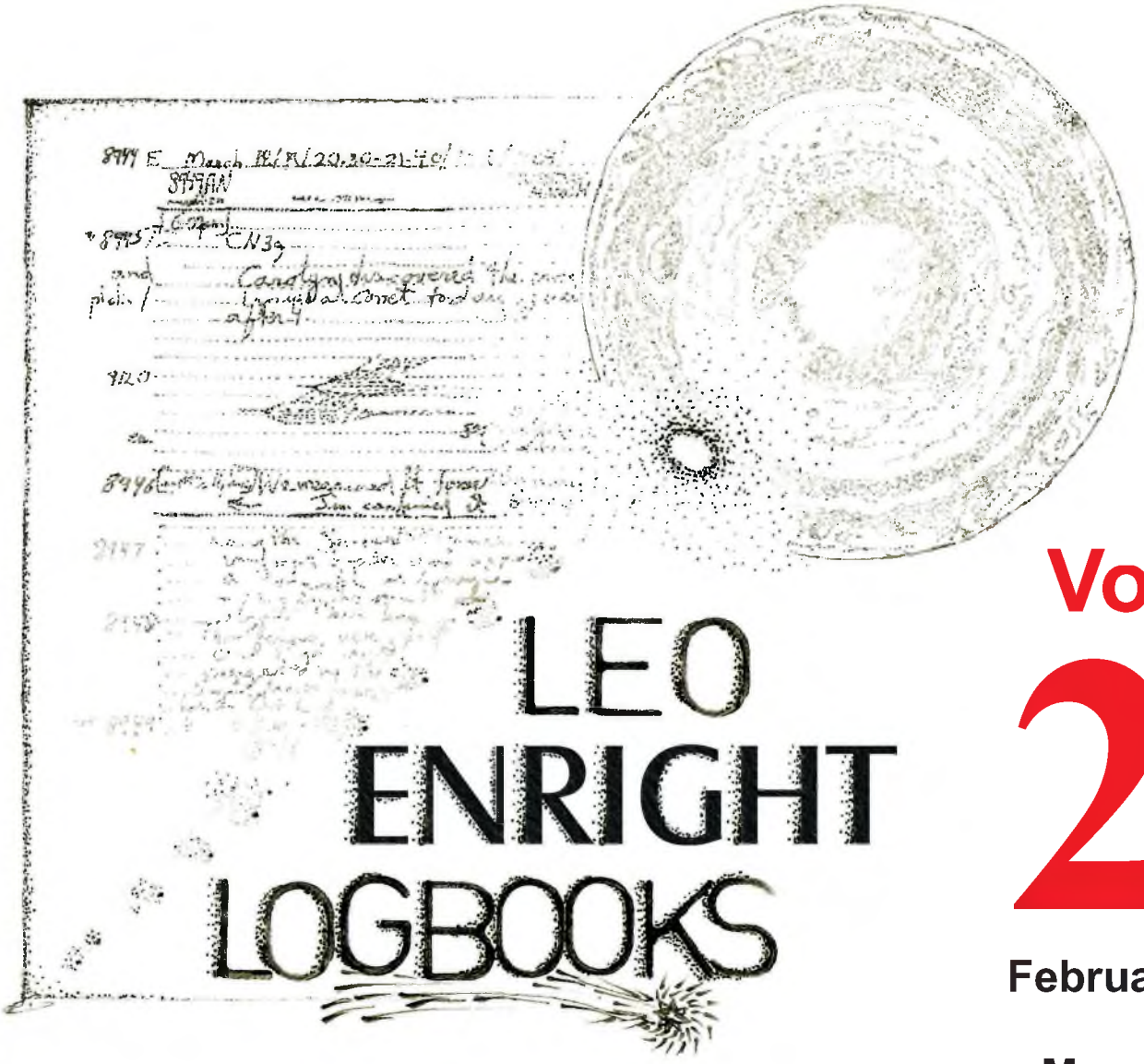

LEO ENRIGHT LOGBOOKS

Volume 21

February 6, 2003
to
March 18, 2004

21

TOP FLIGHT

HIGH TECH MICRO PERFORATION

Total Lunar Eclipse

2003, November 8-9.

Leo Enright
Observing Log Feb. 6, 2003 – Mar. 18, 2004

STANDARDS®

1 SUBJECT

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Calendar for 2003

JANUARY							FEBRUARY							MARCH							APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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2003 JULIAN DAY CALENDAR

2,450,000 plus the value given under each date

JANUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat
● 2	◐ 10	○ 18	1 2641	2 2642	3 2643	4 2644
5 2645	6 2646	7 2647	8 2648	9 2649	10 2650	11 2651
12 2652	13 2653	14 2654	15 2655	16 2656	17 2657	18 2658
19 2659	20 2660	21 2661	22 2662	23 2663	24 2664	25 2665
26 2666	27 2667	28 2668	29 2669	30 2670	31 2671	◑ 25

FEBRUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat
● 1	◐ 9	○ 16	◑ 23			1 2672
2 2673	3 2674	4 2675	5 2676	6 2677	7 2678	8 2679
9 2680	10 2681	11 2682	12 2683	13 2684	14 2685	15 2686
16 2687	17 2688	18 2689	19 2690	20 2691	21 2692	22 2693
23 2694	24 2695	25 2696	26 2697	27 2698	28 2699	

MARCH

Sun	Mon	Tue	Wed	Thu	Fri	Sat
● 3	◐ 11	○ 18	◑ 25			1 2700
2 2701	3 2702	4 2703	5 2704	6 2705	7 2706	8 2707
9 2708	10 2709	11 2710	12 2711	13 2712	14 2713	15 2714
16 2715	17 2716	18 2717	19 2718	20 2719	21 2720	22 2721
23 2722	24 2723	25 2724	26 2725	27 2726	28 2727	29 2728
30 2729	31 2730					

APRIL

Sun	Mon	Tue	Wed	Thu	Fri	Sat
● 1	◐ 9	1 2731	2 2732	3 2733	4 2734	5 2735
6 2736	7 2737	8 2738	9 2739	10 2740	11 2741	12 2742
13 2743	14 2744	15 2745	16 2746	17 2747	18 2748	19 2749
20 2750	21 2751	22 2752	23 2753	24 2754	25 2755	26 2756
27 2757	28 2758	29 2759	30 2760		○ 16	◑ 23

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
la = laneway
FL = Florida: by = backyard, at condo
pl = swimming pool

Sky Conditions:
S = Seeing
T = Transparency
0-10 scale: 0 = awful or extremely poor, 10 = absolutely superb
cml = crescent moonlight
gml = gibbous moonlight
fml = full moonlight
l/p = light pollution

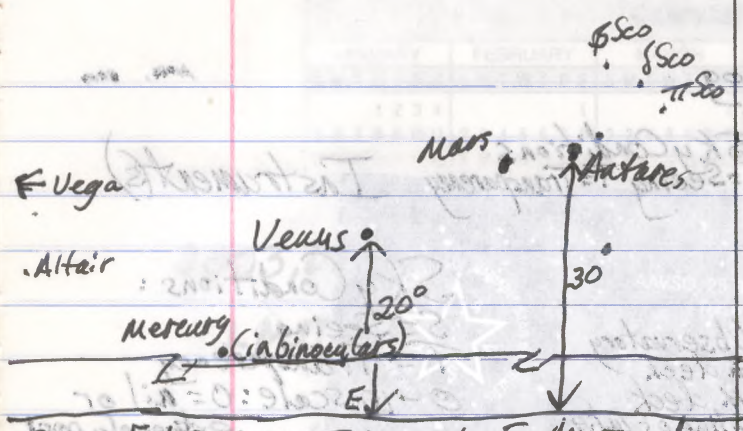
Instruments:
C-14 = Celestron 14 - 35.5cm SCT
C-8 = Celestron 8 - 20cm SCT
Ast = Astroscan 2001 - 10.5cm RFT
12½" = Denise's 32cm Meade Dobsonian
20x100b = 20x100 binoculars
11x80b = 11x80 binoculars
9x63b = 9x63 binoculars
7x35b = 7x35 binoculars
18x50ISb = 18x50 IMAGE STABILIZED binoculars

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

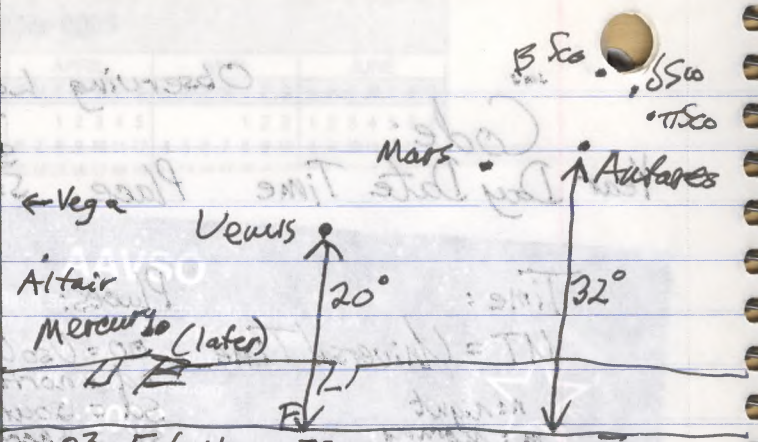
32 = 32mm ocular
32-2 = 32mm 2" ocular
K = Kellner
O = Orthoscopic
Ko = König
WA = Wide Angle
P = Plössl
ph = photography
p/p = piggy back
%la = off axis
Ba = Barlow
APF = Astro-Physics Solar Filter
T.O.F = Thousand Oaks Solar Filter

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



2003, Feb. 7, 11:00 UT View to E. Marsand Antares are about 6° apart.



2003, Feb. 11, 10:50 UT - View to E. Mercury was seen naked-eye and in binoculars at 11:20 UT

2003

Th-F. Feb. 6-7 5:35 – 6:05 a.m. EST
10:35 – 11:05 UT FL: by ; SBT 5-6 (1/p; some haze) ne; 18x50 lsb.

ne: Venus, Mars, some stars of Scorpius, Summer Triangle in the NE, Big Dipper, Jupiter in the W., Arcturus near the zenith, Alphecca.

18x50 lsb: Mars, Venus, stars of upper part of Scorpius, some stars of Corona Borealis, Hercules, Lyra, and Cygnus, Mercury seen just above the roof of a house across the pond.

Sa.-Su. Feb. 8-9 5:35 – 5:45 a.m. E.S.T.
10:35 – 10:45 UT FL: by SBT 4-5 (1/p; considerable cloud) 18x50sb ne;

ne: Venus in E. among the clouds, Arcturus near zenith, Vega in the NE.

18x50 lsb: Venus, Mars, Antares and other bright stars in upper part of Scorpius, bright stars of Lyra.

S.-M. Feb. 9-10 7:25 – 7:45 p.m. E.S.T.
00:25 – 00:45 UT FL: end of street SBT 7 (1/p; some cloud light) ne; 18x50 lsb

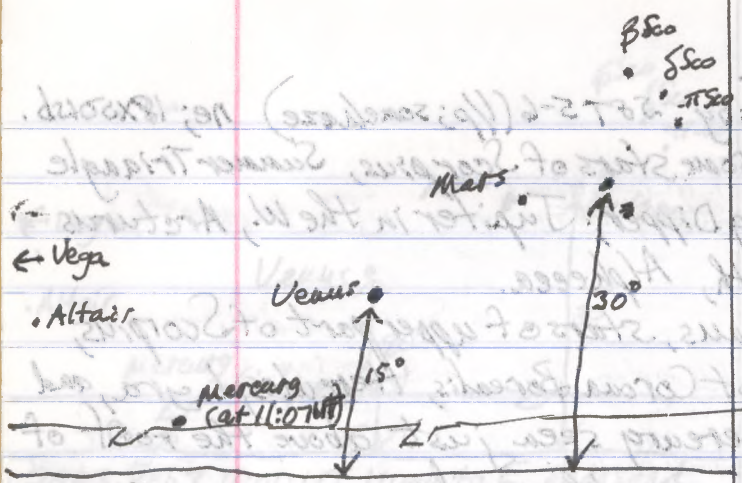
ne: stars of winter high in the S., Saturn, Jupiter.

18x50 lsb: looked for Comet NEAT (C/2002 V1) low in the W., but was not sure of seeing it; Pleiades near the zenith and near the first quarter moon, M31, M41, M42 and M43, craters on the first-quarter moon.

M.-T. Feb. 10-11 m. 5:50 – 6:00 a.m. E.S.T.
10:50 – 11:00 UT FL: by SBT 7 (just after e.a.t.; 1/p) ne; 18x50 lsb

ne: Venus, Mars, Summer Triangle well up in NE, Arcturus and Alphecca near the zenith, bright stars of Scorpius, Big Dipper, Polaris, Kochab, & UMi. (See diagram) Later at 11:20 UT Mercury was seen.

18x50 lsb: some stars of Scorpius, Venus, Mars, M4, M13, M92, M8 and area of M20 with M8 only about 5° from Venus, bright stars of Lyra. Later at 11:20 UT Mercury was also seen.



2003, Feb. 12, 10:35 UT - View to E.

Mercury was seen over a roof at 11:07UT

2003 7:10 - 8:00p.m. E.S.T.
T-W. Feb. 11-12 e. 00:10-01:00 UT FL: Bonita Beach S8-9(e)T6-7(gal) ne; 18x50b

ne: Hoping to see Comet NEAT (C/2002 V1) which was predicted to be at mag. 1.8, ~~we~~ Denise and I drove to Bonita Beach on the Gulf of Mexico. We saw the stars of winter high in the SE, Jupiter, Saturn, a bright meteor in the west - mag. -4, and I also saw a fainter one in Orion.

18x50b: I repeatedly scanned the area of the W. sky below the star α Pegasi which was about 15° above the W. horizon, hoping to see Comet NEAT (C/2002 V1), but was not sure of seeing it. I expected to see it down and to the right from the 'trapezium' formed by the 4 stars 55, 57, 58, and 59 Pegasi. I also observed M41, M42, M43, and M31. I was disappointed at not seeing the comet which had been predicted to be at mag. 1.8. There seemed to be some haze low over the Gulf of Mexico. If the comet were too low, the haze may have prevented seeing it. This may have been the reason it was not seen with certainty.

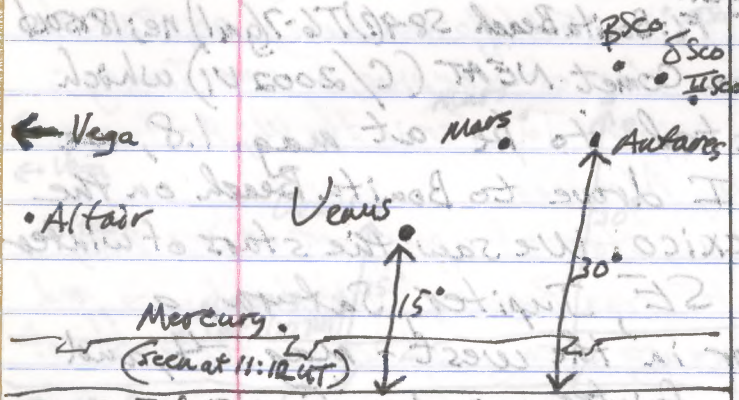
looked for Comet NEAT (C/2002 V1)

ph: I took several photographs over the Gulf, thinking I might be able to photograph the comet.

5:35-6:10 a.m. E.S.T.
m. 10:35-11:10 UT FL: by S8 T6-7 ne; 18x50b

ne: Venus, Mars, and then Mercury which appeared above a roof at 11:07 UT, the Summer Triangle well up in the NE, Arcturus and Alpheeca near the zenith, the bright stars of Scorpius, Big Dipper and 3 stars of the Little Dipper. (See diagram.)

18x50b: bright stars of Scorpius, of Lyra and some of the stars of Cygnus, Venus, Mars, Mercury, M4,



2003, Feb. 13, 10:35 UT – View to E.

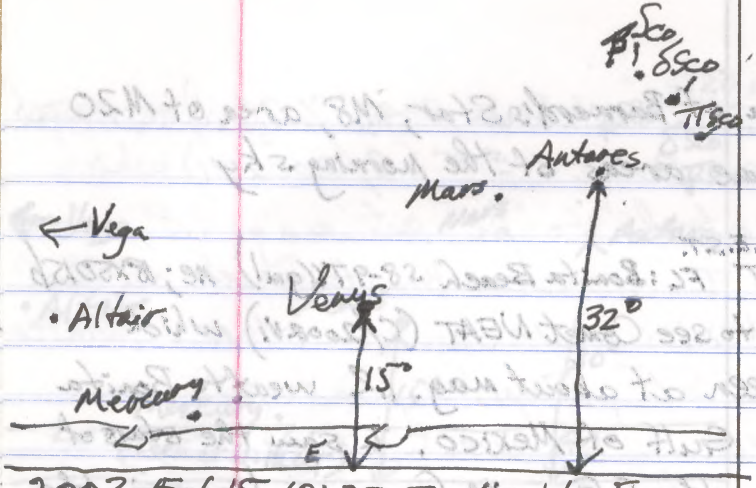
Mercury was seen at 11:12 UT

2003, M13, M92, area of Barnard's Star, M8, area of M20
ph: photographed some areas of the morning sky

7:00 - 7:45 p.m. E.S.T.
W.-Th. Feb. 12-13 e 00:00 - 00:45 UT FL: Bonita Beach SB-9T6(gml) ne; 18X50sb
ne: Hoping again to see Comet NEAT (C/2002 V1) which should have been at about mag. 1.2 went to Bonita Beach on the Gulf of Mexico. I saw the stars of winter high in the SE with Canopus lower in the SE. The waxing gibbous moon was now about 12° from Saturn which was near the zenith. There was some cloud low in the W about 10° to 15° from the horizon.
18x50 sb: We scanned the sky below the "trapezium" of stars, 55, 57, 58 and 59 Pegasi which were about 20° above the W. horizon, but did not see Comet NEAT (C/2002 V1). I observed some lunar craters, the Pleiades, M42 and M43, and the Pleiades
looked for Comet NEAT (C/2002V1)
ph: photographed the shoreline to the south along the Gulf of Mexico and the skyline showing the star Canopus.

5:35 - 5:50 a.m. E.S.T.
M. 10:35 - 10:50 UT FL: by SBT6-7(l/p) ne; 18x50sb
ne: Venus, Mars, the Summer Triangle in the NE, Arcturus and Alphecca near the zenith, Jupiter in the W., bright stars of Scorpius, Big Dipper, 3 stars of the Little Dipper. Mercury was seen later, at 11:12 UT. (See diagram.)
18x50sb: bright stars of Scorpius, of Lyra and some of the stars of Cygnus, M4, M13, M92, some stars of Corona Borealis. Mercury was seen at 11:12 UT, as Mars and Venus had been seen earlier.

10:00 - 10:10 p.m. E.S.T.
Th.-F. Feb. 13-14 e. 03:00 - 03:10 UT FL: la SBT5-6(l/p; gml) ne
- Very bright, "almost full" gibbous moon almost exactly in the zenith with brilliant Jupiter about 15° to the E.



2003, Feb. 15, 10:35 UT: View to E.

Mercury - seen in binoculars at 11:15 UT

2003

and Saturn about 20° to the W., the bright stars of Orion and other winter constellations high in the S.E., and the star Canopus about 10° above the SE horizon.

5:30-5:45 a.m. E.S.T.
-m. 10:30-10:45 UT FL: by S8T3-4 (scattered cloud; l/p) ne; 18X50 SB

ne: Venus, Summer Triangle in NE, Big Dipper high in N, Arcturus near the zenith.

18X50 SB: Venus, stars of Lyra.

- later, about 11:15 UT, observed Mercury in the binoculars, about a degree or so above the roof of a house across the pond.

9:40-9:45 p.m. E.S.T.
F.-S. Feb. 14-15 02:40-02:45 UT FL: la S-8T4-5 (l/p; gnl.) ne

- bright stars of winter high in the S.E. with Castor and Pollux near the zenith and the very bright gibbous moon about 8° E. of Pollux and Jupiter about 8° E. of the moon. Canopus was about 10° above the S.E. horizon.

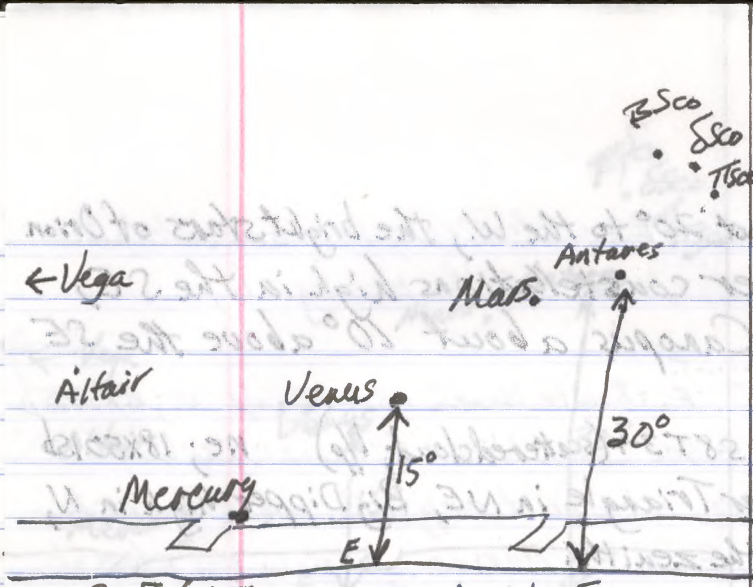
5:35-5:50 a.m. E.S.T.
M. 10:35-10:50 UT FL: by S8T5 (gnl. l/p) ne; 18X50 SB

ne: Venus, Mars, bright stars of Scorpius, Summer Triangle in NE, Big Dipper, Arcturus and Alphecca near the zenith, "almost-Full" gibbous moon 10° above the W. horizon (See diagram.)

18X50 SB: Venus, Mars, bright stars of Scorpius, M4, M13, M92; Also Mercury was seen in the binoculars in twilight at 11:15 UT.

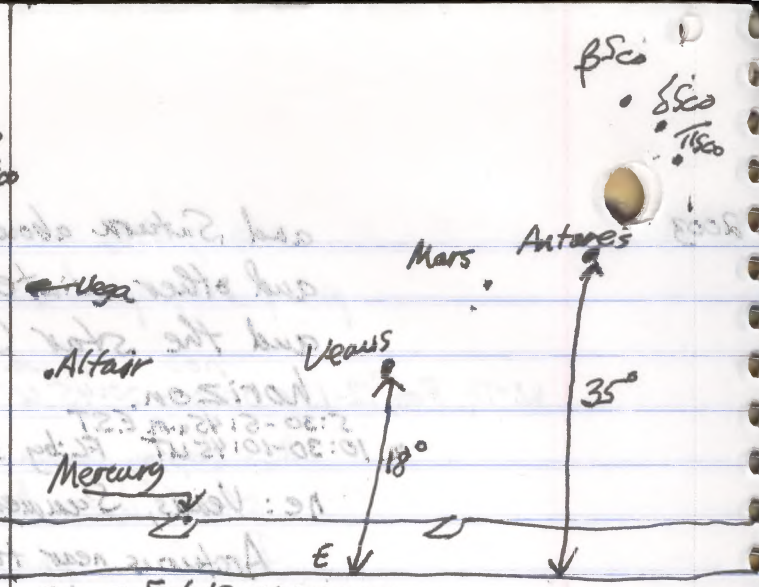
10:00-10:10 p.m. E.S.T.
S.-S. Feb. 15-16 03:00-03:10 UT FL: la S8T6 (fnl. l/p) ne

- Orion and the Great Winter Hexagon of stars high in the SSE, Canopus about 10° above the SE horizon, and Gemini in the zenith with Jupiter about 20° E of the zenith and Saturn about 20° W. of the zenith with the near Full Moon about 5° ENE of Jupiter.



2003, Feb. 18, 10:45 UT - view to E

Mercury was seen at 11:10 UT ne. and in binoculars.



2003, Feb. 19, 10:45 UT view to E.

Mercury was seen with binoculars at 11:15 UT

2003

5:55 - 6:00 a.m. E.S.T.
M. 10:55 - 11:00 UT FL: by S?T-1 (95% cloudy) ne; 18x50 lsb

ne: Venus about 20° above E. horizon; Full Moon about 20° above W. horizon

18x50 lsb: Venus, the Full Moon in the W. sky.

5:55 - 6:00 a.m. E.S.T.
S-M. Feb. 16-17 m 10:55 - 11:00 UT FL: by S?TO ne

- very cloudy situation - overcast - hoped to see planets

m. 5:45 - 5:55 a.m. E.S.T.
M.-T. Feb. 17-18 10:45 - 10:55 UT FL: by S-8T5-6 (1/p; bright gml) ne; 18x50 lsb

ne: Big Dipper in N., Summer Triangle in NE, Venus, Mars, Antares and some bright stars of Scorpius, very bright gibbous moon in W., Arcturus and Alphecca near the zenith. Mercury was seen coming above a roof at about 11:10 UT (See diagram.)

18x50 lsb: Venus, Mars, bright stars of Scorpius and of Lyra, some stars of Hercules, M4 seen faintly, M13, some stars in the area of Venus. Mercury was seen after it appeared at about 11:10 UT.

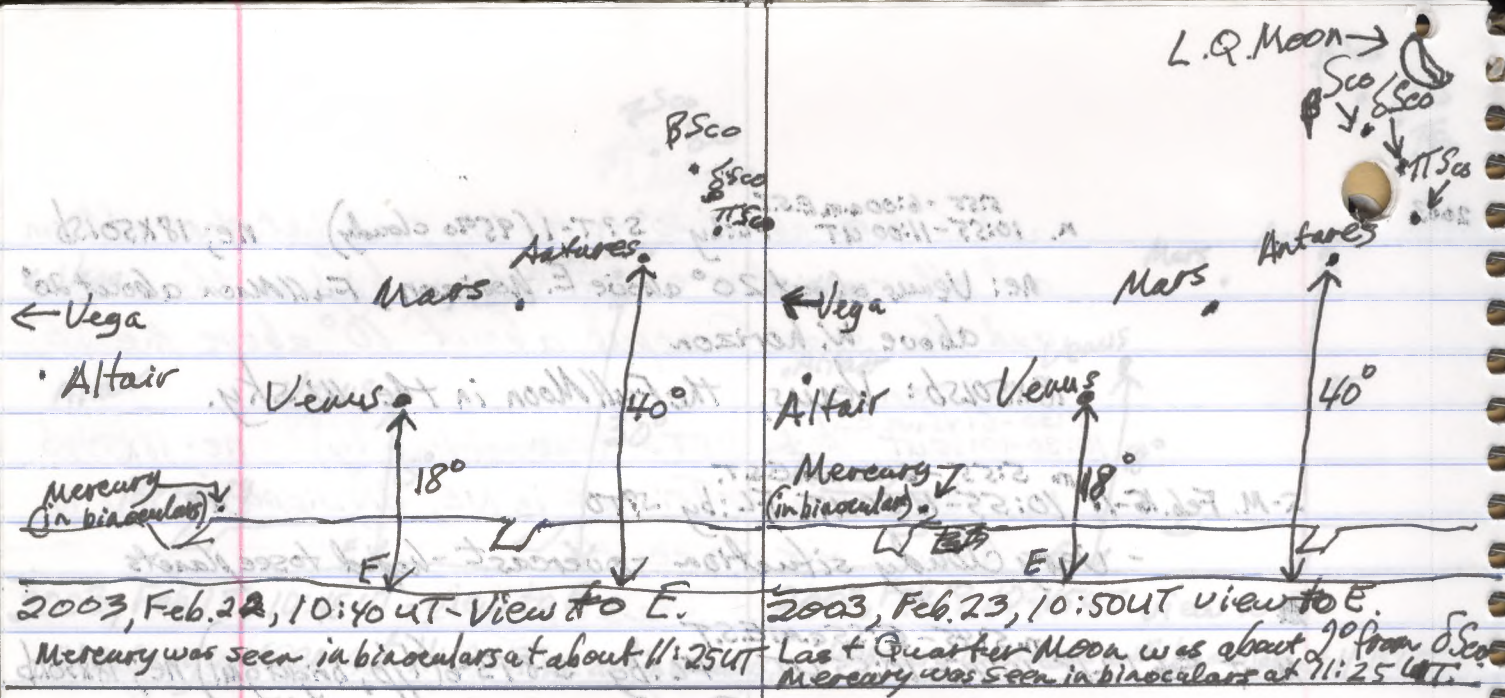
5:45 - 5:55 a.m. E.S.T.
T.-W. Feb. 18-19 m 10:45 - 10:55 UT FL: by S8(?)T4-5 (1/p; scattered cloud; bright gibbous moon) ne; 18x50 lsb

ne: Venus; Mars; bright stars of Scorpius; Summer Triangle; bright gibbous moon about 30° W. of the zenith; Arcturus near the zenith; most, or some, of the stars of the Big Dipper. (See diagram.)

18x50 lsb: Mars, Venus, bright stars of Scorpius and of Lyra. Mercury was seen at 11:15 UT

6:25 - 6:35 a.m. E.S.T.
W.-Th. Feb. 19-20 m 11:25 - 11:35 UT FL: by S(?)T1 (some cloud; well into twilight) ne; 18x50 lsb

ne: Because the alarm was not set and I was late waking up, I did not see very much in the sky which was quite bright with morning twilight. Venus was very bright in the E., about 30° above the horizon. There was evidence



2003, Feb. 22, 10:40 UT - View to E.
Mercury was seen in binoculars at about 11:25 UT

2003, Feb. 23, 10:50 UT view to E.
Last Quarter Moon was about 2° from δSco.
Mercury was seen in binoculars at 11:25 UT.

2003

of a bright moon behind some clouds W. of the zenith.

18X50ISb: Venus was seen in the binoculars, but it seemed to be too bright to see other objects, except the moon which was behind some cloud.

8:35-8:40 p.m. E.S.T.
Th.-F. Feb. 20-21e 01:35-01:40 UT FL: la S-8T6 (1/p) ne.

- Orion and the stars of winter high in the SSE; Canopus about 12° above the SE horizon, Jupiter very bright and high in the E and Saturn in Taurus W of the zenith.

5:40-5:50 a.m. E.S.T.
F.-S. Feb. 21-22m 10:40-10:50 UT FL: by S8T6 (1/p; lqml) ne; 18X50ISb ne: Venus, Mars, Summer Triangle in NE, bright stars of Scorpius, Big Dipper, Last Quarter Moon high in SE, Arcturus near the zenith. (See diagram.)

18X50ISb: Venus, Mars, bright stars of Scorpius and of Lyra, craters on the Last Quarter Moon.

Mercury Mercury was seen in the binoculars at about 11:25 UT during twilight.

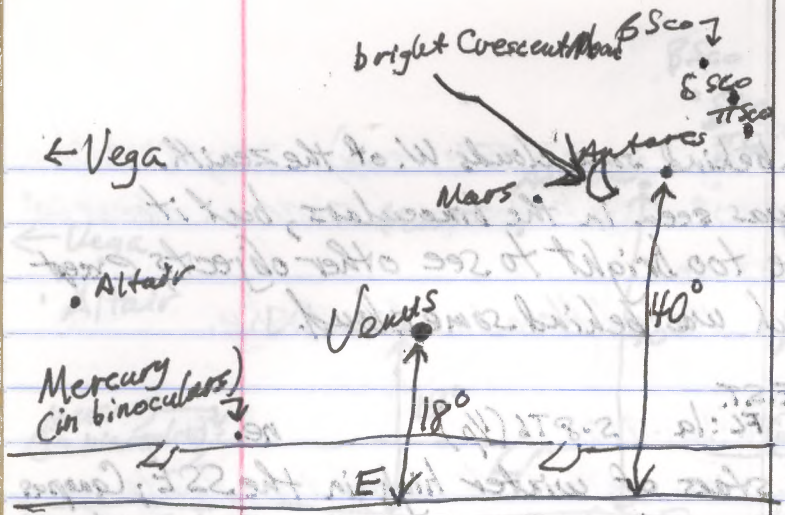
5:50-6:00 a.m. E.S.T.
Sa.-Su. Feb. 22-23m 10:50-11:00 UT FL: by S8T5-6 (1/p; lqml (beginning twil)) ne; 18X50ISb ne: Venus, Mars, Summer Triangle in NE, Big Dipper, bright stars of Scorpius except the "claw stars which were difficult or impossible to see because the Last Quarter Moon was nearby, Arcturus near the zenith. (See diagram.)

18X50ISb: Venus, Mars, bright stars of Scorpius near the moon, bright stars of Lyra and some of the bright stars of Cygnus. Mercury was seen in the binoculars at 11:25 UT.

Mercury

9:40-9:45 p.m. E.S.T.
Su.-M. Feb. 23-24 02:~~40~~-02:45 UT FL: la S-8T7 (1/p) ne

- bright stars of winter high in S.; Canopus 10° above SE horizon Jupiter very bright about mid-way between Pollux and Regulus,



2003, Feb. 24, 10:45 UT - view to E.
Mercury was seen in binoculars at 11:30 UT

2003

and about 20° E. of the zenith; Saturn in Taurus about 25° W. of the zenith.

5:45-5:50a.m. E.S.T.
M. 10:45-10:50 UT FL: by S8T6-7 (1/p; crml.) ne; 18x50 lsb

ne: Venus, Mars, bright Crescent Moon, Big Dipper in N., Summer Triangle in NE, bright stars of Scorpius, Arcturus and Alphecca near zenith. (See diagram.)

18x50 lsb: Venus, Mars, lunar craters on the bright Crescent Moon, bright stars of Scorpius, Lyra, and Cygnus, M4 (quite faint), M13, M92. Mercury was seen in binoculars at 11:30 UT.

