

2001/03/19 - 2002/04/25 653-804



GEOFF GAHERTY



309 ORIOLE PARKWAY
TORONTO, ON M5P 2H6

Home/Maison/Casa: 416 481 7581

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Cell./Cell./Cel.: Fax 416 482 4503

Internet: ggaherty@home.com

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653e 2001-03-19/20 20:00-22:00 EST Farns of the Credit 2 25cm r/l
Although it had been clear all day, it was cloudy by the time I got to Farns of the Credit. Observed M42, Jupiter, Saturn, & Eskiman Nebula through the clouds. Guy Mason inspected my log books & signed my NGC certificate application. He will take it to council & pass it on to the national office so that I will get my certificate at the G.A. in London in 1st July.

654e 2001-03-22/23 18:50 EST Oriole 3rd fl. bathroom 7 6x18b 7x50b.
Venus: phase early \bar{c} 7x50 Bushnells, visible \bar{c} 6x18 Nikon

→ 18:50-19:20 EST Oriole driveway 7 15cm r/r
Jupiter & Saturn 240x: seeing very poor, wind shaking telescope, even on G-11. SEB clearly divided into two components at this longitude. People have much more obvious on Jupiter. Jupiter's moons were nice tight images, with little colour but Jupiter itself was awash \bar{c} purple glow & detail by very hard to see. Saturn appeared much sharper, Cassini division visible all the way around.

655e 2001-03-23/24 18:50 EST Oriole 3rd fl. bathroom 6 6x18b 7x50b
Venus: Crescent clearly visible in both bins, but especially clear in 7x50s

→ 19:20-20:00 EST Oriole driveway 7 15cm mn, 13cm r/l, 10cm r/r
Saturn: 15cm mn & binovision \bar{c} 16cm \bar{c} 225x, Seeing fair (≈ 3).
Jupiter: -15cm mn & but 16 Red spot just approach EM, SEB split following RS, single broad band p RS.
-13cm r/l (with new motor drive bought today) - 162x seemed a bit high, better @ 130x (5mm Raktia). RS not clearly visible.

April 3/4
 Jupiter satellite predictions

	<u>UT</u>	<u>EST</u>	<u>Exp + II</u>	<u>III</u>	<u>IV</u>	<u>I</u>
	2218	1818	Tr I			
	2225	1825		Tr I		Obs
	2231	1831				Obs
1930 →	0025	2025	Sh I	1937	1937	
observed ↓	0049	2049		Tr E		
	0056	2056				
2140 ↓	0147	2147	2144			EcR
	0248	2248		Sh I		
	0303	2303	Sh E	2358		
	0509	0109		Sh E		

Sun

Earth



-10cm rri dish appears yellowish & purple glow @ 125x, Despite this, detail shows much higher contrast than 13cm r.l @ 130x. RS still not certain

3 way comparison: 15cm mm miles better than either of the smaller scopes. Image in 10cm rri surprisingly snappy despite colour errors. New drive on 13cm r.l needs tinkering to adjust speed close to sidereal. Next I want to try mounting 10cm rri on EQ-2 mount. Neither 15mm nor 13rr had reached thermal equilibrium - both were showing hot planes.

656d

2001-04-03 09:05-09:15 EDT Oriole driveway, 6 10cm rri

Sun: The really big spot is gone, but there are many many smaller spots, including a triple spot: a large spot divided in two by a bright bridge (the remnants of the recent naked eye spot?) with a third spot in the same penumbra. Best at 20x, ~~50x~~ not sharp, 104x also not sharp

(Venus) not possible to block Sun & see area of Venus at this time of day

657e

~~2001-04-03/04~~ ^{20:20} 2001-04-03/04 19:30-21:40 EDT Oriole driveway, 7 15cm mm

Moon: Detail @ 16mm Plössl in binoviewer is awesome. I'm seeing rilles I've never seen before. E.g. Rima Hippatus: three concentric rilles, outermost blending into Rima Agatharchides. N Rima Plata really easy. Hints of SW end of rille in Vallis Alpes, even though Sun is quite high.

