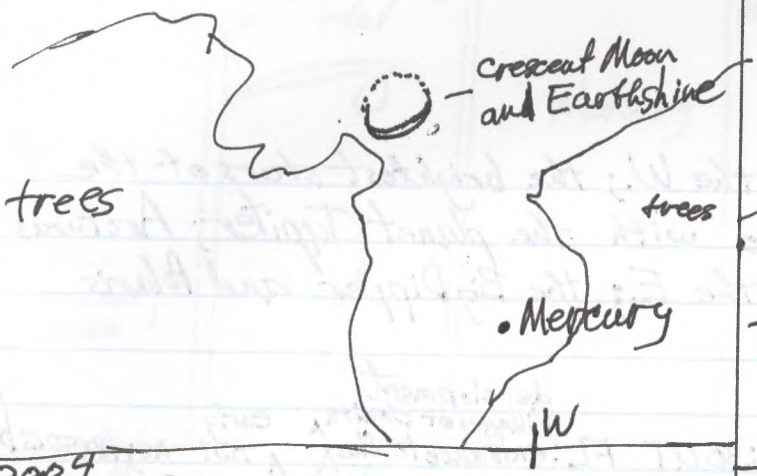
00:40 - 01:00 UT FL: la late twl + end of twl ne

- Venus up about 35° in the W. and very brilliant, Mars about 12° from Venus and 1½° from the Pleiades; Aldebaran about 10° from Mars; Orion in the S.; Saturn in the constellation Gemini and near the zenith; Jupiter high in the E.

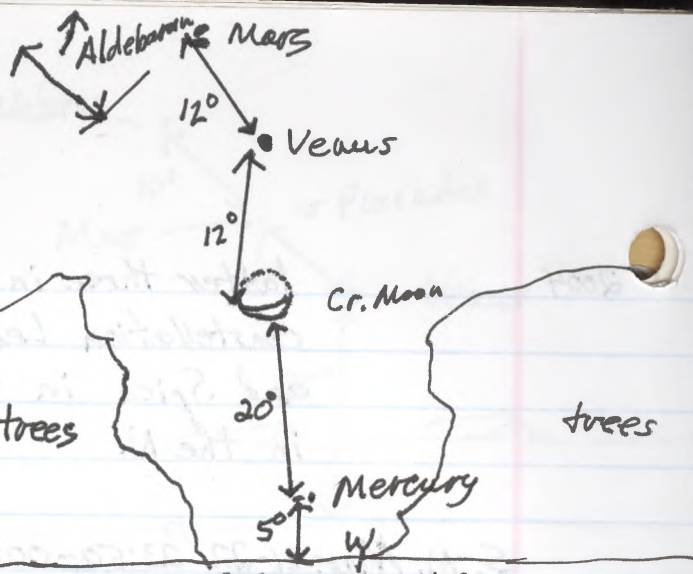
M.-T. Mar. 22-23 23:20-00:10 UT FL: la twl ne

Venus before Sunset

- observed Venus at 23:32 UT, i.e., about 7 minutes before sunset; expected to see the slender Crescent Moon and eventually saw it behind a branch of the tree in the front yard; looked for Mercury which was below and to the right and down from the Crescent Moon. It was close to the roof



2004 Mar. 23 00:30 UT
View to W.



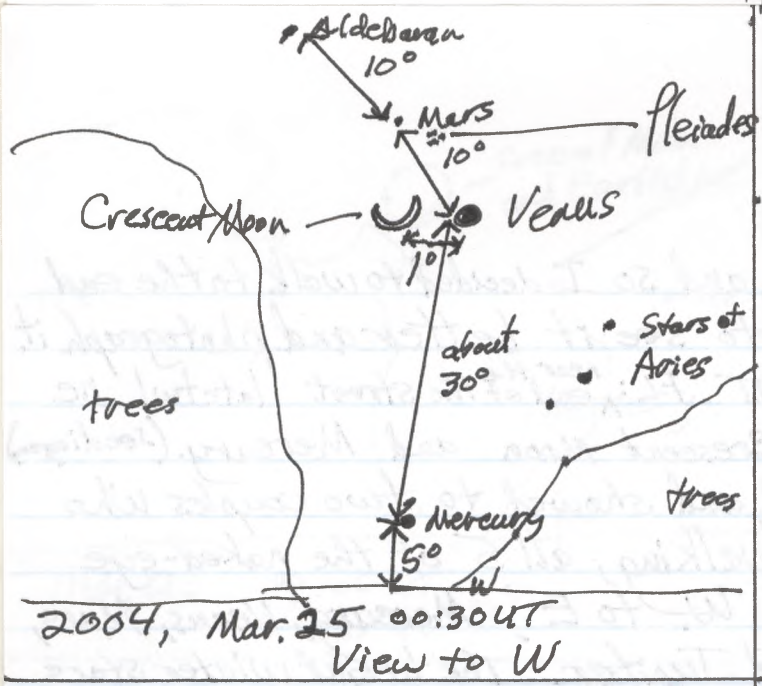
2004, Mar. 24 00:30 UT
View to W.

2004

of the house, and so I decided to walk to the end of the street to see it better and photograph it.
00:15 - 00:40 UT FL: near the end of the street late twl ne
- observed the Crescent Moon and Mercury. (see diagram)
- also observed, and showed to two couples who were out walking, all 5 of the naked-eye
5 planets planets, from W. to E., Mercury, Venus, Mars, Saturn, and Jupiter. The bright winter stars were seen in the S.
ph: photographed the crescent moon and Mercury

T.-W. Mar. 23-24 23:30-00:20 UT FL: la twl ne; 18x50 sb
ne: The 3-day-old Crescent Moon was readily visible before sunset which was at 23:40 UT. Venus became visible at about 23:36 UT.
18x50 sb: At about 00:06 UT Mercury was seen with the binoculars. It appeared just above the roof of a house across the street.
00:20 - 00:40 UT FL: at the end of the street, late twl ne; 18x50 sb
ne: stars of winter in the S.; Mercury was seen about 10° to 5° above the W. horizon. The crescent moon was about 20° above it. Venus
5 planets was about 12° above it. The 5 planets were seen: Mercury, Venus, Mars, Saturn, and Jupiter. (See diagram.)
18x50 sb: Mercury was seen when it was quite low near the end of the session.
ph: photographed Mercury-Crescent Moon area.

W.-Th. Mar. 24-25 23:55-00:15 UT FL: la early twl ne; 18x50 sb
ne: Crescent Moon about 4 days old and brilliant Venus



2004, Mar. 25 00:30 ET
View to W

2004

with the two of them only about 1° apart and about 40° above the W. horizon. Mercury was seen naked-eye beginning about 00:07 UT and it disappeared behind the roof of the house across the road at about 00:15 UT

18x50 ISb: Mercury was seen about 23:55 UT

- 00:20-00:40 UT FL: at the end of the street ne; 18x50 ISb

ne: Mercury was seen amid some clouds which hid it periodically. (See diagram.) All 5 classical naked-eye planets were seen: Mercury, Venus near the Crescent Moon, Mars about 10° above the Crescent Moon, Saturn in the constellation Gemini, and Jupiter in the constellation Leo.

5 planets

18x50 ISb: M42, area of Mercury, bright stars of Aries,

ph: photographed area of Cr. Moon, Venus and Mercury.

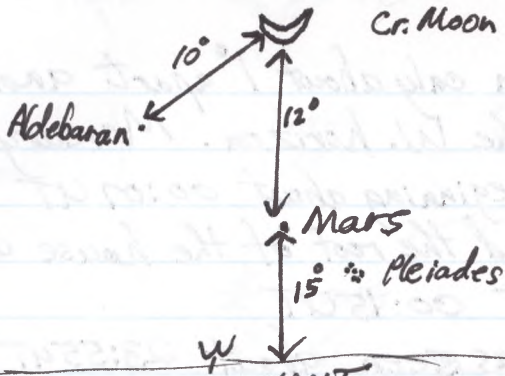
- 00:50-02:50 UT FL: la S?T5 (1/p; cml) ne; 18x50 ISb

ne: Cr. Moon and Venus setting in the W., Mars near the Pleiades, stars of winter in the SSW., Saturn, Jupiter.

18x50 ISb: M46, M47, NGC 2244, Saturn, M35, Pleiades, Mars, Cr. Moon, Venus, Jupiter, M44, M67, area of Regulus.

F.-S. Mar. 26-27 00:04-02:50 UT FL: la twl & S?T6 (1/p; cml) ne; 18x50 ISb

ne: In twilight I observed the Crescent Moon and brilliant Venus in the W. With binoculars, Mars and Venus were seen at first, later naked-eye. Mercury disappeared over the roof of the house across the street about 00:14 UT. The Crescent Moon was



2004 Mar. 27 02:40 UT

View to W.

2004

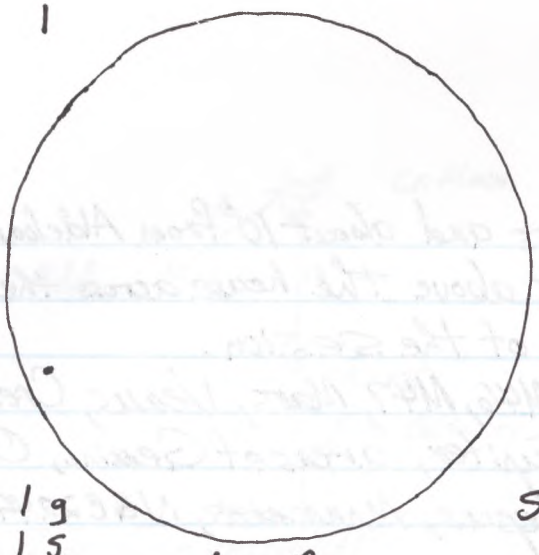
about 12° above Mars and about 10° from Aldebaran, and they were lower above the house across the road in the latter part of the session.

18x50lsb: M42, M45, M44, M46, M47, Mars, Venus, Crescent Moon, Saturn, Jupiter, areas of Gemini, Orion, constellation Leo, Lepus, Monoceros, NGC2244.

S.S. Mar. 27-28 00:00-03:40 UT FL:1a S?T5(1/p; almost fgml) ne; 18x50lsb ne: moon less than 24 hours from First Quarter, Venus, in W.; Mars and Mercury first seen in binoculars about 00:06 UT, later seen naked-eye with Mercury disappearing behind the roof of the house across the road at about 00:18 UT; stars of winter high in the S. and later the SW; also Saturn in Gemini and Jupiter in the constellation Leo, with the moon about 10° from the planet Saturn.

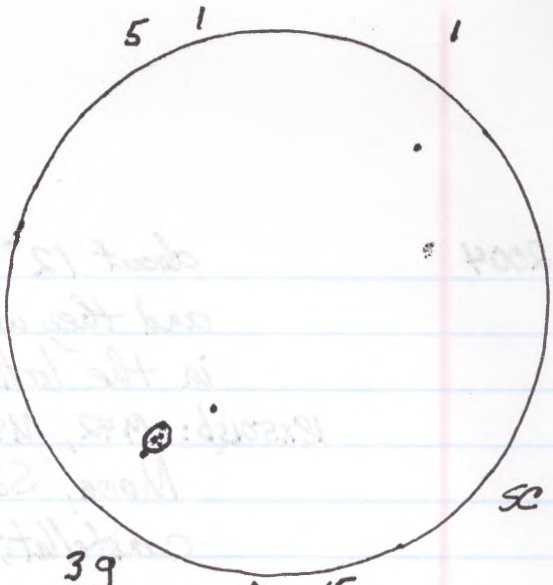
18x50lsb: Venus, moon less than 24 hours from First Quarter, Mars, Venus, Saturn, Jupiter, Pleiades, M41, M42, M44, M46, M47, NGC2244, areas of Gemini, Cancer, the constellation Leo, lunar craters and some other lunar features.

S.-M. Mars 28-29 01:35-01:40 UT FL:1a S?T6(1/p; fgml) ne - Orion and stars of winter in the S.; Castor and Pollux just a few degrees W. of the zenith with the First Quarter Moon and Saturn in Gemini; Venus and Mars in the W.; and Jupiter in the constellation Leo in the E. and quite high; the Big Dipper in the NNE.



19
15
RSN 11

Apr. 12
16:35 - 16:40 UT



39
73
RSN 37

Apr. 15
19:20 - 19:25 UT

2004 W.-Th. Apr. 7-8 03:05-03:15 UT nd S8T9.5! ne

- I briefly observed under a spectacularly clear sky with Venus about 15° above the WNW horizon and extremely brilliant. Also seen were Mars near Aldebaran, Saturn in Gemini, and Jupiter very bright in the constellation Leo. Orion was setting among the trees in the W. M44 could be glimpsed naked-eye. Arcturus and Spica were high in the E. and in the SE. respectively.

F.-S Apr. 9-10 03:15-03:50 UT y and nd S6T6-7 (water vapour some haze) ne

- Saturn in the WNW; Jupiter very bright and high in the S. in the constellation Leo; constellations Crater, Corvus, and Hydra in the S.E. and S.; Hercules rising above the trees in the E.

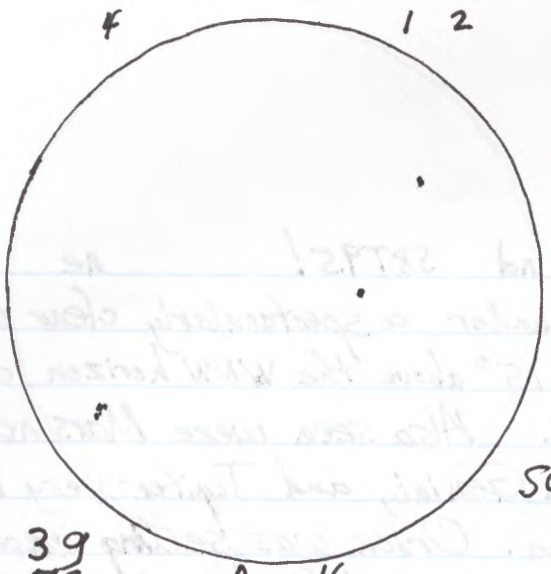
M. Apr. 12 16:35-16:40 UT t C-8, 32
Sun 1g 1s RSN 11 T.O.F.

W.-Th. Apr. 14-15 03:40-04:30 UT y S8(?)T9.5! ne; 18x50 15b

ne: stars of spring; Jupiter very bright in constellation Leo; Saturn fairly low in WNW in Gemini.

18x50 15b: M92, M13, RCorBor, TCorBor, areas of Virgo, and part of Scorpius just above the roof of the house, areas of Lyra rising in the E.