Mercury

9:05-9:10p.m. E.S.T.
M.-T. Feb. 24-25 02:05-02:10 UT FL: 1a S8T6 (1/p) ne

- Bright stars of winter high in the S., with Canopus about 12° above the SE horizon and Jupiter about 25° E. of the zenith and Saturn about 15° W. of the zenith

5:35-5:40a.m. E.S.T.
M. 10:35-10:40 UT FL: by S8T3-4 (some cloud; 1/p) ne; 18x50 lsb

ne: Amid the clouds I saw the Crescent Moon about 5° below Mars, Venus, & the Summer Triangle in the NE.

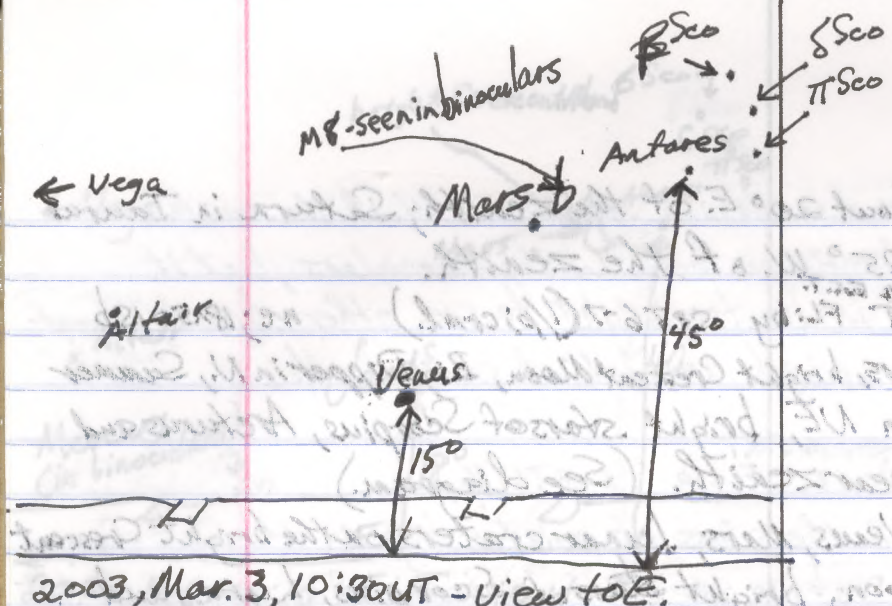
18x50 lsb: Venus, Mars, craters on the Crescent Moon, & the bright stars of Lyra.

9:15-9:25p.m. E.S.T.
T.-W. Feb. 25-26 02:15-02:25 UT FL: 1a S8T6 (1/p) ne

- Bright stars of winter high in the S., with Canopus about 12° above the SE horizon, and Jupiter about mid-way between Pollux and Regulus, and about 25° E. of the zenith, very bright and dominating that part of the sky, and Saturn in Taurus, about 15° W. of the zenith

5:50-6:00a.m. E.S.T.
M. 10:50-11:00 UT FL: by S8T2 (1/p; fog) ne; 18x50 lsb

In spite of fairly heavy fog, I observed several objects: the crescent moon up about 25° in the ESE,


βSco
δSco
πSco
MB-seen in binoculars
Antares
Vega
Mars
Altair
45°
Venus
15°
2003, Mar. 3, 10:30UT - view toE.

2003

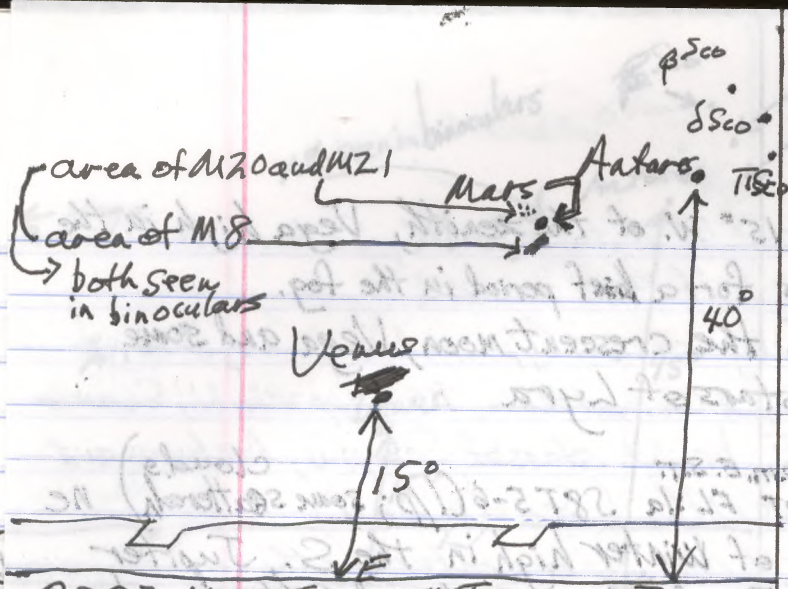
Arcturus about 15° W. of the zenith, Vega high in the NE, and Venus for a brief period in the fog.
18X50 15b: Venus, the crescent moon, Vega and some bright stars of Lyra

c. 9:20 - 9:30 p.m. E.S.T.
W.-Th. Feb. 26-27 02:20-02:30 UT FL: 1a S8T 5-6 (1/p; some scattered clouds) ne
- bright stars of Winter high in the S., Jupiter about 25° E. of the zenith and Saturn about 15° W. of the zenith, Canopus about 10° above the S.E. horizon.

5:50 - 6:00 a.m. E.S.T.
Th.-F. Feb. 27-28 m. 10:50 - 11:00 UT FL: by S8T 1 (quite cloudy) ne; 18X50 15b
ne:- At first it was overcast, but later there were openings in the clouds and I was able to see Venus and a very few other stars.
18X50 15b: Venus and one or two other stars.

9:35 - 9:45 p.m. E.S.T.
F.-S. Feb. 28-Mar. 1 02:35 - 02:45 UT FL: 1a S8T 6 (1/p; light scattered clouds) ne
- Orion and bright stars of Winter high in the S., with Jupiter about mid-way between Pollux and Regulus and about 15° E. of the zenith and Saturn in Taurus and about 25° W. of the zenith, and Canopus about 12° above the SE horizon.
5:40 - 5:50 a.m. E.S.T.
M. 10:40 - 10:50 UT FL: by S8(?)T 1 (very cloudy) ne; 18X50 15b
ne: With very cloudy conditions, I saw Arcturus about 10° W. of the zenith and Vega high in the NE.
18X50 15b: Arcturus and a couple of nearby stars and Vega and some of the bright stars in Lyra.

5:30 - 5:35 a.m. E.S.T.
S.-M. Mar. 2-3 m 10:30 - 10:35 UT FL: by S8T 6 (1/p; some scattered cloud) ne; 18X50 15b
ne: Venus, Mars, bright stars of Scorpius in E., Summer Triangle in the NE, Big Dipper very high in the NNW, Arcturus about 15° W. of the zenith. (See diagram.)



2003, Mar. 5 10:55 UT view to E.
Mars was almost between M8 and M20 as seen in binoculars.

2003

18X50ISb: Mars, Venus, bright stars of the upper part of Scorpius, M4 seen faintly, bright stars of Cygnus and of Lyra.

9:10-9:15p.m. E.S.T.
M.-T. Mar. 3-4 e. 02:10-02:15 UT FL: la S8T6(1/p; some scattered cloud) ne

ne: bright stars of winter high in the S., with Jupiter about 20° E. of the zenith and with Saturn about 15° W. of the zenith.

5:40-5:45a.m. E.S.T.
m. 10:40-10:45 UT FL: by S8T4(1/p; scattered cloud) ne; 18X50SSb

ne: Among the scattered clouds, I saw Venus about 12° above the E. horizon, and also Mars, and well up in NE the Summer Triangle.

18X50ISb: Venus; Mars which was seen close to M8, the Lagoon Nebula; the bright stars of Lyra.

10:00-10:10p.m. E.S.T.
T-W. Mar. 4-5 e. 03:00-03:10 UT FL: la S8-9T6-7(1/p) ne

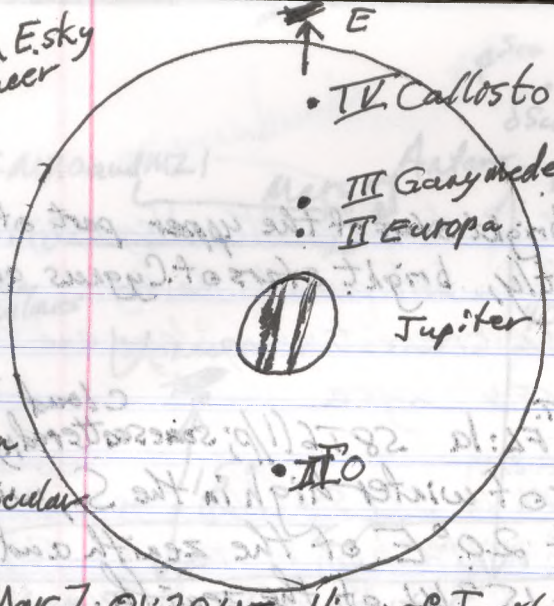
- bright stars of winter high in the S.; Jupiter about 10° E. of Pollux which appeared to be in, or very close to, the zenith; Saturn which was about 30° W. of the zenith; the Pleiades in the W. sky.

5:55-6:00a.m. E.S.T.
M. 10:55-11:00 UT FL: by S8T5(1/p; twl beginning) ne; 18X50SSb

ne: Venus, Mars, bright stars of "the claws of Scorpius" area, the Summer Triangle well up in the NE.; some stars of the Big Dipper in the NNW, Arcturus about 20° W. of the zenith. (See diagram.)

18X50ISb: Venus, Mars almost midway between M8, the Lagoon Nebula and the stars that mark the area of M20 and M21, stars of the upper part of Scorpius, of Lyra, and of Cygnus.

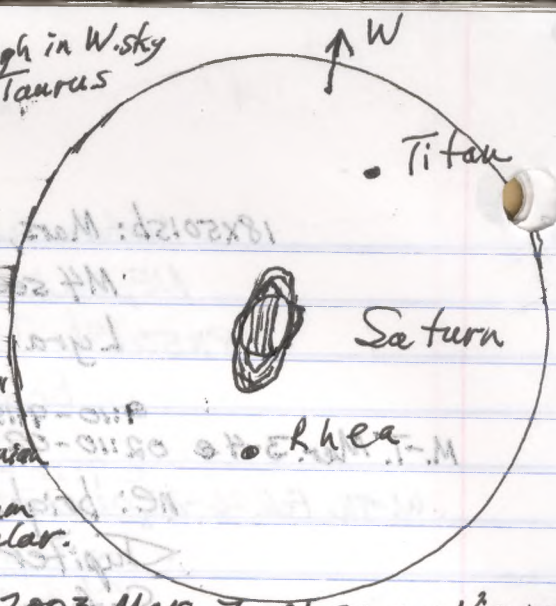
- High in E. sky in Career



12½" Dobsonian 25mm ocular

2003, Mar. 7, 01:20 UT View of Jupiter and 4 Galilean moons just after Ec R. of III Ganymede

High in W. sky in Taurus



12½" Dobsonian 25mm ocular.

2003, Mar. 7, 01:30 UT View of Saturn and two moons. Excellent periodic seeing.

2003

W.-Th. Mar. 5-6 e. 10:00-10:10 p.m. E.S.T. 03:00-03:10 UT FL: la S8T6 (1/p ne

- the bright stars of winter high in the SSW, Jupiter about 10° E. of Pollux which was at or very near the zenith; Saturn about 30° W. of the zenith; some of the stars of the Big Dipper in the NNE.

m. 6:16-6:21 a.m. E.S.T. 11:16-11:21 UT FL: by twl ne; 18X50X5b

ne: After rising a little later than usual, I observed the E. sky during twilight and saw Venus up about 20° Other objects were not readily visible in the morning twilight which was fairly bright.

18X50156: Venus, Mars, Vega.

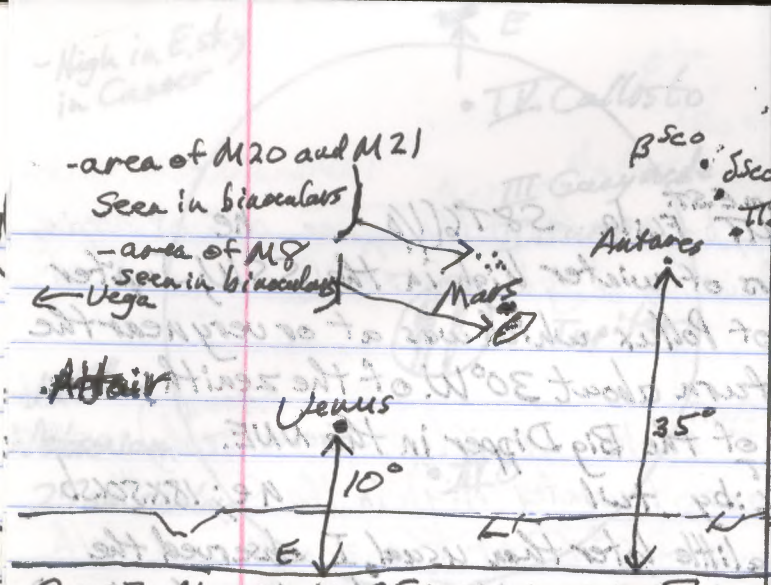
Th.-F. Mar. 6-7 e. 8:10-9:00 p.m. E.S.T. 01:10-02:00 UT FL: la S8T6-7 (1/p; some cloud scattered) ne; 12½"

ne: bright stars of winter high in the SSW with Jupiter in Cancer about 10° E of Pollux which was at or near the zenith and Saturn about 30° W. of the zenith; Canopus about 12° above the SE horizon, the 4-day-old crescent moon about 20° above the W. horizon

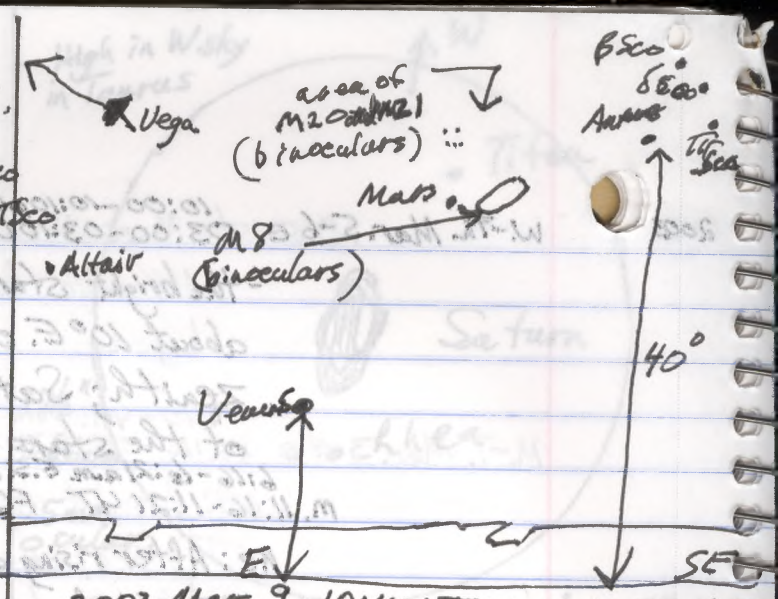
12½": Using the 32mm Plossl, the MA 25mm, the 12mm Radian, and the MA 9mm oculars I observed Jupiter and 4 Galilean moons (after the E.C.R. of II Europa at 01:17 UT), and Saturn and the moons Titan and Rhea I also observed lunar craters with one of the oculars and the open cluster M41 in Canis Major with one of the oculars (the MA 25mm ocular). Many of the views were excellent, especially with the 32mm and the 25 mm oculars. (See diagram)

M. 5:25-5:40 a.m. E.S.T. 10:25-10:40 UT FL: by S8T6 (1/p) ne; 18X50156

ne: Venus, Mars, bright stars of Scorpius, Summer Triangle well up in the NE, Arcturus about 20°



2003, Mar. 7, 10:25 UT View to E.
Areas of M8, M20, M21 near Mars seen in binoculars.



2003, Mar. 9, 10:40 UT View to E and SE. M8 and area of M20 and M21 seen in binoculars

2003

W. of the zenith. (See diagram.)

18X50 LSb: Venus, Mars, M8 and area of M20 and M21 near Mars, bright stars in upper part of Scorpius, bright stars in Lyra and in Cygnus, M13, M92.

10:00-10:10 p.m. E.S.T.
F-S. Mar. 7-8 e. 03:00-03:10 UT FL: la 58 T6 (1/p; few scattered clouds) ne

- Orion and the bright stars of winter high in the SSW, Jupiter about 10° E. of Pollux which was near the zenith, Saturn about 25° W. of the zenith.

5:30-5:35 a.m. E.S.T.
m. 10:30-10:35 UT FL: by 58 T2 (1/p: very foggy) ne; 18X50 LSb

ne: Vega high in NE; Arcturus about 20° W. of the zenith

18X50 LSb: bright stars of Lyra high in NE; Mars up about 40° in the E.

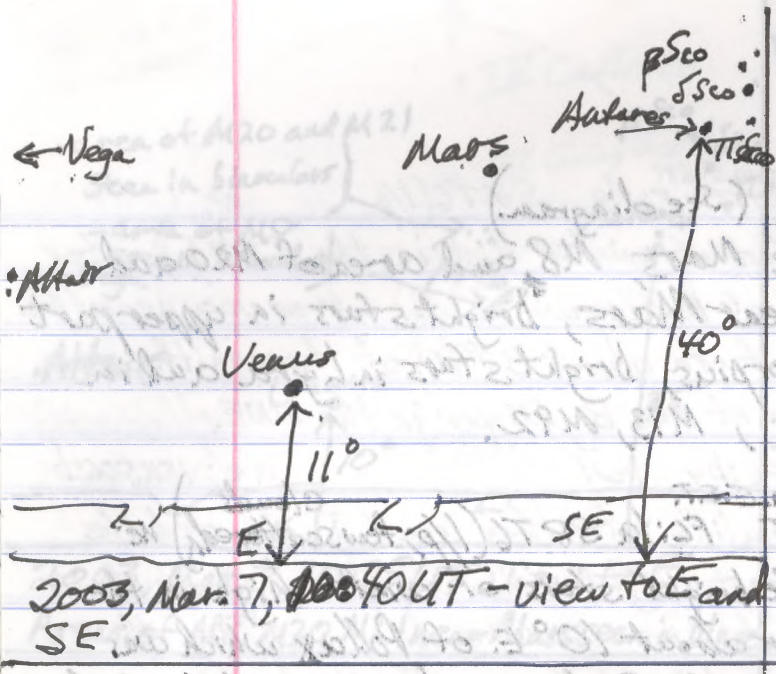
11:00-11:05 p.m. E.S.T.
Sa-Su. Mar. 8-9 e. 04:00-04:05 UT FL: la 58 T6 (1/p) ne

- Orion and the bright stars of winter descending into the SW sky, with Jupiter in, or very close to, the zenith with Pollux about 12° to the west of Jupiter and Saturn about 30° W. of Pollux, the Big Dipper very high in the NNE and Arcturus well up in the NE and Spica about 25° from the E. horizon. Sirius was about 30° above the S. horizon.

5:35-5:45 a.m. E.S.T.
m. 10:35-10:45 UT FL: by 58 T6 (1/p; slight cirrus cloud) ne; 18X50 LSb

ne: Venus, Mars, bright stars of Scorpius in SE, Summer Triangle high in the NE, Arcturus about 20° W. of the zenith. (See diagram.)

18X50 LSb: Venus, Mars, bright stars of upper part of Scorpius, M8 and area of M20 and M21 near Mars, bright stars of Lyra.



2003, Mar. 7, ~~2000~~ 10:40 UT - view to E and SE.

2003 10:00 - 10:10 p.m. E.S.T.
M.-T. Mar. 10-11e 03:00 - 03:10 UT FL: 1a S8T 3-4 (1/p; cirrus; some haze; equal ^) ne

- Jupiter about 12° E. of Pollux which was about 5° W. of the zenith, with Saturn about 40° W of Pollux. Because of the moonlight and cirrus clouds and some haze, many of the stars of Orion could not be seen. Sirius, Procyon, Regulus, Castor and Pollux, were easily seen, but Betelgeuse and Rigel were seen faintly and temporarily. Capella was also easily seen. The First Quarter Moon was up in the W. about 40° above the horizon and about 5° below Saturn. (The moon was to be in conjunction with Saturn 9 hours later, at 12 h UT on March 11.) (The moment given for First Quarter was about 4 hours later, at 7h 15m UT on March 11.

5:35 - 5:40 a.m. E.S.T.
M. 10:35 - 10:40 UT FL: by S8T 1 (1/p; mainly cloudy) ne; 18X50 SD

ne: - very cloudy, but I was able to see Vega and Altair in the NE.

18X50 SD: some of the bright stars of Lyra.

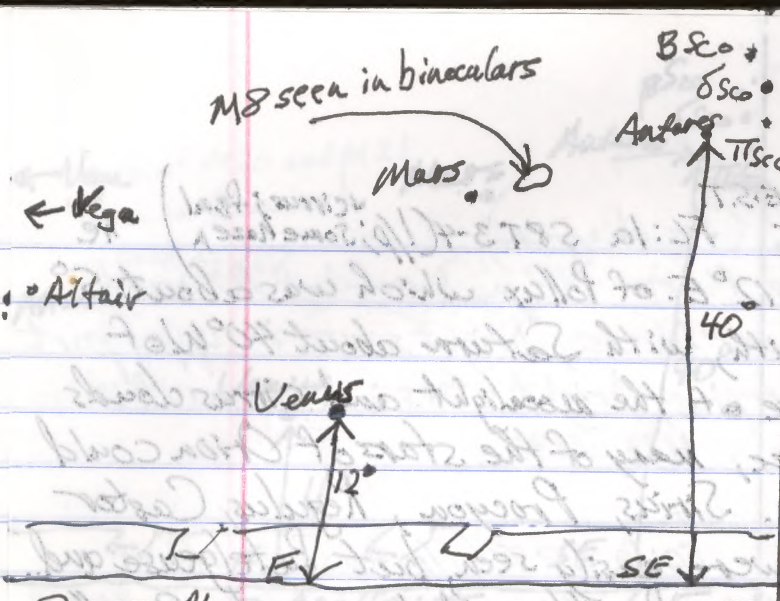
10:20 - 10:25 p.m. E.S.T.
W.-Th. Mar. 12-13e. 03:20 - 03:25 UT FL: 1a S8T 2-3 (1/p; some cloud; gml; ^) ne

- Amid many clouds I saw Jupiter very bright and at, or very near, the zenith, the bright gibbous moon about 20° W. of the zenith and Saturn about 20° W. of the Moon. Other stars that were seen were Capella and Aldebaran in the W., and Sirius in the S and Rigel in the SW.

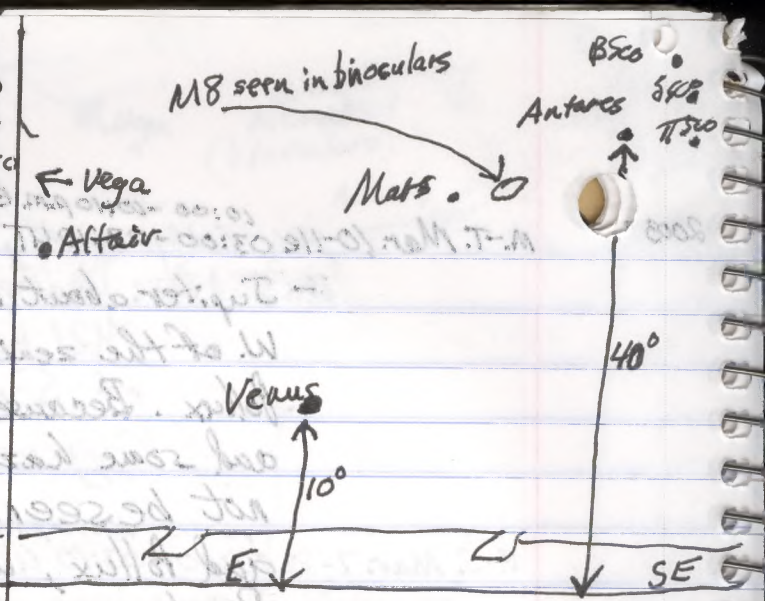
5:40 - 5:45 a.m. E.S.T.
M. 10:40 - 10:45 UT FL: by S8T 6-7 (1/p; some twl) ne; 18X50 SD

ne: Venus, Mars, bright stars of upper part of Scorpius, Arcturus about 30° W. of the zenith, the Summer Triangle high in the NE. (See diagram)

18X50 SD: Venus, Mars and M8 near Mars and the



2003, Mar. 14, 10:35 UT - view to E. and SE.



2003, Mar. 15, 10:35 UT - view to E and SE

2003

stars near M20 and M21, the brighter stars in the upper part of Scorpius and in Lyra.

Th.-F. Mar. 13-14 e. 9:00-9:05 p.m. E.S.T. 02:00-02:05 UT FL: la S8T6 (1/p; gml; some clouds) ne

- bright gibbous moon very near the zenith and about 2° from Pollux and approximately in a from Castor to Pollux and extended on to the moon; Jupiter very bright and about 10° E. of the moon; Saturn about 30° W. of the moon; the bright stars of Orion high in the SSW; Sirius in the S. and Procyon also; Capella in the W.

M. 10:35-10:45 UT 5:35-5:45 a.m. E.S.T. FL: by S8T5-6 (1/p; some cloud) ne; 18X50 ISD

ne: Venus, Mars, Antares and bright stars of upper part of Scorpius, Summer Triangle in the NE, Arcturus about 25° W. of the zenith. (See diagram)

18X50 ISD: Venus, Mars and in the area just to the right of Mars - M8 and the stars of the area of M20 and M21, bright stars of the upper part of Scorpius, and of Lyra, M4 near Antares.

F.-S. Mar. 14-15 e. 02:00-02:05 UT 9:00-9:10 p.m. E.S.T. FL: la S(?)T1 (1/p; very cloudy) ne

- In spite of the fact that the sky was very cloudy and almost totally overcast, I saw the gibbous moon about 5° E. of the zenith. Jupiter was about 4° S. of the moon. The time given for the conjunction was 0h UT, two hours prior to the time of my observation.

M. 10:35-10:40 UT 5:35-5:40 a.m. E.S.T. FL: by S8T6-7 (1/p) ne; 18X50 ISD

ne: Venus, Mars, bright stars of Scorpius in SE, Summer Triangle well up in the NE, Arcturus 20° or more W. of the zenith. (See diagram.)

18X50 ISD: Venus, Mars and to its right M8 and the

2003

stars of the area of M20 and M21, bright stars of the upper part of Scorpius, and of Lyra.

S.-S. Mar. 15-16 e. 03:00-03:05 UT FL: la S8T6(l/p; gul; slight cloud) ne

- Jupiter very bright and very near the zenith, very bright gibbous moon about 3 days and 7½ hours from Full Moon located about 12° E. of Jupiter with Regulus about 12° further E. of the moon; Saturn about 40° W. of Jupiter; Pollux about 12° W. of Jupiter; the bright stars of Orion "going downward" in the SW sky with Sirius and Procyon high in the S.; Aldebaran in the W and Capella in the WNW.

M. 11:00-11:05 UT FL: by twl ne; 18X50 SB

ne: Well into twilight I observed the brightening E. sky and saw Venus very clearly.

18X50 SB: Venus, Mars, Antares in the SE, Vega well up in the NE.

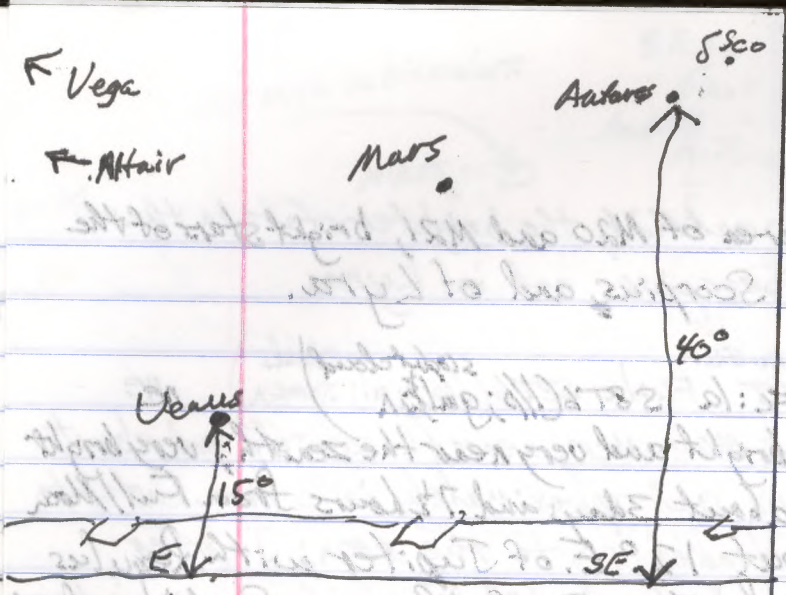
S.-M. Mar. 16-17 m. 10:45-10:50 UT (5:45-5:50 p.m. E.S.T.) FL: by S?T<1 (l/p clouds) ne; 18X50 SB

ne: Though the sky was almost totally overcast, I saw Arcturus about 20° W. of the zenith, Vega very high in the NE and Venus up about 12° in the E.

18X50 SB: Vega and Venus.

M.-T. Mar. 17-18 e. 02:00-02:05 UT (9:00-9:05 p.m. E.S.T.) FL: la S?T3 (ful; l/p; clouds) ne

- Amid the clouds I saw the Full Moon up 45° in the E. It was about 8h 30m before the instant of Full Moon which was listed as being at 10h 34m UT. - also Procyon and Sirius high in the S. and Jupiter almost in the zenith and Castor and Pollux about 10° or so W. of Jupiter, Saturn in



2003 Mar. 18, 10:50 UT - view to E and SE in twilight. Full Moon was in the W.

2003.

the W. and Rigel and the belt stars of Orion in the SW.

M. 10:50-10:55 UT (5:50-5:55 a.m. EST) FL: by S8T4 (twl; ful; 1/p) ne; 18X50 lsb

ne: Venus up 15° in the E. Antares up 40° in the SE, the very bright Full Moon up 15° in the W., just 20 min. after the instant of Full Moon given as 10:34 UT; the Summer Triangle high in the NE; Mars in the ESE. (See diagram.)

18X50 lsb: Venus, Mars, bright stars of the upper part of Scorpius and of Lyra.

T.-W. Mar. 18-19 e. 02:50-02:55 UT (9:50-9:55 p.m. E.S.T.) FL: la S8T5-6 (1/p; ful; some cloud) ne

- very bright Full Moon up 35° above the E. horizon a bout 18h 20m after the instant of Full Moon; Jupiter at mag. -2.5 very near the zenith, Castor and Pollux high in the sky with Pollux about 12° W. of Jupiter; Sirius and Procyon high in the S. and Saturn in the W. sky; Capella easily seen in the W also. Among the stars of Orion, Betelgeuse and Rigel could be easily seen.

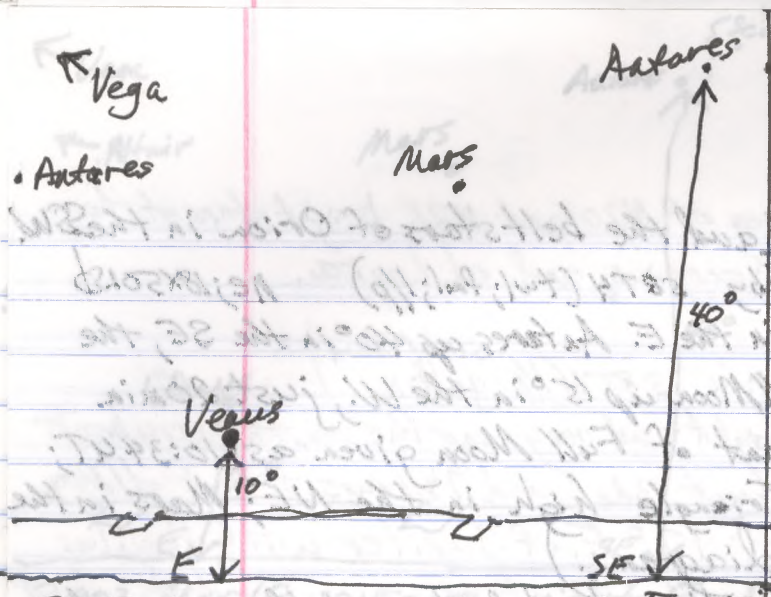
M. 10:45-10:50 UT (5:45-5:50 a.m. E.S.T.) FL: by S8 VT <1 (almost completely overcast) ne; 18X50 lsb

ne: Among the clouds that made the sky almost completely overcast, I saw the star Vega.

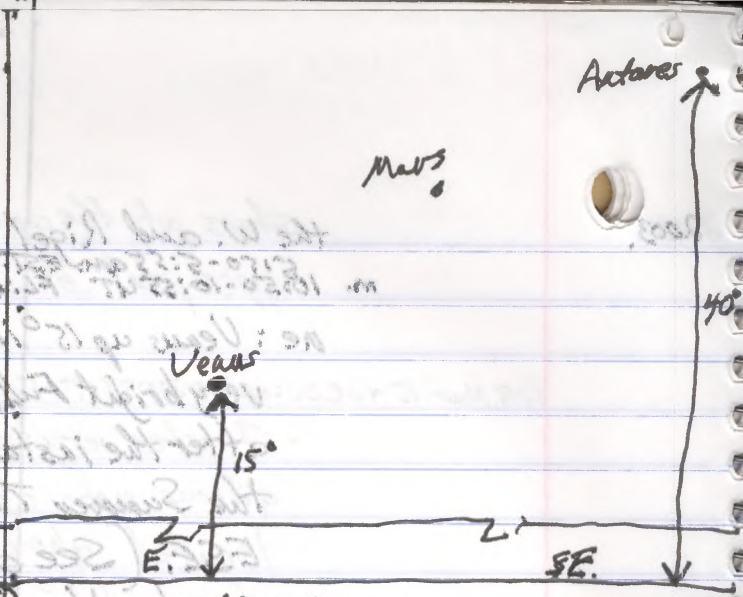
18X50 lsb: Vega and some of the bright stars of the constellation Lyra.