Jupiter: 16mm/binoviewer. Observed alignment: Sun, Earth, Callisto, Ganymede, Europa, Jupiter, Io. When I started watching ~ 19:50 EST, Callisto was directly S of Jupiter's S pole, Ganymede was visible as a grayish spot on Spaler region,

<u>bino</u>	<u>stráži</u>	<u>approx. povH</u>
24.5 m	= 6 m	= 150x
16 mm	= 4 mm	= 225x
15 mm	= 3.75 m	= 240x
14 m		260x
12.5 mm		290x
12 m		300x
10 m		360x

8:30-9:30 Júpiter Saturn M45 & Leo

10:15-10:20 Moon

10:45-10:55 Moon star test

~~Saturni quick look b~~

Europa was invisible against SEB. Gradually Ganymede faded into background, then became visible as bright spot against Jupiter's limb. Then I noticed ~~Europa's shadow~~ Jupiter in Maple tree - moved scope to:

→ 20:30 - 21:40 EDT Oride N yard 7 15mm

Jupiter: Europa's shadow now on disk. Ganymede becoming brighter against J's limb, & Europa now becoming visible. Ganymede & then Europa moved off limb within minutes of each other.

Saturn: quick look \bar{c} 16mm/binoviewer

Moon: compared 16mm/binov \bar{c} 4mm Radian & 24.5mm/binov \bar{c} 6mm Radian - magnification virtually the same, but detail much easier to see \bar{c} binoviewer. It's easy to just fall into the view \bar{c} binoviewer.

Jupiter: seeing really bad, so quit for evening.

The Images with 16mm Plössl, binoviewer, and 15cm MakNewt are simply awesome. The detail just jumps out at you. I think the image could tolerate a bit more magnification.

\bar{c} G. Nadia

658e 2001-04-08/09 20:30-21:30 EDT Oride N 6 20cm r1 Diana Peas, Sean Gabarty, N

Testing Synta (Sky-Watcher) 20cm f/6 Dobsonian

Jupiter: Seeing poor. Best @ 120x. 2 moons ^{Io & Europa} very close together so that separating them was a challenge.

Saturn: Best @ 120x

M45: Too large for field of 25mm, so switched to my 40mm 39x.

γ Leo Split @ 120x with difficulty

Jupiter: 200x too much \bar{c} poor seeing

All eyepieces reach focus except 22mm. 40mm is just in focus when racked all the way in. Don't understand why 2" adapter is so

high.

→ 22:15 - 22:20 EDT

Moon: Quick look @ rising Moon - seeing really bad

→ 22:45 - 22:55 EDT

Moon: Seeing still bad.

Star tests: had to interpret due to poor seeing. No sign of astigmatism or pinched optics, mild spherical aberration. Star testing done @ 200x + 300x using Regulus, Castor + Pollux. Castar split @ 300x.

Overall impressions: Optical: hard to judge because of poor seeing, but don't see any major optical problems. Eyepieces quite adequate.

Mechanical: tube is very mirror heavy as supplied, but replacing 6x30 with 9x50 finder fixes this. Mount of mount very stiff in azimuth - probably needs some washer trick as other Dobs. Tube feels a bit like a tin can. R & P lacks sufficient in travel for some 2" eyepieces.

659e

2001-04-09/10 2030-21:30 EDT Oricle N 6-7 20cm r1

Further testing of Synta/Sky-Watcher 20cm f/6 r1. Seeing somewhat better than last night.

Saturn: 240x - much clearer than last night, Cassini easy, shadow of globe on rings fairly clear, hints of detail on globe. Titan + Rhea easy.

Jupiter: much better than last night. Suspected RS close to p limb @ 240x. Confirmed by Starry Night.

Capella: star test, no astigmatism, perhaps 1/4 wave spherical

aberration: Rings outside focus more poorly defined than inside focus. Inside focus: bright outer ring.
~~Can~~ Leanisi split easily tonight @ 120x.
M81-82: best @ 16mm Nagler (75x), M81 small (nucleus only) but easy, M82 seemed much larger than M81.
Palavis: easily seen
Mizavi easily split
Summer: performs quite well on Moon, planets, double stars, & deep sky (M45, M81-82), Mount is very stiff in azimuth, probably would benefit from washers on central pivot.

660e

2001-04-13/14 20:45-22:05 EDT Oriole N 7 20cm r1 25cm r1
- further tests of Symta 20cm Dob & comparisons with 25cm Made
Jupiter: image poor at first as I had brought scope out from heated house. Took only 15-20 minutes to cool down. Image @ 200x not ~~quite~~ nearly as good as 25cm @ 228x, but still cooling down. Contrast at belt detail much better in 25cm.
M35: nice at low powers in both scopes
Eskimo Nebula: bright puff ball in both scopes, best @ 120x in 20cm. With 25cm I took it up to 190x @ Ultra Black showing mottling on surface.

I disassemble mirror cells in both 20cm Dob & 13cm equatorial a few days ago. Both are same design, holding mirror at edge & leaving back open. 13cm has metal cover plate which I've discarded since it blocks ventilation. Cell allows air to pass all around edge of mirror but blocks light with a lip. Tonight I tried 6x30 finder on 20cm, with 2" adapter & Schwarzschild eyepieces, but most eyepieces wouldn't reach focus, so I reverted to 9x50 for balance.