Th. Apr. 15 19:20-19:25 UT t ~~C-8, 32~~ ~~T.O.F.~~ C-8, 32
Sun 3g 7s RSN 37 T.O.F



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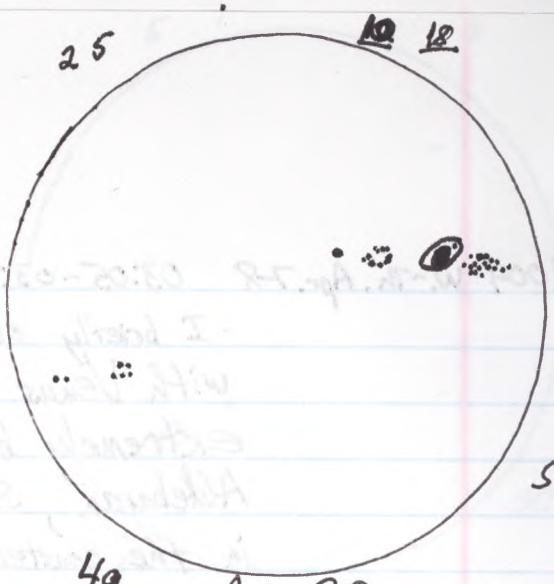
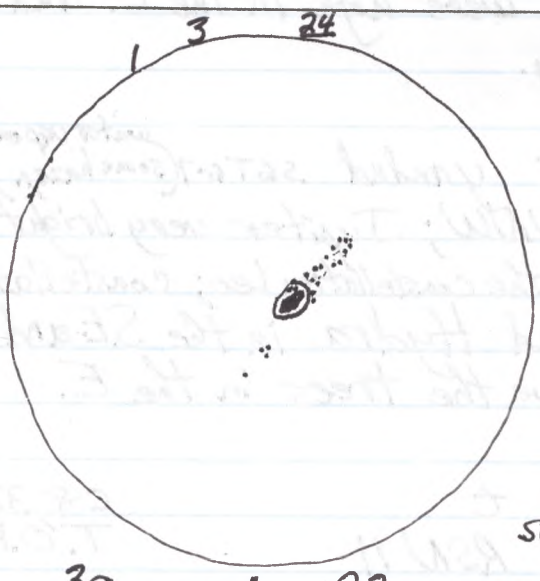
75
RSN37

Apr. 16
16:00–16:05 UT



49
35S
RSN75

Apr. 20
16:40–16:45 UT



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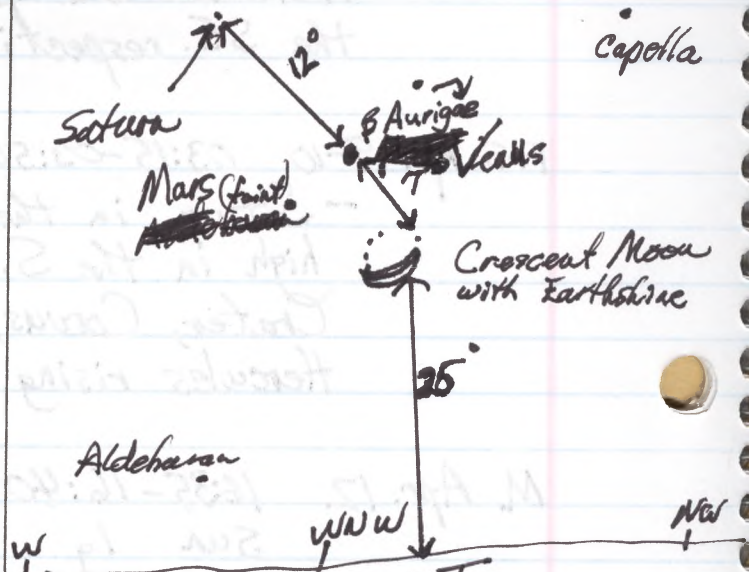
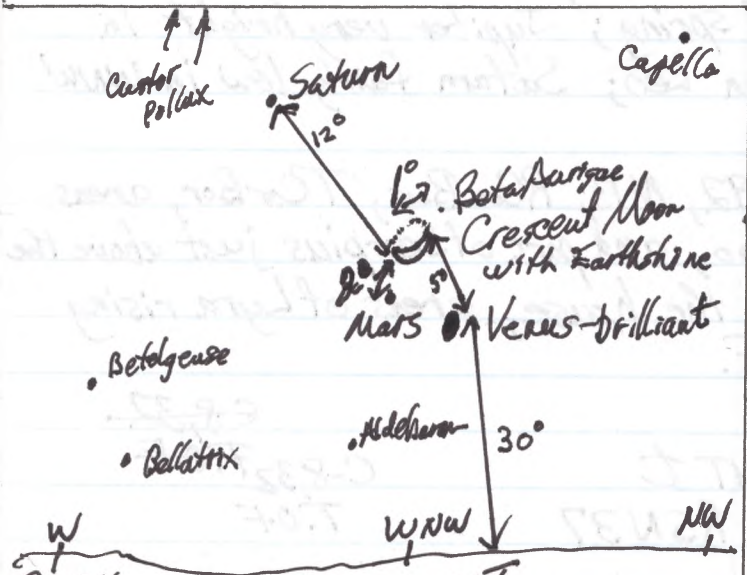
28S
RSN58

Apr. 22
19:05–19:10 UT



2004, Apr. 23 01:00 UT
View to WNW.



2004, Apr. 24 01:00 UT
View to WNW

2004 Th.-F. Apr. 15-16 03:50-04:25 UT y 5&6-7 T6 (in the air water vapour) ne; 18x50 lsb
ne: stars of spring; Saturn low in W. in Gemini; Jupiter high in the WSW in constellation Leo.
18x50 lsb: areas of Virgo, constellation Leo, Corona Borealis, Hercules, and Lyra, areas of M65 and M66, area of M57, area of TCorBor and RCorBor, M92 and M13, M10 and M12 in Ophiuchus.

F. Apr. 16 16:00-16:05 UT t C-8, 32
sun 3g 7s RSN37 T.O.F.

Tu. Apr. 20 16:40-16:45 UT t C-8, 32
sun 4g 35s RSN75 T.O.F.

Th. Apr. 22 19:05-19:10 UT t C-8, 32
sun 3g 28s RSN58 T.O.F.

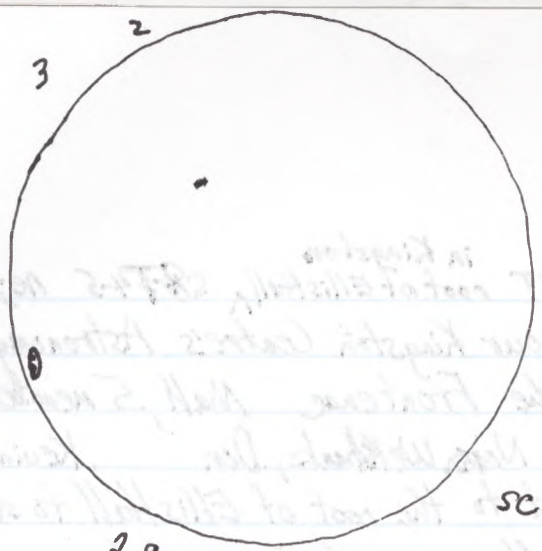
Th.-F. Apr. 22-23 00:55-01:05 UT nd twl; some cloud ne
- Cresceat Moon of almost 3½ days old about 25° above the WNW horizon; brilliant Venus about 7° above the moon; Mars about 3° ~~from~~ Venus with Aldebaran ~~below~~ and Saturn about 12° above Mars. (See diagram.)

F.-S. Apr. 23-24 00:55-01:00 UT nd & y twl ne
- Cresceat Moon with Earthshine, brilliant Venus about 7° ~~above the moon~~, dominating the WNW sky during twilight with the moon about 5° above Venus and about 2° above faint Mars. The moon had been in conjunction with both Venus and Mars within the previous 15 hours. (See diagram.) Saturn was 12° above the moon.

2004 S.-S. Apr. 24-25 00:45-01:45 UT in Kingston roof of Ellis Hall, ~~S~~ T 4-5 ne; Ast, 15, ne: After a day at our Kingston Centre's Astronomy Day Mall Display at the Frontenac Mall, 5 members of the Kingston Centre: Norm Webbanks, Don [illegible], Kevin Kell, Kim Hay, and I went to the roof of Ellis Hall to set up telescopes for the public as part of our Astronomy Day activities. The sky was hazy and there were some clouds. There was not a large number of people who came out - perhaps about 10 or so, in all. The planets Venus, Saturn and Jupiter could be easily seen, though I did not see Mars naked-eye. The thick Crescent Moon, about 5½ days old, could be easily seen, but it was in a murky hazy area of the sky. Since they were fairly high in the sky, Jupiter and Saturn could be more suitable telescopic targets than objects that were lower.

Ast.: With the Astrocan, I viewed Jupiter and its 4 Galilean moons, Saturn, Venus, and the Crescent Moon. The members of the public who saw these objects seemed quite pleased with the views.

I thought it might be a first chance to see the Queen's telescope in operation, since we were using the deck near the observatory, and on the roof of Ellis Hall. The dome was open and a Queen's Astronomy student was operating the telescope. It was "on Saturn" but the view was terrible, grossly distorted! The person operating the telescope knew that it was performing very badly. The problem may have related to the integration of the computer into some aspect of



29 Apr. 28
55
RSN25 16:30-16:35UT

2004

the telescope's operation. It is to be hoped that the problem is remedied in the future, if the public is invited for viewing. Norm remarked the view (probably at the time of a past viewing) was not as good as in (my) Astroscan. It was disappointing.

5:00 - 5:30 a.m. E.D.T.

M-T. Apr. 26-27 09:00-09:30 UT 5h twl ne; 18x50 l sb.

ne: Having been informed in an e-mail from David Levy that he had seen Comet Bradfield on Sun. morning April 25, I wanted to have a chance to see it too. It had been the 18th discovery of a comet by William Bradfield of Australia, and it was discovered a short while ago, visually! There were some clouds in the E., but enough breaks to make it hopeful that I might see the comet. I observed until about a ½-hour before sunrise which was scheduled to be at 10:02 UT. Because of trees along the shore to the E., I did not get to see as far to the NE as I would have wished.

18x50 l sb: I also scanned the E. sky with the binoculars, but did not spot the comet.

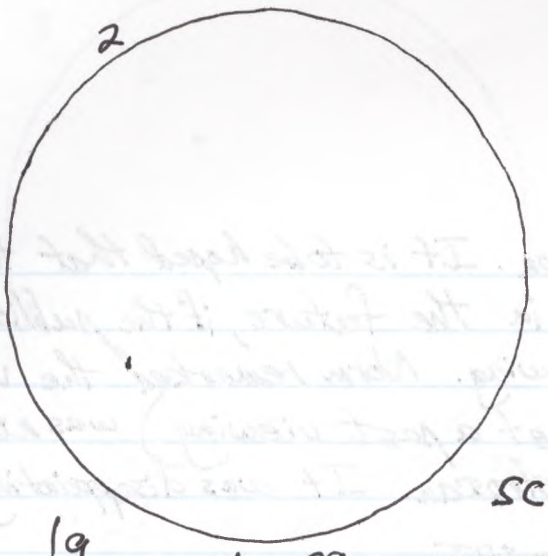
T.-W. Apr. 27-28 09:00-09:30 UT deck at John VandeSande's place twl ne; 18x50 l sb

-ne: Hoping to see Comet Bradfield, I went over to John VandeSande's place, and from the deck, John and I looked toward the E and NE during mid-twilight, hoping to see Comet Bradfield. The skies were fairly clear. Jupiter was easily visible in the WNW. There was a little cloud in the NE and E, just a little. We did not knowingly see it.

-18x50 l sb: I scanned carefully with the binoculars also

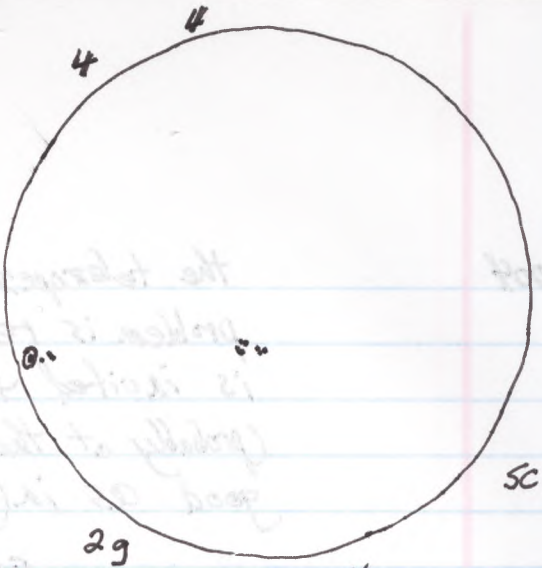
W. Apr 28 16:30-16:35 UT t
sun 2 9 5 5 RSN 25

C-8, 32
T. O. F.



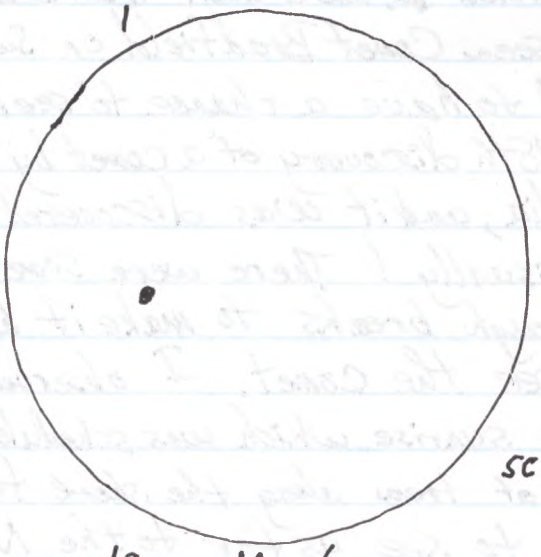
19
25
RSN12

Apr. 29
19:10-19:15 UT



29
85
RSN28

May 4
14:10-14:15 UT



19
15
RSN11

May 6
15:50-15:55 UT

2004 Th. Apr. 29 19:10-19:15 UT t C-8, 32
Sun lg 2s RSN12 T.O.F.

Apr. 28-29 4:00-4:15 a.m. EDT
W.-Th. m. 08:00-08:15 UT sh s-?T8 in most of sky; twl ne; 18X50I5b

ne: Hoping to see Comet Bradfield, I went to the shore of the lake at about the beginning of astronomical twilight. There was some lightning in the western sky and so I did not stay observing very long. The Summer Triangle of stars was overhead or near it. I did not knowingly see the comet.

18X50I5b: I scanned the E. sky for the comet but did not detect it.

Th.-F. Apr. 29-30 02:50-02:55 UT nd s?T3 (cirrus cloud; gml) ne
- observed Jupiter and gibbous moon only about 2° apart and high in the SW, Venus low in the NW, the Big Dipper very high and near the zenith.

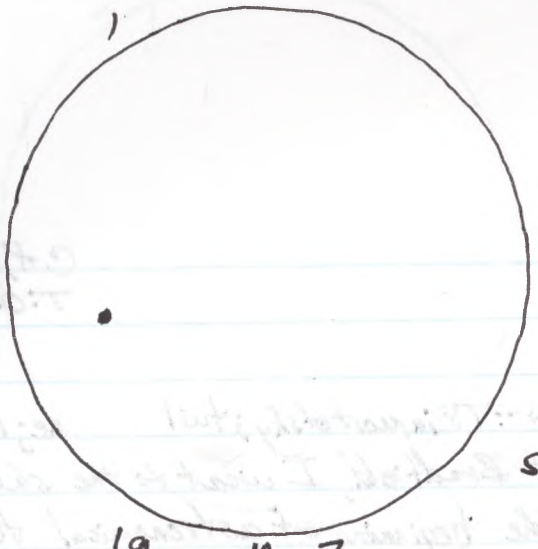
Tu. May 4 14:10-14:15 UT t C-8, 32
Sun 2g 8s RSN28 T.O.F.

T.-W. May 4-5 02:32-02:37 UT nd+y s(?)T4 (fml) ne
- Venus, brilliant, low in NW with Saturn 15° above and to the left from it, Jupiter very bright, to the left from Regulus, Big Dipper very high - near zenith, also Capella in the NNW, Arcturus and Spica in ESE and SE, Full Moon in Libra.

Th. May 6 15:50-15:55 UT t C-8, 32
Sun lg 1s RSN11 T.O.F.