W.-Th. Mar. 19-20 e. 02:00-02:05 UT (9:00-9:05 p.m. E.S.T.) FL: la S8T6 (1/p; ful) ne

- Castor and Pollux very near the zenith with a very bright Jupiter about 12° E. of Pollux and Saturn about 30° W. of Pollux in Taurus, Procyon and Sirius well up in the S. and the bright stars of Orion in the SW.; Capella in the WNW.; a very bright moon, just past Full Moon, up about 10° in the E.



2003, Mar. 20, 10:35 UT - view to E and SE in early twilight. Full Moon high in S.



2003, Mar. 21, 10:45 UT - view to E. and SE in twilight. Gibbous Moon in S.

2003

5:35-5:40a.m.E.S.T.
M. 10:35-10:40 UT FL:by S8T6(1/p;gnl;twl beginning) ne; 18x50lsb

M: Venus up 10° in the E.; Antares up 40° in the SE, very bright gibbous moon very high in the S.; Arcturus about 25° W. of the zenith; Summer Triangle high in the NE.; Mars. (See diagram.)

18x50lsb: Venus, Mars, area of upper part of Scorpius, bright stars of Lyra.

9:00-9:05pm E.S.T.
Th.-F. Mar. 20-21 e.02:00-02:05 UT FL:la S8T6(1/p) ne

- Castor and Pollux very near the zenith with Jupiter very bright and about 12° E. of Pollux, and Saturn about 30° W. of Pollux, and the bright stars of the constellation Leo high in the E, Sirius and the bright stars of Canis Major well up in the S. and Procyon high in the S., and Orion's bright stars in the SW. and Aldebaran in the W and Capella in the WNW.

5:45-5:50 a.m.E.S.T.
M. 10:45-10:50 UT FL:by S8T4(1/p;gnl;twl) ne; 18x50lsb

ne: Venus up about 15° in the E; Mars; Antares up about 40° in the SSE; the Summer Triangle high in the NE, Arcturus about 30° W. of the zenith; bright gibbous moon high in the S. (See diagram.)

18x50lsb: Venus, Mars, bright stars of the upper part of Scorpius, bright stars of Lyra.

11:00-11:05p.m.E.S.T.
F.-S. Mar. 21-22 e.04:00-04:05 UT FL:la S8T2(1/p;haze;cloud) ne

- Jupiter very bright and about 15° W. of the zenith; Castor and Pollux with Pollux about 12° W. of Jupiter; Regulus E. of Jupiter; Sirius and Procyon visible in a subdued way in the S. The hazy cloudy conditions meant that few other stars could be seen.

5:30-5:35a.m.E.S.T.
M. 10:30-10:35 UT FL:by S8T<1(almost completely overcast) ne; 18x50lsb

ne: Vega amid the clouds.

18x50 lsb: Vega, ε Lyrae, one other nearby star in Lyra, two other stars in the ENE. The sky was almost totally overcast.

11:00-11:05 p.m. E.S.T.
Sa.-Su. Mar. 22-23 e. 04:00-04:05 UT FL:1a S8(?)T2(l/p; haze clouds; ∧) ne
- Regulus just a few degrees E. of the zenith and γ Leonis seen nearby, with a very bright Jupiter about 15° W. of Regulus and Castor and Pollux discernible further W. with Pollux about 12° W. of Jupiter. Sirius and Procyon were high in the S. Arcturus was very bright and high in the NE. Otherwise, there were large areas of the sky that were hazy or cloudy.

5:25-5:30 a.m. E.S.T.
M. 10:25-10:30 UT FL:by S(?)T<1(l/p; very cloudy) ne; 18x50 lsb ne: Amid the hazy clouds, and through the cloud I saw the waning gibbous moon. Otherwise the sky was cloudy. The moon was up about 40° in the SE
18x50 lsb: features on the waning gibbous moon.

5:50-6:00 a.m. E.S.T.
Su.-M. Mar. 23-24 m 10:50-11:00 UT FL: service station S-8(?)T5(gal; l/p) ne While Denise and I waited at the Pilot Service Station near Interstate 95 east of Fort Myers, I saw Venus which was very bright in the E., and Mars which was higher in the ESE and the bright gibbous moon which was about 1 day from Last Quarter and slightly higher in the ESE. I was waiting for the Amtrak bus to go to Orlando. The bus left slightly after 11:00 UT (6:00 a.m. E.S.T.)

9:15-9:20 pm. E.S.T.
W.-Th. Mar. 26-27 e. 02:15-02:20 UT y S8(?)T8-9(light across road ∧) ne
About 4 hours after returning to Sharbot Lake from Florida, I observed under a very clear, very transparent sky, with the house light from across

Mercury: Very close, one observer saw it in Leo
two orbits in the ENE. The Sky was clear
totally overcast.

Mars

- Regulus just a few degrees E. of the zenith and
Y Cancris seen nearly with a very bright Jupiter
about 15° W. of Regulus and Saturn below Pollux
discernible further West with Pollux about 2°

Wolf Trap: Sirius and Procyon were high
in the S. Returns was very bright and high in
the NE. Otherwise there were large areas of
the sky that were hazy or cloudy.

Re: Mail the Hazy cloud, and thought the cloud
was the waning gibbous moon. Otherwise the
sky was cloudy. The moon was up about 40 minutes
Re: Features on the waning gibbous moon.

Wolf Trap: Regulus and I noted at the first Venus sighting
Very Interesting as seen at Fort Myers. I saw Venus
when was very bright in the E., and Mars when it
was higher in the E S E and the Bright
Gibbous Moon which was about 1 day from Last
Quarter and slightly higher in the ESE. I
was waiting for the Amtrak Bus to go to Orlando.
The bus left slightly after 11:00 PM EST.

Mercury: Very close, one observer saw it in Leo
two orbits in the ENE. The Skyscrapers almost
totally overcast.

- Regulus just a few degrees E. of the zenith and
Y Cancris seen nearly with a very bright Jupiter
about 15° W. of Regulus and Saturn below Pollux
discernible further West with Pollux about 2°

Wolf Trap: Sirius and Procyon were high
in the S. Returns was very bright and high in
the NE. Otherwise there were large areas of
the sky that were hazy or cloudy.

Re: Mail the Hazy cloud, and thought the cloud
was the waning gibbous moon. Otherwise the
sky was cloudy. The moon was up about 40 minutes

Re: Features on the waning gibbous moon.

Wolf Trap: Regulus and I noted at the first Venus sighting
Very Interesting as seen at Fort Myers. I saw Venus
when was very bright in the E., and Mars when it
was higher in the E S E and the Bright
Gibbous Moon which was about 1 day from Last
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Mercury: Very close, one observer saw it in Leo
two orbits in the ENE. The Skyscrapers almost
totally overcast.

- Regulus just a few degrees E. of the zenith and
Y Cancris seen nearly with a very bright Jupiter
about 15° W. of Regulus and Saturn below Pollux
discernible further West with Pollux about 2°

Wolf Trap: Sirius and Procyon were high
in the S. Returns was very bright and high in
the NE. Otherwise there were large areas of
the sky that were hazy or cloudy.

Re: Mail the Hazy cloud, and thought the cloud
was the waning gibbous moon. Otherwise the
sky was cloudy. The moon was up about 40 minutes

Re: Features on the waning gibbous moon.

Wolf Trap: Regulus and I noted at the first Venus sighting
Very Interesting as seen at Fort Myers. I saw Venus
when was very bright in the E., and Mars when it
was higher in the E S E and the Bright
Gibbous Moon which was about 1 day from Last
Quarter and slightly higher in the ESE. I
was waiting for the Amtrak Bus to go to Orlando.
The bus left slightly after 11:00 PM EST.

About 4 hours after returning to Starlet Lake
from Florida. I observed under a very clear very
transparent sky with the Naso light from above

2003

the road being the main distraction. Jupiter was high in the south and Saturn was in the W. Orion was sinking into the trees in the W. Previously while I had been briefly observing, in the yard also, I had seen a brightness in the N. and assumed that it might have been an Auroral glow, but since I did not see it on this occasion, I thought that the previous apparent viewing might have been something else.

S.-M. Mar. 30-31 01:44-01:46 UT y 58 JT9 ne

-I observed briefly under very clear skies seeing Jupiter very bright and high in the S. and Saturn in Taurus in the W.

M.-T. Mar. 31-Apr. 1 02:02-02:22 UT y +Barb Driscoll's (place) S-8T8-9 ne

Aurora - I noticed an Auroral glow in the N and a spike going up about 40° near Polaris. I went over and spoke to some people who were visiting with Barb Driscoll and her son and daughter and they came out to see the Aurora. It was mainly concentrated near the area of sky below Cassiopeia in the NNW. It was generally white and not too active. We watched it for a short while, but it seemed not to develop as much as I thought it might.

04:24-04:41 UT nd cudy 58T9 ne

I observed the stars of the spring sky with a bright Jupiter up about 45° in the W and Saturn up about 10° in the NW. There seemed to be a slight Auroral glow still in the N up about 20° from the horizon and to the right from Cassiopeia which by now was almost directly below the North Star.

2003 Th.-F. Apr. 10-11 02:32-02:37 UT nd 5-8 T6 (6 ml) ne

- stars of spring with Jupiter about mid-way between Pollux and Regulus and high in the SW sky and with Saturn in the W about 35° above the horizon. The First Quarter Moon was about 4° N of the moon. The time of the conjunction was listed as 8h UT, about 5½ hours later.

S.-M. Apr. 20-21 01:55-02:25 UT y 5 8? T7 (for a while) ne; 18X50150

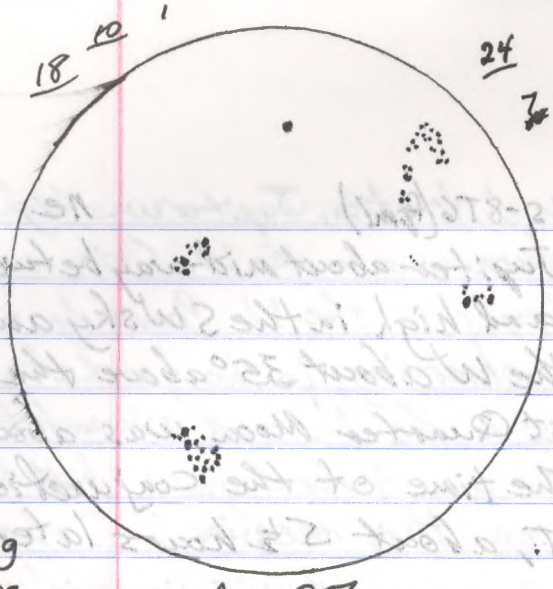
ne: stars of spring; Jupiter in Cancer; Saturn in Taurus

18X50150: Jupiter and 4 Galilean moons, 2 on each side of the planet, all of them quite near M44, area of M65 and M66 SSE of θ Leonis, area of R Leonis, areas of Draco, Ursa Minor, and Ursa Major. The sky conditions deteriorated rather quickly as thicker clouds moved in.

Th.-F. Apr. 24-25 02:00-03:10 UT y 5 7 T8.5-9 ne; 18X50150

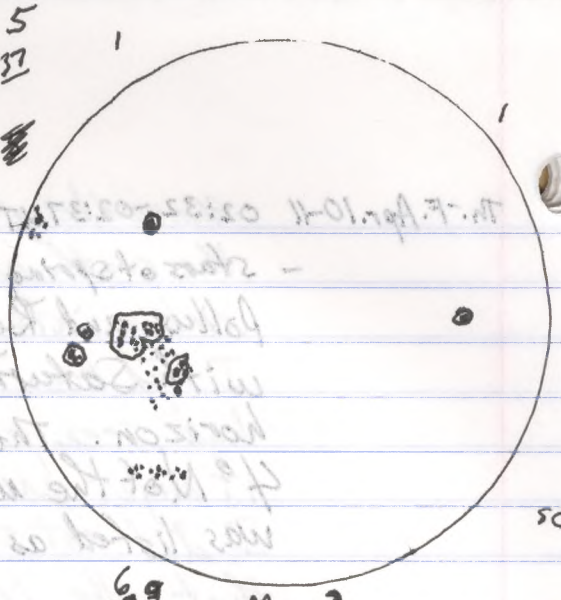
ne: stars of spring; Jupiter in Cancer high in the W.; Saturn in Taurus fairly low in WNW. There seemed to be a slight glow in the N. that might have been auroral.

18X50150: Jupiter and 3 Galilean moons; Saturn, M35, M36, M37, M38, M44, M67, M13, M92, M65, M66, area of R Leonis (the star being very faint, barely seen in the binoculars, at perhaps mag. 9.5) area of R Corvi (the star being probably beyond the range of the binoculars, and so probably fainter than mag. 10) S S Virginis (the star at about mag. 8.), T Cor Bor (at mag. 10.5) R Cor Bor (the star at about mag. 7.) It was



5g
60S
RSN 110

Apr. 27
18:05-18:10 UT



6g
RSN 119

May 3
13:40-13:50 UT

2003

good observing session, with a loon on the lake providing some background sounds. The sky was very good, though not superb.

Su. Apr. 27 18:05-18:10 UT t C-8, 32
sun 5g 60s RSN 110 T.O.F

F.-S. May 2-3 03:06-04:06 UT y 5 7 7 (slight haze) ne; 18X50 SD

ne: Jupiter, Saturn, stars of Spring

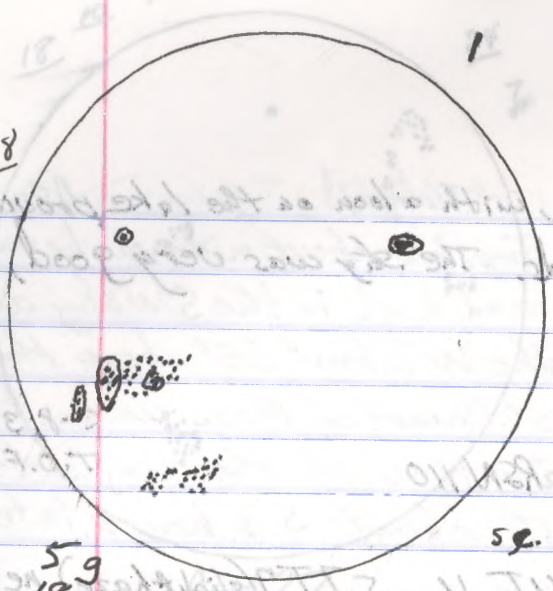
18X50 SD: R Leonis (barely seen, very faint, probably about mag. 10.5, M65, M66, areas of Virgo, Libra, Scorpius, Ophiuchus, Lyra, and Cassiopeia, M5, M92, M13, M81, M82, areas of Ursa Major, M44, Jupiter and 2 of its moons.

Sa. May 3 13:40-13:50 UT t C-8, 32
sun 6g 59s RSN 119 T.O.F.

Su-Su. May 3-4 01:30-03:50 UT 00 5 8 7-9 (varied) ne; C-14, 19

ne: Jupiter, Saturn, stars of Spring, some glow in the N. that may have been Auroral.

C14: After having the C-14 delivered earlier in the day by Guy Nason, I was eager to try the "cleaved optics". The optics seemed to be fine, but there was a problem in that the drive system did not seem to work properly since it would not "drive" in the normal way, but had to be continually "slewed". The slewing motors were working very well. Barb Driscoll's son came over to observe with me after my inviting him right after I had opened the roof. We observed Jupiter, M13 and the galaxy NGC 6207. Before Mr. Driscoll arrived I had observed the Transit


1
1
5
28
33
5
9
68
5
RSN 118
May 4
16:45-16:50 UT

2003

Ingress of the Jovian moon Io. We also observed the 3 other Galilean moons.

Su. May 4 16:45-16:50 UT t. C8,32
sun 5g 68S RSN 118 T.O.F.

S.-M. May 4-5 02:45-03:50 UT y ST T7-8 (varied) ne; 18X50 SB
ne: Saturn, Jupiter, stars of spring; one fairly bright meteor, possibly a slight glow in the N.
18X50 SB: Jupiter and 3 Galilean moons, Saturn, areas of the sky in Virgo, Coma, Leo, areas of R Leonis and of R Corvi but both were very faint and not seen well or maybe not at all in the binoculars, Barnard's Star and area around it in Ophiuchus, M81 and M82, M65 and M66, 5 Cephei and area, μ Cephei and area.

W.-Th. May 7-8 05:00-06:30 UT y ST-8 T7-8 (water vapour) ne

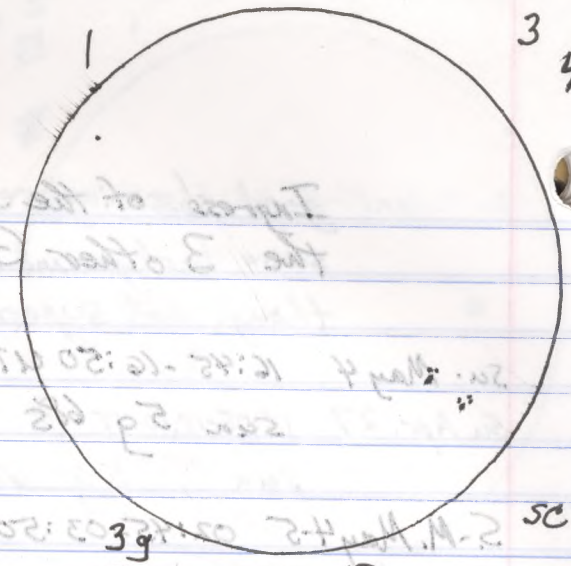
- Morning Transit of Mercury "clouded out"

- After being clouded out in the morning for the sunrise Transit of Mercury and after attending David Levy's talk in Kingston about eclipses mentioned in Shakespeare and introducing David, I observed with David who stayed here overnight. We sat in lawn chairs beside the observatory and observed the stars of the southern and eastern sky. We hoped to see some Eta Aquarid meteors. David was quite sure that we saw a number of meteors emanating from a radiant near the border between Hercules and Corona Borealis, perhaps near ζ Herculis. We noted that the sky was good, but I felt that, because of water vapour, it

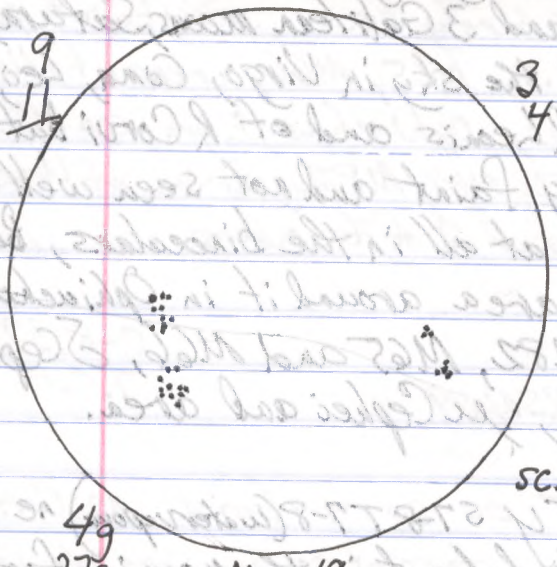
- observing with David Levy

Predicted Times For The
Total Lunar Eclipse of
2003, May 15-16

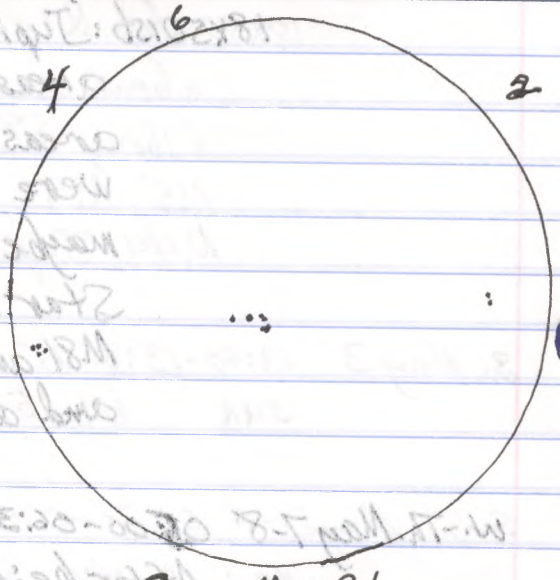
~~P1~~	MR	00:11 UT (8:11 pm E.D.T.)
	S5	00:24 UT (8:24 pm E.D.T.)
	P1	01:05 UT (9:05 p.m. E.D.T.)
	U1	02:03 UT (10:03 p.m. E.D.T.)
	U2	03:14 UT (11:14 p.m. E.D.T.)
Mid-eclipse		03:40 UT (11:40 pm E.D.T.)
	U3	04:06 UT (12:06 a.m. E.D.T.)
	U4	05:17 UT (01:17 a.m. E.D.T.)
	P4	06:15 UT (02:15 a.m. E.D.T.)



3g
8S
RSN 38
May 18
15:15-15:20 UT



4g
27S
RSN 67
May 19
14:25-14:30 UT



3g
12S
RSN 42
May 21
16:35-16:40 UT

2003 not as transparent that I hoped it would be. The "Northern Coal Sack" north of Deneb did not seem to be as dark as I had seen it previously.

Th.-F. May 15-16 01:55-03:45 UT oo SOTO ne

After checking periodically to see if the moon was visible, in spite of considerable cloudiness and finding that it was not well seen because of cloudiness in the SE sky at about 01:20 UT and about 01:30 UT I began observing in the observatory with a hope that I might see a part of the Total Lunar Eclipse. However, the clouds persisted and became even denser and "heavier". Though for a while after 02:00 UT, it was possible to see the outline approximately of the moon behind the clouds, later on the outline of the moon could not be seen. It was disappointing that the event had been "clouded out".

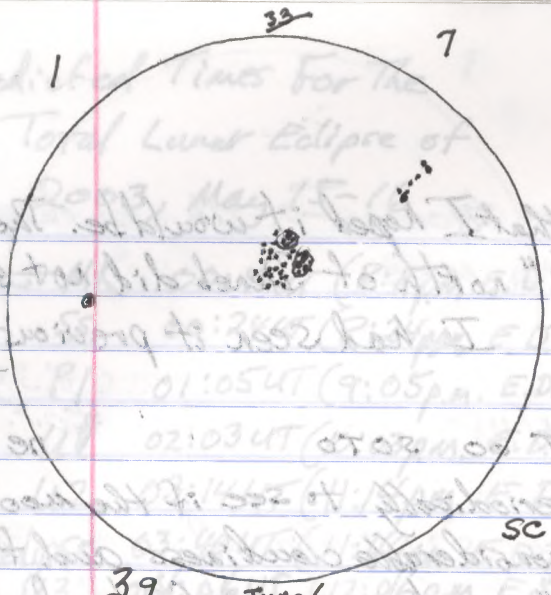
Total Lunar Eclipse "clouded out"

Su. May 18 15:15-15:20 UT t C-8, 32 T.O.F.
Sun 3g 8s RSN 38

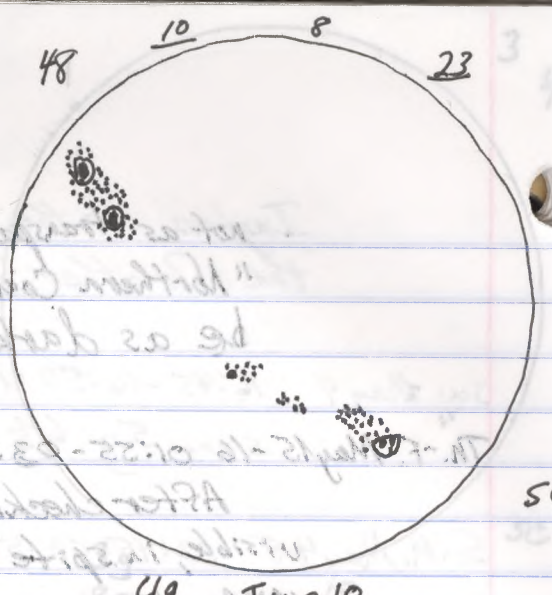
Su.-M May 18-19 01:50-02:00 UT oo ~~C-8, 18,~~ ne ~~Sky Meus to~~
- Jupiter in the W. and the bright stars of Spring with Constellations Leo and Virgo in the South.

M. May 19 14:25-14:30 UT t C-8, 32 T.O.F.
Sun 4g 27s RSN 67

W. May 21 16:35-16:40 UT t C-8, 32 T.O.F.
sun 3g 12s RSN 42



39
4S
RSN 71
June 6
17:05-17:10 UT



49
89S
RSN 129
June 10
14:40-14:46 UT

C-14,19

2003 W.-Th. May 21-22 02:30-04:00UT y and oo S-8T7-9 (Aurora) ne; 18X50SO

ne: Jupiter and stars of spring; Aurora which was a glow in the N at first and then became active for a while. There was an arc in the N. and then vertical bands and spikes in the N. to NW. There was not very much colour - mainly whites and some faint yellow. The vertical bands were up about 45° to 50°.

Aurora

18X50I56: areas of Virgo, and Leo and Cygnus and Lyra, M4, M80, M65 and M66, M57, M27, βCyg, areas of Cepheus. RCorBor, TCorBor, RLeonis very faint - not seen in the binoculars.

C-14,19: Jupiter and 4 Galilean moons - 2 on each side of the planet. The clock drive was working very well.

ph: photographed the Aurora, using the 28mm lens.

T.-W. May 27-28 03:45-03:50UT nd S8T8.5 ne

- stars of spring, Auroral glow in N and NNW up to about 40° by times, but perhaps more generally up to about 30°, fairly steady in bright but not extremely bright

Auroral glow

S.-M. June 1-2 02:55-03:10UT y twl ne

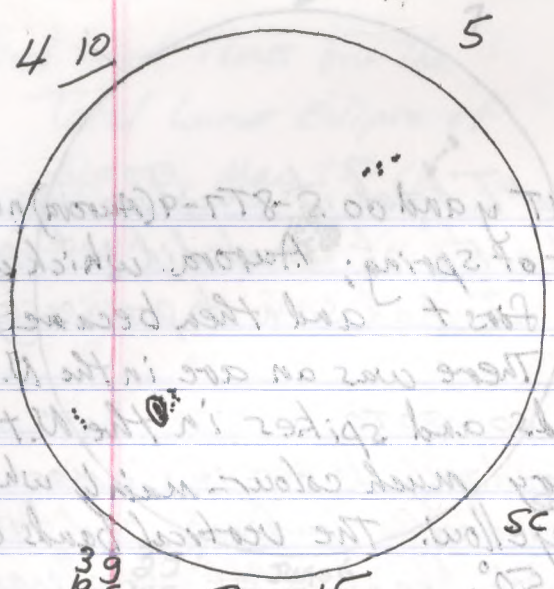
- Jupiter in W., stars of spring, two satellites near the zenith.

F. June 6 17:05-17:10UT t C-8,32 T.O.F.

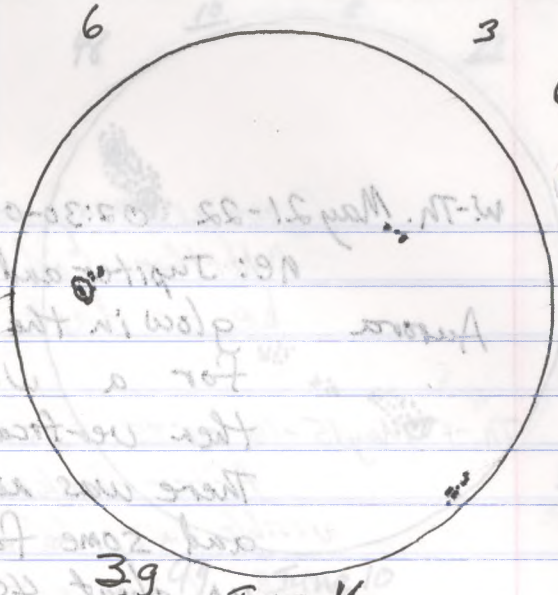
sun 3g 44s RSN 71

Tu. June 10 14:40-14:45UT t C-8,32 T.O.F.

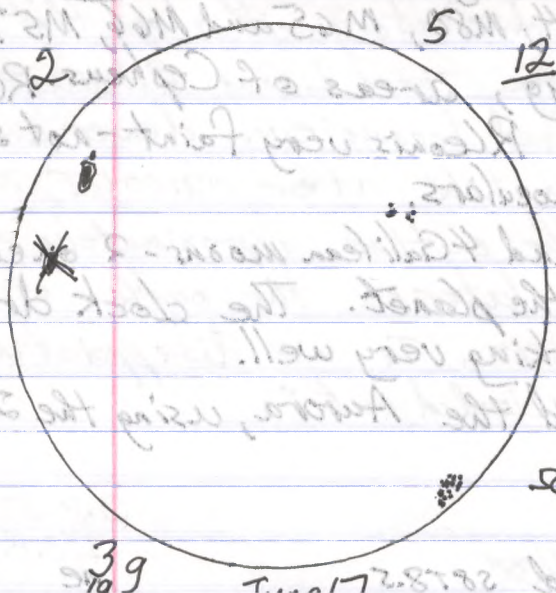
sun 4g 89s RSN 129



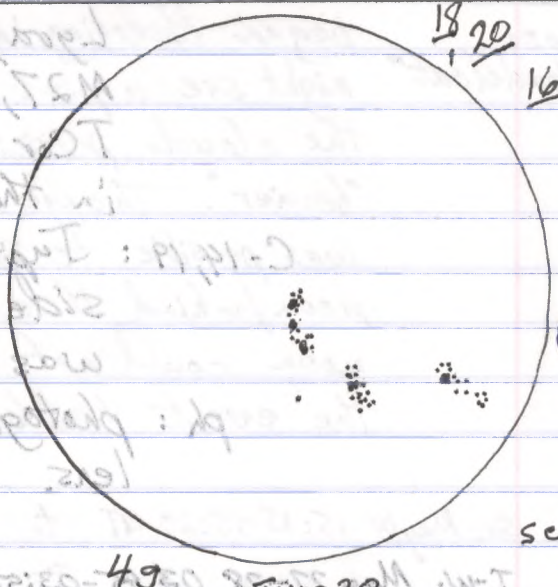
39
195
RSN 49 June 15
16:25-16:30 UT



39
155
RSN 45 June 16
14:05 - 14:10 UT



39
195
RSN 49 June 17
15:25 - 15:20 UT



49
555
RSN 95 June 20
14:15 - 14:20 UT

2003

Su. June 15 16:25-16:30UT t C-8,32
Sun 3g 19s RSN49 T.O.F.

M. June 16 14:05-14:10UT t C-8,32
Sun 3g 15s RSN45 T.O.F.

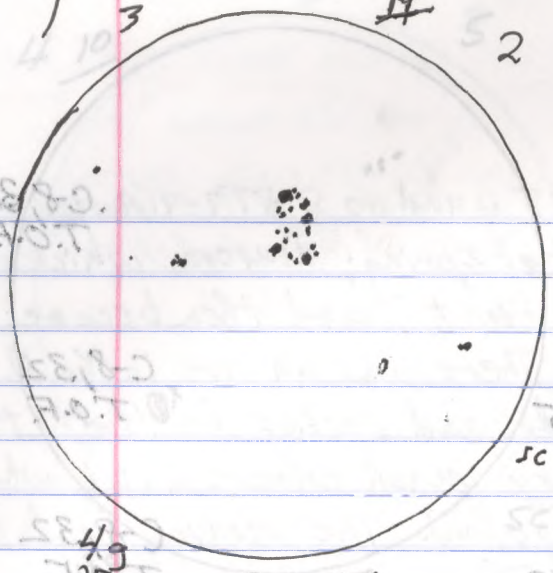
Tu. June 17 15:15-15:20UT t C-8,32
Sun 3g 19s RSN49 T.O.F.

T-W. June 17-18 02:15-04:15UT 00 S8T7-8 (some cirrus) ne; 18X50LSb; C-14,19
ne: stars of spring and summer, Jupiter in W.; Auroral glow in N. which was more intense at the end of the session that it had been earlier. At the end of the session it was moderately intense and up only about to 10° or 12° in the N.
Auroral glow.
18X50LSb: areas of Ophiuchus and Serpens Caput, M14, areas of Cygnus, M39, areas of Cepheus, μ Cephei, area of δ Cephei, areas of Ursa Major, M81 and M82, Alcor and Mizar, β Cygni
C-14: Jupiter and 3 Galilean moons all on the W. side of the planet (Europa probably being in occultation or eclipse, since it had had an occultation disappearance at 22:09UT and was to have an eclipse reappearance at 3:02UT.
M57, M13.