→ 22:45-00:00 EDT Oriale N 7 25cm r1 20cm r1 15x70 b
M65 & 66 - ~~was~~ visible in direct vision in 25cm, needed averted
vision in 20cm, NGC328 not visible in either. Best in 16mm Nagler
in both scopes. Going to 8.8mm didn't help.

M105: - nucleus appears almost stellar, visible in direct
vision in both scopes 16mm. M95 & 96 not visible
in either scope.

M82: - bright in both scopes, best in 16mm Nagler
 γ draconis split in 8.8mm in 20cm.

Comments: on deep sky objects, 20cm performed quite well
compared to 25cm. As expected, objects were a little
more difficult to see. Did some sight seeing in 15x70
binoculars. Need darker sky for them. M44 was nice though.

661e

2001-04-19/20 ~~at~~ 20:45-22:40 EDT Oriale N 6 12cm rr ne
Testing Sky-Watcher 12cm f/5 achro refractor on EQ-4 (V65-5) mount.
Jupiter: Lots of colour @ 120x, but bands were shown in good contrast.
Star test on Capella (& later other stars): diffraction pattern outside
focus is very sharp & well defined, inside focus is awash
with scattered light, poorly defined rings. (Using #58 green
filter) \Rightarrow over correction $\sim 1/2$ wave. These tests were done
in both supplied mirrors' 1.25" & TV 2" diagonals.

Shuttle Endeavour seen in fine pass from NNE to E with Canadian
Chris Hadfield aboard. 21:02 EDT.

Tried unsuccessfully to find M65-66 - sky seemed brighter than
last week. M35, M44, & M67. M44 spectra color in 40mm
König! No sign of vignetting or softness right to edge of
field. γ & δ Cancri ~~fit~~ just fit inside 40mm field (40'40')

γ Leonis & Castor split cleanly @ 68x (8.8mm DWA). Quite clean
& colour free @ 150x (4mm Radica).

ISS seen in brief passage to W @ 22:06 EDT, Endeavour is on it's way there, still $\frac{1}{3}$ of the Earth's circumference away.

Comments: All eyepieces reach focus & problems. 2" eyepieces work really well in this scope, affording spectacular views. I really liked the views with all 4 of my 2" eyepieces: 40mm König, 22mm Nagler (also sharp to very edge), 16mm Nagler 8.8mm UWA. Also tried 6mm & 4mm Radians, mostly the latter, on Jupiter + double stars. Mount works quite well with this size scope, though RA movement is really stiff. While I've got it, I want to try the ~~6~~ 15cmrr on it!

662d 2001-04-23 13:15-14:15 EDT Oriole driveway, 5 10cmrr 12cmrr
Sun: Two large spots, one double, plus lots of little ones \approx 10cmrr @ 20x. Seemed OK with Synta Barlow ^{40x}, but less so @ 50x \approx Synta 10mm Plössl.
Checked out how LOMA bino viewers would work on both scopes. With Barlow removed, ^{on a diagonal} neither would reach focus at infinity, would need tube shortened. Also tried \approx ERO Barlow & 2" diagonal, but neither would reach focus. Might work \approx Ultima Barlow. Both of these make great spotting scopes!

663e 2001-04-25/26 19:30-21:45 EDT Richthausen SS, Mississauga 5-6 15cmrr
Toronto Centre school star party. I concentrated on the Moon, Jupiter, Saturn, Castor, Mizar. Some very impressive scopes here, including John Ginder's Traveller and a 12.5" Portaball belonging to a TT lucky - had an acceptable view of M81 & 82 through it despite mercury vapour lights. There must have been about 12 scopes! Frank, Dave, Brian, Leslie, Ralph, Richard(?) & several I didn't know.

One way I compared the two refractors was to put a 5mm eyepie

664d 2001-04-28 11:00 ~~15:10~~ EDT Ontario Science Centre patio 7 10cmrr 15cmr
Solpa observing at the OSC with various RASC members for
Astronomy Day. Mostly 50x \bar{c} Baader filter & orange eyepiece
filter on my 10cmrr, & 62x on Guy Nason's CG Newt.

665e 2001-04-28/29 20:15-23:15 EDT Ontario Science Centre M parking lot 7 15cmmm
Star party at the OSC for Astronomy day. I mostly kept on the
Moon @ 225x, mostly Mare Tranquillitatis, with side trips to Jupiter
@ 180x, M44, M3, Castor, & Leonis. Also had a better chance
to look through John Ginder's Traveller @ the Moon. The MN61
is really a great star party scope: quick & easy to set up on
GP-DX with short pier, convenient height for most people
(with chair for taller folks), & absolutely great views of Moon
& planets. The motor drive tracks well & is self contained.