4:30-5:00 a.m. E.D.T. Vandesandes place
Th.-F. May 6-7 08:30-09:00 UT deck at John's twl ne; 18X50I5b

ne: Hoping to see Comet Bradfield, I went over to John



19 May 7.
RSN11 14:50-14:55UT

2004

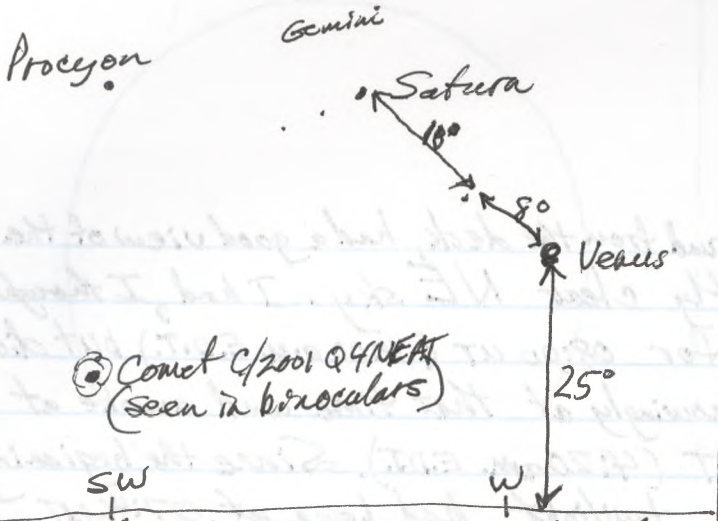
Vandesandes place, and from the deck, had a good view of the almost perfectly clear NE sky. I had, I thought, set the alarm for 08:00 UT (4:00 a.m. E.D.T.) but did not hear it knowingly at that time and awoke at about 8:20 UT (4:20 a.m. E.D.T.). Since the beginning of astronomical twilight had been at 07:46 UT (3:46 a.m. E.D.T.), brightening in the NE was under way by the time I arrived, probably a bit after 08:30 UT (4:30 a.m. E.D.T.). I was able to see 4 or 5 of the brightest stars of Cassiopeia, but certainly could not be sure of seeing M31, not far from which Comet Bradfield was to be found. With its being listed in one ephemeris as now of mag. 8.8, I certainly did not expect to see it naked-eye.

-looked for C/2004 F4 (Bradfield)

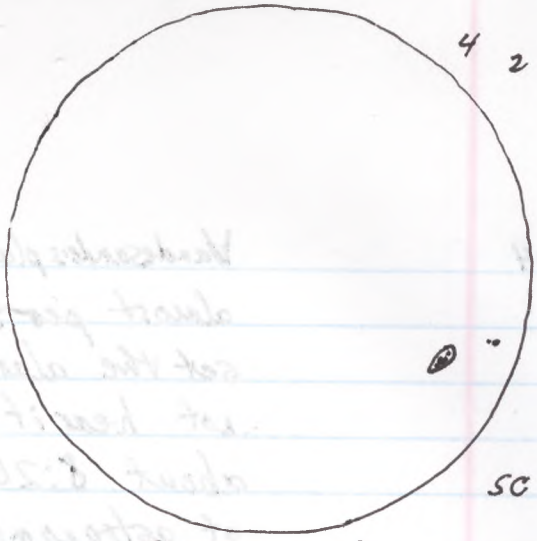
18X50 ISb: With the binoculars I scanned the area of ~~the~~ some of the bright stars of Cassiopeia and what I thought was at least part of the constellation Andromeda, but was not even sure of seeing M31 in the binoculars. The twilight glow increased on a beautiful morning, and there was little hope of seeing the comet. Also, a very bright gibbous moon, only about 2½ days after Full Moon, was in the SW sky, adding considerably to sky brightness.

F. May 7 14:50-14:55 UT t C-8, 32
Sun lg ls RSN 11 T.O.F.

F.-S. May 7-8 00:30-02:30 UT near Medical Centre Oso Twp Beach twl ne; 18X50 ISb
ne: Hoping to see and photograph Comet C/2001 Q4 (NEAT),



2004, May 8 01:40 UT View to the W and SW showing approx. position of the comet.



29
65
RSN26

May 9
16:10-16:15 UT

2004

I went to Oso Township Beach near the Medical Centre, arriving just after sunset which had been at 00:22 UT (8:22 p.m. E.D.T.). Though much of the sky was clear and the sky had been clear for most of the afternoon, a fairly large area of the W. sky had clouds. With the clouds moving very slowly and an opening in the clouds in the W, there appeared to be some hope for seeing the comet. Gradually the planets and the bright stars appeared: Venus, Jupiter, Saturn, and Mars, Aldebaran low in the W. for a while before setting, Capella, later Betelgeuse, Castor and Pollux and Procyon. (See diagram.)

18X50I5b: With the binoculars, I scanned the area near the clouds which moved and gave a larger opening, but only quite slowly. At 01:34 UT (9:34 p.m. E.D.T.) I spotted the comet through the binoculars. It was seen a good many times during the session it was usually amid or behind a hazy cloud. Though I took one photograph showing the distant tower in the WSW, I did not try to photograph the comet because of the haze and clouds. It was probably at the predicted magnitude of 2.5, but any possible tail could not be appreciated because of the clouds and haze. It was not far from M46 and M47 in Puppis.

- saw C/2001 Q4 (NEAT)

Also seen in the binoculars were M35, 2 of the 3 Messier objects in Auriga - M36, M37 and M38.

Su. May 9 16:10-16:15 UT t
sun 2g 6s RSN26

C-8, 32
T.O.F.

2004 S.-M. May 9-10 00:30-02:30 4T Oso Twp. Beach near Medical Centre twl ne; 18x50 15b

ne: Hoping to see and photograph Comet C/2001 Q4 NEAT once again, I went to Oso Township Beach near the Medical Centre, arriving within about 10 minutes after sunset. Again, much of the sky was clear but there was a considerable amount of cloud in the W., especially low in the W. and the clouds seemed to be moving extremely slowly. The clouds and haze remained in some sections of the W. during the entire session, as was evident from the haze in the area of Venus. Besides Venus, Saturn, Capella, Castor and Pollux and Procyon could be seen naked-eye. Jupiter and many stars could be seen in other parts of the sky.

18x50 15b: Comet C/2001 Q4 NEAT at about Mag. 4 probably was seen at about 01:33 UT (9:34 p.m. E.D.T.) or about 1 minute earlier than the previous night. Again, scarcely any tail could be seen. It was about 4 or 5 degrees "to the left of Procyon" and well up above the horizon, perhaps 30° when first seen. It could be seen easily with the binoculars during most of the session. Other objects seen with the binoculars were the crescent of Venus and also Saturn

Comet C/2001 Q4 NEAT

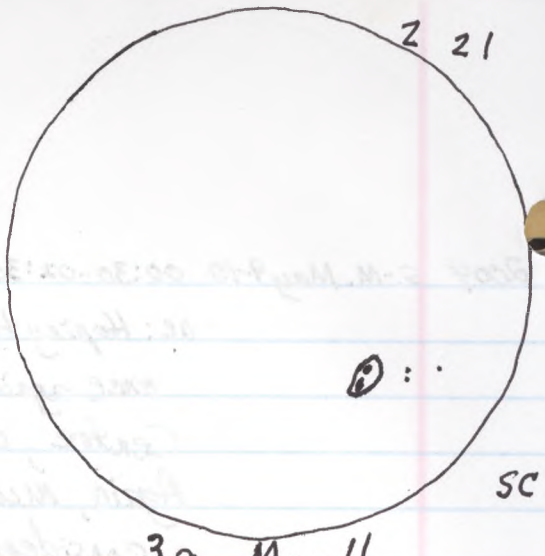
ph: I attempted to take a few photographs of the area of the comet.

M.-T. May 10-11 01:30-03:15 UT y twl; later S8T9 ne; 18x50 15b

ne: stars of spring; Venus brilliant in WNW and NW, Jupiter very bright; Saturn in Gemini; Comet C/2001 Q4 NEAT very easy to see naked-eye by

Comet C/2001 Q4 NEAT naked-eye

2004, May 11 02:45 UT
18X50 WS binocular view of Comet C/2001 Q4 NEAT



39 May 11
5S 14:25 - 14:30 UT
RSN35

2004 the time of the end of astronomical twilight
18x50156: Jupiter and 4 moons; Comet C/2001Q4 NEAT with a very distinct coma and a defined tail over 2° long, probably about mag. 4., located about 4° from the star Procyon; M92, M13, areas of Virgo and of Leo.
ph: photographed the comet among trees in the NW, using the 85mm lens.

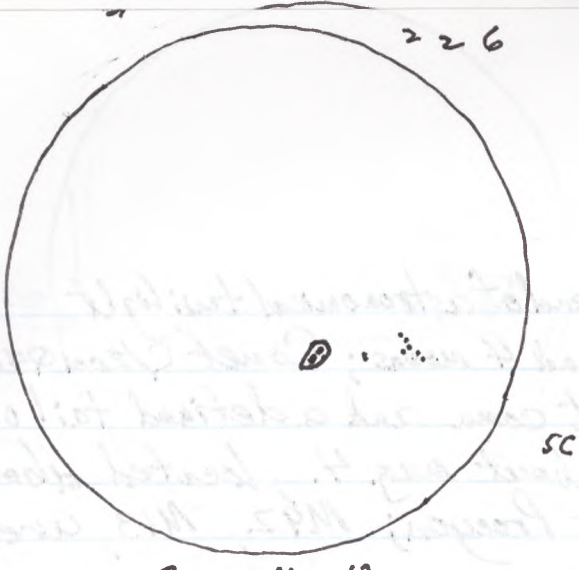
Tu. May 11 14:25-14:30 UT t C-8, 32
Sun 3g 5s RSW35 T.O.F.

C-14
T.-W. May 11-12 01:15-04:10 UT 00 twl; later SCT9 ne; 18x50w6; 20x100b;
ne: stars of spring with Venus, Mars, and Saturn low in the NW and Mars about ½-way between Venus and Saturn. Jupiter very bright in constellation Leo also. The Comet C/2001 Q4 NEAT became visible naked-eye at about 01:48 UT. John Vandesande visited for about 20 or 30 minutes and I pointed out the comet to him and he observed it in the 20x100 binoculars, and he also observed Jupiter and the 4 moons in the C-14. At the end of the session a bright Aurora glow was evident in the N.

Comet C/2001 Q4 NEAT naked-eye

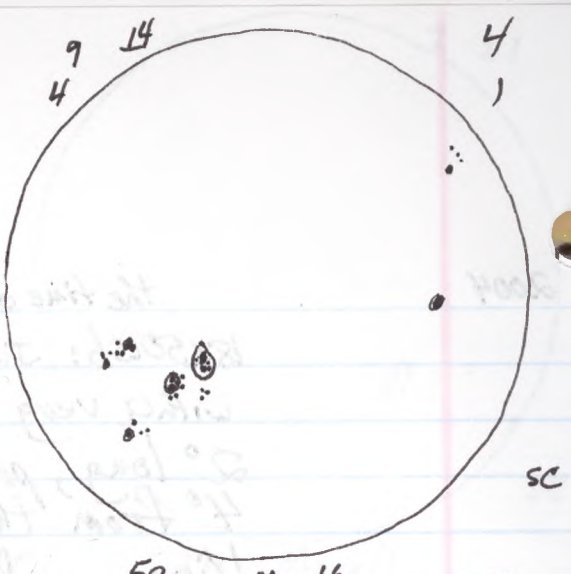
Aurora

18x50156: The Comet was bright and easily seen in the binoculars beginning about 01:34 UT The tail was evident and over 2° long. Also: Venus crescent, Jupiter, Saturn.
20x100b: The Comet was an impressive sight with the tail longer than the diameter of the field. Also: area of R Leonis.



3g
10s
RSN 40

May 12
13:00-13:05 UT



5g
32S
RSN 82

May 16
17:25-17:40 UT

2004

May 14: Jupiter with bands evident, and the 4 Galilean moons.
ph: photographed the Comet and certain areas of the sky using the 135 mm f/2.5 lens.

W. May 12 13:00-13:05 UT t C 8, 32
Sun 3 g 10 s RSN 40 T.O.F.

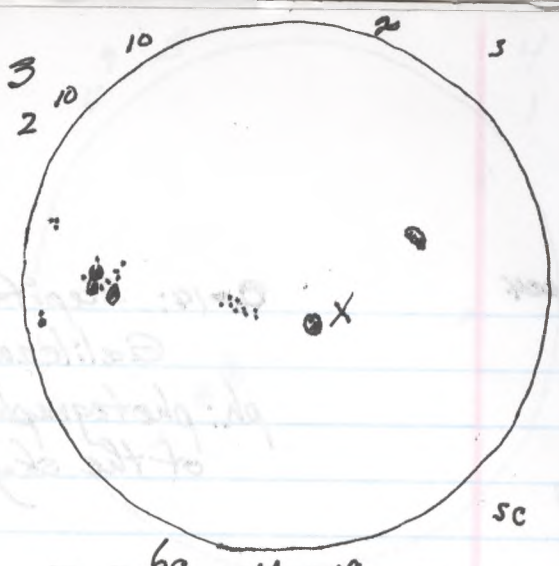
W.-Th. May 12-13 02:10-02:35 UT y S(?)T5 (haze) ne; 18x50 ISb
ne: bright spring stars, Venus, Jupiter
18x50 ISb: Comet C/2001 Q4 NEAT clearly seen with distinct wide tail, but one that seemed not to appear as long as it might without the hazy conditions.
C/2001 Q4 NEAT in binoculars

Th.-F. May 13-14 01:55-03:10 UT y S(?)T4-5 (haze) ne; 18x50 ISb
ne: bright stars of spring; ~~Venus~~ Saturn in Gemini; Jupiter in constellation Leo; a bright meteor briefly seen in the N. sky, perhaps mag. 1.
18x50 ISb: Comet C/2001 Q4 NEAT clearly seen, but the tail did not seem to be as long as it might have appeared without the hazy conditions; Jupiter, areas in the constellations Leo and Virgo.
C/2001 Q4 NEAT in binoculars.

Su. May 16 17:25-17:40 UT t C 8, 32
Sun 5 g 32 s RSN 82 T.O.F.

S-M. May 16-17 01:30-04:30 UT 00 twl; S 8(?)T9 C-8, 19 ne; 18x50 ISb; 20x100b; N
ne: Venus, Mars, Saturn in WNW, Jupiter in constellation Leo, stars of spring; Comet C/2001 Q4 NEAT still
C/2001 Q4 NEAT naked-eye.

6g
31S
RSN91
May 17
14:50-14:55 UT



6g
30S
RSN90
May 19
15:20-15:35 UT

2004 visible naked-eye and now about 2° N of M44.

18X50ISb: Comet C/2001 Q4 NEAT a beautiful object in the binoculars with a tail that was probably 5° or more in length – probably greater than the width of the field of view of the binoculars, nearby M44

20X100b: the comet and nearby M44

C-14: the comet whose nucleus and coma were very bright; Venus which was a large disk showing a very thin crescent.

ph: photographed area of the comet and a number of other areas of the sky.

M. May 17 14:50-14:55 UT t C-8, 32
Sun 6g 31s RSN91 T.O.F.

T-W. May 18-19 02:20-02:25 UT y and nd late twl; some haze ne; 18X50ISb

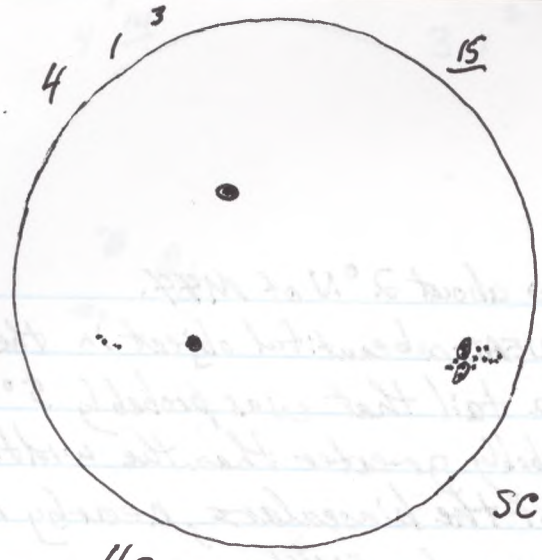
ne: bright stars of some spring constellations; Venus low in NW; Jupiter high in SW.

C/2001 Q4 NEAT 18X50ISb: M44; Comet C/2001 Q4 NEAT seen well above M44, but not as distinctly as it might have been without the haze in that part of the sky.