F. June 20 14:15-14:20UT t C-8,32
Sun 4g 55s RSN95

Sa-Su. June 21-22 03:45-05:10UT 00 S8T8.5 ne; 18X50LSb; C-14,19
ne: stars of spring and summer sky; 2 bright meteors of about Mag. -2, one going northward and one

1 3 4 2

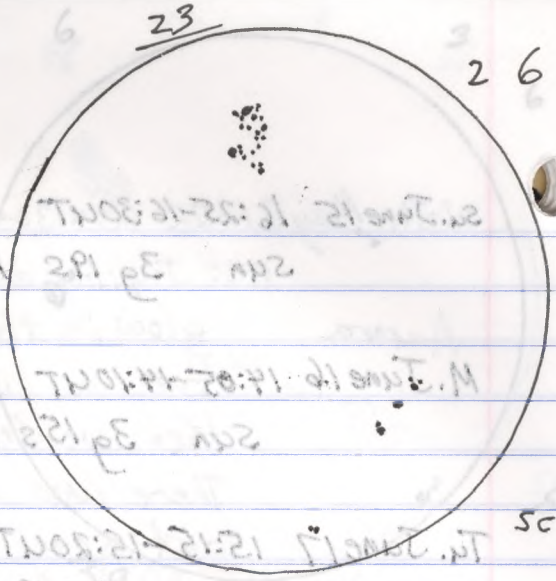


SC

4g
25s
RSN 65

June 24
14:30–14:35 UT

23 26



SC

3g
31s
RSN 61

June 26
13:42–13:47 UT

2003.

westward in the area of the constellations Hercules and Ophiuchus,

18x50 SB: M11, M16, M17, M18, M20, M8, M21, M22, M23, M24, M25, M4, M10, M12, M13, M92, M5, very bright meteor that passed very quickly through the field leaving a train that was briefly visible in the binoculars, M39, star fields in Hercules, Ophiuchus, Cygnus, NGC 7789, βCyg, TCorBor, RCorBor.

C-14, 19: M13, M57, M27.

M.-T. June 23-24 04:05-04:10 UT ↓ S8(?)T9 ne

-stars of late spring and summer; the summer Milky Way in the E. part of the sky and quite distinct.

Tu. June 24 ~~16~~:30-~~16~~:35 UT t C-8, 32

sun 4 g 25 S RSN65 T.O.F.

T.-W. June 24-25 02:50-04:50 UT 00 S8(?)T8-9 ne; 18x50 SB; C-14, 32 bc

ne: stars of summer; very bright object at about 03:12:40 UT in the area near Corona Borealis - Bootes - Canes Venatici border, perhaps mag. -6 to -8, perhaps an "almost-point" meteor or possibly an "Iridium flash", also slightly later an apparent meteor that seemed to flash intermittently, as if skipping above the upper atmosphere as it travelled from W. to E. over about 40° of sky. Very high near the zenith.

- very bright meteor

- second "possibly skipping" meteor.

18x50 SB: M6, M8, M20, M21, M22, M23, M24, M25, M11 and RScuti, M16, M17, M18, M4, M80, Barnard's Star and area, RCorBor, TCorBor and area.

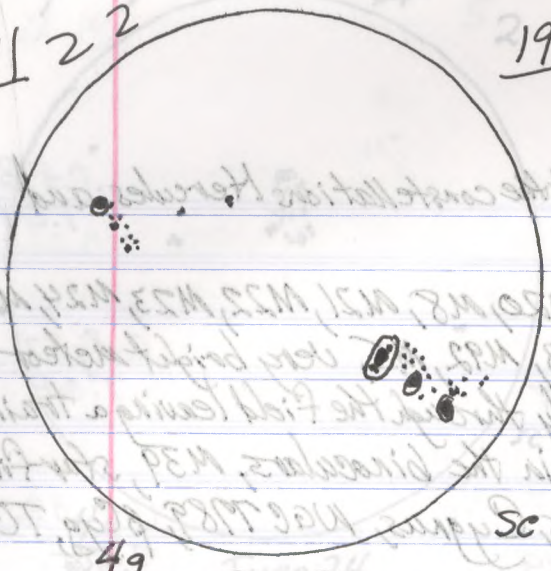
C-14, 32: M57, M13, ζ Herculis - beautifully split, Veil Nebula.

Th. June 26 13:42-13:47 UT t C-8, 32

sun 3 g 31 S RSN61 T.O.F.

11 22

19



SC

49
345
RSNM4

June 30
10:45 to 10:50 UT

Mars in C-14
at 206X.

- apparent whiteness of polar cap?

appeared white. Maybe polar cap?

June 30 - July 1
06:30 UT

2003

F.-S. June 27-28 03:35-04:10 UT y S-8(?)T8-9 ne
-stars of summer, Milky Way in E. sky fairly well defined
glow in N. that may have been auroral.

Sa.-Su. June 28-29 02:30-04:30 UT 00 S8T8-9.5 (varied) ne; 20x100b
ne: stars of summer; possibly a slight glow in the N., that may
possibly have been auroral.
20x100b: Kemble 2, an asterism in Draco, one that has a
-Kemble 2 resemblance in shape to the bright stars of Cassiopeia,
and one that was written about by Father Lucian
Kemble. (See Sky and Telescope, July 2003, page 89.),
the stars in the area of β Cas - δ Cas, ε Cas and
T Cas - near NGC 7789, M8, M20, M21, M22, M28,
M16, M17, M18, M23, M24, M25, M11 and R Scuti,
δ Cephei and nearby stars, ε Cep, ζ Cep, μ Cep, ν Cep
and α Cep.

M. June 30 14:45-14:50 UT C8, 32
sun 4g 34s RSN 74 T.O.F.

M.-T. June 30-July 1 03:00-06:45 UT 00 S8T9.5! ne; C-14, 32, 19, 7.5
ne: Under very good conditions, I observed the stars of
summer and spent a long while photographing many objects.
For about ½ hour I photographed at the shore, in fact,
on the dock, at about 03:30 to 04:00 UT.
While there I noticed that Mars, now very bright
had risen above the trees in the E.
ph: - photographed various areas of the summer sky
and also the area of Mars in Aquarius.
C-14: - observed Mars with the 32mm ocular at 122X,
with the 19mm ocular at 206X and with the
7.5mm ocular at 528X. It seemed best at
about 206X with both polar caps appreatly
visible. (See diagram)

2003

T.-W. July 1-2 01:00-05:15 UT 00 S8T9.5(1) ne ; 20x100b

ne: I was in the observatory preparing to observe Uranus and Neptune by finding their locations from maps in the Observer's Handbook, during twilight and I saw bright displays of fireworks to mark Canada Day - fireworks that were mainly in the N.W. near where the crescent moon was about 5° to 10° above the horizon. Later I observed the stars of summer and near the end of the session saw Mars amid the trees in the S.W. There was probably a slight glow that may have been auroral - in the N. ⊛

20x100b: M4, M80, M20, M21, M8, M23, M24, M25, M16, M17, M18, M11 and RSCuti, M22, M28, Barnard's Star and area, M10, M12, M5, M15, M81, M82, M101, Neptune in Capricornus. Superb conditions for observing! ⊛⊛

-2, possibly 3 "early Perseids"

⊛ ne: 3 meteors were seen also, two of which were probably early Perseids, since they were fast ones coming from the NE, and the third one may have been a Perseid also, though it seemed to come a bit more from the E.

⊛⊛ T Cor Bor, R Cor Bor, Kemble 2 - the "little Queen" asterism in Draco near χ Draconis, M6, M7.

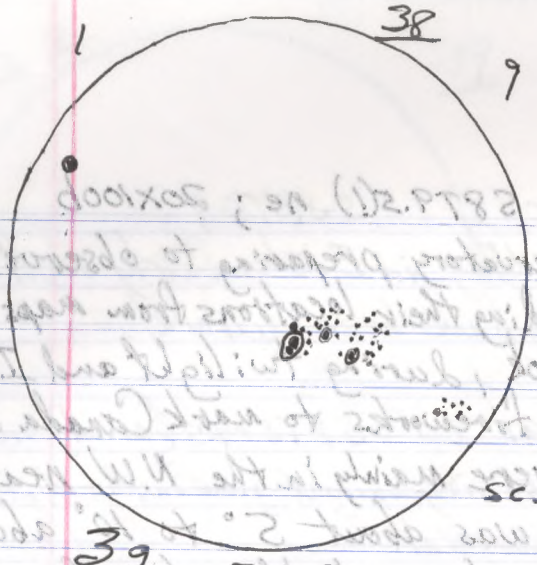
W. July 2 16:05-16:10 UT t C-8,32

Sun 3g 48s RSN78 (drawing - next page) T.O.F.

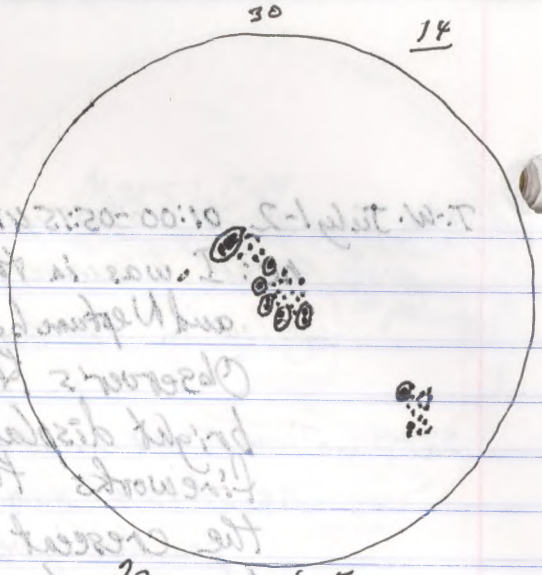
W.-Th. July 2-3 03:30-04:10 UT y and ad S8T6-8 (clouds, hazy) ne

- stars of summer, amid a sky that provided less than excellent transparency. There was one very bright meteor that went from S to NNW and almost overhead, but seemed to be very close in the atmosphere. It was very fast and bright - about mag. -4 or -5. ± It may have been too early to have been a member of the Delta Aquarid Meteor Shower.

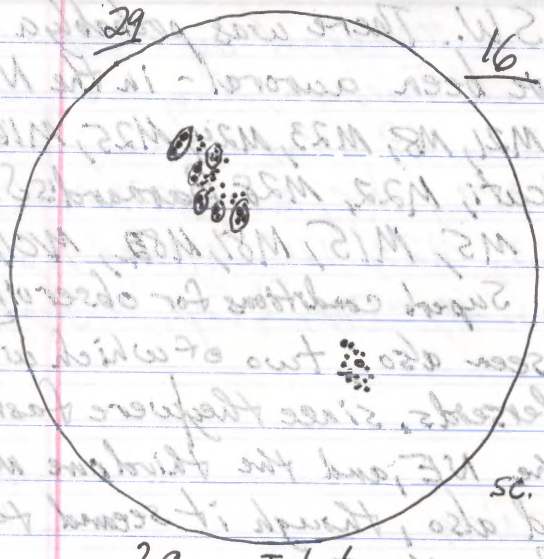
bright meteor!



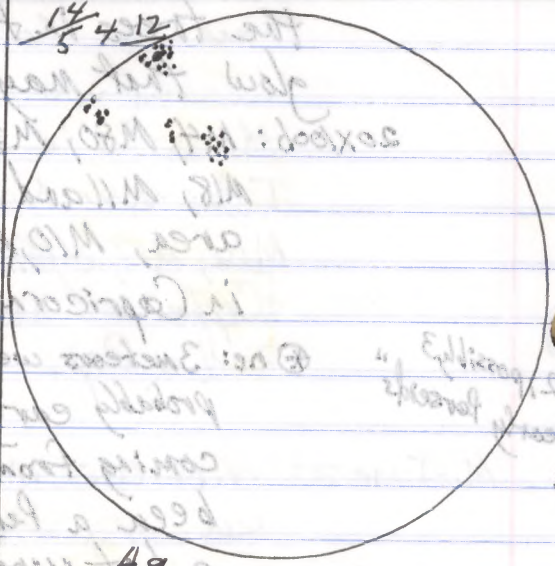
39
48S
RSN78 July 2
16:05-16:10 UT



29
44S
RSN64 July 5
14:10-14:15 UT



29
45S
RSN65 July 6
14:35-14:40 UT



49
35S
RSN75 July 9
14:30-14:35 UT

2003 F.-S. July 4-5 02:45-03:45 UT 00 S8T6-8 (haze, some cloud) ne; 20x100b

ne: stars of summer, amid skies that were not as transparent as I had hoped for; Conditions gradually deteriorated especially in the lower part of the sky.

20x100b: M10, M12, M20, M28, M8, M20, M21, M23, M24, M25, M16, M17, M18, areas of Cygnus and of Cepheus.

Sa. July 5 14:10-14:15 UT t C-8, 32 T.O.F.

sun 2g 44s RSN64

Sa.-Su. July 5-6 03:55-04:50 UT y S8T9 ne; 18x50ISb

ne: stars of summer, very bright (mag. -4 or -5) * meteor with train only about 10° in Delphinus, going E. toward Pegasus; also another very bright object, that, for a while, seemed like a "point meteor" but may have been a ~~meteor that~~ satellite that was moving slowly, but also was situated to allow it to reflect a maximum amount of sunlight

- very bright meteor

18x50ISb: M8, M20, M21, M22, M28, M23, M24, M25, M11 and RS Scuti, M16, M17, M18, M15, Neptune and its area in Cap, Barnard's Star and its area.

Su. July 6 14:35-14:40 UT t C-8, 32 T.O.F.

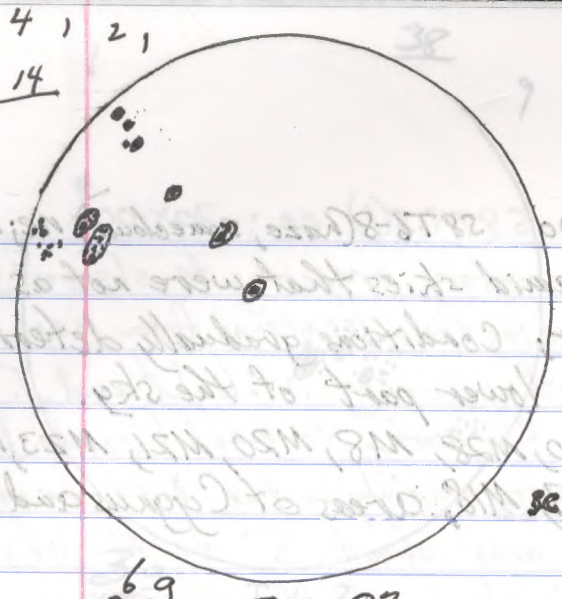
sun 2g 45s RSN65

W. July 9 14:30-14:35 UT t C-8, 32 T.O.F.

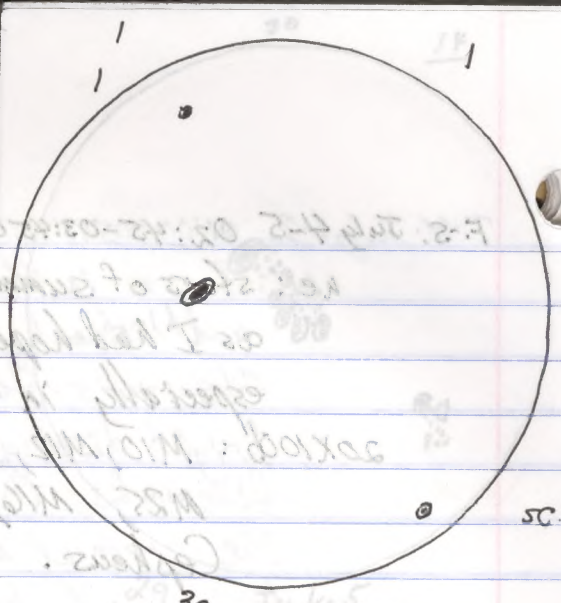
sun 4g 35s RSN75

F.-S. July 18-19 03:30-04:00 UT nd+y S-8T9-9.5 ne; 18x50ISb.

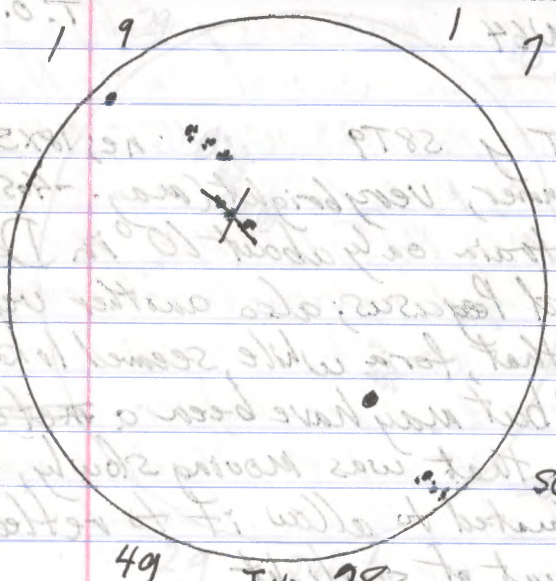
ne: bright stars of summer; glow in the N. up about



69
30S
RSN90 July 23
16:00-16:05 UT



39
35
RSN33 July 25
14:40-14:45 UT



49
18S
RSN58 July 28
13:35-13:40 UT

2003

20° and probably Auroral.

18X50I5b: M8, M20, M21, M4, M80, M16, M17, M18, M22, M28, M23, M24, M25, M15, M31, RCorBor, TCorBor, areas of Cygnus and Lyra, M13, M92, NGC7789 and nearby stars.

Sa.-Su. July 19-20 03:50-04:45UT y S8T9-9.5(!) ne; 18X50I5b

ne: stars of summer; Mars in Aquarius and very bright (Mag. -1.9!); slight glow in N., perhaps Auroral.

18X50I5b: M22, M28, M8, M20, M21, M23, M24, M25, M11 and RScuti, M16, M17, M18, RCorBor, TCorBor, Barnard's Star, M15, NGC7789 and stars nearby, Mars in Aquarius and nearby stars, U and EU Del; stars in area of Delta Cephei

W. July 23 16:00-16:05UT t C-8, 32

Sun 6g 30s RSN90 T.O.F.

F. July 25 14:40-14:45UT t C-8, 32

Sun 3g 3s RSN33 T.O.F.

M July 28 13:35-13:40UT t C-8, 32

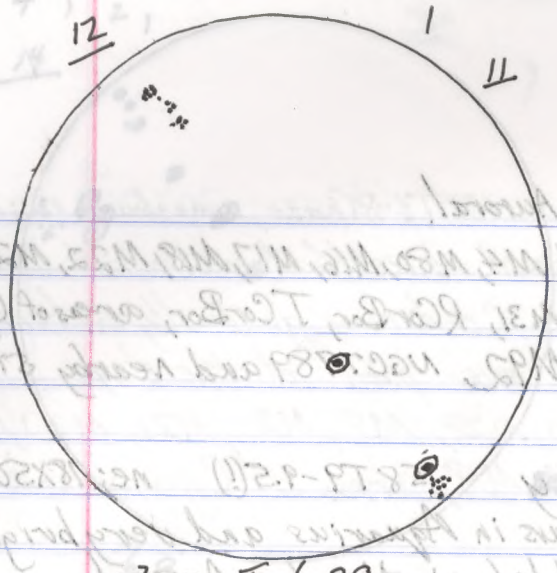
Sun 4g 18s RSN58 T.O.F.

M.-T. July 28-29 01:30-04:40UT 00 S-8T7-9 (at times some cloud) ne; 20x100b; C-14, 19

ne: stars of summer, Mars in SE after about 03:30UT when it appeared amid the trees

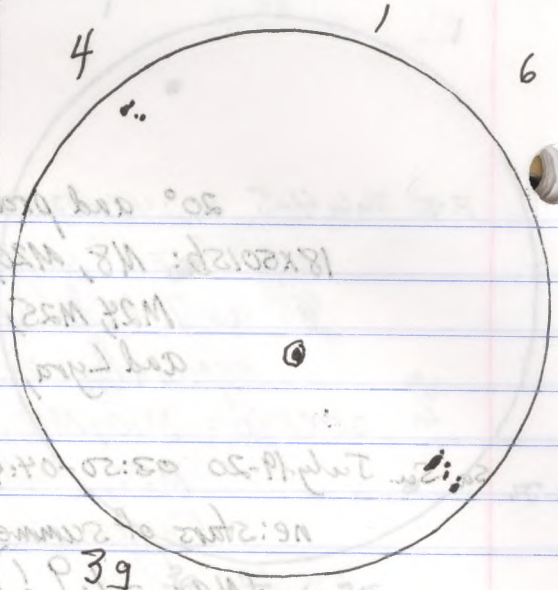
20x100b: M8, M20, M21, M22, M28, M11 and RScuti, M16, M17, M18, M15, M14, M23, M24, M25, M4. RCorBor, TCorBor, Neptune in Capricornus;

C-14: Mars, in latter part of the session, but there was a "boiling effect", probably because of the fairly low altitude of the planet; also, near the end of the session a large cloud covered the area of Aquarius in which Mars was located.



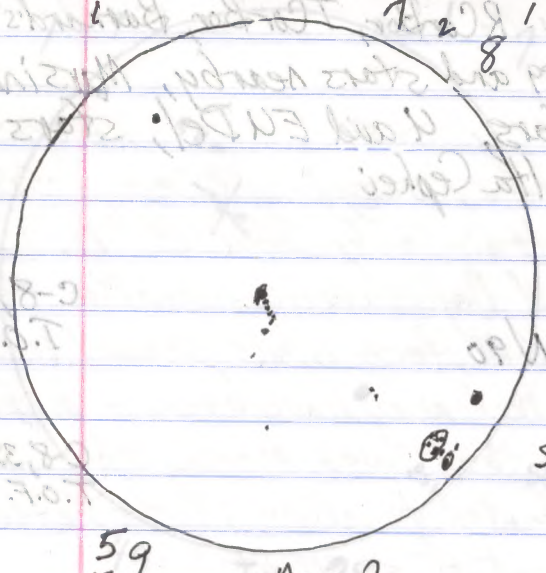
3g
IFS
RSN54

July 29
15:05-15:10 UT



3g
11S
RSN 41

July 30



5g
19S
RSN69

Aug. 2
14:30-14:35 UT

2003 Tu. July 29 15:05-15:10 UT t C-8, 32
Sun 3g 24S RSN54 T.O.F

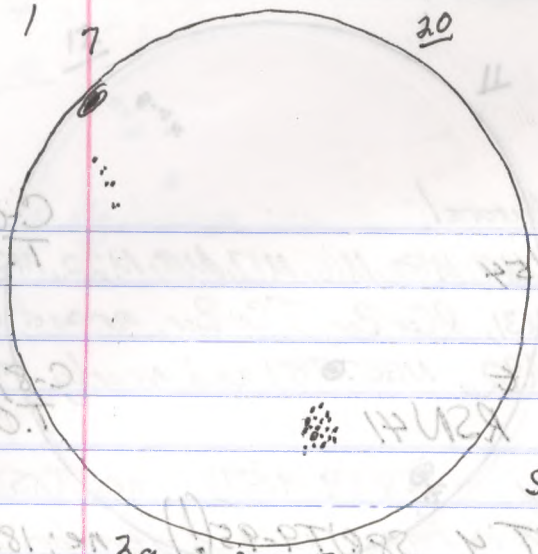
W. July 30 15:25-15:30 UT t C-8, 32
Sun 3g 11S RSN41 T.O.F.

W.-Th. July 30-31 03:10-04:50 UT y S8(?)T9-9.5(!) ne; 18x50 ISb
ne: stars of summer, Mars - very bright in Aquarius in the SE at the beginning of its retrograde motion (the time of Mars being stationary listed as); slight glow in N. that may have been Auroral.
18x50 ISb: M31, NGC 7789 and area, areas in Cepheus, M16, M17, M18, M11 and R Scuti, M8, M20, M21, M22, M28, M23, M24, M25, Barnard's Star and area, M10, M12, R CorBor, T CorBor, M13, areas of Hercules, Neptune in Capricornus.
ph: area of Mars in Aquarius.

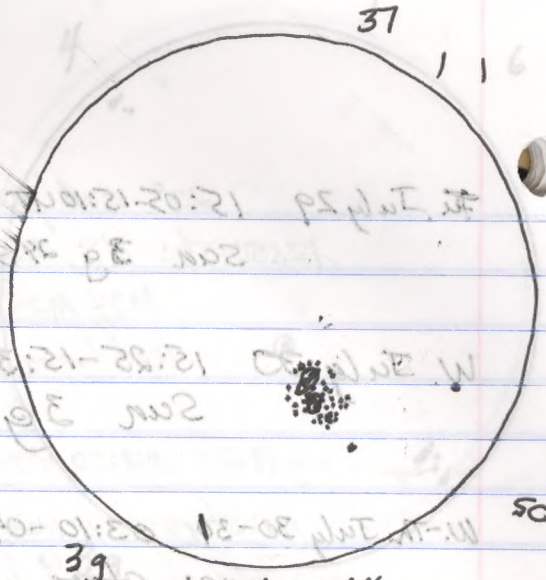
Sa. Aug. 2 14:30-14:35 UT t C-8, 32
Sun 5g 19S RSN69 T.O.F.

T.-W. Aug. 12-13 04:00-05:30 UT y S8(?)T6 (fml.) ne
- looked for Perseid Meteors at the peak time given for the shower, but because of the Full Moon, I saw very few, possibly two or three. There was one bright one - near the radiant, probably in Perseus and possibly magnitude -1, and one faint one in the NNW sky. Generally, I faced toward the NNW with the bright Full Moon behind me and Mars very bright and about 5° to the left of the moon.

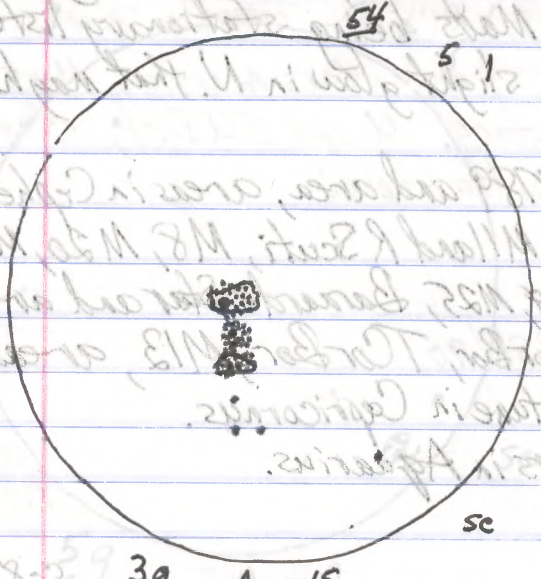
- looked for Perseid Meteors



3g
28s
RSN58
Aug 13
15:05-15:10 UT



3g
39s
RSN69
Aug. 14
16:30-16:35 UT



3g
60s
RSN90
Aug. 15
14:45-14:50 UT

2003 W. Aug. 13 15:05-15:10 UT t C-8, 32
Sun 3g 28s RSN 58

w-Th. Aug. 13-14 03:50-05:00 UT nd and y S-8()T5 (fair) ne
- looked for Perseids in another bright sky with the Full Moon in the southern sky. The moment of Full Moon had been 4:48 UT on Aug. 12, about 48 hours before. Mars was now seen on the other side of the Moon from where it was the previous night, being now about 7° to the left of Mars, whereas the previous night it had been about 5° to the right of Mars. There was one bright Perseid of about mag. -1, and with a train about 10° in length, very near the star Polaris. There was possibly another Perseid, but I was not sure of it

- looked for Perseids on another moonlit night

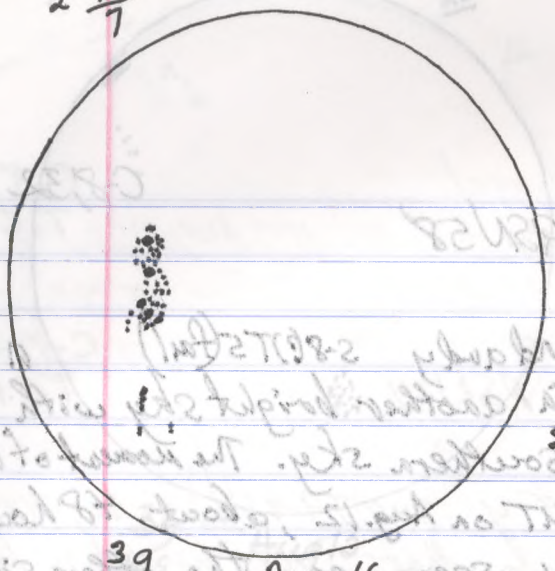
Th. Aug. 14 16:30-16:35 UT t C-8, 32
Sun 3g 39s RSN 69 T.O.F.

Th.-F. Aug. 14-15 01:15-02:30 UT nd and y S-8()T6-9 (varied: moonrise some cloud) ne; 18x50sb ne: observed stars of summer before during and after Moonrise; one Perseid Meteor near Altair - about mag. 2.
18x50sb: M22, M28, M8, M20, M21, M23, M24, M25, M11 and R Scuti, M16, M17, M18, M5, R CorBor, area of T CorBor, M13, M92.
Light Pollution was not a problem since it was the night of a very widespread power outage.

F. Aug. 15 14:45-14:50 UT t C-8, 32
Sun 3g 60s RSN 90 T.O.F.

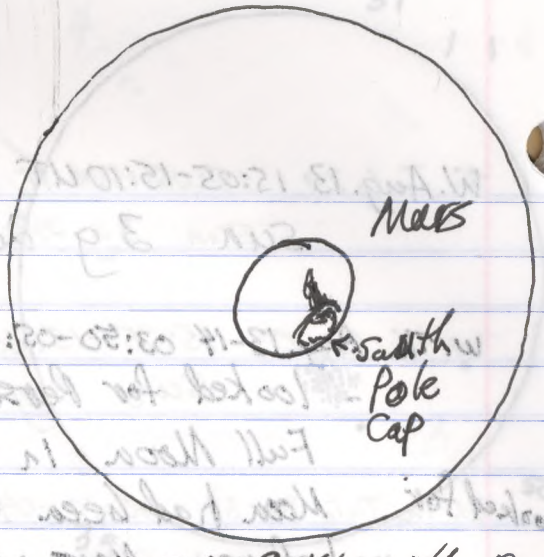
F.-S. Aug. 15-16 02:45-04:30 UT nd e y S-8()T5 (haze some clouds) ne
- bright stars of summer in the upper parts of the sky,

2 43/7

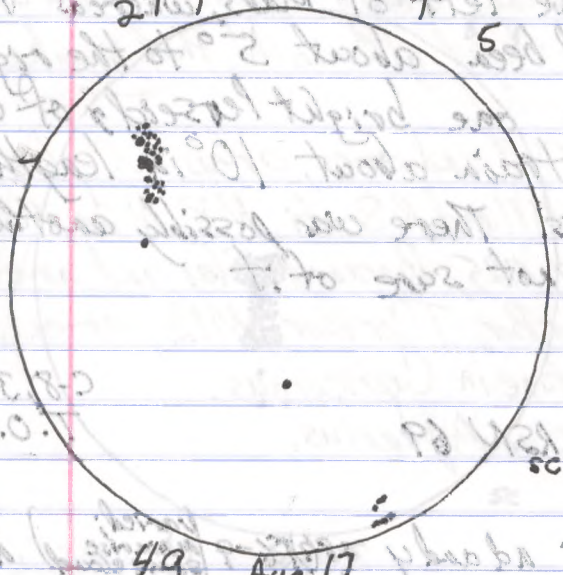


39
525
RSN82

Aug. 16
13:45-13:50 UT



Mars in C-14 with 9 mm ocular - 205.8 X



49
345
RSN74

Aug. 17
14:40-14:45 UT

2003

but the transparency was not good in the lower part of the sky because of haze and some clouds. The Summer Triangle dominated the part of the sky S. of the zenith. Mars at about mag. -2.7 dominated the S.E. part of the sky and about 25° to the left of Mars was the bright gibbous moon. There was possibly one Perseid Meteor, but, even if it was really a meteor, it did not appear bright. The Perseids did not appear to be very active at this time.

-looked for Perseid Meteors

Sa. Aug. 16 13:45-13:50UT t C-8, 32 T.O.F.
Sun 3g 52s RSN82

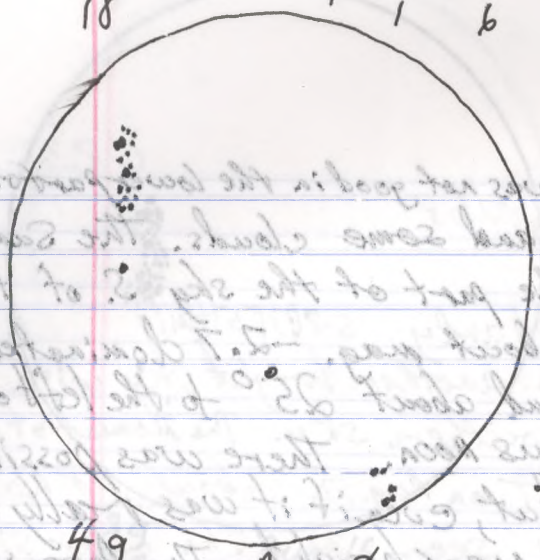
Sa-Su. Aug. 16-17 02:20-04:30UT oo S-8@T 6-9.5(!) (9.5 before moonrise) ne; 20x100b; C-14, 19
ne: bright stars of summer, Mars at mag -2.7 dominating the S.E. sky, gibbous moon rising at about 02:28UT and dominating the sky with its brightness after rising; bright meteor, not a Perseid, in the NW at about Mag. -2.
20x100b: M15, M16, M17, M18, M 23, M24, M25, M22, M28, M8, M20, M21.
C-14, 19: M57, Mars with its S. Pole clearly seen (See diagram.)