666e 2001-04-30/31 20:30-22:25 EDT Oriole NE 6 15cmmm 13cmr 12cmrr 10cmrr
Moon Initially compared 12cm f/5 SW & 10cm f/5 SW on Moon, mainly
using Radians. The 10cm was consistently sharper & more
contrasty than 12cm. The 12cm has more of both chromatic
and especially spherical aberration leading to wash of unfocused
light over everything. I think I will ask Ray if I can test
a second OTA, as this one is so awful I hope it's a bad
sample. I then compared 12cmrr \bar{c} 13cmr1. ~~The~~ Again the
12cm was hopelessly bad in every way. I took a look at
Castor with both, and 13cmr1, while not great, was much
better than 12cmrr. I also installed MN61 & GPDX in
Rubbermaid observatory, and it was in a different
league entirely. Areas on the Moon that I'd always thought
were smooth were resolved into tiny craterlets & rubble.
Telescope ranking (easy): 15cmmm, 13cmr1, 10cmrr, 12cmrr.

$$\begin{array}{l} \text{oh } 9,25h \\ \text{CM: } 189 + 135 = 324^\circ \end{array}$$

667 n 2001-04-30/31 03:40 EDT Oriole 6 ne

Mars: wait out for a quick naked-eye look. Mars will not clear the evergreen to the S, even from far N end of yard.

668e 2001-05-1/2 20:30-21:00 EDT Oriole N 3 15cm mn

Moon: light clouds passing in front of Moon \rightarrow very poor seeing much of the time. In the instants when the view steadies, the detail visible is amazing. Features that looked like cracks before resolve into chains of craterlets. There are craterlets everywhere. Could not see rille in Vallis Alpes. Binoviewer + Ultima + 16mm \rightarrow 225x

669m 2001-05-02/03 04:45-05:45 EDT Oriole E 5 13cm r1 25cm r1

Mars: Took out 13cm r1 @ 04:45. Could see Syrtis Major quite clearly @ 162x, so brought out 25cm r1 for a better look. Syrtis Major very clear @ 190x - higher powers (284x) too much for seeing (≈ 3). Broad shaded area visible over much of S half of disk (Sinus Sabaeus) $\angle M = 324^\circ$. Made drawing immediately after putting scopes away. Orange filter (Wr21) helped bring out dark markings & green filter (Wr56) brought out S polar ~~shaded~~ region & bright area on f limb.

Venus: just rising ne. as I was putting scopes away.

Hardware: I'm very impressed with 13cm r1, showing this much detail when Mars' disk is so small. ^{"with"} Syrtis Major was quite obvious @ 162x (Radius 4). Detail was better defined in 25cm, but basics were there in 13cm.

670e 2001-05-05/06 21:30-22:30 EDT Aurora (Wooded Trails) 3 13cm r
Star party for Boy Scout camp counsellors in training with Tony
Harvatin & Eric Briggs, Jupiter, Castor, Mizar-Alcor, mostly
@ 103x (Syntra 6.3mm Plössl) & 135x (4.8mm Nagler). I'm
always indecisive about which scope to bring to a star
party. Should I bring the Intes MNB1, to give the
best possible views of Moon & planets, the 25cm Dob to
try to show something of deep sky objects, ~~or~~ the 15cm Syntra
to impress folks, or the 13cm r or 10cm r to show what
a decent scope can be got for little money? Lately I've
mainly opted for quality & brought the MNB1. That's
probably the best compromise in terms of portability
& quality, but at \$3400 it may send the wrong message.

3

671e 2001-05-06/07 21:00-22:20 EDT Oriole N_A 12cm r | 15cm m
Testing second sample of Sky-Watcher 120mm f/5 refractor. Star
test even worse than first. Some overcorrection plus coma
from being out of collimation. Tested on Arcturus, Castor, &
the nearly Full Moon. Again ~~stars~~ inside focus the diffraction
pattern was a mess, but this time ~~star~~ brightest point
was highly asymmetrical. In focus there is a smear of
light around star's image, even @ #56 green filter. Castor
was split more clearly than last night with 13cm r, but the
image was really ugly, with a smear of light. Very hard to
focus, no snap. Very disappointing
Moon in 15cm m @ 225x @ binoviewer. Seeing very poor, rings
boiling.

May 19 Oh 43°

05:15 +77°

120

06:25 94

137

10x5ab 25cm r1

672e 2001-05-15/16 21:00-23:30 EDT Forks of the Credit 8-2 Guy Nason,
Lestie Harvey, Denis Gray, several others.