W. May 19 15:20-15:25 UT t C-8, 32
Sun 6g 30s RSN90 T.O.F.

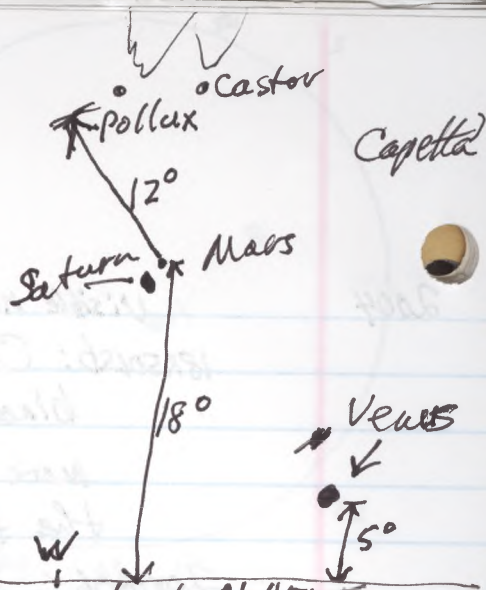
W-Th. May 19-20 02:05-05:00 UT 00 S8(?) T8-9 at times few clouds, ne; 18X50ISb

ne: Stars of spring; Venus low in NW; Jupiter high in SW; two meteors; thought I may have seen the comet, C/2001 Q4 NEAT ne: (?) Comet C/2001 Q4 NEAT with averted vision but was not absolutely sure of it.

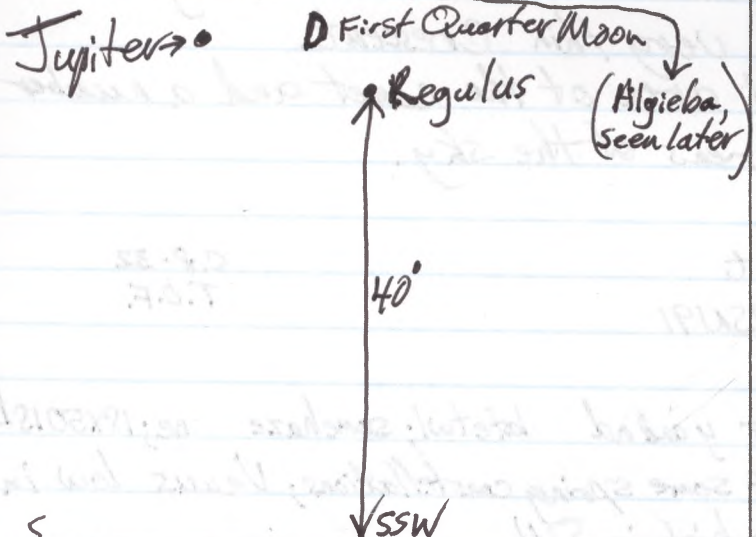


49
23S
RSN63

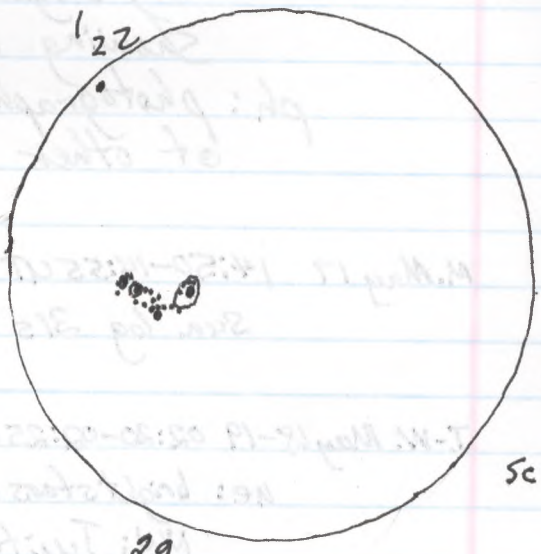
May 21
16:35-16:40UT



2004, May 27 about 01:45UT
View to W.

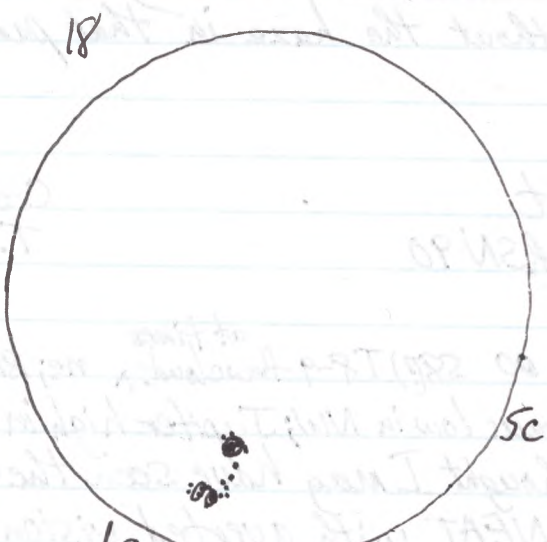


2004, May 27, about 01:45 UT
View to SSW toward Jupiter



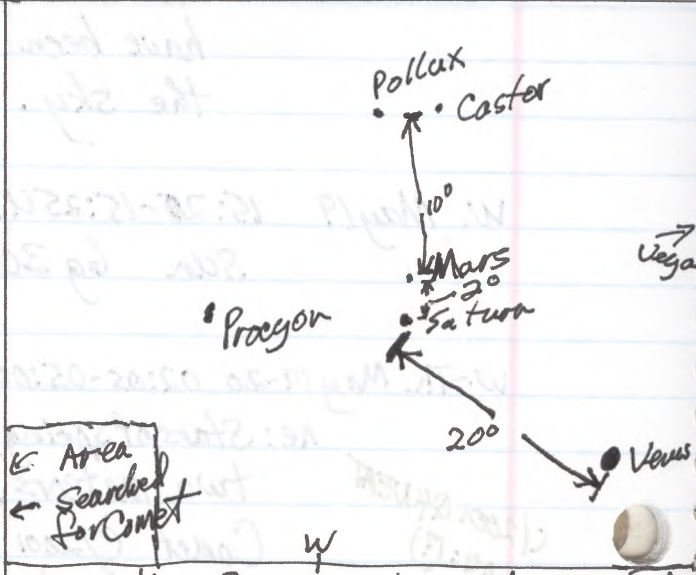
2g
23S
RSN43

May 27
15:15-15:20UT



1g
18S
RSN28

May 28
19:50-19:55UT



2004, May 29, 01:45 View to W.

2004

18x50sb: Comet C/2001 Q4 NEAT seen clearly with distinct tail several degrees in length; Jupiter
ph: photographed the comet and various other areas of the sky.

F. May 21 16:35-16:40 UT C-8, 32
sun 4g 23s RSN63 T.O.F.

W-Th. May 26-27 01:05-02:25 UT near Medical Centre Oso Twp. Beach twl ne; 18x50sb

ne: Hoping to see Comet C/2002 T7 LINEAR, I went to Oso Township Beach and saw the planets as shown in the two diagrams on the left.

18x50 sb: slim crescent of Venus, Mars, Jupiter, Saturn. - Carefully scanned the horizon for the comet, but did not knowingly see it. There was some cloud near the horizon. I may not have concentrated the search in the right place.

- looked for Comet C/2002 T7 LINEAR

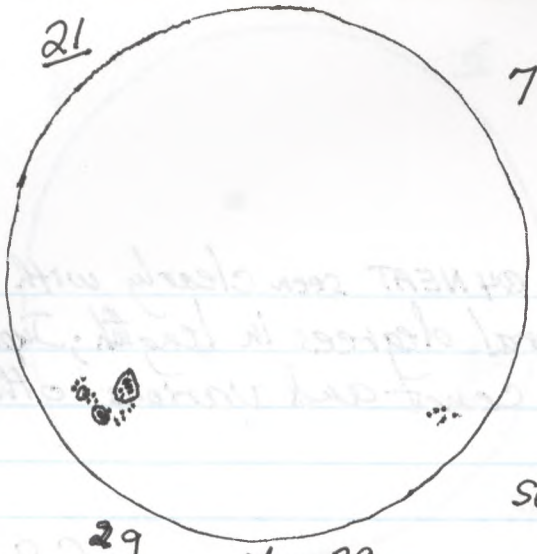
Th. May 27 15:15-15:20 UT t C-8, 32
sun 2g 23s RSN43 T.O.F.

F. May 28 19:50-19:55 UT t C-8, 32
sun 1g 18s RSN28 T.O.F.

F.-S. May 28-29 01:05-02:20 UT near Medical Centre Oso Twp. Beach twl ne; 18x50sb

ne: Hoping again to see Comet C/2002 T7 LINEAR, I went to Oso Township Beach near the Sharbot Lake Medical Centre and saw the planets: Venus, Saturn, and Mars in the W. and Jupiter high in the SW in the constellation Leo. (See diagram for view to W.)

21



7

SC

29
285
RSN48

May 29
13:30-13:35UT

2004

18X50IS b: slim crescent Venus, Saturn, Mars, carefully scanned to the left and down from Procyon hoping to see the comet, C/2002T7LINEAR, but did not knowingly see it. It may simply have been too faint to be seen in the binoculars during a fairly bright part of the twilight. At the beginning of the session there were a few scattered clouds in the area, but later in the session the clouds did not seem to be much of a problem

-looked for Comet C/2002 T7 LINEAR

Sa. May 29 13:30-13:35 UT t C-8, 32
scan 2g 28s RSN48

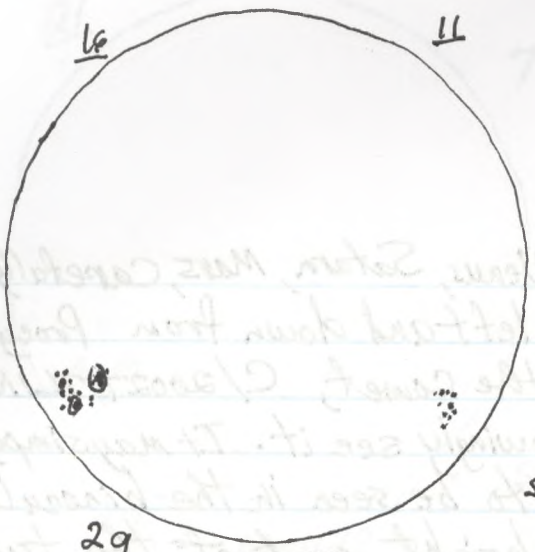
Sa.-Su. May 29-30 01:20-02:20 UT near Medical Centre Oso Twp. Beach twl ne; 18X50IS b

ne: Hoping again to see the Comet C/2002T7LINEAR, I went to Oso Township Beach near the Sharbot Lake Medical Centre, and saw the planets: Venus which was probably less than 10 degrees above the horizon when first seen, Saturn and Mars which were below Castor and Pollux in the W. sky, and Jupiter about 10° E. of Regulus. Stars that were easy to see later in the session were Procyon, Capella, and the Summer Triangle.

-155

The International Space Station was seen crossing the sky shortly after 01:34 UT; it was a passage of about 4 minutes.

18X50IS b: slim crescent Venus, Mars, Saturn, Jupiter, scanned carefully along the SW to W horizon hoping to see the Comet, C/2002T7 LINEAR, but did not



sc

2g
275
RSN47

May 30.
14:25-14:30UT

2004

knowingly see it. At the beginning of the session there were a few clouds in the SW near the horizon, but the clouds seemed to be less a problem later in the session. Again the comet may simply been too faint to see in binoculars during the brighter part of twilight.

- looked for Comet C/2002 T7 LINEAR

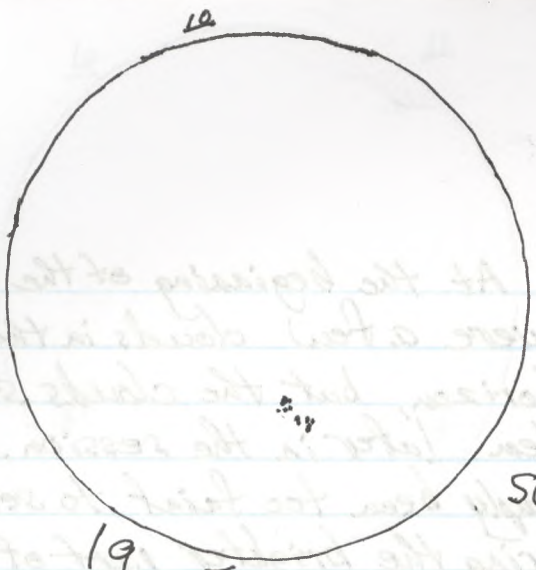
Su. May 30 14:25-14:30 UT C-8, 32
Sun 2g 27s RSN 47 T.O.F.

S.-M. May 30-31 01:30-02:10 UT near Medical Centre Oso Twp. Beach, twl ne; 18x50 lb

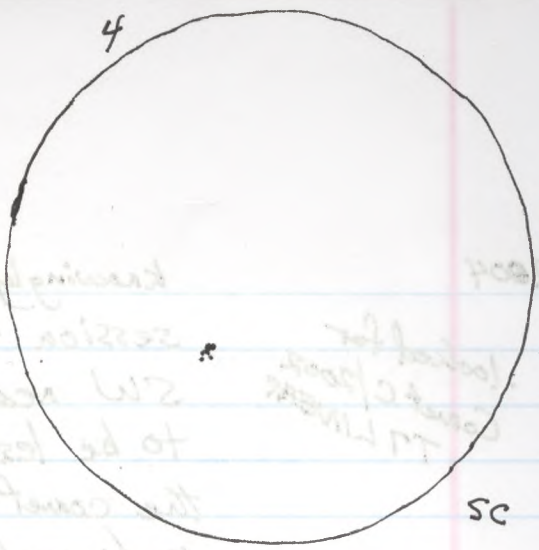
ne: Again hoping to see Comet C/2002 T7 LINEAR, I went to Oso Township Beach near the Sharbot Lake Medical Centre. However, I found a large area of the South-western and Western sky quite cloudy, though for part of the session the sky was quite clear in some other directions. I did not spot Venus, which might have been quite low and even "behind some trees" by the time I arrived at the beach. Castor and Pollux eventually could be seen in the W. High in the S., Jupiter and Regulus could be seen. A bright Gibbous Moon was to the left from Jupiter.

18x50 lb: I scanned the SW sky looking for the Comet, C/2002 T7 LINEAR, but did not knowingly see it. By times the clouds appeared quite dense. Castor and Pollux, Saturn and Mars, Jupiter, ~~Regulus~~ and the Gibbous Moon were seen.

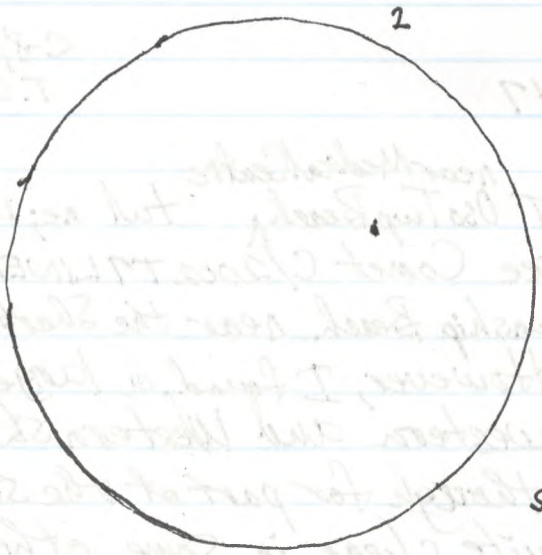
- looked for Comet C/2002 T7 LINEAR



1g
10s June 2
RSN20 13:30-13:35 UT



1g June 4
4s
RSN14 14:55-15:00 UT



1g June 5
2s
RSN12 17:35-17:40 UT

2004 W Jun. 2 13:30-13.35 UT t C-8,32
sun lg 10s RSN20 T.O.F.

Th.-F. June 3-4 01:55-02:25 UT Oso Twp. Beach near Medical Centre twl ne; 18X50156

ne: Once again hoping to see Comet C/2002 T7 LINEAR, I went to Oso Township Beach near the Sharbot Lake Medical Centre. However, in the twilight I saw relatively few objects with the unaided eye. This time I did not see Venus, since it may have been low, or behind the trees in the WNW, or even already set. I saw Castor and Pollux in the W, and Saturn below them, as well as Jupiter and Regulus high in the S.