Su. Aug. 17 14:40-14:45UT t C-8, 32 T.O.F.
Sun 4g 34s RSN74

Su.-M. Aug. 17-18 02:20-04:45UT y+oo (gm; some cloud) S-8@T 9.5-7.1 ne; C-14, 19
ne: stars of summer, gibbous moon after it rose. Mars extremely bright in the SE. Throughout the session, a fairly good Aurora was seen in the N. to NW. and up to about 40° with a glow at first and then a large arc and then

Aurora

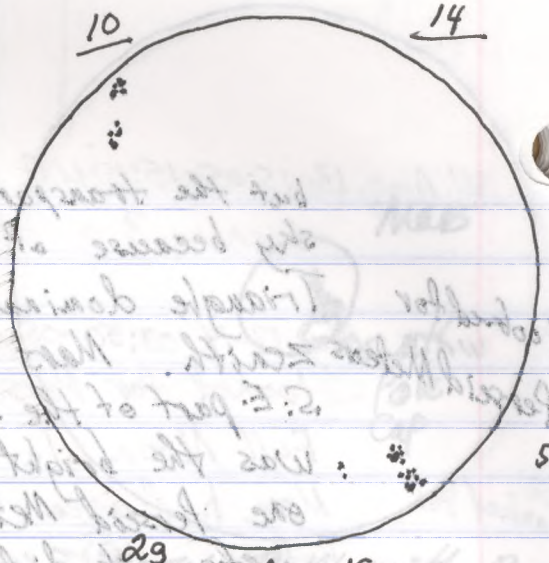
18 1 1 6



49
26s
RSN66

Aug. 18
13:35-13:40UT

10 14



29
24S
RSN44

Aug. 19
16:45-16:50UT

a number of spikes and vertical bands. There was not much colour, but it remained active for a good while. I photographed it with the 28 mm lens

C-14,19: I observed Mars, and saw the South Pole Cap that seemed to be quite clear.

Mars. ph: photographed Mars

M. Aug. 18: 13:35-13:40UT C-8,32
scan 4g 26s RSN 66 T.O.F.

M.-T. Aug. 18-19 02:55-04:00 UT nd+y S8(?)T8-9.5 (Aurora) ne

- looked for Perseids or other meteors but saw little or nothing in the way of meteors, but saw again a fairly good Aurora with a glow about 30° along the horizon from N to NNW and up about 25° with spikes and vertical bands going upward occasionally. At one point early in the observing session the glow became extremely bright at a point just above the N. point on the horizon. Mars dominated the southern sky with its intense red glow.

Aurora

Tu. Aug. 19 16:45-16:50 UT t C-8,32
scan 2g 24s RSN 44 T.O.F.

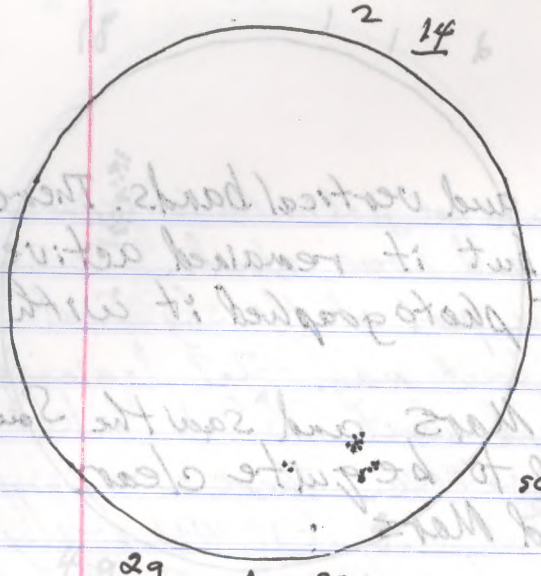
Tu.-W. Aug. 19-20 02:20-05:00 UT oo S8(?)T6-8.5 (gm! afterwar) ne; 20x100b; C-14,20 app

ne: stars of summer. Mars extremely bright in the SW; one meteor of about mag. 3.

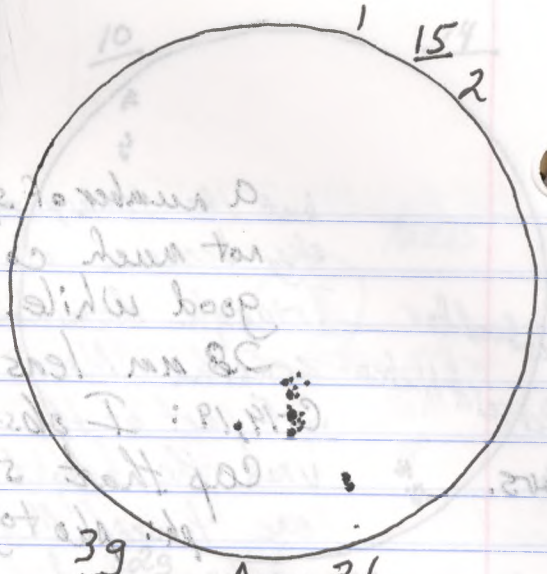
20x100b: M15, M11 and R Scuti, M16, M17, M18, M8, M20, M21, M22, M23, M24, M25.

C-14: I set up the camera with eyepiece projection to photograph Mars and viewed it through the

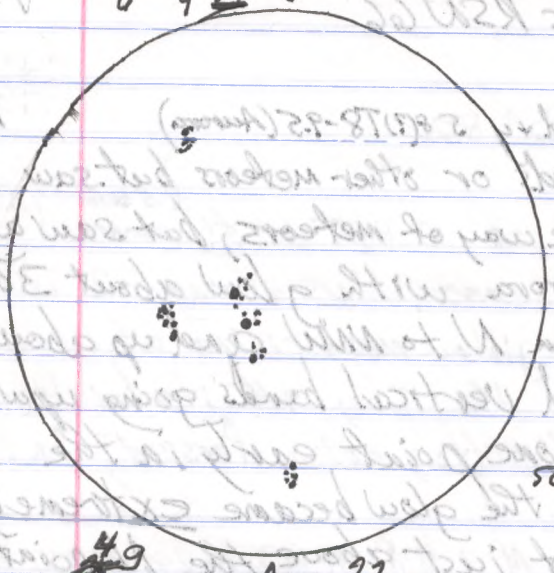
Mars.



29
16
RSN36 Aug. 20
14:05-14:10 UT



39
185 Aug. 21
RSN48 14:55-14:57



49
35
RSN75 Aug. 22
15:40-15:45

2003

camera viewfinder. The South Pole Cap was quite easily visible. Mars was amazingly bright, approaching nearest approach in about one week.

W. Aug. 20 14:05-14:10 UT t C-8, 32
sun 2g 16s RSN 36 T.O.F.

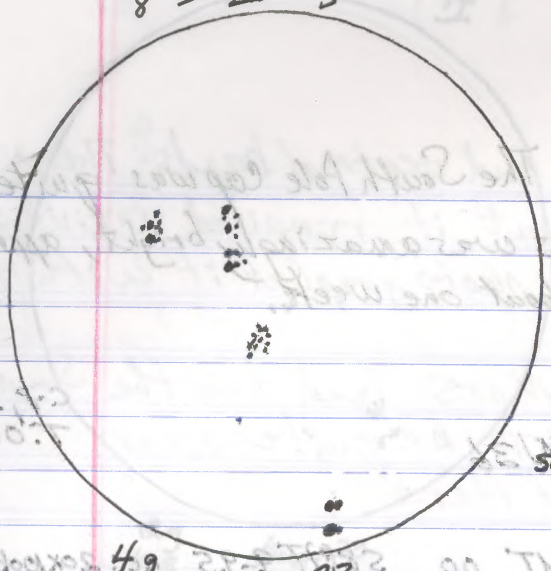
W.-Th. Aug. 20-21 02:20-04:40 UT 00 S8(?)T 9-9.5 ne; 20x100b; C-8, 17
ne: stars of summer; Mars very bright in the S.E
Auroral glow in the N. to NNW up to about 20°.
20x100b: M11 and RScuti, M16, M17, M18, M23, M24, M25, M22, M28, M8, M20, M21, M54, Uranus, Neptune, area of Mars in Aquarius.
C-14: observed Mars with the 17mm ocular at 230x without the diagonal. The South Pole Cap was very evident.
ph.: photographed Mars with eyepiece projection and the 17mm ocular.
On checking later through the window I saw that the Auroral glow had become an active, more widespread Aurora with some "flaming" or pulsation in the North to Northwest, easily seen in spite of the Last Quarter Moonlight.

Th. Aug. 21 14:55-14:57 UT t C-8, 32
sun 3g 18s RSN 48 T. O.F.

F. Aug. 22 15:40-15:45 UT t C-8, 32
sun 4g 35s RSN 75

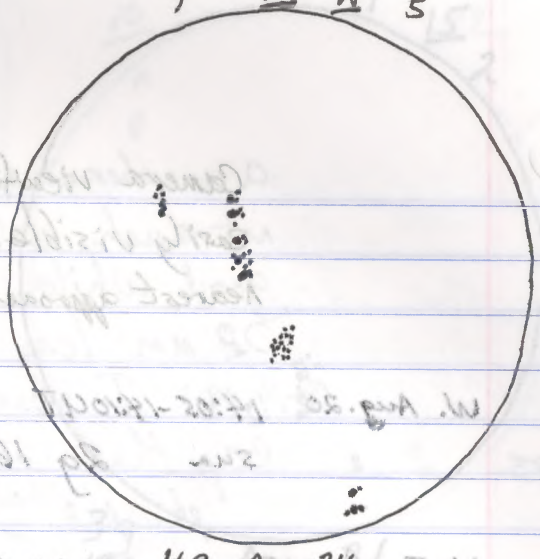
F.-S. Aug. 22-23 02:30-05:00 UT 00 S8(?)T 9.5! ne; 20x100b; C-14, 155
ne: stars of summer, one meteor about mag. 3, perhaps a slight glow in N, possibly Auroral; M31 seen fairly readily as a naked-eye object.

8 15 12 5



4.9
40S
RSN80
Aug. 23
14:40-14:45 UT

7 20 18 5



4.9 Aug. 24
50S 15:05-15:10UT
RSN90

2003

20x100b: Uranus, Neptune, M15, M11, M16, M17, M18, M25, M22, T CorBor, R CorBor, Mars and area.
C-14, 15.5: Mars.
ph.: photographed Mars using eyepiece projection with the 15.5 mm eyepiece.

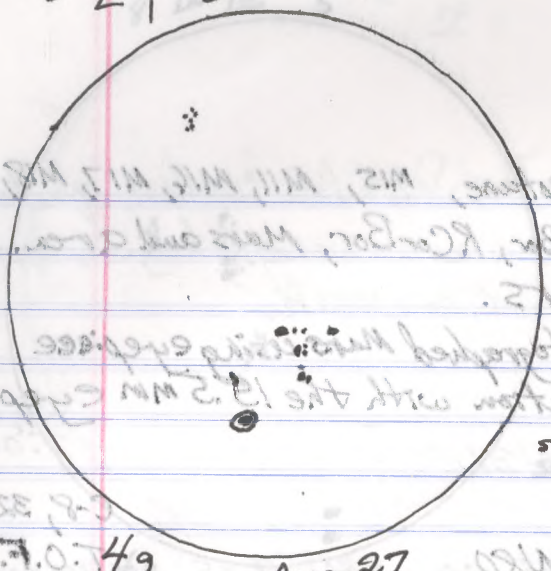
Sa. Aug. 23 14:40-14:45 UT C-8, 32
sun 4g 40s RSN80 T.O.F.

Sa-Su Aug. 23-24 02:22-05:30 UT 00 S8(?)T9.5! C-14, 12 ne; 20x100b;
ne: stars of summer, Mars extremely bright in Aquarius, one meteor of about mag. 3 that may have been a Perseid, one meteor in the NW of about mag. -1.5; perhaps a slight glow in the N. that may have been Aurora!
20x100b: area of M31, Uranus, Neptune, M11 and R Scuti, M16, M17, M18, M24, M25, M22, M28, Barnard's Star and area, M10, M12, M14, M13, M92, R CorBor, T CorBor, Areas in Cassiopeia including NGC 7789.
C-14, 12: Mars with the S. polar cap quite visible
ph: - photographed the area of Mars using 50 mm leas and 85 mm leas.
- photographed Mars using eyepiece projection with the 12 mm ocular

Su. Aug. 24 15:05-15:10 UT t C-8, 32
sun 4g 50s RSN90 T.O.F.

M.-T. Aug. 25-26 02:50-05:20 UT 00 S-8(?)T8-9 slight haze C-14, 17 ne; 18x50 15b;
ne: stars of summer Mars very bright - mag. -2.9 or brighter and about 34 hours before its closest

6 2 1 10



Aug. 27
14:50-14:55 UT

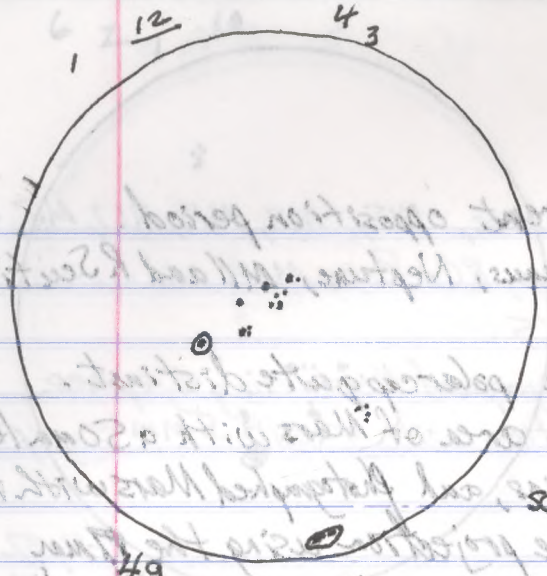
2003

approach during the current opposition period.
18x50 lsb: M15, area of Uranus, Neptune, M11 and R Scuti, M16, M17, M25.
C-14: Mars with the polar cap quite distinct.
ph: photographed the area of Mars with a 50 mm lens and an 85 mm lens, and photographed Mars with the C-14 and eyepiece projection using the 17 mm ocular.

9,7.4
T.-W. Aug. 26-27 02:50-05:50 UT oo S8(?)T9 ne; 18x50 lsb; C-14,17,
ne: stars of summer, Mars absolutely brilliant at about mag. -3.0 and by the end of the session it was only about 4 hours from the time listed as the nearest approach of Mars in approximately 60,000 years. The time for the nearest approach was listed as 9:52 UT
Mars - "very near"
18x50 lsb: M15, Uranus, Neptune, M11 and R Scuti, M16, M17 or part of it since it may have been partly behind a tree or the leaves of a tree, T Cor Bor, R Cor Bor, Alcor and Mizar. β Persei noted to be not at its maximum and it was indeed discovered to be at less than its maximum brightness.
C-14, 17, 9, 7.4: Mars which revealed one of the polar ice caps.
ph: photographed the area of Mars with the 85 mm lens and the 50 mm. lens.

W. Aug. 27 14:50-14:55 UT t C-8,32
Sun 4g 19s RSN59 T.O.F.

C-14,15.5
W.-Th. Aug 27-28 02:00-05:40 UT 00 S8(?)T9.5! ne; 18x50 lsb; Λ
ne: stars of summer; Mars very brilliant in SE and



49
205
RSN 60

Aug. 28
15:00-15:05 UT

2003

Mars! just hours after the time listed as that of closest approach to earth in almost 60,000 years, the time listed as 09:52 UT on Aug. 27, i.e., about 16 hours before the beginning of the session. Mars was at about mag. -3.0; about 4 meteors, two of which may possibly have been Perseids; Auroral glow up about 10° in the N and extending toward the NW, and fairly pronounced near and at the end of the session

meteors

Aurora.

18x50 15b: M15, Uranus, Neptune, M11 and R Scuti, T Cor Bor, R Cor Bor, M13 and M92, M71

C-14, 15.5: Mars with the S. Polar Cap very pronounced and hints, at least, of other features I used a red filter and it seemed to improve the image. I tried to see one or both of the moons of Mars - by putting the planet just beyond the edge of the field, but was not sure of seeing either of the moons.

ph: I photographed various areas of the sky, since the conditions were very good. I also photographed the areas of Mars, since it was still possible to take advantage of the rare close approach.

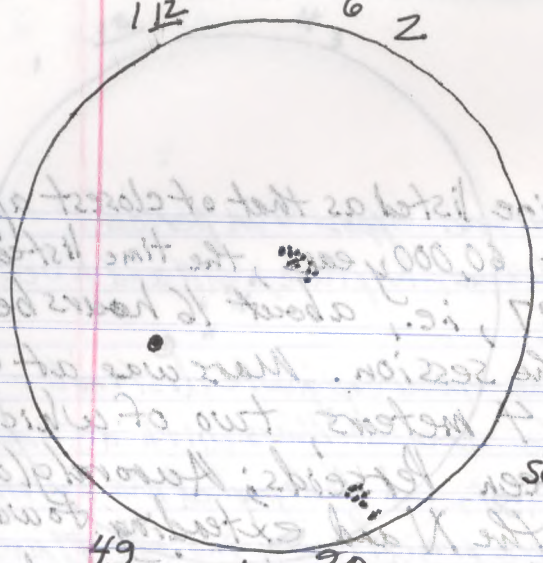
Th. Aug. 28 15:00-15:05 UT 0 C-8, 32
sun 4g 20s RSN60 T.O.F.

Th.-F. Aug. 28-29 02:15-04:15 UT 00 S-8 T 6-8 (cloud, haze) ne; 18x50 15b

ne: stars of summer, Mars extremely bright in SE.

18x50 15b: Uranus, Neptune, M8, M20, M23, M24, M25, M22, M28

The sky was somewhat cloudy at first, but then cleared up. Later, at about 04:00 UT it clouded up again and was almost completely clouded over by 04:15 UT. I decided to quit observing.



49
21S
RSN61

Aug. 30
17:52-17:57 UT

2003 F.-S. Aug. 29-30 02:20-04:20 UT 00 S(R) T1-7 (clouds) ne

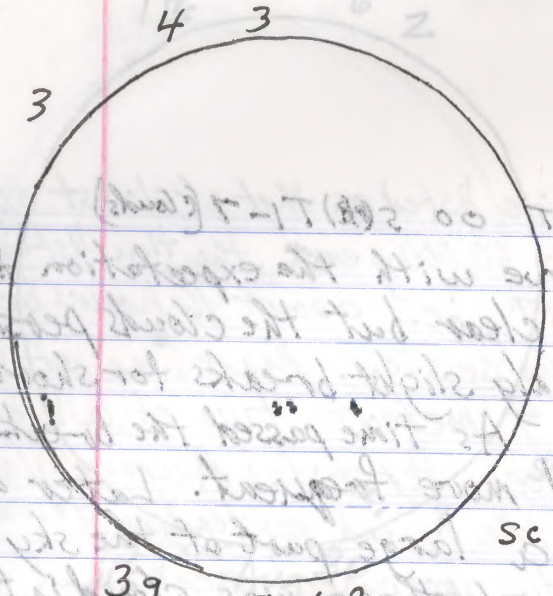
I began to observe with the expectation that the weather might clear but the clouds persisted for a while with only slight breaks for short periods of time. As time passed the breaks grew larger and more frequent. Later at about 04:00 UT a large part of the sky had cleared, but even yet there was cloud in the South where Mars had cloud interfering with a good view of its brilliant light. I decided to end the observing session though there was some hope that the sky would eventually be completely clear. There seemed to be a slight glow in the N. that might have been Auroral.

Sa. Aug. 30 17:52-17:57 UT C-8, 32
Sun 4g 21S RSN 61 T.O.F.

Sa.-Su. Aug. 30-30 02:00-05:55 UT 00 S8(π 9.5)! ne; 18x50 SB; C-4,17

ne: stars of summer, Mars extremely bright in S.E.; an extremely bright meteor which lit up the yard at about 04:30 UT, appearing in the W or WNW as I was in the yard outside the observatory and looking to the E toward the Pleiades which I was going to photograph (in the opposite direction from the fireball). When I looked around I saw an extremely bright "ball of light" that was somewhat greenish in colour. It was probably magnitude -10 or brighter and perhaps had been brighter - maybe -12 or -15 when it had lit up the yard; a glow in the N. to the NW that probably was Auroral.

- extremely bright meteor (fireball of magnitude -10 to -15).



39

Sept. 2

10S

RSN 40

18:35 - 18:40 UT

2003

18x50 15b: M15, Uranus, Neptune, M11 and RScuti, M15, M92.

C-14 - observed Mars using the 17mm eyepiece (230x), and also using the 5mm eyepiece (782x) and the 9mm. Nagler eyepiece (434.4x) The polar cap was very distinct at a range of powers.

(ph.): photographed areas of the sky with Mars in them using the ~~70~~ 50mm and the 85mm leases.

-photographed Mars using eyepiece projection and the 17mm eyepiece

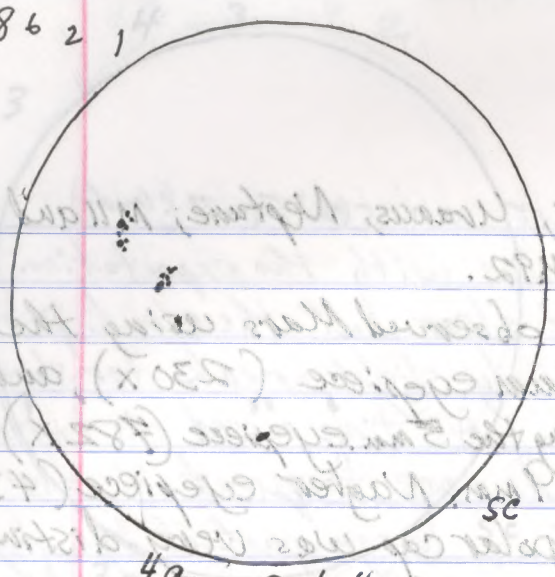
S.-M. Aug. 31-Sept. 1 01:21-03:06 UT 00 S(?)T1(clouds) ne

Hoping to observe and photograph Mars I opened the roof of the observatory, but found that the conditions remained cloudy. Among the clouds I could see the stars of the Summer Triangle for much of the observing session and the planet Mars for part of the session and sometimes other stars, but the sky remained generally quite cloudy, and I eventually ended the observing session.

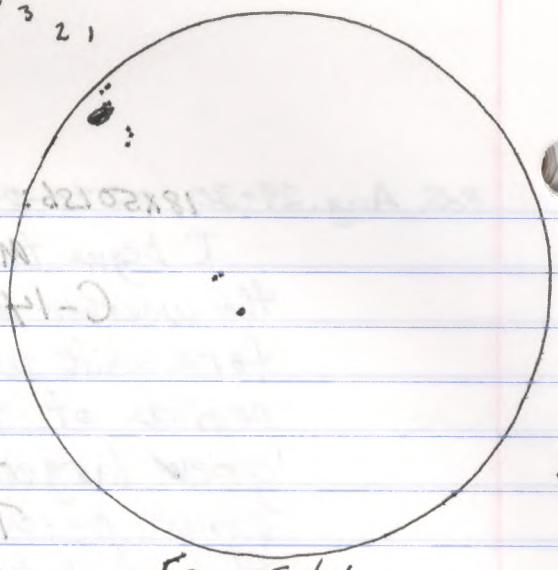
Tu. Sept. 2 18:35-18:40 UT 00 C-8, 32
sun 3g 10s RSN 40 T.O.F.

T.-W. Sept. 2-3 02:20-05:50 UT 00 S(?)T1(clouds) ne

Hoping to observe and photograph Mars, I observed for over two hours, but the weather was generally cloudy. Among the clouds I periodically saw Mars, and the Summer Triangle of stars and a number of other stars,



4g
17S
RSN57
Sept. 4
15:15-15:20UT



6g
13S
RSN63
Sept. 6
14:00-14:05UT

Power outage:

Sept. 5-6, 04:18 - 14:14 UT

12:18 - 10:14 a.m. E.D.T.

9 hours 56 minutes

- interfered with using the C-14 to observe and photograph Mars.

2003

but the generally cloudy conditions persisted, and I did not even try to observe with binoculars or with the telescope or to photograph Mars.

Th. Sept. 4 15:15-15:20 UT t C-8, 32
sun 4g 17s RSN 57 T.O.F.

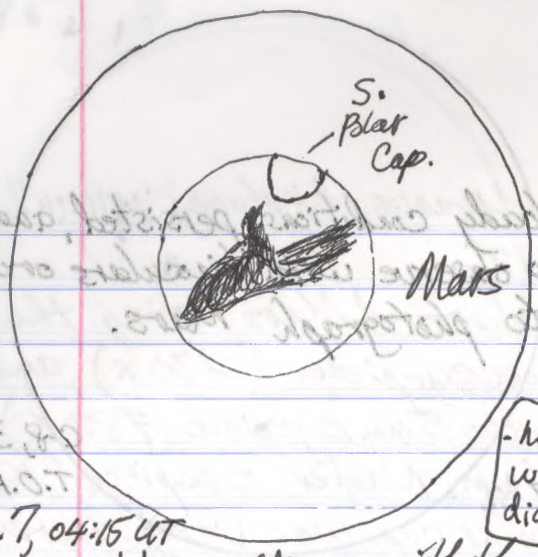
F.-S. Sept. 5-6 14:00-14:05 UT 00 S8(?)T ne
With clearing skies I decided to observe and possibly photograph Mars. The sky was quite clear, but the gibbous moon, being quite bright in the SSW sky made observing some objects difficult in the southern part of the sky. While waiting for the planet Mars to reach a point near its culmination, I came into the house briefly and while I was in the washroom the power went out. I was able to find a flashlight. I continued to observe for some time. The power had gone off at 04:18 UT (12:18 a.m.). With no power for the clock drive of the C-14, I decided not to use it to observe or photograph Mars. A fairly noticeable Auroral glow could be seen in the N, up probably 30° or more. The power remained off until 14:14 UT (10:14 a.m.), that is, for 9 hours 56 minutes — almost 10 hours!

- power outage for almost 10 hours

Auroral glow.

Sa. Sept. 6 14:00-14:05 UT t C-8, 32
sun 5g 13s RSN 63 T.O.F.

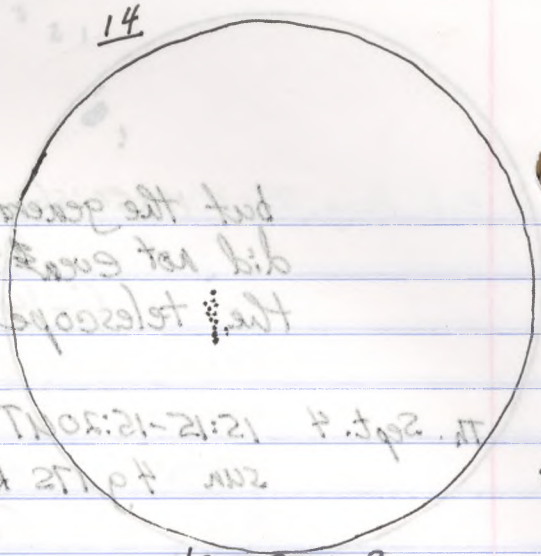
Sa.-Su. Sept. 6-7 01:30-04:30 UT 00 S-8(?)T 6 (g.m.l.) ne; C-14, 15.5,
ne: I observed the bright stars and the gibbous moon and Mars. John Vandesande came over and observed with me. I also saw one meteor



- not with diagonal

Sept. 7, 04:15 UT
C-14 View of Mars with the 19mm ocular at 205.8X

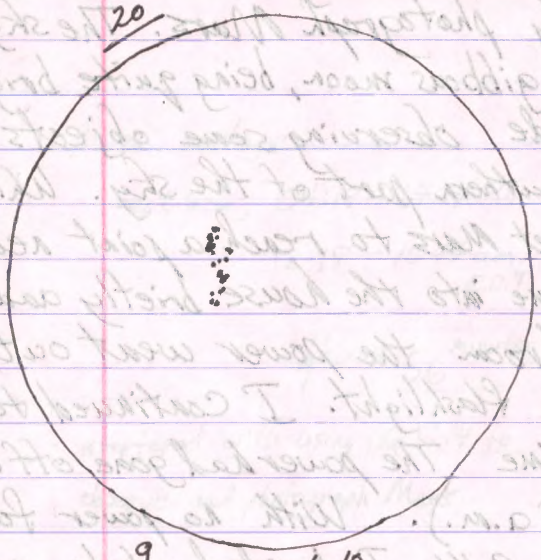
14



SC.

19 Sept. 9
14S 14:35-14:40 UT
RSN24

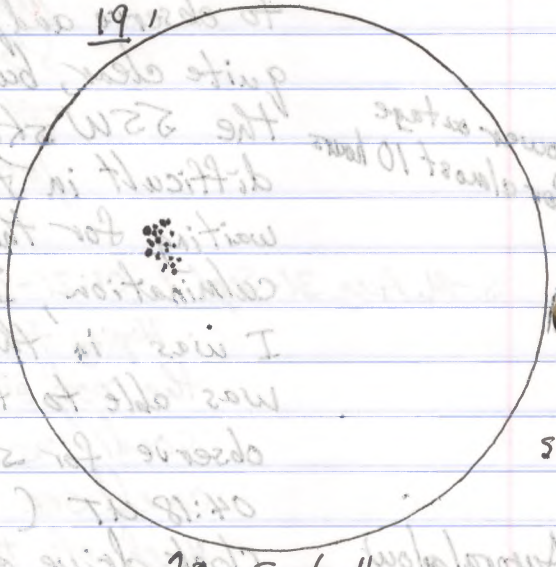
20



SC.

9 Sept. 10
S 14:30-14:35 UT
RSN

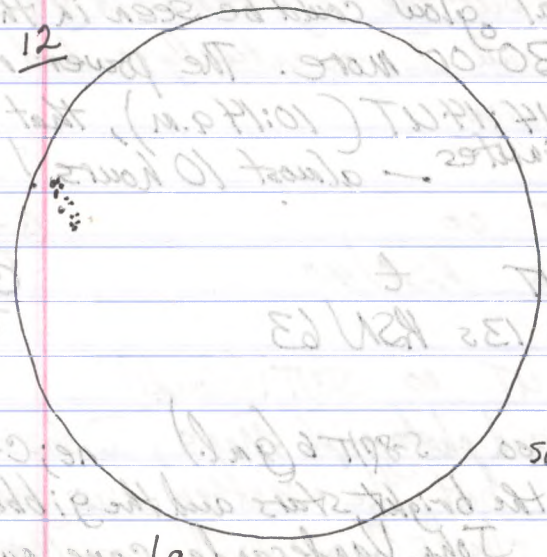
19



SC

29 Sept. 11
20S 15:55-16:00 UT
RSN40

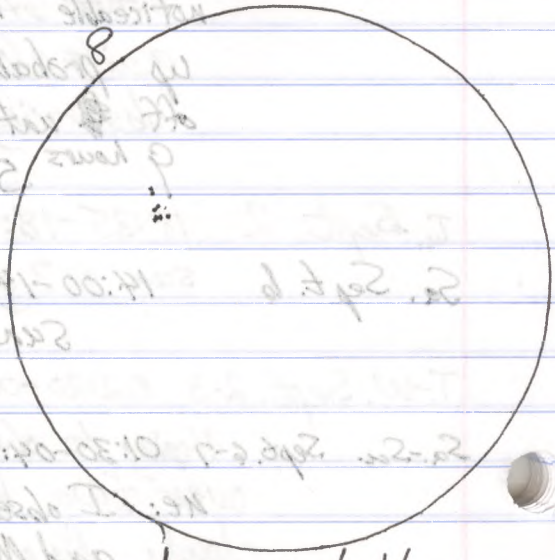
12



SC

19 Sept. 13
12S 16:25-16:30 UT
RSN22

8



SC

19 Sept. 16
8S 14:00-14:05 UT
RSN18

of about mag. 3 near Polaris
C-14, 15.5mm and 19mm: Mars and lunar craters.
(See drawing of Mars).
ph: photographed lunar craters and Mars using eyepiece projection photography.

Tu. Sept. 9 14:35-14:40 UT t C-8, 32
sun 1g 14s RSN24 T.O.F.

W. Sept. 10 14:30-1435 UT t C-8, 32
sun 1g 20s RSN30 T.O.F.

Th. Sept. 11 15:55-16:00 UT t C-8, 32
sun 2g 20s RSN40 T.O.F.

Sa. Sept. 13 16:25-16:30 UT t C-8, 32
sun 1g 12s RSN22 T.O.F.

Tu. Sept. 16 14:00-14:05 UT t C-8, 32
sun 1g 8s RSN18 T.O.F.

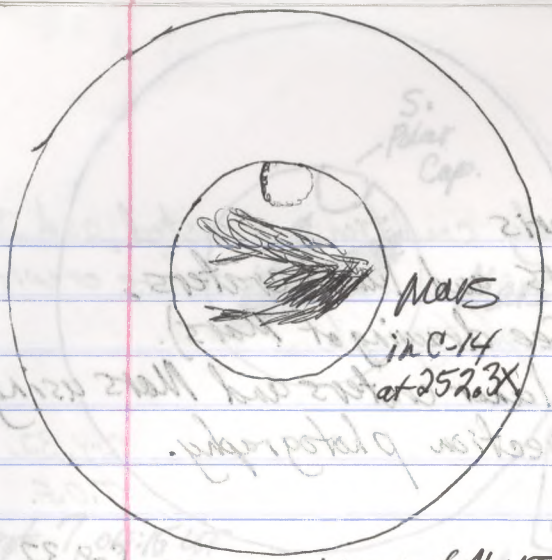
T.-W. Sept. 16-17 02:00-04:20 UT 00 S8(?)T 6-9 (L.@ moon rose) C-14, 15.5 ne; 18x50 l.b.

ne: stars of autumn with the Mars still very bright in the SE and gibbous moon, less than 2 days before Last Quarter, rising in the E; steady glow of a fairly bright Aurora throughout the session from NW to N with the strongest arc in the N. up about 20°, and at times, faint hints of some Auroral bands or spikes extending up to the area of Polaris.