Jupiter & Mercury: 190x both low in west. Phase on Mercury
looks ~ 50% (22:10)

Leo MA 729-30, M65, M66, NGC 3628, 3593, 3489 (22:14), M605,
3384 (22:37), M96, M95, 3412 (22:40), 3377 (22:46), 3367
(22:47)

Virgo: clouds moving in.

M81-82 some mottling visible in M82 @ 190x.

ε Lyra - not clearly split @ 190x

M57 - 129x = UltraBlack

673ⁿ 2001-05-18/19 01:00-02:30 EDT Oriole N 5 15cm mm

Mars - Seeing very poor, used 24.5mm binoculars → 150x. Made
two drawings @ 05:15-05:25 UT & 06:15-06:25 UT (01-05-19)
CM: 120° - 137°

ε Lyrae - in binoculars @ 150x - split nicely

M57 - huge in binoculars @ 150x

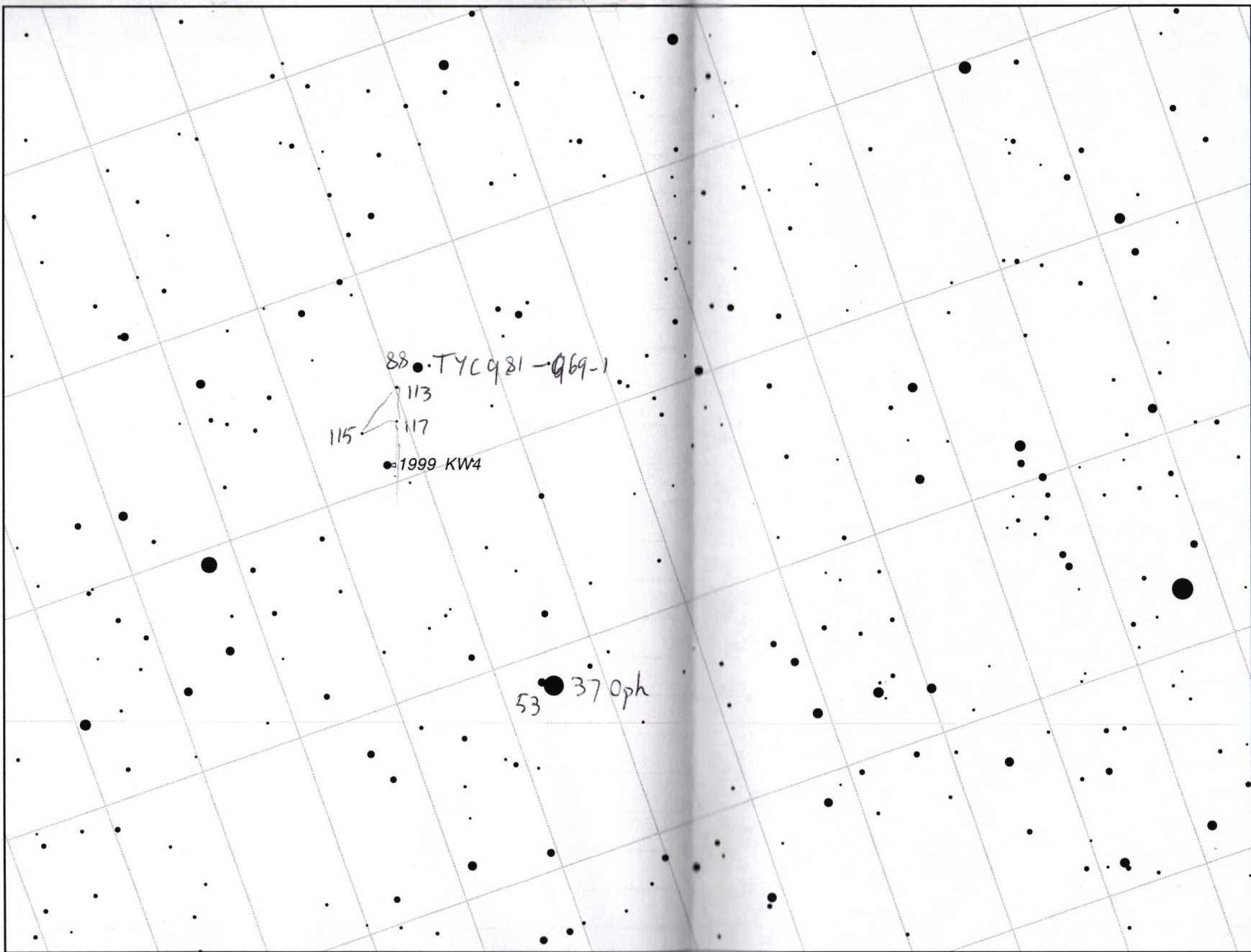
M13 - didn't resolve in binoculars @ 150x, but did = Roden
6m @ 150x.