18X50156: I scanned the sky low in the SW, but did not knowingly see Comet C/2002 T7 LINEAR. I was able to see Jupiter, Saturn, Mars, and M44

- looked for Comet C/2002 T7 LINEAR

F. June 4 14:55-15:00 UT t C-8,32
sun lg 4s RSN14 T.O.F.

Sa. June 5 17:35-17:40 UT t C-8,32
sun lg 2s RSN12 T.O.F.

S.-M. June 6-7 09:15-10:10 UT 5:15-6:10 a.m. E.D.T. John Vandesanders place deck at twl ne; 18X50156.

ne: Scanned the E and NE skies with the hope of seeing where the sun would rise above the horizon the following morning when I hoped to see the Transit of Venus across the Sun; that is, the last part of the Transit. However, the clouds were fairly thick and scattered, and later, it became

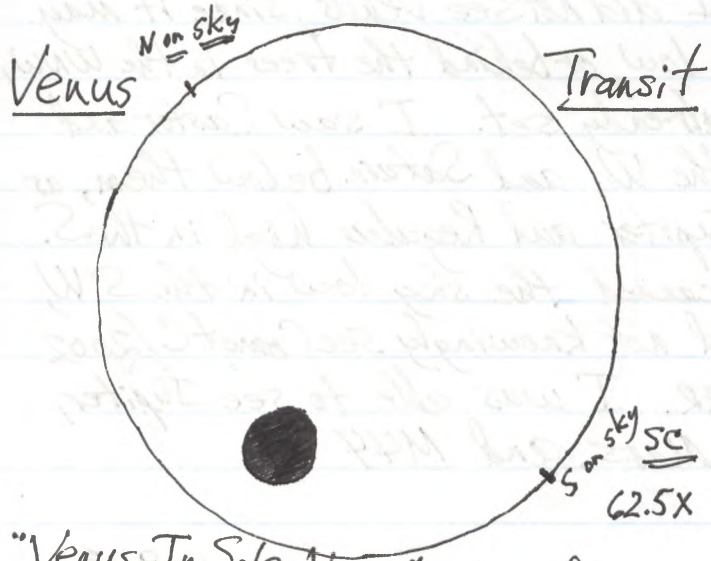
lg
8S
RSN18

June 7
15:35-15:40 UT

2004, June 8 Venus Transit

Contact Times:

I	5:13:29 UT	1:13:29 a.m. EDT
II	5:32:55	1:32:55
Greatest	8:19:44	4:19:44
III	11:06:33	7:06:33
IV	11:25:59	7:25:59



"Venus In Sole Visa" as seen from Sharbot Lake, 2004, June 8, 10:50:00 UT

horizon.

2004

generally overcast. I discovered that the sunrise point was probably too far to the right to make this an ideal location from which to view the Transit. The "brightness" apparent in places where the clouds were not so thick above the horizon seemed to indicate that the sun would be rising among trees to the right of the open area that was visible from the deck at John Vandesande's place.

18X50155: I scanned the clouds with the binoculars hoping to see a spot that would indicate where the sun would rise or after about 9:21 UT (5:21 a.m. E.D.T.) where it had risen, since that was the time listed as the time of sunrise.

M. June 8 15:35-15:40 UT t C-8,32
sun lg 8s RSN18 T.O.F.

~~M~~T. June 8 9:20-11:30 UT dock and shoreline ne; C-8,32

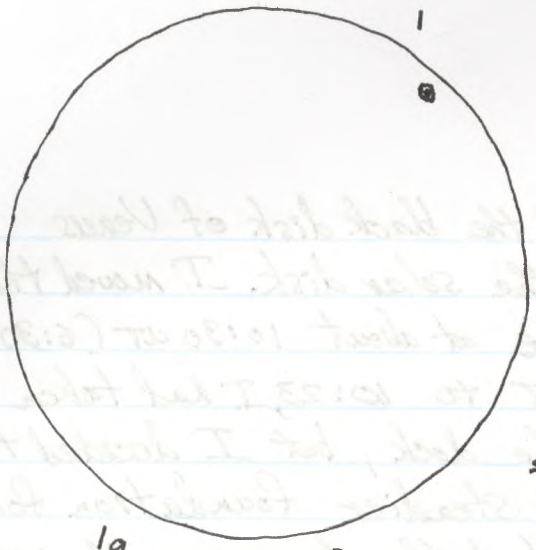
ne: In order to view the Transit of Venus, I awoke at 9:06 UT (5:06 a.m. E.D.T.) and took my equipment to the shoreline of the lake and put the telescope on the dock where the sun was rising. I first saw the sun very red among the hazy clouds over the trees above the very distant ENE horizon, ~~by~~ about 9:31 UT (5:31 a.m. E.D.T.), 10 minutes after sunrise which at Sharbot Lake had been at 9:21 UT (5:21 a.m. E.D.T.). By 9:45 and thereafter, I was able to catch a glimpse of Venus transiting the face of the sun. It was a spectacular sight! I used arc-welders glass #14

TRANSIT OF VENUS!

C-8,32: With the telescope at 62.5X, I observed

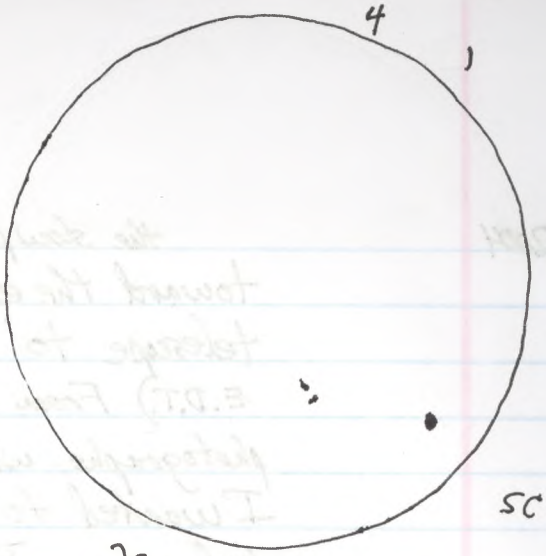
2004

the slow progress of the black disk of Venus toward the edge of the solar disk. I moved the telescope to the shore at about 10:30 UT (6:30 a.m. E.D.T.) From 10:09 UT to 10:23, I had taken 6 photographs while on the dock, but I decided that I wanted to have a steadier foundation for the telescope. I moved it to the shore near the western border of the lot. I continued to photograph up to, and even past, the time of Third Contact, taking an additional 23 photographs. I had expected the appearance of the Black Drop or Ligament near the time of 3rd Contact, but was greatly surprised by the "early appearance of a 'Grey Drop' at 11:02:22 UT (7:02:22 a.m. E.D.T.), over 4 minutes before the listed time of 3rd Contact!! At about 11:00 UT some clouds appeared in the area of the sun and they continued to be a problem for the remainder of the event. The correct time of 3rd Contact was difficult to determine. For me, it could have been at almost any time between 11:05 UT and 11:07 UT. Because of the increasing haze, the "receding dot" became more difficult to see; therefore, I saw it only sporadically between the times of 3rd Contact and 4th Contact. Overall, it was a spectacular event! Seeing the very clear, distinct, black, solid disk of Venus against the bright orange disk of the sun was a powerful sight! The surprize of the "early appearance" of "the Black Ligament" was quite amazing!



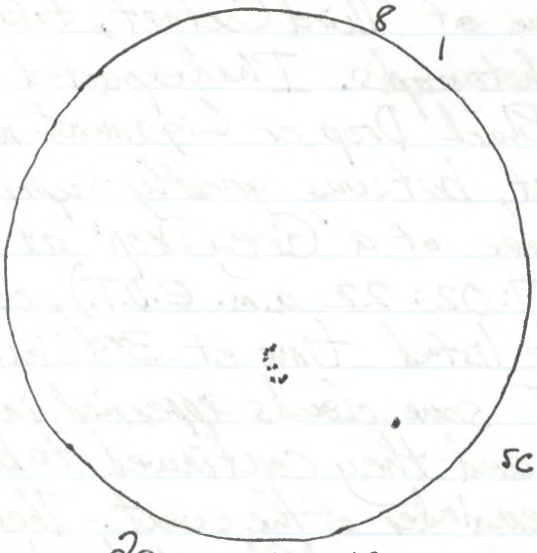
1g
1s
RSN11

June 10
19:15-19:20 UT



2g
5s
RSN55

June 11
14:55-15:00 UT



2g
9s
RSN29

June 12
14:35-14:40 UT

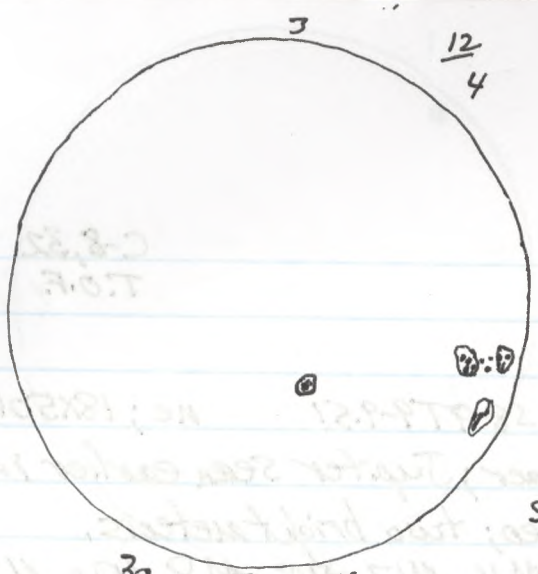
2004 Th. June 10 19:15-19:20UT t C-8,32
Sua lg ls RSN11 T.O.F.

Th.-F. June 10-11 04:10-04:55UT y S8-9T9-9.5! ne; 18X50ISb
ne: stars of Spring and summer; Jupiter seen earlier in the W. in the constellation Leo; two bright meteors.
18X50ISb: M11 and R Scuti, M16, M17, M18, M8, M20, M22, M28, M23, M24, M25, M13, M12, M14, M57, Col 249, Barnard's Star, R CorBor, T CorBor.

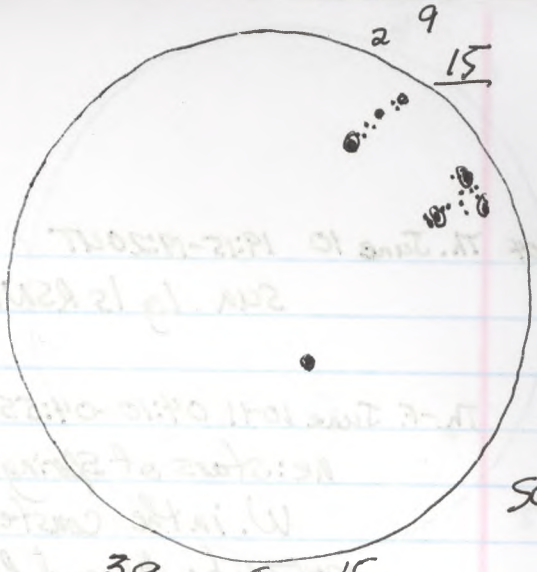
F. June 11 14:55-15:00UT t C-8,32
sua 2g 5s RSN25 T.O.F.

Sa. June 12 14:35-14:40UT t C-8,32
Sun 2g 9s RSN29 T.O.F.

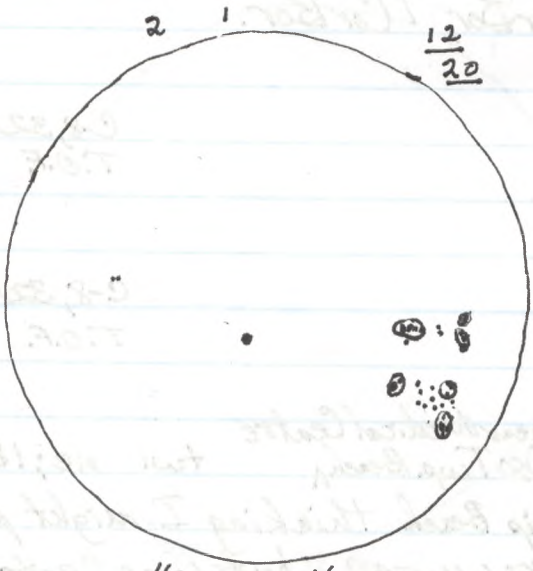
Sa.-Su. June 12-13 01:30-01:55UT Oso Twp. Beach (near Medical Centre) twl ne; 18X50ISb
ne: I went to Oso Township Beach thinking I might possibly see Comet C/2002 T7 LINEAR, but was certainly not sure of seeing it. In the twilight, it was easy to see Jupiter high in the S. After arriving at the "observing beach" that I had used on a number of occasions, I scanned the SW horizon and saw a number of clouds in that area. Later I saw Regulus to the right of Jupiter.
18X50ISb: I scanned the SW sky for C/2002T7 LINEAR, but was not sure of seeing it at all. Before long I decided to leave, at least partly because the mosquitoes were quite bad.
03:45-04:30UT y S8T8.5-9 ne; 18X50ISb
ne: stars of Summer; a bright meteor in the S.



39
195
RSN49 June 14
16:20-16:25 UT



39
265
RSN56 June 15
18:35-18:40 UT



49
355
RSN75 June 16
14:10-14:15 UT

2004 sky.

18X50I5b: Comet C/2001 Q4 NEAT, easily found in UMa after I had checked the co-ordinates given in the May 2004 Sky and Telescope. It was listed as mag. 5.5 on June 11 and mag. 6.2 on June 21. The tail was quite short. - also M11 and R Scuti, M22, M28, M23, M24, M25, M8, M20, M16, M17, M18, M13, M92.

Comet C/2001 Q4 NEAT

M. June 14 16:20-16:25 UT t C-8, 32 T.O.F.
Sun 3g 19s RSN 49

Tu. June 15 18:35-18:40 UT t C-8, 32 T.O.F.
Sun 3g 26 RSN 56

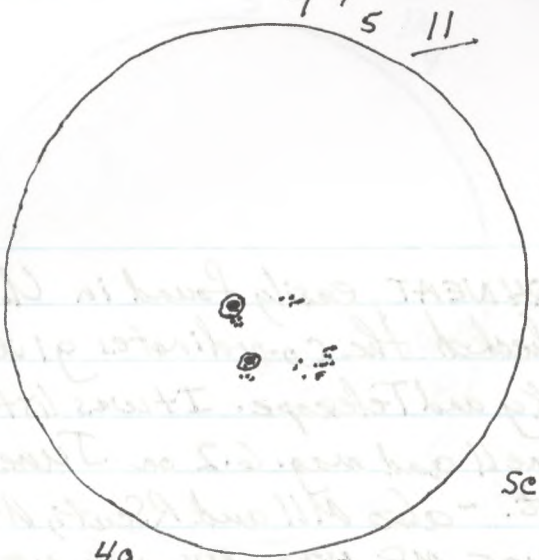
T.-W June 15-16 03:50-04:30 UT y S8T9 ne; 18X50I5b
ne: stars of summer; a very bright meteor high in the S. sky and probably about mag. 1.
18X50I5b: M11 and R Scuti, M16, M17, M18, M23, M24, M25, M8, M20, M21, M22, M28, M57, β Cyg, ε Lyrae, U and EU Delphini, M13, M10, M12, M14, areas of Cygnus, M4, M80

Could meteor have been a Perseid?