Auroral glow

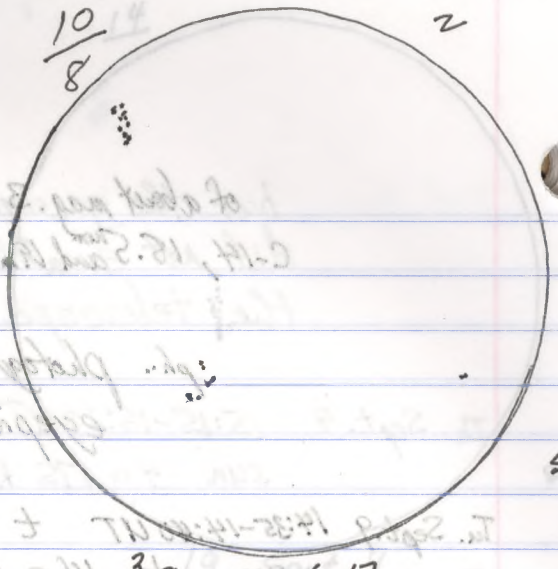
18x50 l.b: areas of Uranus and Neptune

C-14: Mars with the polar cap and one or several features visible. The features seemed



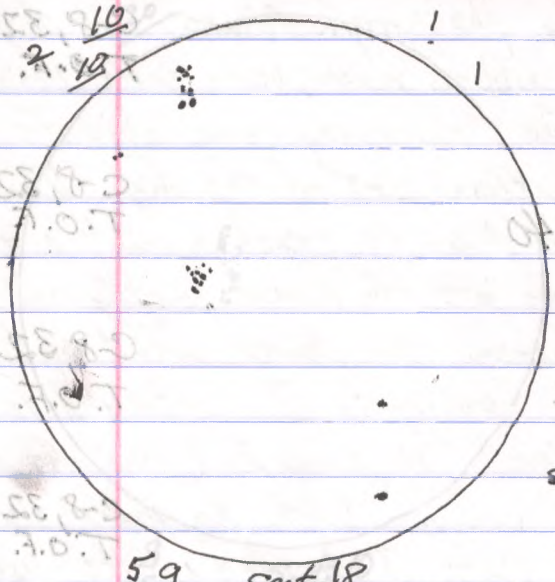
Sept. 16-17 03:00 UT View of Mars in the C-14 using 15.5 mm ocular for 252.3 X

10/8

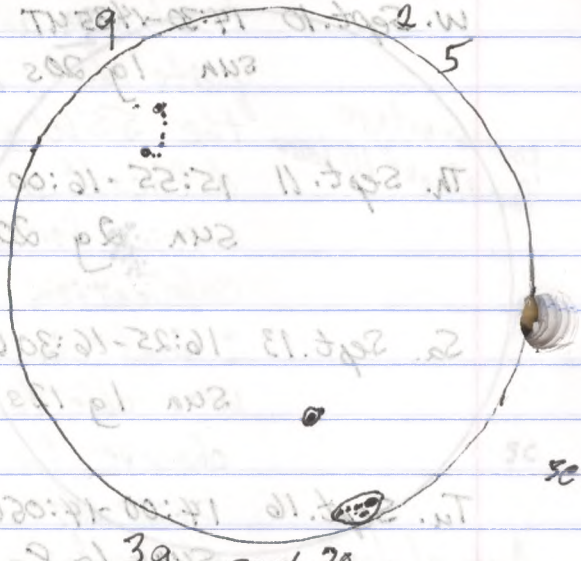


3 g 20 s RSN 50 Sept. 17 14:55-15:00 UT

10/2



5 g 14 s RSN 74 Sept. 18 14:25-14:30 UT



3 g 16 s RSN 46 Sept. 20 14:05-14:10 UT

2003

to be as clear, as or clearer than, they had been in a fair while (See diagram.)

ph: photographed area of Mars in Aquarius with the 85mm and the 50mm leases, and with the C-14 using the 15.5mm ocular for "eyepiece projection."

W. Sept. 17 14:55-15:00 UT t C8, 32
Sun 3g 20s RSN 50 T.O.F.

W.-Th. Sept. 17-18 02:45-04:25 UT nd and y S-8 T6-8 (gml.) ne; 18x50 lsb

ne: stars of autumn; Mars very bright in SE; some Auroral glow Auroral glow in N. though earlier I had seen a vertical band in the NNW; gibbous moon rising in the E.

18x50 lsb: areas of Uranus and Neptune, M31, M15.

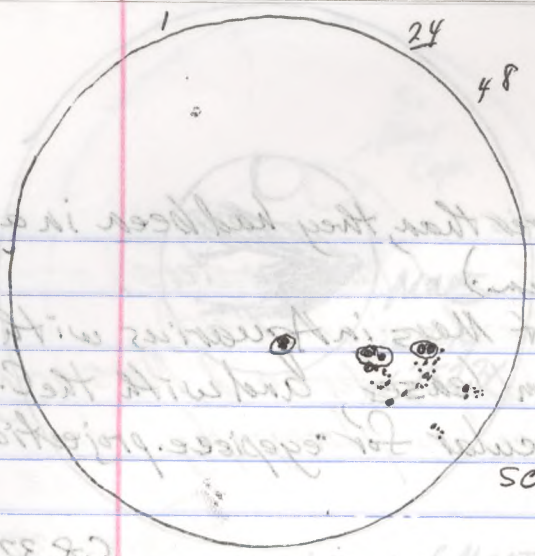
ph: photographed area of Mars in Aquarius; photographed the area of the Auroral glow.

Th. Sept. 18 14:25-14:30 UT t C8, 32
Sun 5g 24s RSN 74 T.O.F.

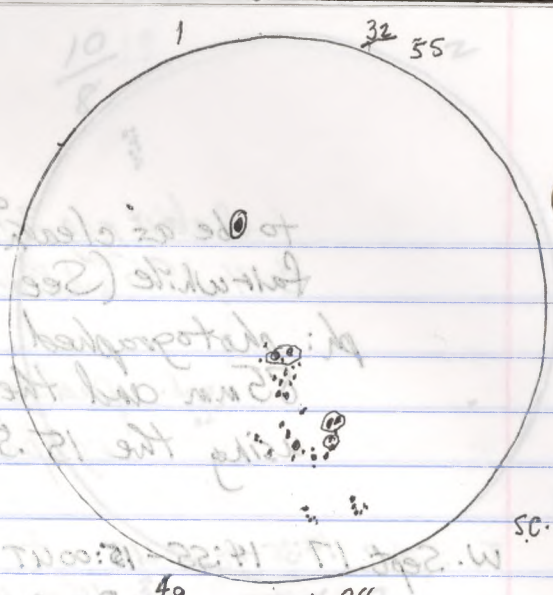
Sa. Sept. 20 14:05-14:10 UT t C-8, 32
Sun 3g 16s RSN 46 T.O.F.

Sa.-Su. Sept. 20-21 03:00-03:10 UT 00 S-TO (clouds) ne

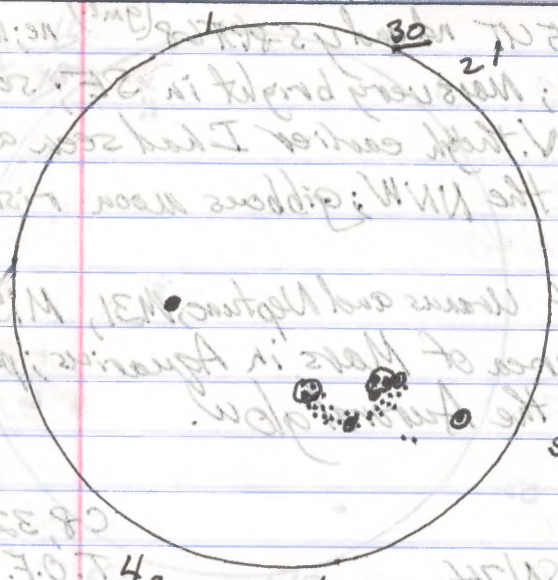
- Having opened the roof of the observatory a couple of hours before, I went out to observe hoping that the skies would be clear. (It had been a day with clear skies, though there was some cloud, and in all, a beautiful day for the football game I had attended in Kingston.) However, it was very cloudy with only a few hints of stars and the planet Venus to be seen among the thick clouds. After I closed the roof, an area



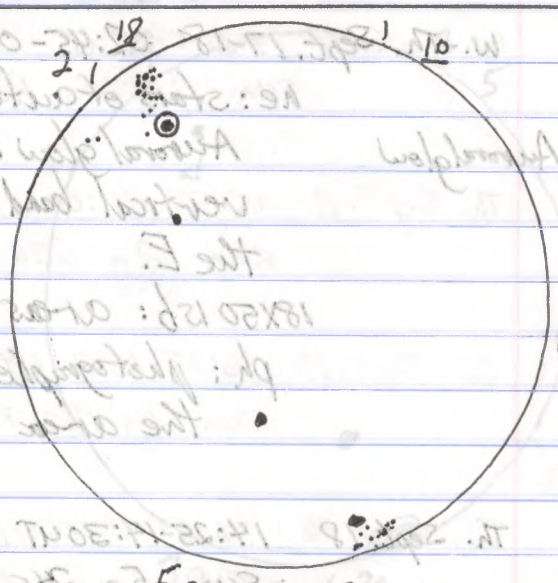
49
37s
RSN77
Sept. 23
18:55-19:00 UT



49
43s
RSN83
Sept. 24
14:30-14:35 UT



4g
34s
RSN74
Sept. 25
16:50-16:55 UT



5g
32s
RSN82
Sept. 30
15:35-15:40 UT

At the Huronia Star Party:

1) F.S. Sept. 26-27 02:00-03:00 UT at basketball court / intermittent cloud. some autumn stars, Mars through a telescope (? Takahashi reflector ?")

2) S.S. Sept. 28-29 02:00-03:00 UT at basketball court / intermittent cloud. autumn stars amid the clouds. Mars in the Takahashi telescope (7.1" reflector)

2003.

of clear skies opened up in the lower part of the western sky.

Tu. Sept. 23 : 1855-19:00 UT t C-8, 32
Sun 4g37S RSN77 T.O.F.

T.-W. Sept. 23-24 03:10-04:35 UT nd and y S-8(?)T9 (until clouded over) ne
- observed the stars of late Summer and autumn, saw one meteor high in the sky, observed a fairly strong Auroral glow in the N. up about 15°, with a vertical band in the NW for a period of time; observed Mars in the S, still retrograding and moving farther to the right from δ Aquarii and closer to γ Capricorni
Auroral glow
ph: photographed the Auroral glow and the area of Mars in the Southern sky.

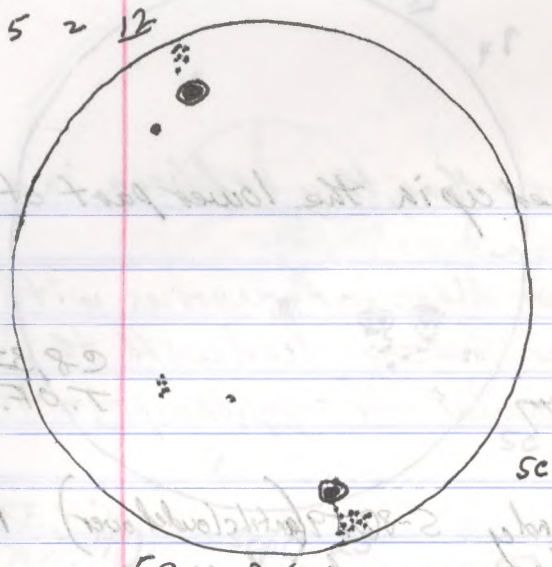
W. Sept. 24 14:30-14:35 UT t C-8, 32
Sun 4g 43S RSN 83 T.O.F.

Th Sept. 25 16:50-16:55 UT t C-8, 32
Sun 4g 34s RSN74 T.O.F.

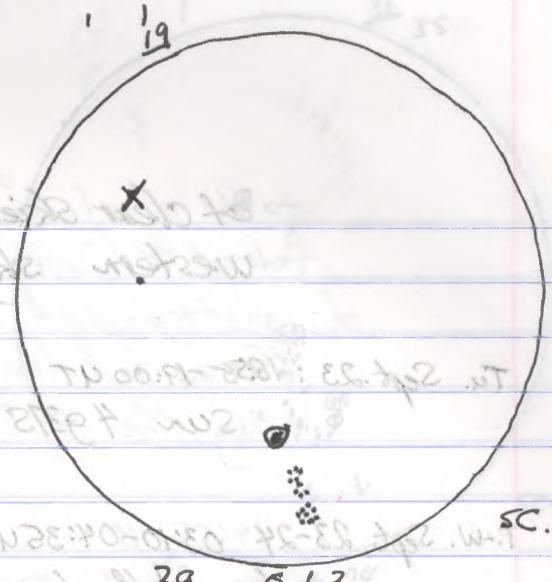
M-T. Sept 29-30 03:15-04:30 UT y S-8(?)T9 ne
- stars of autumn, Mars very bright in the S., one meteor of about mag. 3 in the S.
ph.: photographed the area of Mars, and also the area of Perseus and the Pleiades, Taurus, and Auriga.

Tu. Sept. 30 15:35-15:40 UT t C-8, 32
Sun 5g 32s RSN82 T.O.F.

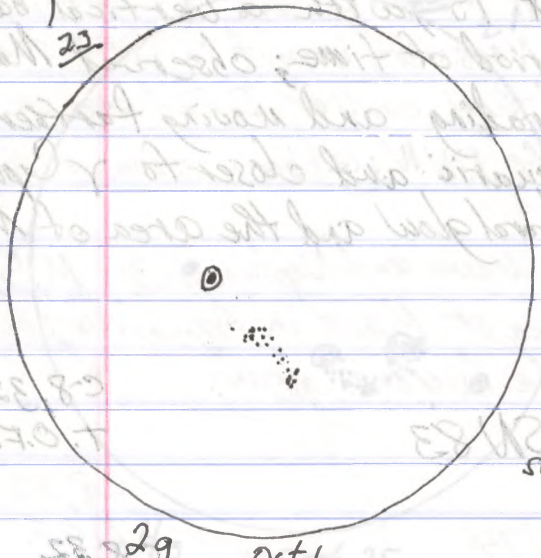
T.-W. Sept. 30-Oct. 1 03:00-04:00 UT y S8(?)T 5-8 (some clouds, in S. esp.) ne
- stars of autumn, Mars very bright in the S, especially



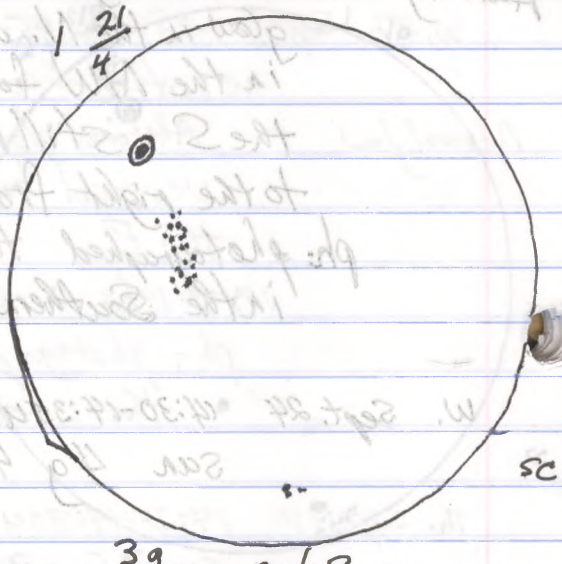
59 Oct. 1
275
RSN 77 14:20-14:25 UT



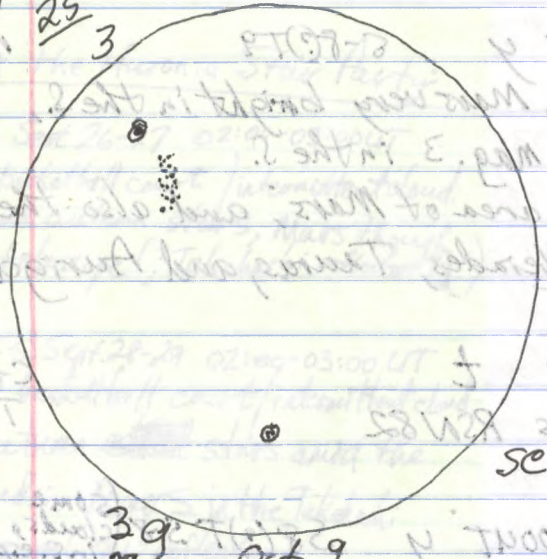
39 Oct. 3
215
RSN 51 14:45-14:50 UT



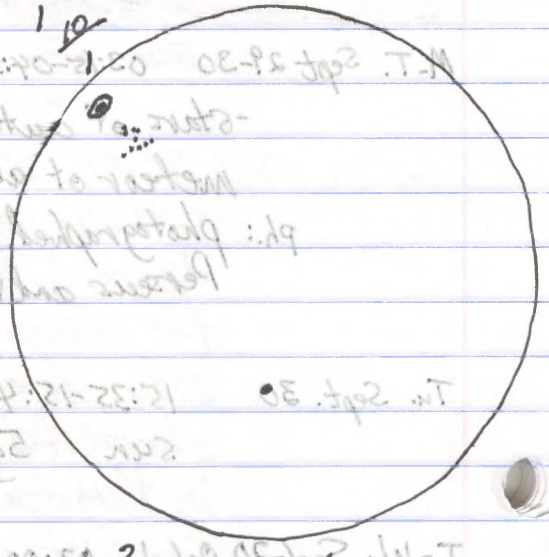
29 Oct. 6
245
RSN 44 15:15-15:20 UT



39 Oct. 8
265
RSN 56 15:15-15:20 UT



39 Oct. 9
275
RSN 59 17:00-17:05 UT



39 Oct. 10
125
RSN 42 16:15-16:20 UT

2003

in the first part of the observing session.
ph: photographed the area of Mars which had been stationary the day before and had begun forward (or eastward) motion again.

W. Oct. 1 14:20-14:25 UT t. C-8, 32 T.O.F.
Sun 5g 27s RSN 77

F. Oct. 3 14:45-14:50 UT t C-8, 32 T.O.F.
Sun 3g 21s RSN 51

M. Oct. 6 15:15-15:20 UT t C-8, 32 T.O.F.
Sun 2g 24s RSN 44

W. Oct. 8 15:15-15:20 UT t C-8, 32 T.O.F.
Sun 3g 26s RSN 56

Th. Oct. 9 17:00-17:05 UT t C-8, 32 T.O.F.
Sun 3g 29s RSN 59

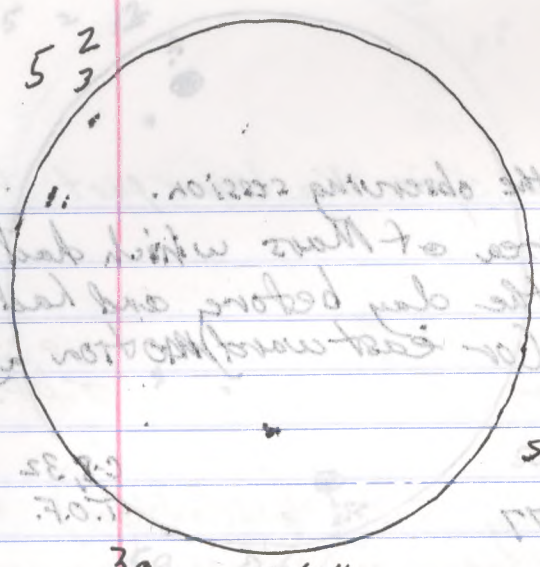
F. Oct. 10 16:15-16:20 UT t C-8, 32 T.O.F.
Sun 3g 12s RSN 42

Sa. Oct. 11 16:10-16:15 UT t C-8, 32 T.O.F.
Sun 3g 10s RSN 40

Su. Oct. 12 16:30-16:35 UT t C-8, 32 T.O.F.
Sun 1g 2s RSN 12

M.-T. Oct. 13-14 01:25-01:30 UT y+nd S-6-7 T5-6 (gml) ne
- After the moon had risen (and it was just a few hours less than 4 days after Full Moon) I observed Mars, very bright still in the

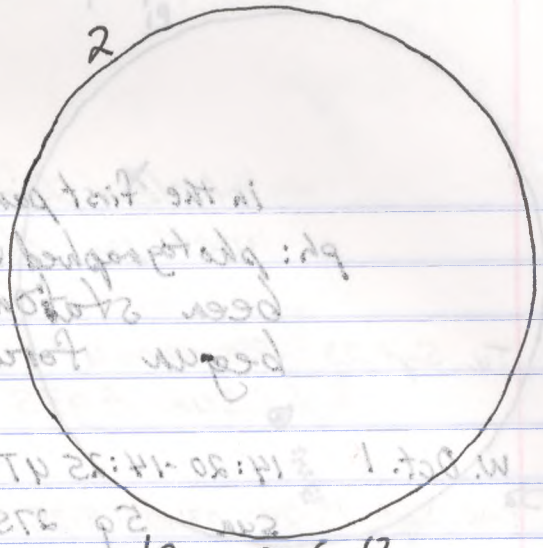
5 2 3



SC

39 Oct. 11
105 16:10-16:15 UT
RSN 40

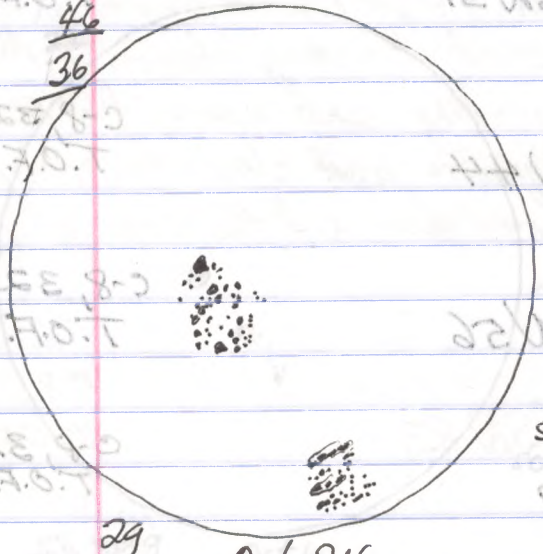
2



SC

19 Oct. 12
25 16:30-16:35 UT
RSN 12

46
36



SC

29 Oct. 24
82 17:40-17:45 UT
RSN 102

2003

Southern sky and the Summer Triangle West of the zenith.

W.-Th. Oct. 15-16 02:55-03:00 UT nd S-8(?)T7 (3 m.) ne

With the moon in the E. part of the sky I observed the stars of autumn with Mars at about mag. -1.8 in the S. and the Summer Triangle W. of the zenith. There was a glow in the N., up to about 20° above the horizon, a glow that was almost certainly Auroral.

probable Auroral glow.

F. Oct. 24 17:40-17:45 UT t C-8,32
Sun 2g 82S RSN 102 T.O.F.

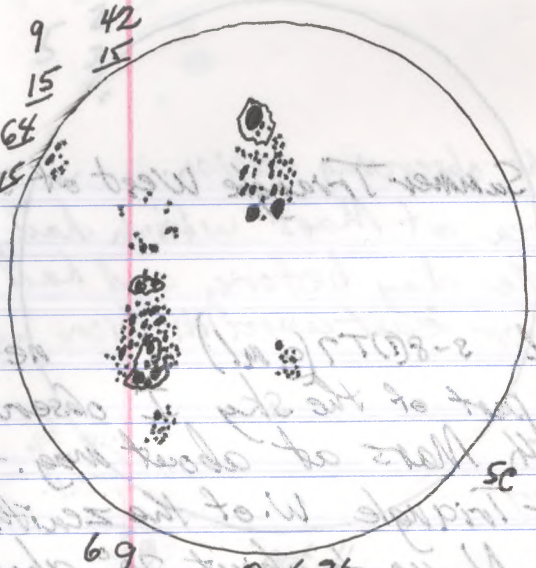
Th.-F. Oct. 29-30 02:00-03:10 UT nd and y S-8(?)T6-7 (aurora) ne

Prior to the observing session I had seen a fairly intense aurora at about 23:40 UT. It was quite red and in the East and seen about at the end of evening astronomical twilight. I again noticed the aurora as being quite intense and red in the East or Northeast while I was driving to church and later at church at about 23:50 UT.

During the observing session the aurora was less dramatic and not very active at all generally. It was a generalized glow or brightness in most of the Northern half of the sky. At times it was seen in the southern half of the sky, appearing for a while as reddish in the Southwest in the area of Mars which was in Aquarius. Briefly, there was an increase in intensity in the form of a spike or vertical band in the NW. At times also there was some increased intensity in the East and Northeast. There was relatively little colour in the aurora

Aurora

9 42
15 15
64
15



SC

69
1605 Oct. 31
RSN220 16:20-16:25UT

2003

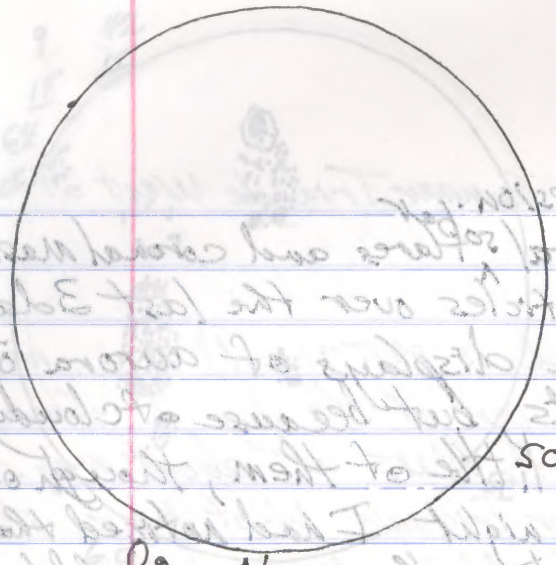
during most of the session.
There had been several solar flares and coronal mass ejections of solar particles over the last 3 days and there had been displays of aurora over the past two nights, but because of cloudy weather I had seen little of them, though on one occasion the previous night I had noticed that the sky appeared bright where the aurora could be noticed in spite of the fairly general cloudiness of the sky.

Active Aurora

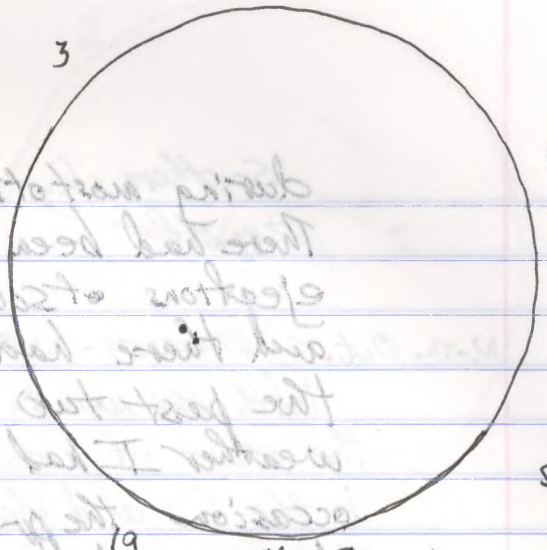
06:35-06:40 UT in ne
I looked out through the bathroom window and was pleasantly surprised to see that the clouds seemed to have disappeared in the N. and the aurora had become active with a considerable amount of flaming apparently throughout the N. half of the sky. The pulsating flames were fairly rapid and went from low to high in the N. and NW and NE. There was still not much colour evident.

06:50-07:35 UT. nd and y ne
-observed and photographed the aurora in the northern part of the sky. The display became less active, it seemed, after I began trying to photograph it. It also faded somewhat and seemed to be confined to smaller area lower in the N. part of the sky. I decided that the display had probably run its course.
ph.: photographed the aurora using the 28mm f/2 lens.

F. Oct. 31 16:20-16:25 UT t C-8, 32.
sun 6g 160s RSN220 T.O.F.



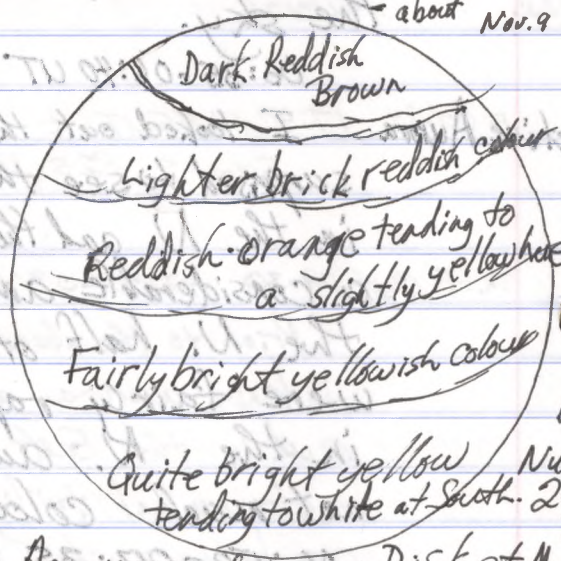
0 3
0 5 Nov. 7
RSNO 15:50-15:55 UT



19
35 Nov. 8
RSN13 15:10-15:15 UT

Predicted times for Total Lunar Eclipse of Nov. 8-9, 2003 EST

P1	22:15 UT	5:15 pm
First Noticed darkness?	22:56 UT	5:56 pm
U1	23:32 UT	6:32 pm
U2	1:06 UT	8:06 pm
Mideclipse	1:19 UT	8:19 p.m.
U3	1:31 UT	8:31 pm.
U4	3:04 UT	10:04 p.m.
Last Noticed darkness?		10:45 pm.
P4	4:22 UT	11:22 p.m.



Danjon Number: 2.6 to 3.5

Appearance of Lunar Disk at Mid-Eclipse of Total Lunar Eclipse Nov 8-9, 2003.

2003

F. Nov. 7 15:50 -15:55 UT t C-8, 32
sun og os RSNO T.O.F.

S. Nov. 8 15:10-15:15 UT t C8, 32
Sun lg 3s RSN13 T.O.F.

4:46-5:15 p.m. E.S.T.

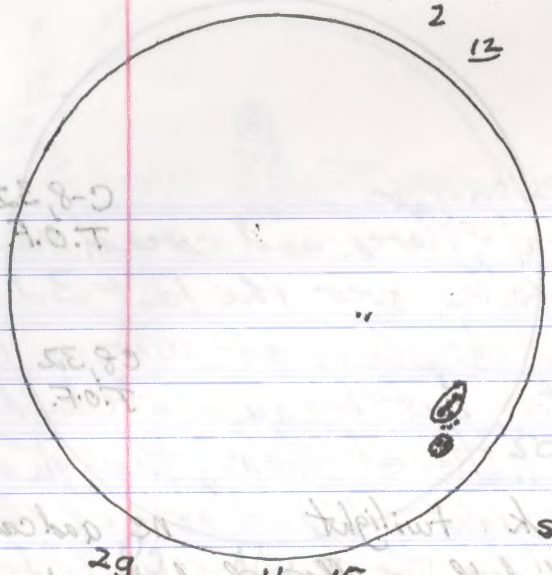
S-S. Nov. 8-9 20:46-21:15 UT sh and dock twilight ne and camera observed and photographed the earth's shadow rising in the NE and ENE and the Full Moon rising also in the ENE. The Moonrise time was given as 20:41 (4:41 p.m. E.S.T.) and the Sunset time was given as 20:47 (4:47 p.m. E.S.T.). I photographed the earth's shadow approximately every minute until 21:03 (5:03 p.m.) The moon appeared among the trees at about 20:52 (4:52 p.m.)

ne; 18x50sb

21:45-22:25 UT with some breaks y and oo Excellent Conditions

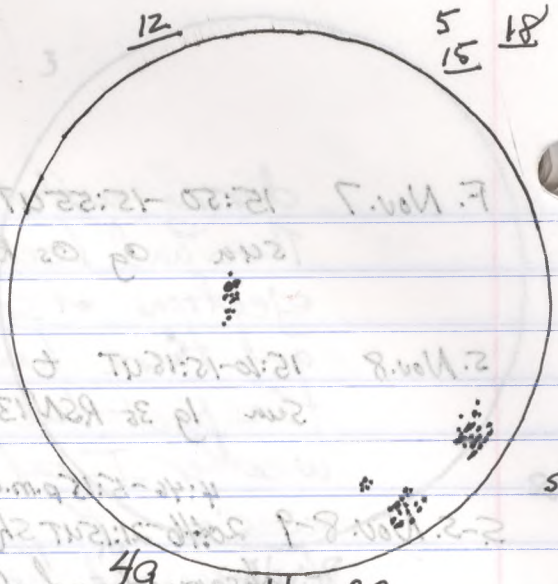
ne:- Extremely subtle changes in brightness occurred on the "left side" of the moon in the 10 minutes after 21:50 UT (i.e., after 5:50 p.m., and from then until until 22:00 UT or 6:00 p.m.) when there seemed to be "less glare" there than was evident on the "right side" of the moon. The darkening was very pronounced before and after U1 when the edge of the earth's umbra was very defined. The sky was very clear and transparent. It became clear that it was going to be a partly reddish and bright eclipse. During the 24½ minutes of totality (01:06:16 UT to 01:30:48 UT) there was a wide range of brightness and of colours from top to bottom on the lunar disk with colours listed on the diagram to the left. The Danjon range was about 2.6 to 3.5 - top to bottom. The south pole area, being very close

"Reddish and bright eclipse with superb weather conditions"



29
14S
RSN34

Nov. 15
15:35-15:40 UT



49
50
RSN90

Nov. 20
15:30-15:35 UT

2003

to the southern edge of the umbra, was quite bright and very light – a bright yellow ranging almost to white.

18x50 ISb: the moon at various stages of the eclipse; Pleiades; Hyades.

ph: a few photographs of the moon during initial partial phase and totality using the C-8, and with a second camera, the Canon AT-1, some photographs of the area of the sky using a 50 mm lens – taken near the end of totality and after the end of totality.

Sa. Nov. 15 15:35-15:40 UT t C-8; 32
sun 2g 1ES RSN 34 T.O.F.