It was nice to get back into astronomical drawing again.

2001-05-20 Laid foundation stones for new larger Rubbermaid
observatory.

674^m 2

5



E

W

Viewing from Toronto, Canada
 2001/5/27 1:10:00 AM (Local)
 2001/5/27 05:10:00 UT (UT)
 FOV: 3.0°
 Limiting Magnitude: 11.8

Q1:10 flipped

N

0.035499 AU = 5.31×10^6 km

... ± 1 ~ 115

674n 2001-05-20/21 01:30-03:00 EDT Oriole observatory 6 25cm r1
Mars: best @ 190x. Seeing slightly better than 2 nights ago, but not much difference in what's visible. Experimental with filters: #21, #56, UltraBlack. Really the best view is without filters due to colour contrast. $CM \approx 113^\circ$

ε Lyrae Split @ 129x, but images not really clean
M57 @ 129x with & without UltraBlack. In some ways I prefer the view ~~of~~ with UltraBlack, since stars are more visible. UltraBlack really doesn't enhance M57 much.

M5: even @ 190x couldn't really resolve into stars at all.
First light in new "observatory" - at present just a pad made from 18x18" concrete blocks. Mars will be visible this summer in two stages, interrupted by evergreen tree slightly E of S.

675e 2001-05-23/24 21:00-23:00 EDT Morningside Park 5-4 10cm r1
Members observing night. I mostly observed doubles (ε Lyrae, Castor, γ Leonis) and talked astronomy with the people there, mostly newbies except for Frank Smith & Mark. Very damp & foggy, covering everything with dew. Checked out a Meade 8" Starfinder equatorial which Dietrich had bought from my online advice - it's really quite a nice scope & optically quite good.

676e 2001-05-26/27 21:50-21:55 EDT Oriole E yard 3-2 25cm r1
Moon: brief glimpse through passing clouds @ 96x & 190x
→ 00:00-01:15 EDT Oriole mid yard 6 25cm r1
Mars: Seeing poor. S polar region visible & some shading on S & p parts of disk
Asteroid 1999 KW4: Near Earth asteroid moving rapidly through Ophiuchus. First picked it up ~ 01:00 & followed for 10 minutes, noticeable movement relative to faint triangle just NW of TYC 981-969-1.

$$\begin{aligned} & 0h \quad 334.6 \\ & 1h40m \\ & = 1.67hr \quad \underline{0.8} \\ & \quad \quad \quad 335^\circ \end{aligned}$$

Longitude May 30 01:35 UT $359.1 + 0.8 = 359.9^\circ$

Acquired with 71x, then went up to 228x to track it. About 2 mags fainter than predicted: 11.5, instead of 9.5. 5.3 million km away at 01:10 EDT. I found 7° & 1° charts didn't work well, too little carry over. 3° chart proved perfect @ 71x eyepiece (1° 09' field)

677e 2001-05-27/28 21:30-21:50 EDT Oriole observatory 3-0 15cm mp
Moon: got my nightly 20 minute lunar fix through a socker hole. Binocular @ 225x, calang 335°, terminator through Theophilus. Seeing extremely poor due to turbulent air along frontal clouds. Almost made me seasick in the binoculars! Once again I was struck by the structure on the floor of Fabricius: looks like three rubble walls of a square fort.

678e 2001-05-29/30 20:00-20:15 EDT Oriole observatory 7 15cm mn
Moon: binocular @ 225x sky still too bright, killing contrast.

—————→ 21:05-22:05 EDT " " 7 15cm mn
Moon: binocular @ 225x. Although seeing not very good (3-4), amount of detail visible is staggering. What the MNG1 seems to show, more than I've ever been aware of in any other scope, is the texture of the lunar surface. There are hundreds of different gradations of surface texture, like going from 4-bit to 32-bit resolution. Tiny rilles jump out, there are small craters visible everywhere, and all at a sudden I'm noticing little chains of craterlets. Examples tonight were the Rina Reaumur, just NW of Hipparchus, and the catena ^{NE}SW of Stöfler. I was fascinated watching the Sun rising over Walter. At first there was just a single bright peak, and a very faint semi-circle open to the N in the SW quadrant — this gradually became more illuminated and suddenly the W wall was illuminated

June 1 00:00 23.5°

21:10 01:10 1.1667 0.8 24.3°

22:50 02:50 2.8333 1.4 24.9°

→ 23:30-23:40 EDT Oriole observatory 3-2 15cmmm

Moon: BV@225x: clouds moving in killing contrast & seeing. Floor of Walter now almost fully illuminated.