W. June 16 14:10-14:15 UT t C-8, 32 T.O.F.
Sun 4g 35s RSN 75

W.-Th. June 16-17 - 03:00-04:30 UT 00 5(?)T8 until clouds moved in ne; 18X50I5b
ne: stars of summer, one fairly bright meteor going from E to W.
18X50I5b: M80, M107, stars in the area of η Ophiuchi (See U292) since I wanted to become acquainted with the

Could meteor have been a Perseid?



49
27S
RSN67

June 20
17:45-17:50UT

2004

star field in that area, hoping to locate the planet Pluto which was currently at about α 12h22m, δ -14°15' according to the "Pluto map" in the Observer's Handbook 2004, page 187. Among the stars in that area, I thought that R Ophiuchi was faint and just barely visible in the binoculars. Clouds moved in and made observing difficult and limited after 04:00 UT.

C-14, 19

Sa.-Su. June 19-20 01:55-04:30 UT 00 SBT 9.5! ne; 18x50 IS b; 20x100b; ∧

ne: stars of summer; crescent moon low in NW early in the session; a bright flash near the zenith at about 02:29 UT, a flash that may have been a point meteor or a flash from a tumbling satellite.

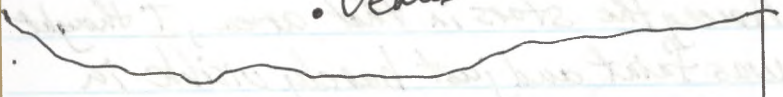
18x50 IS b: M16, M17, M18, M23, M24, M25, M8, M20, M21, M22, M28, M12, M14, M57, Col 299, M4, M80, T Cor Bor, R Cor Bor, M51, M101, area of Pluto near η Ophiuchi, area of β Cyg, Barnard's Star.

20x100b: area of Pluto near η Ophiuchi, Jupiter, M4, M80.

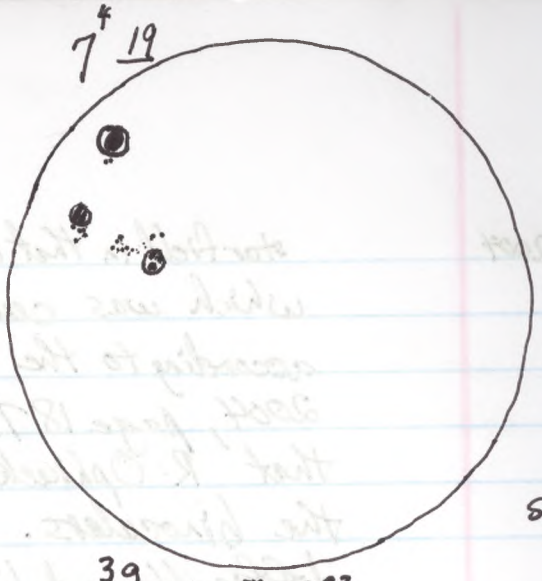
C-14, 19: Jupiter and the 4 Galilean moons, with 3 of them in a very tight grouping, which was seen to be "rearranged" after only about 30 or 35 minutes. I viewed some faint stars not far from where Pluto was located, i.e., a short distance to the NE from the star η Ophiuchi. I did not take the time check out the area with the care that would have been required to be sure of having seen that planet.

Su. June 20 17:45-17:50 UT t C-8, 32
sun 4g 27s RSN 67 T.O.F.

M. Su. June 20 08:45 UT dock bright twl ne



2004, June 20 08:45 UT (4:45 am EDT.)
View to ENE with Venus seen in morning twilight.



39
30S
RSN60

June 23
15:00-15:05 UT

2004

. Venus seen now in the morning sky

Venus, which was seen for the first time since the Transit of Venus across the face of the Sun 12 days ago. Venus was only about 1½° to 2° above the ENE horizon, but clearly visible to the unaided eye in the bright twilight. (See diagram.)

S.-M. June 20-21 03:20-04:20UT y SBT9-9.5! ne; 18X50I5b
ne: stars of summer, Jupiter very bright and low in the W
18X50I5b: M11 and RScuti, M16, M17, M18, M23, M24, M25, M22, M8, M20, Barnard's Star, TCorBor, RCorBor, M12, M14, M21.

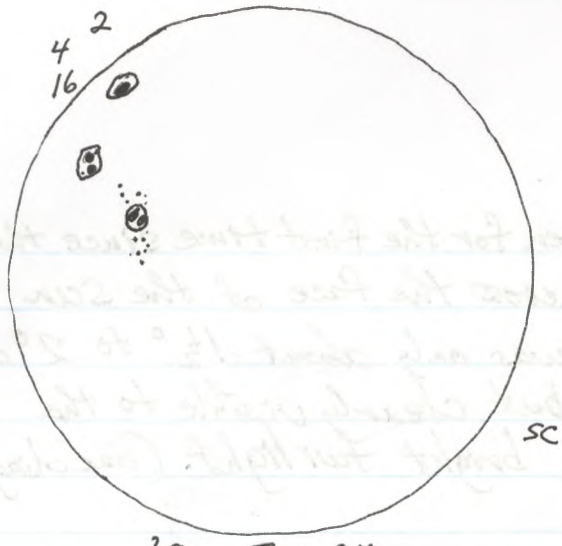
T.-W. June 22-23 03:25-04:35UT y SBT9-9.5 ne; 18X50I5b
ne: stars of summer; Jupiter and crescent moon low in the NW sky; 3 meteors s. of the zenith and going in approximately a southern direction, one of which was very close to β Cyg and which was about mag. -2 travelling fairly slowly and having a fairly short trail. They may possibly have been members of the June Lyrids or the June Boötids.

3 meteors

18X50I5b: M11 and RScuti, M16, M17, M18, M23, M24, M25, M8, M20, M21, M22, M23, M24, M25. M13, M15

W. June 23 15:00-15:05UT t C-8, 32
Sun 3g 30s RSN60 T.O.F.

W.-Th. June 23-24 02:50-05:40UT ○○ clouds early in session SB(?)T7-9 ne; 18X50I5b; C-14, 19
ne: stars of summer, crescent moon in NW until it was



39 June 24
225 15:10-15:15UT
RSN 52

2004

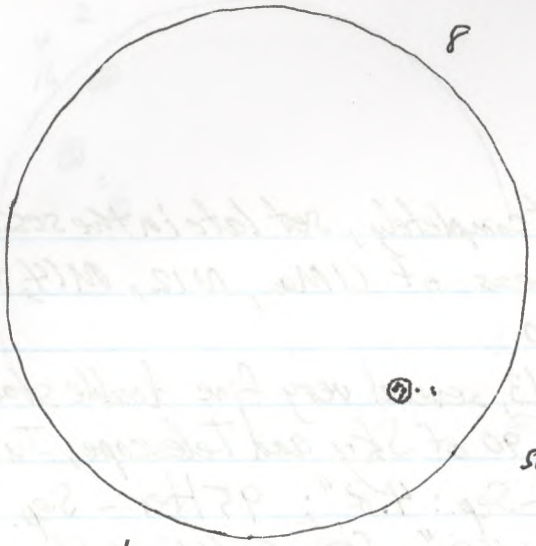
low and almost, if not completely, set late in the session
18X50ISb: M92, M13, areas of UMa, M12, M14, TCorBor, RCorBor, M4, M80
C-14, 19: σ Her - D; M13, several very fine double stars from the list on page 90 of Sky and Telescope, July 2004: α Her - Sep.: 4.8"; 95 Her - Sep. 6.3"; 70 Oph - Sep.: 4.8"; δ Ser (although the name in Sky and Telescope appears to be "σ Ser"; it is also known as 13 Serpentis - See Burnham p. 1759 and U199.) (The A component is also a variable star of the δ Scuti type.) Sep. 4.0"

Th. June 24 15:10-15:15UT t C-8, 32
Sun 3g 22s RSN52 T.O.F.

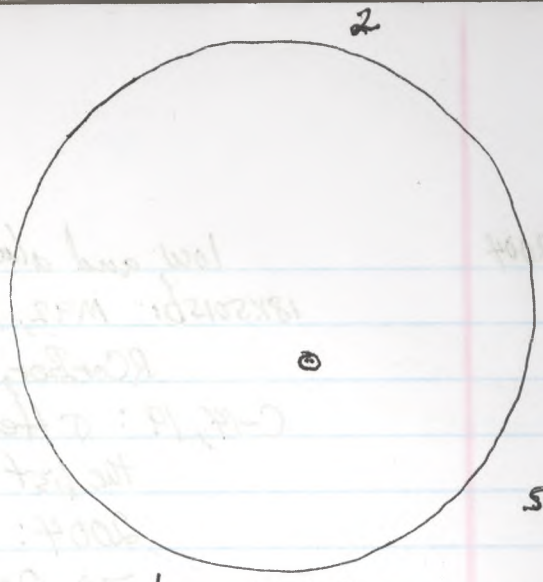
F.-S. June 25-26 04:30-05:00 UT y S8(?)T8-fqml ne; 18X50ISb
ne: stars of summer; first quarter moon in SW.
18X50ISb: M8, M20, M21, M22, M23, M24, M25, M16, M17, M18, M11 and R Scuti, M92, M13, M15, R CorBor, M6, M7.

S.-M. June 27-28 02:45-02:50UT y S-7(?)T5(gml) ne
- Summer Triangle high in the E.; 10-day-old gibbous moon about 10° E. of Spica in the SSW; Jupiter very bright and about 10° above the horizon in the WNW.

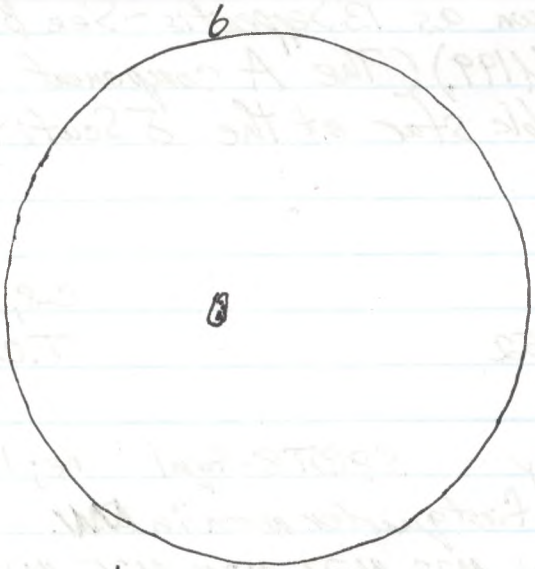
T.-W. June 29-30 02:30-02:40UT t S(?)T5 (twl; gml) ne; C-8, 32, 15.5
ne: stars of Big Dipper; Polaris, Kochab, Arcturus, Spica, very bright gibbous moon in the S.; Jupiter



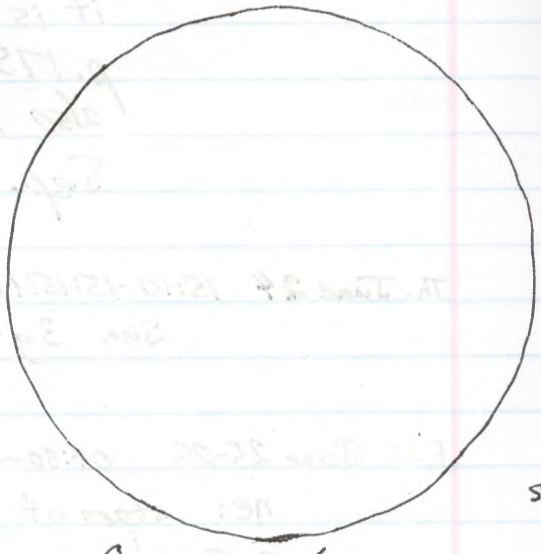
1g June 30
8s 14:20-14:25 UT
RSN18



1g July 2
2s 13:50-13:55 UT
RSN12



1g July 3
6s 22:55-23:00 UT
RSN16



0g July 6
0s 13:35-13:40 UT
RSN0

2004

very bright and about 20° above the horizon in the WNW.

C-8, 32, 15.5: Jupiter and 3 Galilean moons with some bands seen on Jupiter. (Information in the Observer's Handbook was that Io was in transit across the disk of the planet. Also the 3 moons seen were Europa and Callisto on the E. side of the planet and Ganymede on the W. side.

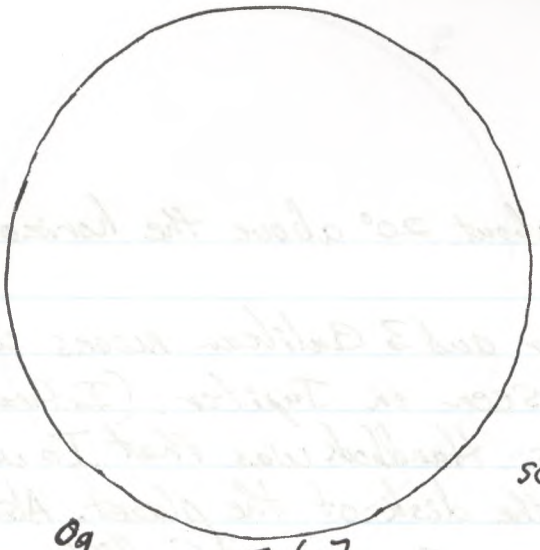
W. June 30 14:20-14:25 UT t — C-8, 32 T.O.F.
Sun 1g 8s RSN18

F. July 2 13:50-13:55 UT t — C-8, 32 T.O.F.
Sun 1g 2s RSN12

Sa. July 3 22:55-23:00 UT t and nd — C-8, 32 T.O.F.
Sun 1g 6s RSN16

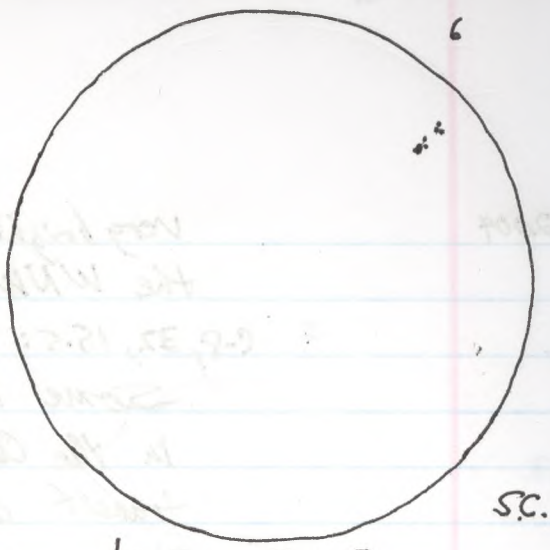
After having spent the forenoon in Kingston at The Sky Is The Limit Festival at City Park and the afternoon at Zwick's Island in Belleville for Millie Burkholder's 80th Birthday party, I finally observed the sun in an "official way" and the the count of sunspots. At The Sky Is The Limit Festival, I had taken and set up the C-8 to observe the sun and along with Don Cook, who also had his telescope on the sun, and Hank Bartlett, who had his telescope on the planet Venus at least for a while, we talked to a good many people and showed them the sun or Venus.