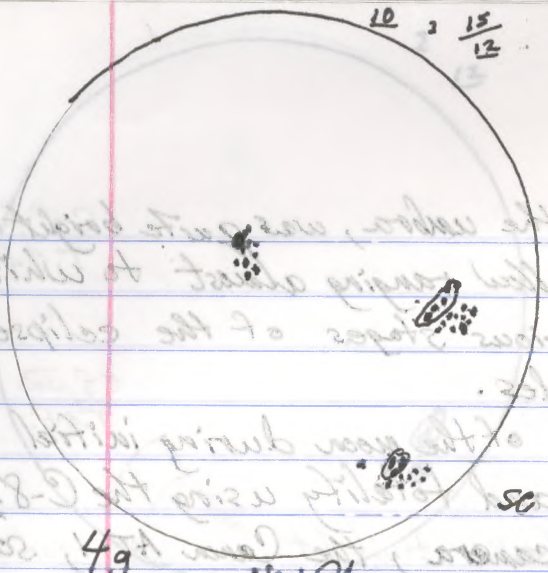
M.-T. Nov. 17-18 03:30-04:35 UT y S-7 8 T 6-7 (haze) ne; 18x50 ISb
ne: stars of autumn; Mars in W.; Saturn in Gemini;
3 meteors: a very fast one in the Gem.-Ori. border area about mag. 3.5; a slow one in the Lep.-Eri. border area about mag. 4; a fast one in the Aur.-Per. border area about mag. 1.
18x50 ISb: M35, M36, M37, M38, M42, M43, M31, M33, Saturn, area of R Lep., Saturn

W.-Th. Nov. 19-20 m 5:25-5:35 m. EST. 10:25-10:35 UT in S-8? T 8-9 (?) ne

Aurora!

Looking out the bathroom window for about a 10 to 12 minute period (with a break of a minute or two), I saw a very good Aurora in the N. and NW. It was very large and quite active. By times there were large sheets that were a bright red in colour. The vertical bands and spikes went up 50 or 60 degrees or more. There were half-second pulsations and displays of flaming. The vertical bands moved from left to right. It was and increase display.

10 : 15/12



SC

4g
40S
RSN80

Nov. 21

15:45-15:50UT

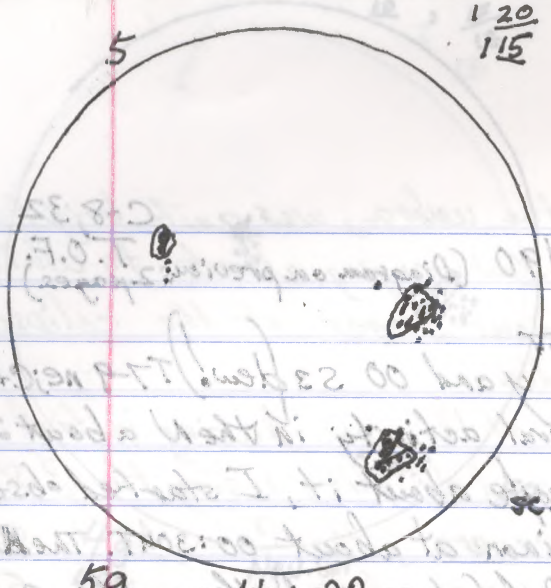
2003 Th. Nov. 20 15:30 - 15:35 UT t C-8, 32
Sun 4 g 50 s RSN90 (Diagram on previous 2 pages.) T.O.F.
7:30pm - 1:55am EST 55
Th.-F. Nov. 20-21 00:30 - 06:55 UT y and 00 S3 (dew!) T7-9 ne; C-14, 32, 19, 9, ^

ne: After noticing Auroral activity in the N about 23:00 UT and phoning a few people about it, I started observing for a regular session at about 00:30 UT. The Aurora seemed less colourful (less red) than the earlier indications seemed to suggest. Also, it generally appeared less active than the Aurora seen that morning (a little more than 12 hours earlier) but it was very widespread throughout the northern hemisphere of the sky - with large vertical bands and many, many spikes which frequently moved from left to right. At about 01:30 UT, 8:30pm EST Ken Kingdon arrived and we observed together both in the observatory with the C-14 and outside where we generally faced north to observe the Aurora. The Auroral intensity varied a great deal. By times one, two, or three arcs in the north could be seen. By times there was an intensity about the edges of the Auroral activity in the E. and in the W. The predominant colours were yellow, green, and white in the intense glow from the arcs and the vertical bands and spikes. By times the "almost black" colour of the background sky between the vertical bands was dramatic. Overall, it was a dramatic and remarkable display, if not as colourful as some other displays. We also saw a small number of meteors.

Aurora!

C-14, 32, 19, 9, 55: With a variety of eyepieces we observed a number of objects: M35, M36, M37, M38, M42 and M43, the area of the Horsehead Nebula, NGC 2244 and the Rosette Nebula, Mars, Saturn, area of ζ Orionis, the

5



1 20
1 15

59
25
RSN 92

Nov. 22,
16:40-16:45 UT

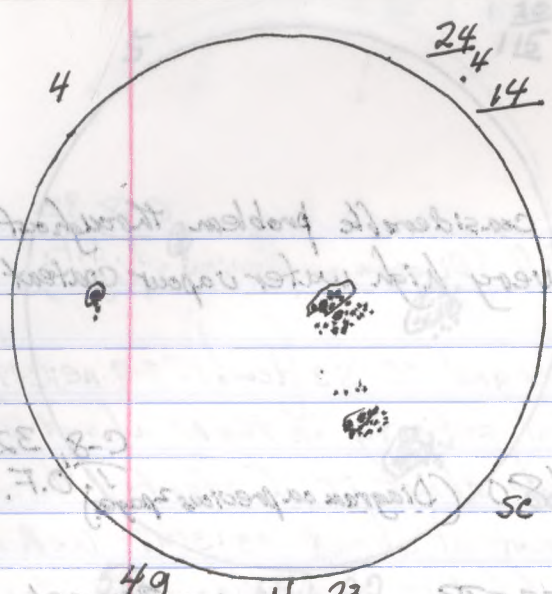
2003

Pleiades. Dewing was a considerable problem throughout the session, because of the very high water vapour content in the air.

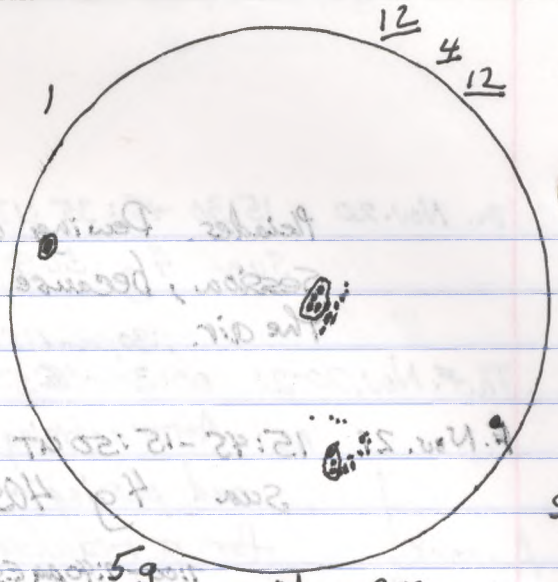
F. Nov. 21 15:45-15:50 UT ℰ C-8, 32
Sun 4 g 40s RSN 80 (Diagram on previous 2 pages) J. O.F.

7:00-7:40 p.m. E.S.T.
F-S. Nov. 21-22 00:00-00:40 UT 00 S7878 ne; 20x60
ne stars of autumn, Mars, Saturn, Dobsonian
28x60: M15, areas in Aquarius. 12" "ball-type
7:45 p.m. - 3:30 a.m. EST
00:45 - 08:30 UT ℰ S5-7T4-8 (water vapour, later haze + cloud) Ken Kingdon's
12": Ken Kingdon and I had a good and long observing session; for about 7½ hours - from about 00:45 UT (7:45 p.m. E.S.T.) until about 08:30 UT (3:30 a.m. E.S.T.). Under quite clear skies, that were nonetheless skies with less than ideal seeing and transparency, especially at certain times we enjoyed seeing many objects using his 12" "ball-type" Dobsonian telescope. We used several eyepieces including the 27 mm Telebue Panoptic which gave sensational low power views. Some of the objects viewed were M38, M35 and nearby NGC cluster, M42, M43, NGC 2244 and the Rosette Nebula, Saturn, Jupiter, R Leonis, the Eskimo Nebula, The Blinking Nebula, M46, M47, a planetary nebula called "Thor's Helmet," M44, M51, M65, M66, and nearby NGC galaxy, M81, M82, Hickson's group of galaxies, γ Arietis, the galaxies NGC 247 and NGC 253, NGC 7789. It was a very good observing session. We also saw several meteors, and I thought I saw the gegenschein in Taurus and Gemini as well as a bit of Aurora.

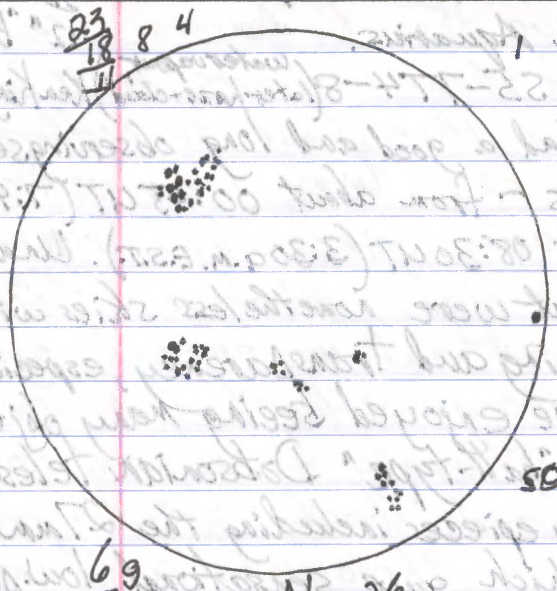
Sa. Nov. 22 16:40-16:45 UT ℰ C-8, 32
Sun 5 g 42s RSN 82 T.O.F.



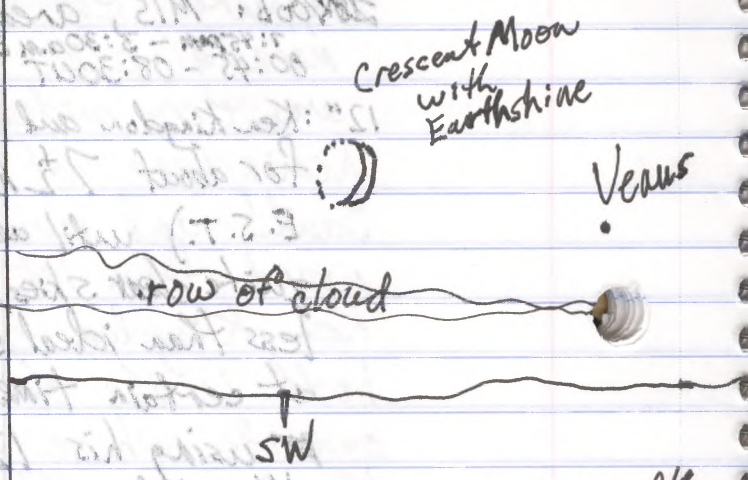
49
563
RSN86
Nov. 23
15:55-16:00UT



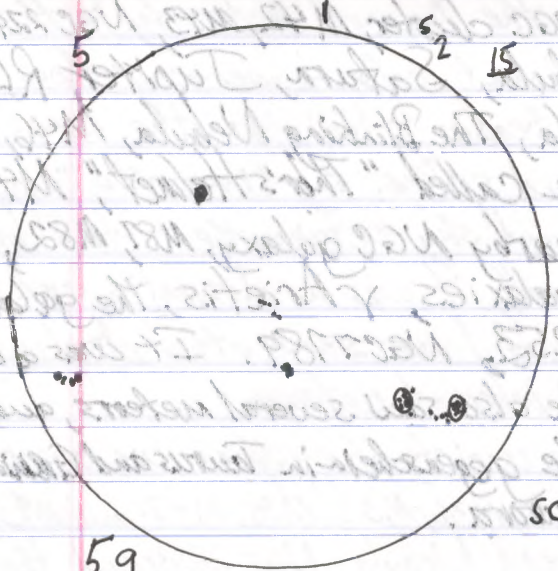
59
305
RSN80
Nov. 24
16:00-16:05UT



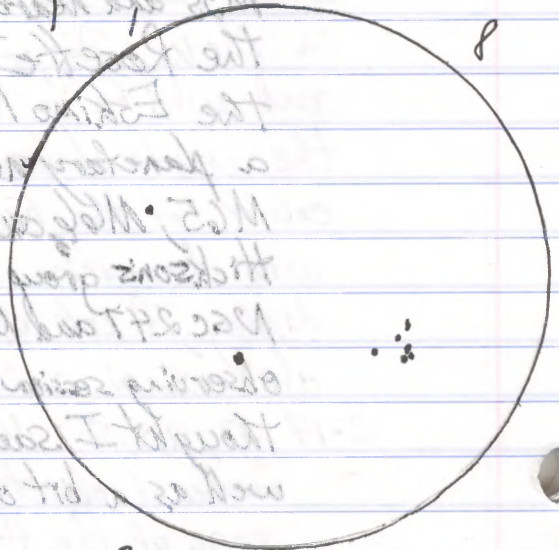
69
655
RSN125
Nov. 26
17:35-17:40UT



Nov. 26-27 22:05UT Moon and Venus
View from dock to SW.



59
335
RSN83
Dec. 3
16:20-16:25UT



39
105
RSN40
Dec. 4
18:55-19:00UT

2003

Su. Nov. 23 15:55-16:00 UT t C-8, 32
Sun 4g 46s RSN86 T.O.F.

M. Nov. 24 16:00-16:05 UT t C-8, 32
Sun 5g 30s RSN80 T.O.F.

W. Nov. 26 17:35-17:40 UT t C-8, 32
Sun 6g 65s RSN125 T.O.F.

5:05-5:10 p.m. E.S.T

W.-Th. Nov. 26-27 22:05-22:10 UT dock twl ne

Toward the SW, I saw a beautiful crescent moon, which was about 3 days old, and Venus about 15° to its right and down slightly. The moon, in fact, was about 50 minutes less than 3 days old since New Moon had been at $22^h 59^m$ on Nov. 23. (See diagram.)

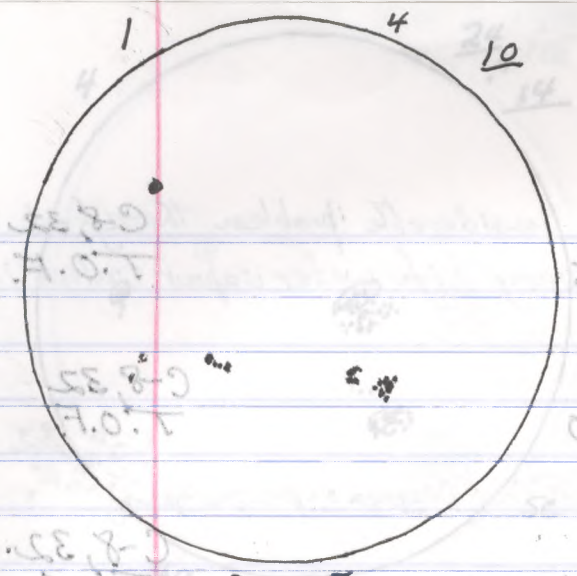
W. Dec. 3 16:20-16:25 UT t C-8, 32
Sun 5g 33s RSN83 T.O.F.

Th. Dec. 4 18:55-19:00 UT t C-8, 32
Sun 3g 10s RSN40 (-poor seeing) T.O.F.

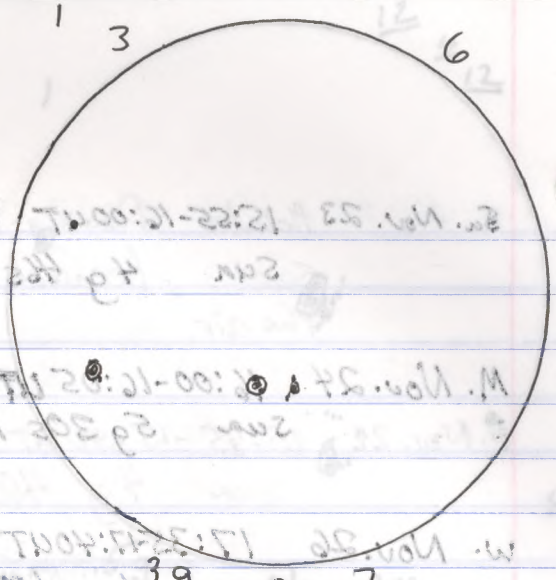
F. Dec. 5 15:50-15:55 UT t C-8, 32
Sun 3g 15s RSN45 T.O.F.

Su. Dec. 7 17:35-17:40 UT t C-8, 32
Sun 3g 10s RSN40 T.O.F.

M. Dec. 8 18:45-18:50 UT t C-8, 32
Sun 2g 2s RSN22 T.O.F.

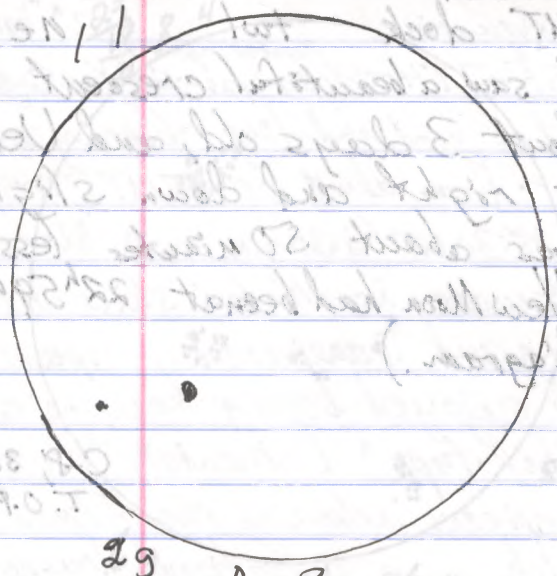


39
15s
RSN45
Dec. 5
19:50-15:55 UT



SC.

39
10s
RSN40
Dec. 7
17:35-17:40 UT



SC.

29
25
RSN22
Dec. 8
18:45-15:50 UT

2003 Sa.-Su. Dec. 13-14 03:35-03:40 UT FL:1a S8(?)T 6-8 (some cloud) ne

- After returning from a hockey game at Teco Arena, Denise and I briefly checked the sky in front of the condominium to see if we would see any Geminid Meteors, since it was the night of the predicted peak of the Geminids. In fact, they were predicted to reach their peak at 4h UT. We did not see any Geminids, but we did see Orion, Sirius, Castor and Pollux, some stars of Auriga including Capella, Procyon, and two planets, Mars and Saturn.

- some winter stars, Mars, and Saturn.

M.-T. Dec. 15-16 02:15-03:40 UT FL:1a S8T 6-7 (l/p) ne; 12½"

ne: Mars, Saturn in Gemini, Orion, Auriga, Aries, some other stars, but light pollution washed out much of the western sky

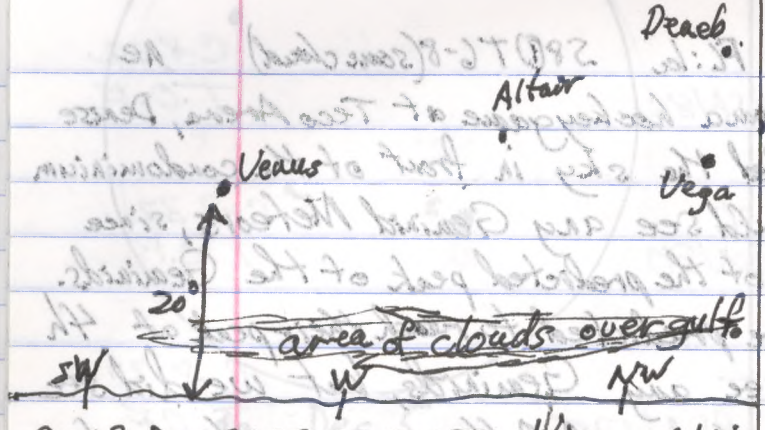
12½": Using Denise's 12½" Dobsonian, I observed Saturn with the 32mm Plössl, the MA 25mm, the 12mm Televue Radian, and the MA 9mm oculars, but the best views were with the 32mm and 25mm eyepieces. With the 32mm ocular I also observed the Pleiades, M42 and M43, the area near zeta Orionis, one of the 3 Auriga clusters - M36, M37, or M38, as well as M78 in Orion and the area near M42

W.-Th. Dec. 17-18 03:30-03:35 UT FL:1a S8T 6-7 (l/p) ne

- Mars, Saturn in Gemini, bright stars of Orion, Sirius, Procyon, Castor, Pollux, Capella, Aldebaran.

Th.-F. Dec. 18-19 00:15-00:20 UT FL:1a S8T 6-7 (l/p) ne

- Venus - very brilliant about 10° above W. horizon; Mars high in S. below the Square of Pegasus; Orion partly seen - rising in the E., Pleiades very high in E.; constellations Perseus and Cassiopeia high in the NNE; the Winter Triangle in the W.



2003, Dec. 21-22 23:30UT View of W. sky over the Gulf of Mexico at Bonita Beach.

2003 S.-M. Dec. 21-22 e. 23:05-23:50 UT FL: at Bonita Beach Gulf of Mexico twl ne; 18X50 15b

ne: Denise and I went to Bonita Beach to have a very good horizon in order to hope to see Mercury below and to the right from Venus in the Western sky. We saw Venus very easily even before getting to the beach but did not see Mercury, perhaps because of clouds low in the W. The clouds were up about 10° from the horizon. Most of the remainder of the sky was clear. The Summer Triangle of stars came into view and Mars was easily seen high in the southern sky. Fomalhaut and α and β Gruis were prominent in the SSW sky. Sunset had been at 17:40 UT (5:40 p.m. E.S.T.) and the End of Astronomical Twilight would be at 19:02 UT (7:02 p.m. E.S.T.). I observed until 18:50 UT (6:50 p.m. E.S.T.)

Venus

Mars

18X50 15b: Venus and area about 20° above the WSW horizon, area above clouds in the W., area of the Summer Triangle. -ph: photographed area of Venus.

m. 11:04-11:05 UT FL: 1a twl ne

- I observed the 'spring' constellations very high and prominent in the morning sky with Saturn in Gemini and Procyon in the W; Jupiter in Leo very high near the zenith, the Big Dipper and Arcturus in Bootes and Spica in Virgo in the Eastern part of the sky. The Beginning of Astronomical Twilight had been at 10:48 UT, about 16 minutes earlier; sunrise would be at 12:11 UT. The December Solstice had been at 7:04 UT, 4 hours before.

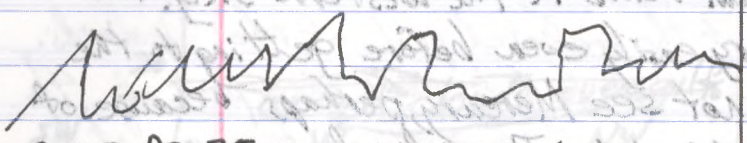
Saturn

Jupiter

Th.-F. Dec. 25-26 00:10-00:15 UT FL: at Wilshire Lakes near Naples at Candee and Joe's place twl ne

After eating Christmas dinner at the home of Denise's cousins Candee and her husband Joe and along with

Crescent moon ← Venus



2003, Dec. 25-26 00:10UT

View to West from Wiltshire Lakes Development near Naples Florida

2003

their friends Bob and Janice and five other people, I was able to observe the conjunction of the Cr.-moon-Venus conjunction on Christmas Day Crescent moon and Venus in the W. sky. They were about 3° apart and about 15° above the horizon. It was a beautiful sight. Later there were clouds in that area of the sky and the two objects could not be seen for a while. Later, however, the crescent moon could be detected in spite of some clouds. (ph: - was able to take a photograph of the conjunction.)

F.-S. Dec. 26-27 00:55-01:00 UT FL:la S-8T6-7(l/p) ne
- Crescent moon about 15° above the SW horizon with some earthshine, bright stars of Orion, Sirius, stars of Auriga, Saturn, Mars

Sa.-Su. Dec. 27-28 03:10-04:20 UT FL:la S8(?)T6-7(l/p) ne; 12½"
ne: Orion, bright stars of Auriga, Gemini, Sirius, Procyon, Aldebaran, Pleiades Mars in W. Saturn in Gemini, part of Constellation Leo rising, star Canopus in SE.
12½": Using the 32mm Plössl, the MA 25mm and MA 12mm and the 12mm Televue Radian eyepieces I observed Saturn and Titan about 1 ring-diameter away from it; also mainly with the 32mm eyepiece other objects: M41, M42, M43, area of the bright stars in Orion's Belt, 2 of the clusters in Auriga, most likely M36 and M37, also the planet Mars in the west.

T.-W. Dec. 30-31 03:35-03:40 UT FL:la S8T5-6(l/p; some clouds) ne
- Mars in SW with the moon about 1 day after First Quarter about 8° E. of Mars, Orion, Sirius, Procyon, Castor and Pollux with Saturn in Gemini, Aldebaran, Pleiades near the zenith.

Dec 3

Christmas Day

Merry Christmas and Have a Great Day!

I was able to observe the Conjunction of the Crescent Moon and Venus in the W. sky. They were about 3° apart and about 15° above the horizon. It was a beautiful sight. Later there were clouds in that area at the sky and the stars could not be seen for awhile. Early January the crescent moon could be detected in sky at same clouds. (Pic - was able to take a photograph of the conjunction)

Fri. Dec 26-27 00:55-0:00 UT Pl: Ju 5-8Te-1(Ur) Me

- Crescent moon about 15° above the SW horizon with some earthshine, brightest stars of Orion, Sirius, Procyon, Castor and Pollux, Saturn, Mars

Sa-Su Dec 27-28 03:00-04:30 UT Pl: Ju 58Te(Ur) Ne: 12°

Ne: Orion, bright stars of Auriga, Gemini, Sirius, Procyon, Pleiades, Mars in W. Saturn in Gemini, part of Constellation Leo rising. Star Regulus in Leo.

12°: Using the 32mm Plossl the M42 Nebula and Multiple star Iota Orionis Belt Stars separated

Saturn. Saturn and Jupiter about 1/2° apart - observed again tonight, also Mars with the 32mm Eyepiece other objects: M44 M42 M43 on the bright stars in Orion Belt. Zoe the Pleiades in Auriga must likely M36 and M37 also the Planet Mars in the west.

Tu-We Dec 30-31 0:35-03:40 UT Pl: Ju SaTe-U(Ur, Sometimes) Ne

- Mars in SW with the moon about 1day after First Quarter about 5° E of Mars, Orion, Sirius, Procyon, Castor and Pollux with Saturn in Gemini, Pleiades near the zenith.

2003-2004

2003, Dec. 31-2004 Jan. 1 00:00-00:05 UT FL:1a S8(?)T5-6 (gml; 1/p) ne Venus.
- Venus very bright, about 18° above SW horizon, Mars very high near the zenith and the gibbous moon about 18° E. of Mars, Orion rising in the E. over the roof of the condominium, bright stars of Auriga in the NE, and of Perseus in the NNE, and of Cassiopeia (at least four of its bright stars!) in the N.

S.-S. Jan. 3-4 01:30-03:45 UT FL:1a S8T5 (gml; 1/p) ne; 12½" (guests)
ne: Mars in SW, Saturn in Gem, Orion, bright stars of CMa, CMi, Gem, Aur.
12½: With the 32 mm, 25 mm, 12 mm, and 9 mm oculars, we observed lunar craters on the gibbous moon, and with the first 2 of those eyepieces we observed Saturn, Titan, and for Denise 2 other Saturnian moons, probably Dione and Tethys.
Guests: -Scott Milligan - Ben Milligan
-Graham Milligan-
Stephanie Milligan

06:00-07:00 UT FL:1a and in Ianai S8T5 (gml; 1/p ne
- I spent an hour looking for Quadrantid Meteors in spite of the bright gibbous moonlight. They were predicted to peak between 6h and 8h UT. I was disappointed at not seeing with certainty any Quadrantids, though I thought several times that I may have seen faint, "almost subliminal" trails, one above the roof of a condominium across the pond.
-no Quadrantids seen with certainty

S.-M Jan. 4-5 01:30-03:30 UT FL:1a S8(?)T5-6 (gml; 1/p) ne; 12½"
ne- After having observed the Crescent Moon with Scott Milligan and sons Ben and Graham, I was easily able to see Venus, Mars, Saturn, the bright

2004

stars of Orion, Auriga, Gemini, and Sirius, Canopus, Procyon, Aldebaran

12½": With guests, Scott, Ben, and Graham McElligott observed lunar craters and Saturn and Titan using mainly the 12mm Radian ocular for 127.1X. Scott and I also observed Mars and the Trapezium and M42 and M43. The performance of the telescope continued to appear to be less

M.-T. Jan. 5-6 00:20-00:25 UT FL:1a S8(?)T5(gml;1/p) 18x50sb
- Venus in SW about 15° above the horizon; very bright gibbous moon about 1½ days before Full Moon.

T.-W. Jan. 6-7 23:40-23:45 UT FL:1a twl ne
- Venus very brilliant about 25° above the SW horizon, Mars very near the zenith, the bright stars of Orion, Aldebaran, Capella, the Full Moon in Gemini about 5° from Saturn. The Moon ~~had been~~ would be in conjunction with Saturn within minutes, the event being listed to occur at 0h on Jan. 7., and it would be a Full Moon at 15h 40m on Jan. 7.

W.-Th. Jan. 7-8 02:20-02:25 UT FL:1a S(?)T5(fml;1/p) ne
- Mars high in the SW; bright stars of Orion, Saturn in Gemini with the Full Moon about 12° from Saturn, Sirius, Procyon, Capella, Aldebaran

Th.-F. Jan. 8-9 01:20-01:25 UT FL:1a S(?)T5(fml;1/p) ne
- Mars very high in SW; Saturn high in ENE with the very bright Moon about 33 hours 40 minutes after Full Moon about 30° from Saturn; bright stars of Orion; Aldebaran; Sirius; Procyon; Capella,

2004

early twl

S.-M. Jan. 11-12 m. 11:20-11:21 FL:la S(?)T 5 (gm/s 1/p) ne

- Very bright gibbous moon about 30° WSW of the zenith with Jupiter in conjunction with it about 3° to the S. The actual time of the conjunction was listed as 11 hours UT. - also Regulus which was further to the W, Arcturus which was E. of the zenith, Spica, and the stars of the Big Dipper NE of the zenith.

T.-W. Jan. 13-14 00:45-00:50 UT FL: la S(?)T 5-6 (1/p) ne

- Venus very bright about 12° above the SW horizon, Mars about 20° W. of the zenith, Saturn in Gemini high in the ENE, the bright stars of Orion, Sirius, Procyon, Capella, Aldebaran.

W.-Th. Jan. 14-15 m 11:30-11:35 UT FL: la twl ne

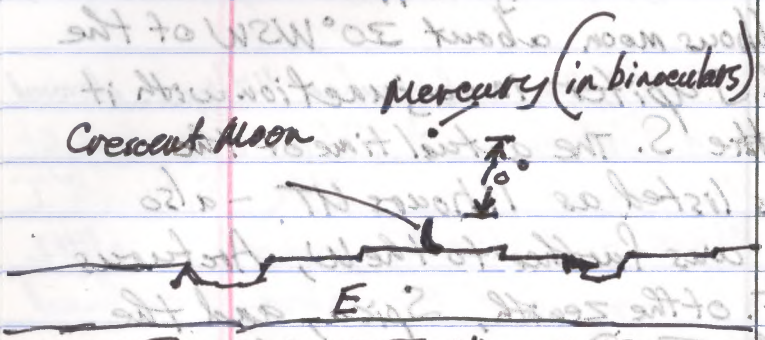
- Waning Crescent Moon very high in the SE in Virgo about 5° from Spica and about 30° E from Jupiter which was very bright, also Regulus in the W., and also Arcturus and four of the bright stars of the Big Dipper.

F.-S Jan. 16-17 02:00-02:05 UT FL: la S(?)T 5-6 (1/p) ne

- Mars high in the WSW, bright stars of Orion, Castor and Pollux, Capella, Aldebaran very high and near the zenith, Saturn in Gemini, Procyon, Sirius.

S.-S. Jan. 17-18 05:05-05:20 UT FL: la S(?)T 5-6 (1/p) ne

- bright stars of Orion high in the S., Aldebaran, Pleiades, Sirius, α and β Leporis, Sirius, Procyon, Saturn in Gemini, Castor and Pollux, γ and ε Geminorum, Capella and β Tauri, Regulus high in the E., and Jupiter in the constellation Leo.



2004, Jan. 20 11:50UT. View to E.
Old Crescent Moon and Mercury rising.

2004

S.-M. Jan. 18-19 03:25-04:35 UT S(?)T 2-6 (scattered clouds; 1/p ^ ne; 18x50 ISb ^ ne:

ne: Mars in W. Saturn in Gemini, stars of winter

18x50 ISb: Mars, Saturn, M35, M41, M42, M43, area of R Lep, star fields in Orion, Pleiades, Hyades.

6:35 - 6:55 a.m. E.S.T.

M.-T. Jan. 19-20 m. 11:35 - 11:55 UT FL: haraiand by ne; 18x50 ISb

ne: Knowing that the moon was to have risen at 11:16 UT and sunrise would beat 12:16 UT, I hoped to see the sleader crescent moon rise above a building across the pond. I spotted it naked-eye easily at about 11:45 UT as it had just partly risen above the roof of a building. It was a beautiful sight. It would have been about 33 hours and 20 minutes before New Moon whose time was given as Jan. 21, 21:05 UT. I was able to watch it for another 10 minutes or so, but I left to get the camera ready to photograph it.