679 n 2001-05-30/31 23:40 EDT Oriole yard 4 n

Despite having been very clear & cool all day, the sky is very hazy, so that the Moon is a deep orange even though high in the sky. Latx at 00:40, sky still very hazy, Mars invisible

680 r 2001-05-31/32 21:10-22:50 EDT Oriole driveway 25-4 15cmmm, 13cmrl,
Colang 24.3°-24.9°

Moon: spent over an hour studying the terminator \bar{c} ^{15cmmm} ^{25cmrl} _{binoculars}@
225x. ~~Age~~ Seeing 2-4. Again "texture" was the operant word; the surface looks like pumice rather than marble, catena are everywhere. Did a lot of comparisons. Radia 4 & bv + 16m are very close, but two-eyed viewing is less of a strain for me. All 4 craterlets in Plata visible. 13cmrl can't really be compared because top magnification is only 162x, as compared to 225x in 15cmmm.

~~Things got into~~

Things got interesting when I got out the 25cm Dob. Resolution of small craters, eg. in catena just E of Bullialdus between Gould and Gould B, was clearly better in the Dob, but surface texture had more "bite" with Mah Nant. Dob was much more sensitive to poor seeing than Mah Nant. Dob was really awesome with bv. & 16m → 285x

- What's remarkable is how much the Mah Nant holds its own against a pretty good scope with almost twice its aperture. It makes me hunger to see what an 11" (28cm) Zambuto would be like!
- While observing \bar{c} MN in gate to yard, I noticed movement on the

Jun 5 Oh 251°

4:05 60° → 311

4:15 62° → 313

edge of my field of vision. Looking up, I saw a young skunk about 4 feet away from me. I made a small sound, enough to alert him to my presence without alarming him. He bumbled away under the car, & didn't return.

681e 2001-06-03/04 22:35-22:45 EDT Oriole N3 ne
Intantial Space Shuttle ~~Station~~, went out because Moon seemed to be clearing — came in to check Heavens Above for ISS predictions & found ISS was going over right now. Went back out & observed second half of passage from NNE to NE, no obvious brightening, just gradual fading & distance. Clouds moving really fast N → S, so seeing probably bad + Moon close to full.

682n 2001-06-04/05 23:30-00:25 EDT Oriole Observatory 6 15 cm mn
Moon: 225x b.v. calag 76° seems very close to full.
Antares: 225x b.v. companion seen with lots of dark space between it & primary, p.a. estimated at 280° — actual is 275° , so I did see the companion.
Mars: sketched at 00:05-00:15. Syrtis Major, Sinus Sabaeus, & Mare Serpentis really clear. Only a tiny white area at S pole. Tried various filters @ 225x but I seem to see more in the binoviewer without any filter.
—————→ 00:50-01:15 EDT no 15 cm mn // 10x50b
ISS: observed low passage across N & ne @ 10x50s 00:54-00:58 no flaring
Antares: confirmed above observation 225x b.v.
Mars 225x b.v. Syrtis Major on p limb. Sinus Sabaeus central. Hellas doesn't look particularly bright. In tree @ 01:15 EDT

00:00 225°

03:58 +58° 283

04:13 +62° 287°

683n

2001-06-07/08 23:40-00:35 EDT Oriole obs. 4-3 25cm r1 10x50 b
Antares: Secondary visible @ 285x in b.v. as tiny unmoving spot just p. railing mass of primary

Mars: seeing too poor @ 285, shifted down to 190x. Made sketch 03:58-04:13 UT, using 2B pencils & stump. Syrtis Major very dark, seemed quite narrow. Tried various filters (orange, green, UltraBleach) but as usual saw more in filterless view. $\rightarrow 283^{\circ}-287^{\circ}$

Moon: viewed rising Moon @ 10x50 b, with wisps of passing clouds.

Luksemburg

684e

2001-06-08/09 21:30-01:30 EDT Oriole obs. 7-6 15cm rrr 15cm mn Leonard
Testing Petra Braganca's 15cm f/8 refractor @ JMI focuser & adapter plate made by Dave Rubenhagen, mounted on G-PDX.

Arcturus: star test very good @ green filter - slight spherical aberration but in focus diffraction patterns excellent. 300x

Antares: seeing poor, couldn't see companion. ^{300x} Binoviewer would not reach focus @ 5 Barlow, even @ 1/4" diagonal & thin adapter. ^{300x}

M13: not as well resolved as with Leonard's 20cm Synta Dab. @ 136x

Mars: best @ binoviewer & 24.5mm eyepieces \rightarrow 200x. The disk was remarkably color free - very similar to view in MNG1

Switched tripod for short pier & MNG1 for CR150.