Tu. July 6 13:35-13:40 UT t — C-8, 32 T.O.F.
Sun 0g 0s RSN0



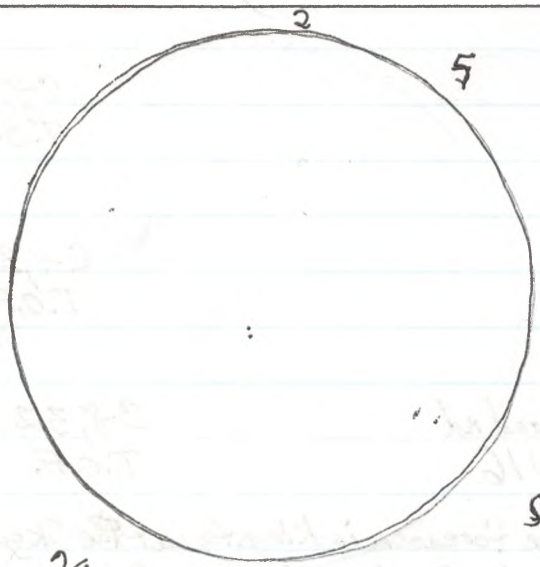
0g
0s
RSN 0

July 7
14:15-14:20 UT



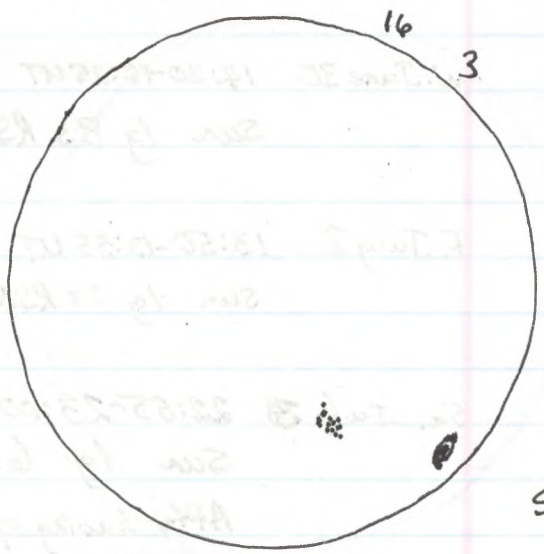
1g
6s
RSN 16

July 8
21:05-21:10 UT



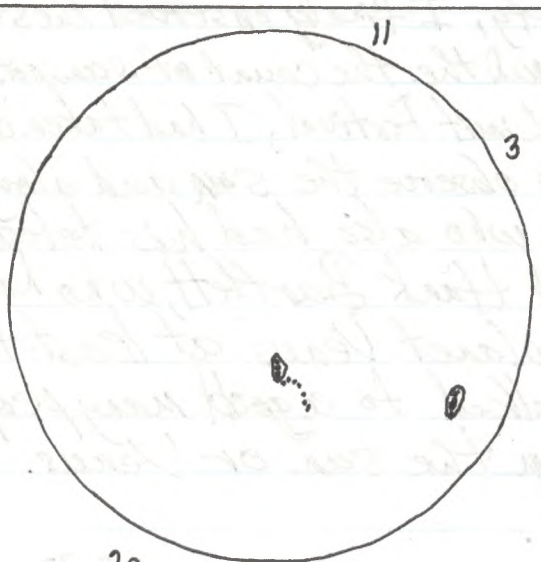
2g
7s
RSN 27

July 9
14:00-14:20 UT



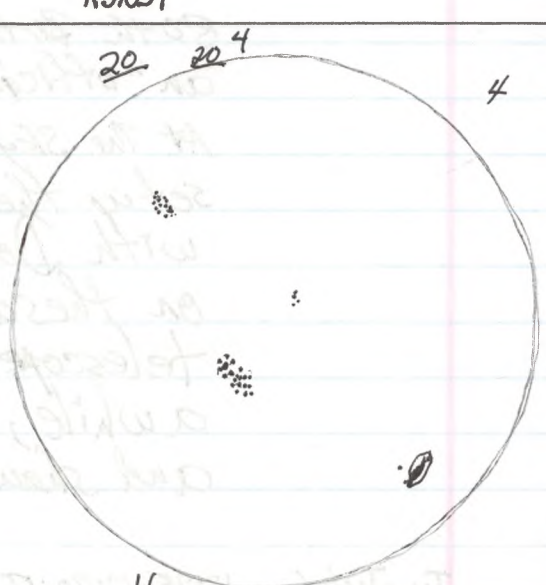
2g
19s
RSN 39

July 10
14:50-14:55 UT



2g
14s
RSN 34

July 11
14:30-14:35 UT



4g
48s
RSN 88

July 12
14:20-14:25 UT

2004 T-W. July 6-7 03:20-04:10 UT y S8(?)T9 ne; 18X50ISb

ne: stars of summer, Milky Way bright in the S and E.

18X50ISb: M22, M28, M20, M21, M23, M24, M25, M8, M11 and R Scuti, M6, M7.

ph: photographed various constellations and areas of the Summer Milky Way, using the 85mm f/18 lens.

W. July 7 14:15-14:20 UT t C-8, 32
Sun 0g 0s RSN0 T.O.F.

Th. July 8 21:05-21:10 UT t C-8, 32
Sun 1g 6s RSN16 T.O.F.

F. July 9 14:00-14:20 UT t C-8, 32
Sun 2g 7s RSN27 (-clouds during observing) T.O.F.

Sa July 10 14:50-14:55 UT t C-8, 32
Sun 2g 19s RSN39 T.O.F.

Sa.-Su. July 10-11 03:50-04:50 UT y S8T7-8 ne; 18X50ISb

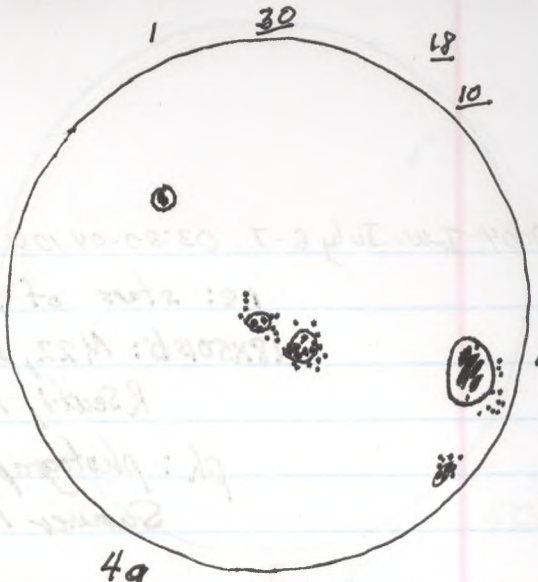
ne: stars of summer

18X50ISb: M8, M20, M21, M22, M23, M24, M25, M11 and R Scuti, M16, M17, M18, M5, M2, M15, M13, M92, M57, M2, M10, M12, U and EU Del, M39, NGC 4665, Barnard's Star.

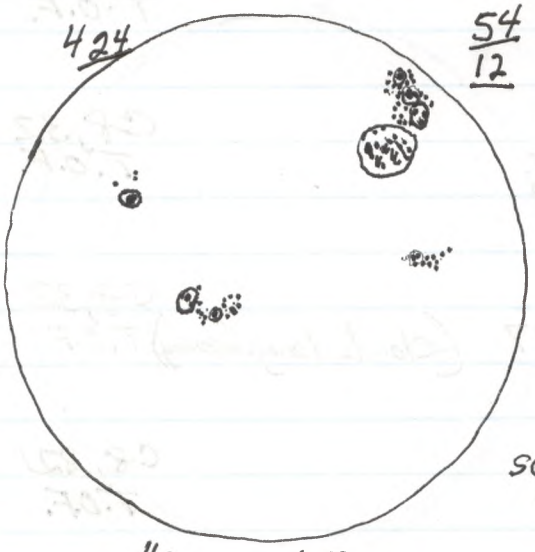
Su. July 11 14:30-14:35 UT t C-8, 32
Sun 2g 14s RSN34 T.O.F.

M. July 12 14:20-14:25 UT t C-8, 32
Sun 4g 48s RSN88 T.O.F.

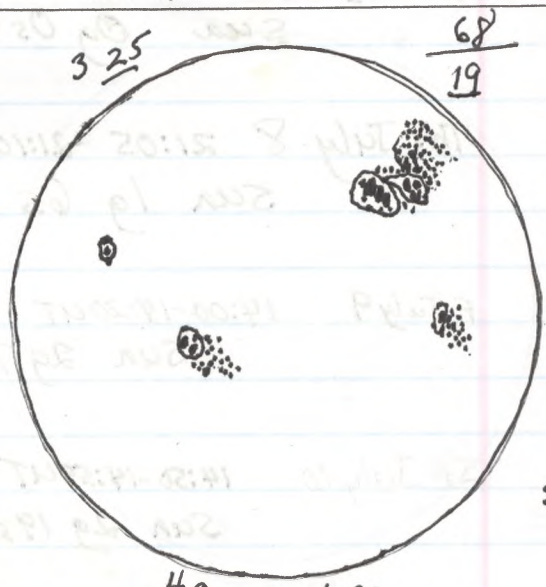
5g
655
RSN 115
July 17
16:20-16:25 UT



4g
595
RSN 99
July 18
15:25-15:30 UT



4g
945
RSN 134
July 19
18:25-18:30 UT



4g
1155
RSN 165
July 20
18:20-18:25 UT

2004 Sa July 17 16:20-16:25UT t C-8, 32
Sun 5g65s RSN115 T.O.F.

Sa-Su. July 17-18 04:00-05:00UT y S7T8 ne; 18X50I5b
ne: stars of summer
18X50I5b: M16, M17, M18, M22, M28, M8, M20, M21, M23, M24,
M25, M15, M10, M12, M15; Uranus in Aquarius
Uranus near σ Aquarii and Neptune in Capricornus near
Neptune θ Capricorni, Barnard's Star.

Su. July 18 15:25-15:30UT t C-8, 32
Sun 4g59s RSN99 (One enormous group!) T.O.F.

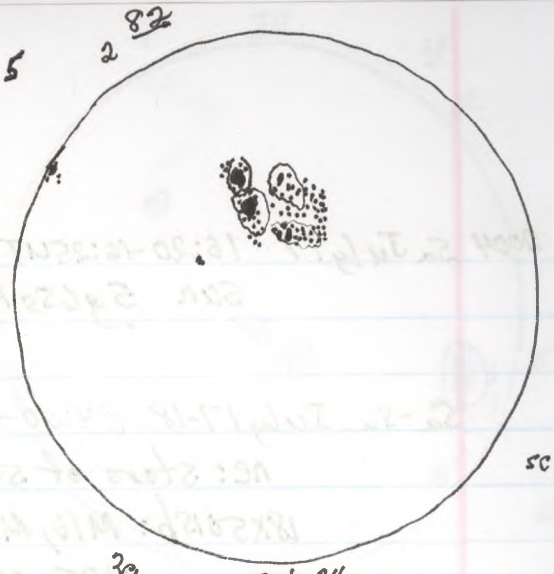
M. July 19 18:25-18:30UT t C-8, 32
Sun 4g94s RSN134 T.O.F.

Tu. July 20 18:20-18:25UT t C-8, 32
Sun 4g115s RSN155 T.O.F.

T.-W. July 21-22 03:40-04:40UT y S6-7T6-7 (haze, water vapour in air) ne; 18X50I5b
ne: stars of summer
18X50I5b: M16, M17, M18, M23, M24, M25, M8, M20, M21,
M22, M28, Barnard's Star and area nearby,
M15, βCyg, Neptune and area in Capricornus.
M11 and RScuti.

W.-Th. July 21-22 04:00-04:40UT y S5-6T5-6 (haze, esp at low altitude) ne; 18X50I5b
ne: stars of summer; μCep; δCep
18X50I5b: M16, M17, M22, M28, M8, M20, M21, M11 and
RScuti, M15, areas in Cygnus, Neptune and area
near θ Capricorni.

3g
72s
RSN102
July 23
18:50-18:55 UT



3g
895
RSN119
July 24
14:15-14:20 UT

2g
11s
RSN31
July 29
17:15-17:20 UT

2004 F. July 23 18:50-18:55 UT t C-8, 32
Sun 3g 72s RSN102 T.O.F.

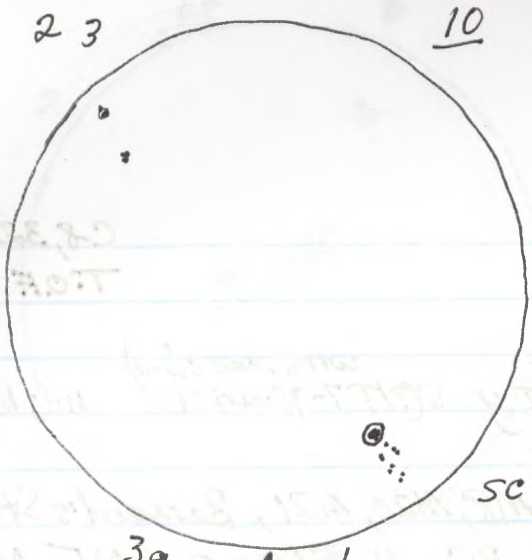
F.-S. July 23-24 03:40-04:30 UT y S(?)T 7-9 (varied with some cloud) ne; 18x50 18b
ne: stars of summer
18x50 15b: M22, M28, M8, M20, M21, Barnard's Star and area, IC4665, R Cor Bor, T Cor Bor, M5, M10, M12, M15, Neptune and area in Cap., Uranus and area in Aqr, NGC7789, Double Cluster below bright stars of Cassiopeia and Kemble's Cascade of stars in Cam, also below the bright stars of Cassiopeia (See U18.)

Sa. July 24 14:15-14:20 UT t C-8, 32
Sun 3g 89s RSN119 T.O.F.

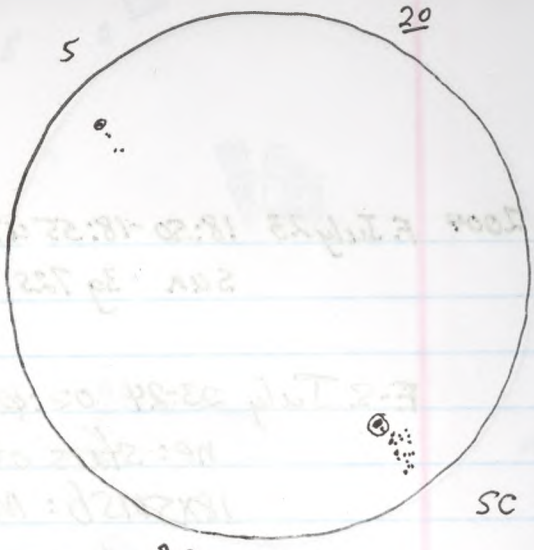
Sa.-Su. July 24-25 03:25-03:50 UT nd S(?)T 2-3 clouds ae
-observed the northern half of the sky where there was very clear evidence of a very good auroral disply covering all or most, of the northern part of the sky; however, the clouds which became even more widespread and appeared to thicken prevented the full appreciation of the display. There was clear evidence of pulsations in spite of the clouds, but I did not try to photograph the display because the clouds were simply too extensive.

Auroral display, but clouds.

Th. July 29 17:15-17:20 UT t C-8, 32
Sun 2g 11s RSN31 T.O.F.



3g
155
RSN45
Aug. 1
15:15-15:20 UT



2g
255
RSN45
Aug. 2
16:15-16:20 UT

2004 Su. Aug. 1 15:15-15:20 UT t C-8, 32
sun 3g 15s RSN45 T.O.F.

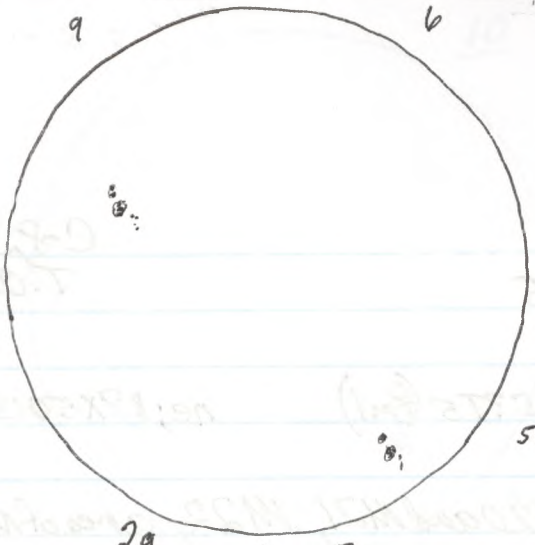
S-M. Aug. 1-2 02:00-03:10 UT y S?T5 (fml) ne; 18X50 15b
ne: stars of summer
18X50 15b: M8, area of M20 and M21, M22, area of M28, M5, ε Lyrae and area of M57, area of Barnard's Star.