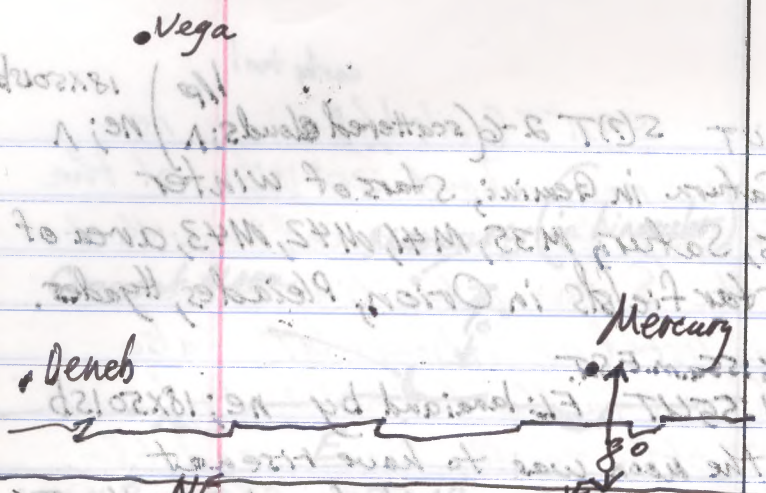
Old Crescent Moon seen naked-eye.

18x50 ISb: Slim crescent moon and Mercury well above it (possibly 10 degrees above it). Sky and telescope had shown the crescent as visible on the morning of Jan. 19th, the previous morning, to the right of Mercury, but it did not show the crescent as even being visible this morning. Of course their diagram (See Jan. 2004 issue, on the fold-out page) is designed for viewers at about latitude 40°. (See diagram.)

ph.: photographed the crescent moon rising using the zoom lens at focal length 105mm and f/11.

T.-W. Jan. 20-21 04:05 - 04:10 UT FL: 1a S?T 6 (1/p) ne

- bright stars of Orion, Aldebaran, Sirius, Canopus low in SE,



2004, Jan. 23, 11:20 UT View to E and NE showing Mercury, Vega and Deneb.

2004

Sirius, Procyon, Castor and Pollux, Capella, Saturn in Gemini very near the zenith, Regulus in the E, Jupiter very bright about 25° above the ENE horizon.

W.-Th. Jan. 21-22 02:40-04:00 UT S8T6(1/p) ne; 18X50 15b ne: stars of winter in S., Mars in W. Saturn high and 10° to S° E. of the zenith, at the end of the session Jupiter in the E., Canopus in SE.

18X50 15b: M35, M36, M37, M38, M41, M42, M43, M44 (the Beehive), M45 (the Pleiades), the Hyades, R Lep and area, star fields in Orion, NGC 2244 and area of the Rosette Nebula though the Rosette Nebula was not seen distinctly, Saturn, Mars, Jupiter, RX Lep and area

Th.-F. Jan. 22-23 04:00-04:05 UT FL: la S(?)T6-7(1/p) ne

-After returning from Edison College where I had given a short talk on the topic of transits, especially the transit of Venus, I briefly observed under very clear skies, seeing Mars in the W. about 15° above the horizon, Jupiter in the E about 25° above the horizon, Saturn very near the zenith, Orion and the bright stars of winter in the S. and Canopus low in the SE.

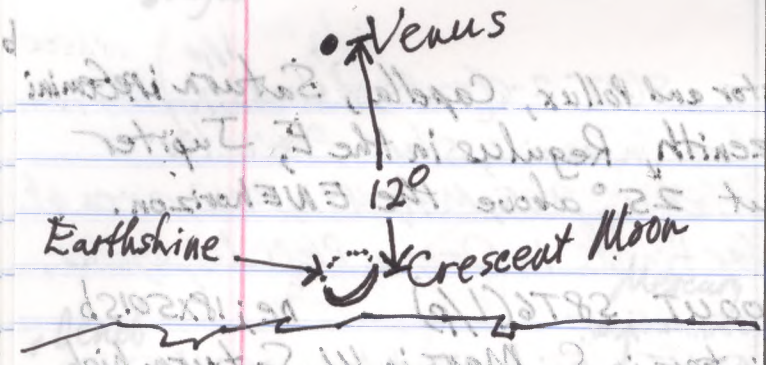
m. 11:20-11:25 UT FL: lanai twl ne

With very clear skies and morning twilight visible in the E, I observed Mercury which was easily seen about 8° above the E. horizon. Vega was also seen high in the NE and Deneb much lower. (See diagram.)

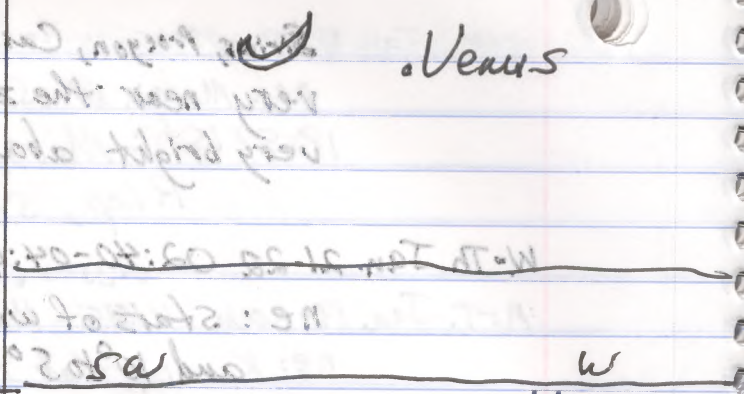
Mercury

F.-S. Jan. 23-24 00:15-00:20 Fl: la twl ne and Camera

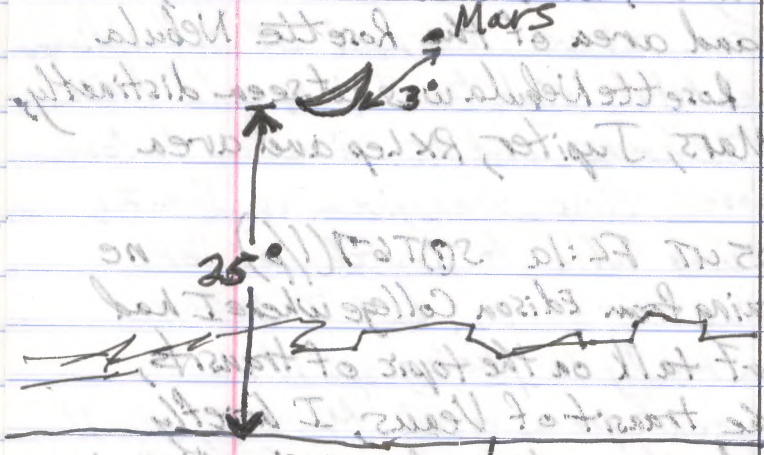
-observed the planet Venus and the young Crescent



2004, Jan. 24 00:25 UT View to WSW to the Crescent Moon and brilliant Venus



2004, Jan. 25 01:10 UT View to W.SW. to Crescent Moon and Venus.



2004, Jan. 28 03:00 UT View to SW to Crescent moon and Mars.

2004

moon about 2d 3hours old. The Earthshine was clearly visible. I photographed it with the 50 mm lens

00:25-00:30 UT FL:la ne; camera

Again I observed the planet Venus and the Crescent Moon and photographed them with the zoom lens at about 75 mm focal length. (See diagram.)

S.-S. Jan. 24-25 01:10-01:20 UT S-8(?)T6 (1/p) ne; 18x50 BA

ne: winter stars, Venus, Crescent Moon, Saturn with Moon near Venus (See diagram.)

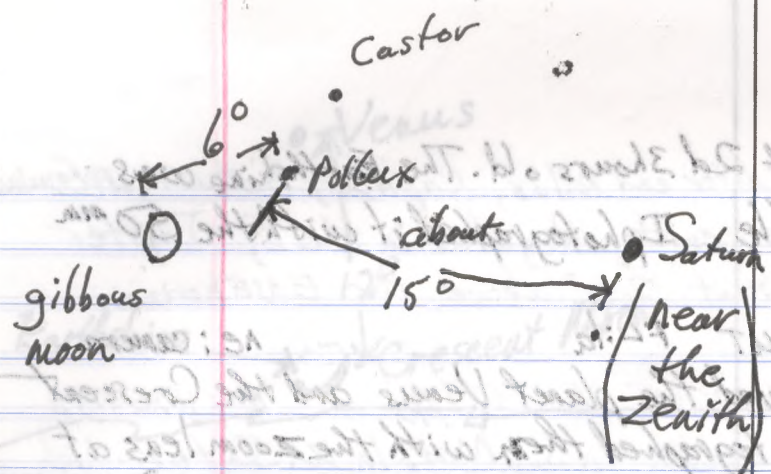
18x50 BA: Crescent Moon, with numerous craters, and Venus.

T.-W. Jan. 27-28 02:55-03:00 UT FL:la S(?)T6 (1/p) ne

- stars of winter in the S and SE, Canopus low in the SE, waxing crescent moon about 3° from Mars (Time of conjunction was listed in the Observer's Handbook, in fact as 3h on Jan. 28) about 25° above the WSW horizon (See diagram.), Saturn just a bit E of the zenith and in Gemini, Jupiter very bright, about mag. -2.4 in the constellation Leo and about 12° above the E. horizon. The Crescent Moon was about ~~and~~ 6 days and 6 hours old, since New Moon had been on Feb 21 at 21h05m.

W.-Th. Jan. 28-29 04:20-04:25 UT FL:la S(?)T6 (1/p) ne

- stars of winter in the S., Canopus in the SE, the moon in the WSW about 20° above the horizon and less than 2 hours from First Quarter which was listed in the Observer's Handbook as being at 6h203m UT, Saturn very near the



Area of the sky including the constellation Gemini and gibbous moon
2004, Feb. 5, 03:00 UT

2004

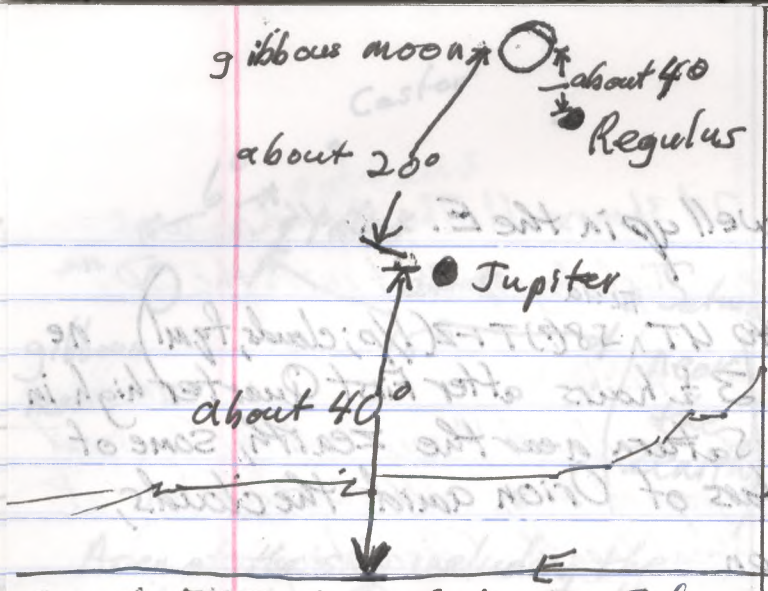
zenith, Jupiter well up in the E.

Th.-F. Jan. 29-30 02:35-02:40 UT FL:1a S8(?)T1-2(l/p; clouds, fgml) ne
- Moon about 3½ hours after First Quarter high in the W. sky, Saturn near the zenith, some of the bright stars of Orion amid the clouds, Sirius, Procyon.

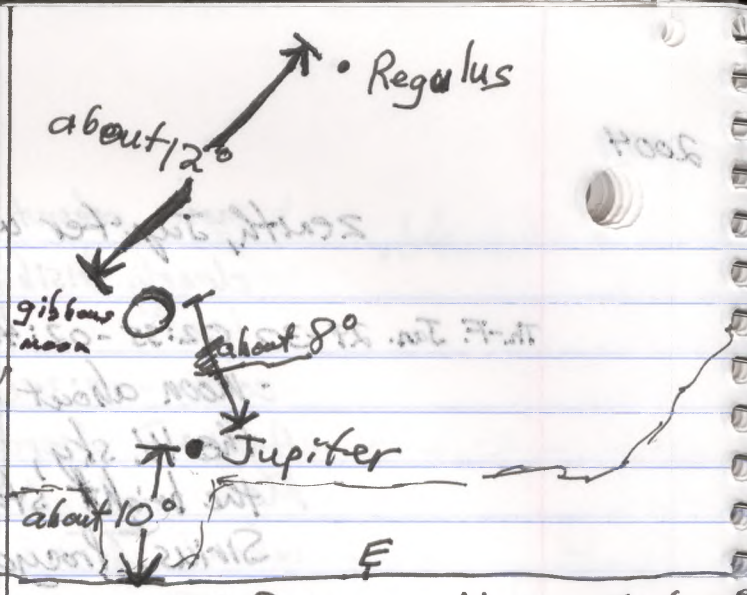
M.-T. Feb. 2-3 02:25-02:30 UT FL:1a S(?)T5-6(l/p; gml) ne
- bright stars of Orion high in the SSW, Sirius, Procyon, Castor and Pollux, the bright gibbous moon and Saturn only about 4° apart and near the zenith (The time of the conjunction, with them 4° apart, was listed in the Observer's Handbook as 4 UT about 1.5 hours later, Mars in the WSW about 40° above the horizon, Jupiter in the E. about 15° above the horizon.

T.-W. Feb. 3-4 03:45-03:50 UT FL:1a S?T5(l/p; gml) ne
- very bright gibbous moon in Gemini very near the zenith and about 10° E. of Saturn and about 4° W. of Pollux, bright stars of Orion high in the SSE, Sirius, Procyon, Aldebaran, Capella, Mars in the WSW about 15° above the horizon, Jupiter in the E about 30° above the horizon in the constellation Leo in which the stars Regulus and Algieba were also seen. Canopus was also visible in the SE.

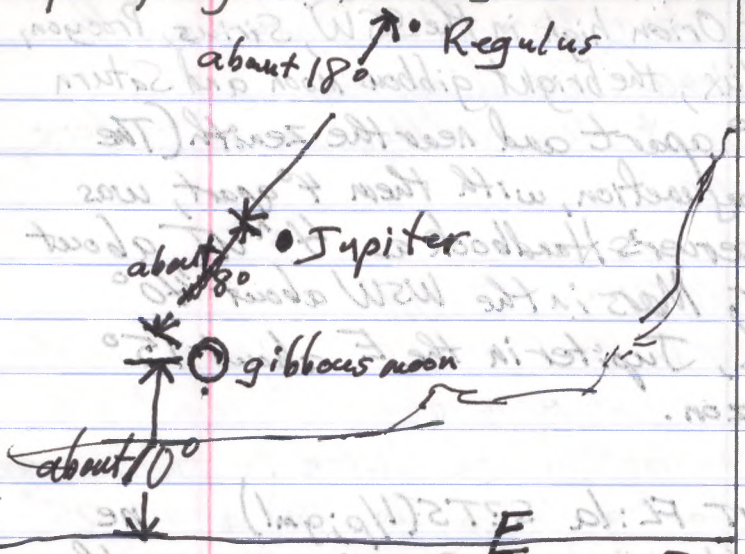
W.-Th. Feb. 4-5 03:00-03:05 UT FL:1a S(?)T5(l/p; gml) ne
- Saturn in Gemini near the zenith, very bright gibbous moon only about 30 hours before the listed time of Full Moon (Feb. 6, 8:47 UT) (See diagram),



2004, Feb 7, 4:00 UT View to E. showing Jupiter, Regulus and the gibbous moon.



2004, Feb. 8, 2:00 UT View to E. showing Jupiter, Moon and the gibbous moon



2004, Feb. 9, 2:30 UT View to E. showing Jupiter, Regulus and gibbous moon.

2004

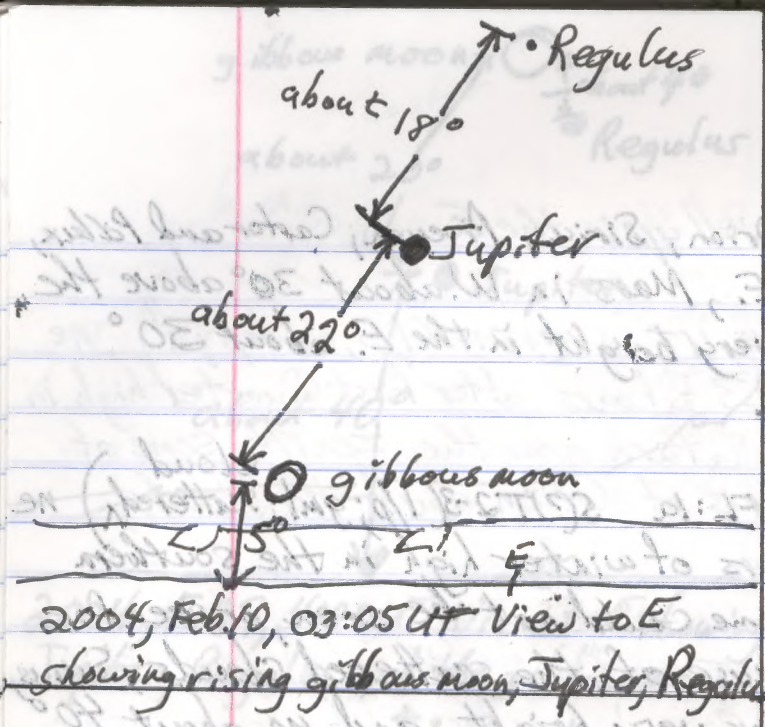
bright stars of Orion, Sirius, Procyon, Castor and Pollux, Canopus in the S.E., Mars in W. about 30° above the horizon, Jupiter very bright in the E. about 30° above the horizon.

F.-S. Feb. 6-7 04:00-04:05UT FL:1a S(?)T 2-3(1/p; gml; cloud scattered) ne
- some of the stars of winter high in the southern sky, though some could not be seen, or seen for very long, because of the scattered clouds, Sirius, Procyon, Jupiter very bright and up about 40° in the E, the very bright gibbous moon up about 20° from Jupiter and about 4° from Regulus. The gibbous moon was about 19 hours after the time of Full Moon, which was listed as occurring on Feb. 6 at 8h 47m UT. ⅔ (See diagram.)

S.-S. Feb. 7-8 01:55-02:00UT FL:1a S(?)T 5-6(1/p; gml; a few clouds) ne
- bright stars of Orion in the SSW, Sirius, Procyon, Castor and Pollux, Saturn in Gemini about 5° or so E. of the zenith, Mars high in the WSW, Jupiter up about 10° in the E, the very bright gibbous moon in the constellation Leo about 12° from the star Regulus. (See diagram.)

S.-M. Feb. 8-9 02:30-02:35UT FL:1a S(?)T 6(1/p; gml; a few clouds) ne
- bright stars of Orion high in the SSE, Sirius, Procyon, Castor and Pollux, Saturn in Gemini and near the zenith, Mars fairly high in the WSW, bright waning gibbous moon in the E below Jupiter. (See diagram.)

M.-T. Feb. 9-10 02:00-02:05 UT FL:1a S?T 5(1/p; some clouds) ne
- bright stars of Orion, Sirius and the bright stars of Canis Major, Procyon, Saturn in Gemini and



2004, Feb. 10, 03:05 UT View to E
showing rising gibbous moon, Jupiter, Regulus

2004

near the zenith, Aldebaran, Mars high in the WSW, Canopus low in the SE.

03:05 - 03:06 UT FL: [illegible] by S?T6 (l/p; gm) ne
- rising gibbous moon, Jupiter, Regulus (See diagram); also Castor, Pollux and Saturn near the zenith

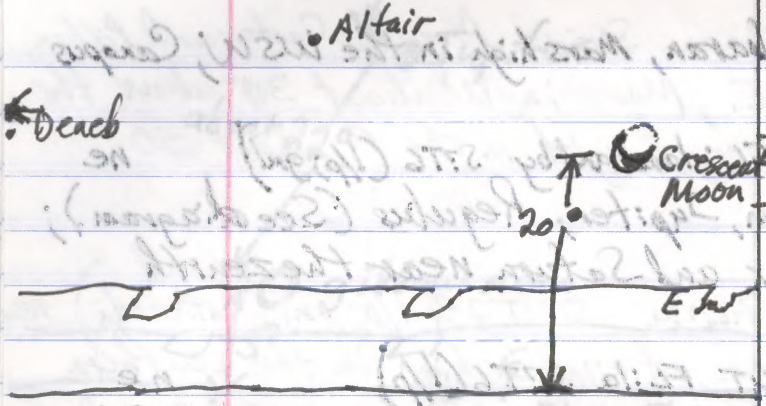
T.-W. Feb. 10-11 03:00-03:05 UT FL: la S?T6 (l/p) ne
- bright stars of winter in the S., Sirius, Procyon, Canopus in the SE, Mars in the WSW about 25° above the horizon, Jupiter in the E. about 30° above the horizon, Saturn in Gemini near the zenith.

W.-Th. Feb 11-12 00:55-02:40 UT FL: la S?T6 (l/p; a few clouds) ne; 12½"
ne: Venus very bright in the W. sky in first part of the session, Mars well up in the W., Saturn in Gemini near the zenith, Jupiter in the E. in the latter part of the session, stars of winter in the S.
12½": Venus which appeared near dichotomy observed with the 32mm, 25mm, 12mm, and 9mm oculars; Mars; M42 and M43 along with the Trapezium which were very good, observed with the 32mm ocular; also M41; area of the Hyades; the Pleiades which were good and were observed carefully, the cluster NGC2244; area of M46 and M47 E. of Sirius; Saturn and Titan. Denise arrived home from a meeting and observed Saturn and Titan and saw another moon which seems hard to identify from its position - roughly in the same direction as Titan - but may possibly have been Enceladus. (See chart of Saturn's Satellites in the Observer's Handbook 2004, page 208.

Saturn and Titan

6:05 - 6:10 a.m. E.S.T.

S.-M. Feb. 15-16 11:05-11:10 UT FL: lanai twl ne; 18x50 lsb
ne: Vega, Deneb, Altair in the NE and the



2004, Feb 16, 11:05 UT. View to the NE and E showing Crescent Moon and the Summer Triangle

2004

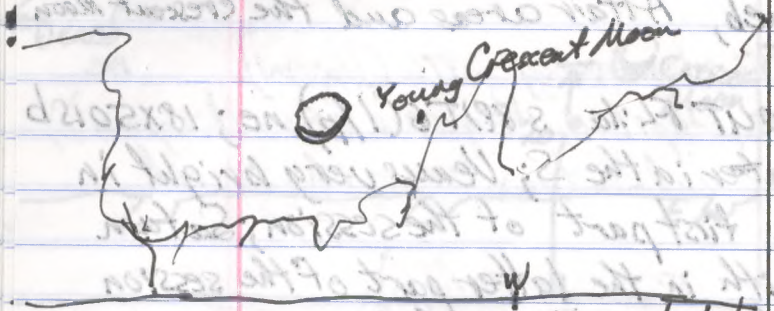
crescent moon 20° above the E. horizon. (See diagram.)
18X50 ISb: Vega, Deneb, Altair areas and the crescent moon

W.-Th. Feb. 18-19 01:40-04:00 UT FL: 1a S 8(?) T6 (1/p), ne; 18X50 ISb
ne: stars of winter in the S; Venus very bright in the W. in the first part of the session; Saturn near the zenith in the latter part of the session
18X50 ISb: M42 and M43, area of λ Orionis, area of the asteroid Ceres though I was not absolutely sure of the asteroid though I had checked with map in Sky News, Jan./Feb. 2004 page 21; M35; NGC 2169, an OC in Orion (See Sky and Telescope, Feb. 2004, p. 96-97), though I was not sure of seeing the nearby OC NGC 2194; M46, M47, and I was fairly sure of seeing the nearby OC NGC 2423 (See Sky and Telescope, Mar. 2004, p. 96.), though not absolutely positive, RX Lep, area of R Lep, CK Orionis and its surrounding area.

Th.-F. Feb. 19-20 02:45-04:10 UT FL: 1a S8(?) T6 (1/p) ne; 18X50 ISb
ne: stars of winter in the S.; Saturn near the zenith; Canopus in the SE, Jupiter in the E.
18X50 ISb: M42, M43, M46, M47, M35, CK Orionis and area, W Orionis and area, NGC 2244, M44, M67, NGC 2169 - OC in Orion

F.-S. Feb. 20-21 04:10-05:00 UT FL: 1a S8 T1 to 6 (1/p; cloudy by times) ne; 18X50 ISb
ne: stars of winter in the S.; Saturn in Gemini near the zenith. Clouds were very prevalent in the first 10 minutes of the session and again in the last 10 minutes.
18X50 ISb: area of Saturn in Gemini, area of

Venus



2004, Feb. 22, 00:15 UT View to W. of young (about 37.4 hours old) and Venus

2004

CK Orionis, M47, area of Regulus, M44, area of Sirius.

S.-S. Feb. 21-22 23:50-00:30 UT FL: place near Naples. at Bob + Janet Lomicka's, ne ne- observed the slim crescent moon about 37.4 hours old at about 15° above the horizon at first and later only about 3° above the horizon as it disappeared behind some trees. Brilliant Venus was about 15° to 20° above the crescent moon. (See diagram)

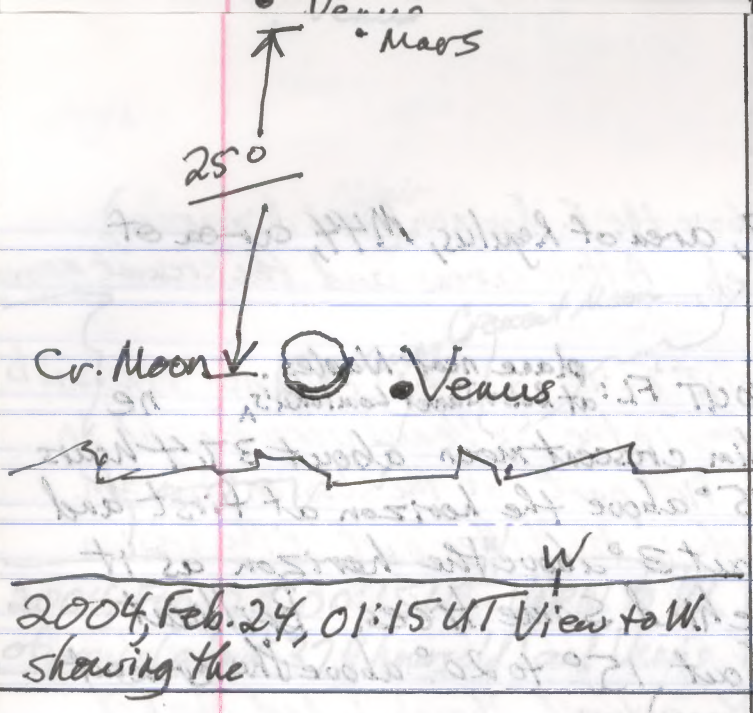
18x50 ISb:- Venus, crescent moon with Earthshine clearly visible; looked for, but did not Knowingly see, Comet C/2002 T7 LINEAR which was supposed to be near the Square of Pegasus in the W. sky.

03:45-05:00 UT FL: la S8T 4-5 (1/p; some haze) ne; 18x50 ISb ne: stars of winter, Saturn in Gemini near the zenith.

18x50 ISb: area of Saturn, area of CK Orionis, M44, area of Regulus, M47 and area, NGC 2244; looked in Gemini for the asteroids 1 Ceres and 6 Hebe (See maps on page 63 of the Astronomical Calendar 2004.) but was not sure of seeing them. The haze seemed to be a problem since there seemed to be a bit more of it than on nights I regarded as having good, or better, transparency.

S.-M. Feb. 22-23 03:50-04:30 UT FL: la S8T 6 (1/p) ne; 18x50 ISb ne: stars of winter in the S.; Saturn in Gemini near the zenith; Jupiter high in the E.

18x50 ISb: M41, M42, M43, M46, M47, NGC 2244, CK Orionis and area, Saturn and area, Jupiter and area, M44, Hyades.



2004, Feb. 24, 01:15 UT View to W. showing the

2004

M.-T. Feb. 23-24 00:10-01:15 UT FL:1a S(?)T5-6(1/p) ne
- stars of winter in the S.; Crescent moon and Venus in the W. sky; Saturn near the zenith; Mars about 25° above the moon and Venus in the W. sky. (See diagram.)
01:50-02:00 UT FL:1a ne; camera lenses
- observed and photographed the moon and Venus very low and above the roofs of the houses across the street, using Kodak Elite Chrome Extra Color 100-24 film.

T.-W. Feb. 24-25 02:35-04:00 UT FL:1a S8(?)T5-6(1/p crnl for a while) ne; 18x50 lb ne: stars of winter in the S.; Mars in the W.; crescent moon low in the W. (Venus had been seen earlier below the moon); Saturn near the zenith; Jupiter in the E.
18x50 lb: area of Mars, area of Saturn, Hyades, M42, M43, M41, M46, M47, area of R Lep., CK Orionis and area, NGC2244

S.-S. Feb. 28-29 01:55-02:00 UT FL:1a S?T6(1/p; fgm) ne
- Stars of winter in the S.; brilliant Venus about 10° above the W. horizon, Mars about 35° above the W. horizon, Saturn in Gemini and near the zenith; the moon just past First Quarter about 15° W. of Saturn (First Quarter was listed as occurring about 22.5 hours earlier, i.e., at 3h 24m on the 28th.) Jupiter about 30° above the E. horizon and in the constellation Leo.

4 planets: Venus, Mars, Saturn, Jupiter and Moon.

M.-T. Mar. 1-2 01:30-02:00 UT FL:1a S?T3(1/p; ml also clouds) ne
- In spite of considerable cloud cover, I saw 4 planets and the very bright gibbous moon. Brilliant

2004

4 planets: Venus, Mars, Saturn, Jupiter and moon.

Venus was evident in the W. about 20° above the horizon, with Mars about 25° above Venus. The gibbous moon was near the zenith with Saturn about 8° W. of it. Bright Jupiter was well up in the E.

W.-Th. Mar. 3-4 02:35-04:30 UT FL:1a S?T4½(1/p;gml) ne

- bright stars of winter in the SE; a very bright gibbous moon near the zenith and about 12° E of Castor; Saturn in Gemini; Jupiter was high in the E.

F.-S. Mar. 5-6 03:00-05:40 UT FL:1a S?T5(1/p;gml) ne; 12½"

ne: After spending most of the afternoon at Barefoot Beach with Denise and her friend Rita Romano, and Rita's daughter Marissa and Marissa's friend Christine, I observed for a while with all of those people and later with with Richard and his wife who were staying in the condominium upstairs. Besides showing most of them the bright planets and some of the bright stars, I showed them several objects in the 12½" telescope. The bright stars of winter were visible in the S. and Saturn in Gemini and Jupiter in the constellation Leo were visible.

12½": with the 32 mm, the 25 mm and the 12 mm oculars, we observed Jupiter and all 4 of the Galilean moons until the Occultation Disappearance of Io occurred at 4:31 UT. After that 3 of the Galilean moons were seen. Also Saturn and part of M42 with the Trapezium were seen. Lunar craters were also observed.

Io: OcD

Sa.-Su. Mar. 13-14 04:00-04:05 UT FL:1a S-?T6(1/p) ne

- Orion going down in the SW; Sirius and Procyon in the S;

2004

Auriga in the W; Castor and Pollux higher in the W; Saturn below Castor and Pollux; bright stars of the constellation Leo very high with Regulus about 10° ESE of the zenith and the planet Jupiter about 20° ESE of the zenith; Arcturus and Spica easily seen well up in the E; the bright stars of the Big Dipper seen well up in the NNE.

FL: Villages of Bonita development

M-T. Mar. 15-16 03:00-03:15 4T^ S? T6 (1/p) ne

- While going for a walk with Denise and Bill and Marylou Rice, I observed a number of areas of the moonless sky on a fairly mild evening. In the N. and E. the Big Dipper was visible along with Arcturus and Spica and Polaris and Kochab. The bright stars of Orion were easily seen in the SW along with Sirius, Procyon, Aldebaran and more to the W, the stars of Auriga. West of the zenith Saturn was seen in Gemini; Mars was down in the W., and Jupiter was well up in the E. in the constellation Leo.

W.-Th. Mar. 17-18 02:50-04:00 FL: 1a S-? T6 6.5 (1/p) ne; 12½"

ne: Jupiter high in the E; Saturn in Gemini; Mars had been seen in the W. earlier; bright stars of winter in the S and W.

12½": Using the 32 mm, 25 mm, and 12 mm oculars, I observed Jupiter and the 4 Galilean moons with Callisto and Io on one side, and Europa and Ganymede very close to each other on the other side; also Saturn and Titan, and NGC2244, and M41, and M42 along with the Trapezium.

Relative Sunspot Numbers

Date:	My Observation:
2003	
2152 Apr. 27	110
May 3	119
4	118
18	38
19	67
21	42
June 6	71
10	129
2160 15	49
16	45
17	49
20	95
24	65
26	61
30	74
July 2	78
5	64
6	65
9	75
23	90
25	33
28	58
29	54
30	41
Aug. 2	69
13	58
14	69
15	90
2180 16	82
17	74
18	66
~~19~~	~~44~~
20	36
21	48
22	75
23	80
24	90
27	59
28	60
30	61
Sept. 2	40
4	57
6	63
9	24
10	30
11	40
13	22
16	18
2200 17	50
18	74
20	46
23	77
24	83
25	74
30	82
Oct. 1	77
3	51
6	44
8	56
9	59
10	42
11	40
12	12
24	102
31	220
Nov 7	0
8	13
15	34
2220 20	90
21	80
22	92
23	86
24	80
26	125
Dec. 3	83
4	40
5	45
7	40
8	22