M. Aug. 2 16:15-16:20 UT t C-8, 32
sun 2g 25s RSN45 T.O.F.

~~T.~~ W Aug. ~~3~~-4 03:00-03:40 UT y S8(?)T4-6 (some cloud & haze) ne; 18X50 15b
ne: stars of summer,
18X50 15b: Col 399, M5, M8, area of M20, M22, area of M28, M16, M17, M18, M2~~3~~, M2~~4~~, M25, area of Neptune in Capricornus, β Cyg, M13, M92.
Fog became prevalent near the end of the session.

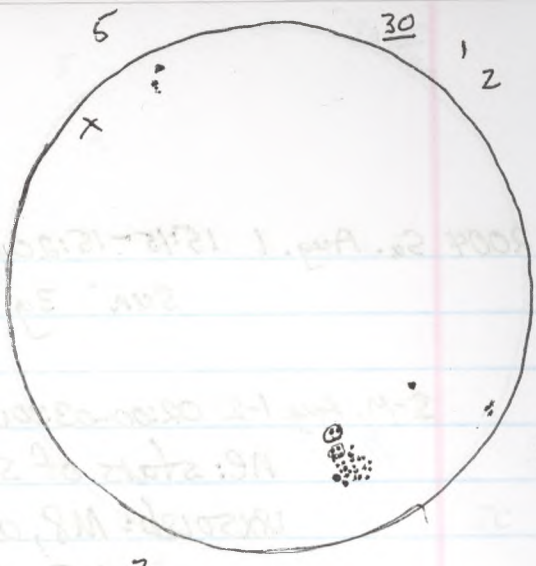
Th-F. Aug 5-6 03:30-04:15 UT y S~~8~~(?)T 5-8 (increasing cloud scattered cloud;) ne; 18X50 15b
ne: stars of summer; about 4 or 5 meteors, at least on of which was probably a Perseid
18X50 15b: Neptune in Capricornus, M16, M17, M18, M22, M28, M8, M20, M21, M23, M24, M25, 4 and Eu Del.

F-S. Aug. 6-7 02:50-04:25 UT y S~~8~~(?)T 6-7 (some clouds; 9ml after morning twi) ne; 18X50 15b
ne: stars of summer
18X50 15b: area of Neptune, M8, M20, M21, M22, M23, M24, M25, M16, M17, M18, R CorBor, ~~M~~Cor and Mizar, some stars in area of Serpens Cauda where Guy Nason had informed me that an occultation of



2g
155
RSN35

Aug. 7
16:15-16:20 UT



3g
38
RSN68

Aug. 9
13:55-14:00 UT

Burnham:

	Range	Per
Y Ophiuchi	6.5-7.3	17.123 d Cepheid
R S Ophiuchi	4.0-12...	Rec. Nova 1898, 1933, 1988, 1967.

2004

a faint ~~est~~ star Mag = 11.4, by a faint asteroid would take later tonight. The faint star was not marked in the Millennium Star Atlas, and the area of the star would be quite low in the SW sky by the time of the occultation, in fact, hidden by the great number of trees toward the SW.

Sa Aug. 7 16:15-16:20 UT t C-8, 32
Sun 2g 15s RSN35 T.O.F.

Sa-Su. Aug. 7-8 02:45-04:20 UT y S8(?)T9.5 (later 4-6 cloud at first; ^) ne; 18X50156
ne: stars of summer; one Perseid meteor, about mag 2.5.
18X50156: Neptune and area; Uranus and area; M8, M20, M21, M22, M28, M16, M17, M18, M23, M24, M25, M15, M31, M33, Stock 2 and the Double Cluster,

Su-M. Aug. 8-9 02:40-03:55 UT y S8(?)T9.5 (later 2-cloudy at first; ^) ne; 18X50156.
ne: Stars of summer
18X50156: Neptune and area; M8, M20, M21, M22, M23, M24, M25, M16, M17, M18, M5, M11 and RScuti, M10, M12, M14, Barnard's star and area, Taurus Boutiowski area in Ophiuchus, IC4665 near βOphiuchi, area of γ Ophiuchi and RS Ophiuchi - by "star hopping from M16 and ν and τ Ophiuchi (See U 294.)
Near the end of the session, the clouds increased dramatically.

M. Aug. 9 13:55-14:00 UT t C-8, 32
Sun 3g 38s RSN68 T.O.F.

2004 W.-Th. Aug. 11-12 02:00-04:00 UT 58(?)T9 ne

- On the night of the peak of the Perseid Meteor Shower, I observed for two hours, experiencing a bit of disappointment in the total number of meteors seen, but certainly not in the brightness of the meteors. I counted 10 meteors approximately in the first hour (though I saw one in the five minutes or so before 02:00 UT, also), and 8 in the second hour as far as Perseids were concerned, and also in the first hour or so, about 2 or 3 that were not Perseids. It was pleasantly surprising to have generally clear skies, after a day in which there had been generally cloudy or partly cloudy skies. Many of the meteors were bright ones, with a good number of magnitude 0 and even brighter meteors.

Perseids: numbers seemed low, but meteors were bright.

Th.-F. Aug. 12-13 01:00-03:00 UT Prov beach at Silver Lake SOTO ne?

- I went to Silver Lake Provincial Park because I had been invited to lead an observing session for the Perseid Meteor Shower. The weather throughout the day had not been promising. I arrived at the park before 0:00 UT (8:00 p.m. E.D.T.) and with the help of the warden named Wesley, I moved a picnic table onto the beach area and waited for sunset and for twilight to darken. Kathy Grey, the park superintendent for this one and for Sharbot Lake Provincial Park arrived, and we agreed that I would begin a talk at about 01:00 UT (9:00 p.m. E.D.T.). Through a break in the clouds in the NW,

39
565
RSN86

Aug. 16
15:00-15:05 UT

2004

the setting sun could actually be seen for a while before it set at about 01:17 (8:17 p.m. E.D.T.), but generally the sky was quite cloudy, and generally remained so. I began my talk as planned and talked about meteor showers and observing in general. There was a good crowd of about a hundred or so people. (Very rough estimate! Perhaps not that many! Maybe only 50 to 80 or so! I just am not sure!) After about an hour, some left and Kathy thanked me. (I think!) I stayed at the picnic table for about another half-hour or more talking with a group of 4 or 5 people. I also sold two copies of the revised fifth edition of The Beginner's Observing Guide.

S-M. Aug. 15-16 00:40-04:00 UT 00 S-8(?)T5-8 (varied; water vapour; some clouds) ne; 20x100b.

ne: stars of summer as they appeared during twilight and later; several meteors, one being a bright Perseid and two not Perseids.

20x100b: Neptune and area, M16, M17, M23, M24, M25, M8, M20, M21, M22, M28, M15, M31, Alcor and Mizar, Kemble's Cascade, one bright meteor seen while I was observing Alcor and Mizar — possibly a Perseid.

ph: photographed several areas of the sky.

M. Aug. 16 15:00-15:05 UT t C-8, 32 T:O.F.
sun 3g 56s RSN86

M-T. Aug. 16-17 00:20-00:50 UT Silver Lake MTC stop at 1 twl ne; 18x50lsb

ne: Hoping to see the Moon which would be less than

2004

24 hours old, I went to the MTC stop along Highway #7 at Silver Lake. The ~~moon~~ sun had just set - at about 00:10 UT (8:10 p.m. E.D.T), and the moon would set at about 0:55 UT (8:55 p.m. E.D.T.). There were some clouds low in the NW sky, and a reddish twilight glow below the clouds and above the trees in the distance across the lake. There were some fainter clouds in the area below the darker clouds. I did not manage to spot the young crescent moon.

young moon <24 hours old not spotted

18X50 15b: Though I scanned the sky above the trees across the lake, I did not spot the crescent moon. At about 00:49 UT, I spotted bright Jupiter, above the low-lying clouds in the NW sky.

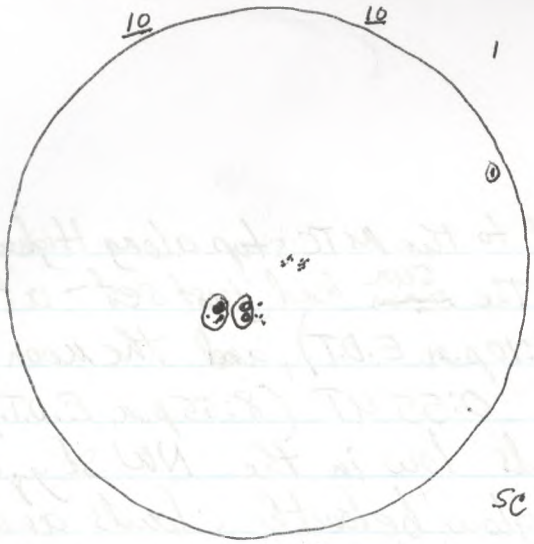
Jupiter seen

04:15 - 04:40 UT y S 7(?) T 7-9 high in the sky better ne

- stars of summer, one bright meteor (bright enough to be seen easily (!)). The transparency varied from good near the zenith to very mediocre in the lower parts of the sky.

Tu:W. Aug. 17-18 00:00 - 01:00 UT Silver Lake MTC stop at twl ne

- Hoping to see the crescent moon less than 48 hours old and fairly near Jupiter, I went to the MTC stop along Highway #7 near Silver Lake. Although there appeared to be clear areas of sky, the low north-western sky had thick clouds with only one or two slight breaks that gave limited hope of "perhaps" getting a glimpse of the crescent moon. However, I did not knowingly get to ~~the~~ see the moon, since the dense



3 g Aug. 19
21 s 19:40-19:45 UT
RSN51

2004. clouds persisted.

Th, Aug. 19 19:40-19:45 UT t C-8, 32
sun 3g 21s RSN51 T.O.F.

Th.-F. Aug. 19-20 02:00-04:45 UT 00 S8-9T 9.5! ne; 18X50156

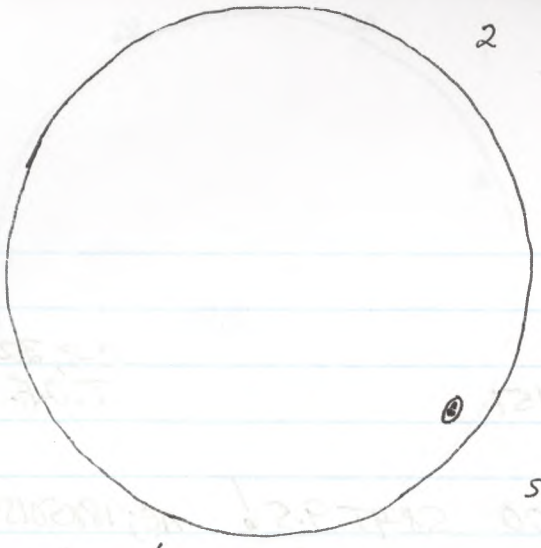
ne: On a remarkably transparent night, I observed the summer stars after what seemed like many nights with less than such clarity of skies and transparency. There were several meteors seen.

18x50156: Neptune and area in Capricornus; Uranus and area in Aquarius; M2; M15; Milland R Scuti; Kemble's Cascade; Kemble 2, the "Little Cassiopeia" asterism near χ and ϕ Draconis; M31; M32; M110; M33; Stock 2, "the Muscleman Cluster" in Cas.; the Double Cluster.

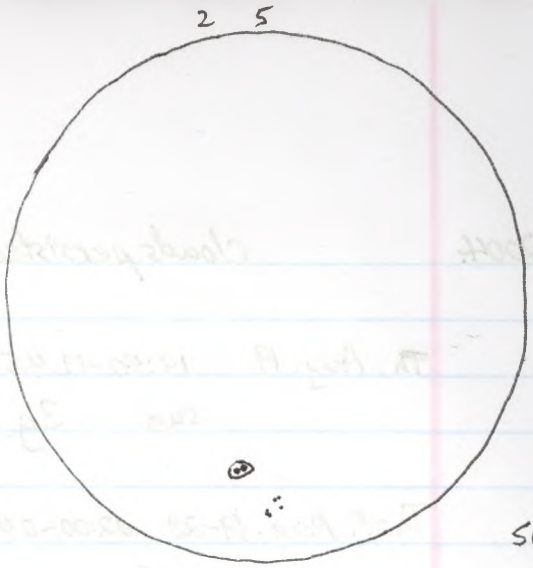
ph: photographed several areas along the Milky Way and several other areas of the sky.

Sa-Su. Aug. 21-22 03:35-03:55 UT nd S8(?)T 8.5-9 ne
- observed stars of summer, seeing M31 naked-eye and possibly a slight glow in the N. which may have been aurora!

[From Sun. Aug. 22 to Wed. Sept. 1, I was away in order to attend the wedding of Jason Bennett and Janice Enright in Moose Jaw, SK. During that time there was very little astronomical observing. I saw Venus and nearby Saturn at the time of going from Moose Jaw to Regina Airport to take Denise to catch her return flight at 6:00 a.m. Central Standard Time on Mon. Aug. 30. On the return bus ride, during the part of the trip between Thunder Bay, ON



19 Sept. 2.
25 17:25-17:30 UT
RSN12



29 Sept. 5.
75 14:15-14:20 UT
RSN27

2004 and Sault Ste. Marie, ON, I saw the scenery along the shore of Lake Superior under a bright Full Moon, the exact time of which had been at 2:22 UT on Mon. Aug. 30, and I was on that portion of the trip during the night of Tue.-Wed. Aug. 31-~~Sept.~~ 1.

~~W~~Th. Sept. 2. 17:25-17:30 UT t C-8, 32
Sun 1g 2s RSN 12 T.O.F.

F.-S. Sept. 3-4 01:35-02:30 UT y S7T7-8 (at 01:47 UT then moonrise some cloud; ^) ne; 18X50 15b
ne: stars of late summer
18X50 15b: M11 and RScuti, M16, M17, M18, M25, M22, M31, Double Cluster and Stock 2, Kemble's Cascade, Kemble 2, Uranus and area in Aquarius, area of Neptune in Capricornus.

Sa.-Su. Sept. 4-5 01:35-02:30 UT y S-8(?)T8·5 and about 7 (at about 02:11 UT after moonrise) ^ ne; 18X50 15b
ne: stars of late summer
18X50 15b: area of Uranus in Aquarius, area of Neptune in Capricornus, M11 and RScuti, M16, M17, M18, M8, M20, M21, M23, M24, M25, IC4665, Barnard's Star, M13, M92, M31, M33, Stock 2 and Double Cluster, M15, Kemble's Cascade, Kemble 2, Co1399, M27, ε Lyrae, M57 and area.

Su. Sept. 5 14:15-14:20 UT t C-8, 32
Sun 2g 7s RSN 27 T.O.F.

M.-T. Sept. 6-7 02:05-02:10 UT y S7-8T7-9 ne
-stars of late summer; Summer Triangle
03:25-03:30 UT nd S8(?)T8-9 ne
-stars of late summer; Summer Triangle.

Relative Sunspot Numbers

My Observation:

Date	
2004 Apr. 12	11
15	37
16	37
20	75
22	58
28	25
29	12
May 4	28
6	11
7	11
2240	
9	26
11	35
12	40
16	82
17	91
19	90
21	63
27	43
28	28
29	48
30	47
Jun. 2	20
4	14
5	12
7	18
10	11
11	25
12	29
14	49
15	56
2260	
16	75
20	67
23	60
June 24	52
30	18
July 2	12
3	16
6	0
7	0
8	16
9	27
10	39
11	34
17	115
18	99
19	134
20	155
23	102
24	119
29	31
2280	
Aug. 1	45
2	45
7	35
9	68
16	86
19	51
Sept. 2	12
5	27