Mars best at 225x (b.v.) - disk seemed quite colorless compared to 25cm Dab last night.

Leonard brought his 20cm Sky-Watcher Dab. & his new eyepieces & Barlow. 3x Barlow is probably too much @ 10mm Plössl. He's going to try to exchange it for a 2x.

Moon @ 240x @ Len's 20cm - seeing poor. We also observed M57 & M81 & 82 (latter very difficult)

14.62

00:00 180°

03:33 52° → 232°

03:44 55° 235°

MN61 on short pier is so much more compact & convenient than CR150. Images ^{of Mars} in CR150 was remarkably colour free, very similar to that in MN61. It seems that it's only ϵ Jupiter that chromatic aberration becomes a serious problem.

685e 2001-06-12/13 22:00-23:00 EDT Oriole obs. 4-3 15cmmm 10x50b
Double stars: β Sco 22:20 EDT 102x
 γ Sco 22:25 EDT 102x
 Xi Sco } 22:35 EDT - in same field, very pretty "double double"
 Strove 1999

—————→ 23:15-23:45 EDT 4-3 15cmmm ne 10x50b
ISS: nice pass from NW to ENE 23:25-23:29 EDT, no flaring, faded into shear at end.
Mars: dense fog & mist near S horizon making Mars very dim. Had to go to 150x on binoviewer to get enough light, Seeing very steady. Sketch @ 23:33-23:44 EDT

—————→ @ 00:10-00:50 EDT 4 15cmmm
Mars: higher above haze - can now use 225x. Can see Syrtis Major coming around the f limb. Into trees.
Double stars: ϵ Lyra clearly split @ 102x, @ 225x can see diffraction rings

γ Lyri split @ 102x } both quite wide
 β Lyri split @ 102x }

M57: hard to see because of haze - best @ 102x
During this last session I had two visitors: full grown adult skunk appeared from behind peony bush. Not at all afraid of me. Looked me over, decided I was harmless, & dangled off along flower bed. Then a young raccoon peered down at me from the fence.

686n

2001-06-14/15 23:05 - ⁰⁰24:40 EDT Circle Obs 7 ne 10x50b 15cmm

By chance, just when I first went out, the ISS was making a nice pass directly overhead (88° altitude)

Mars: Seeing so poor that I could see Mars twinkling with the naked eye! Even @ 150x \bar{c} b.v. image was ~~poor~~ too poor to see much beyond dark shading on S part of disk. Slightly out-of-focus image showed rapid horizontal laminar flow \Rightarrow jet stream?

Antares: again the companion was seen as a tiny fixed white spot preceding roiling ball of Antares @ 225x \bar{c} b.v.

I.C. 4665, open cluster in Ophiuchus, best @ 22x.

NGC. 6572, planetary in Oph. Needed to go to 225x to resolve disk. Very bright & star-like. Nicer \bar{s} UltraBlack

E Lyra again clearly split @ 102x, difficult @ 56x. At 225x (with & without b.v.) it is a beautiful sight.

M57: View \bar{c} 22m Nagler (41x) is awesome - stars are pinpoints right to field edge. M57 a tiny ring. Best view @ 102x. Higher powers & UltraBlack don't do anything for it.

While observing animals (shunks?) knocked over garbage can & had a hissy fight over turf under the evergreens. They were not happy that I was right next to their path.

I wasn't sure how I was going to put away the scope, since they were between me & the garage. In the end I made lots of noise & moved slowly & they retreated. Yesterday I made arrangements \bar{c} Mark Brattan of the MTL Centre to exchange my 13cm Newtonian for my old 11cm Edmund Newt, which I gave them back in the '60s. They will get a new scope & I will get back my old frieny, with which I first located 60 Messiers & made many lunar & planetary drawings. We will do the exchange at the GA in London in a few weeks.

Jun 17 145°

3:40 54° → 199°

3:49 56° → 201°

687 n 2001-06-16/17 23:00-00:30 EDT Oriole obs. 7 15cmmm 10x50b ne
Double stars: Observing some from new RASC Kenle Certificate
list & some from AL 100 list, while waiting for Mars to
clear the trees.

ζ Leo ~~3.5~~ 3.5 + 5.8 326" 102x

α Leo 1.4 + 7.7 177" 102x

γ Leo 2.2 + 3.5 4.4" 102x

17 Com 5.3 + 6.6 145" 102x

β Sco 2.6 + 4.9 14" 102x

ν Sco 4.3/6.8 + 6.4/7.8 0.9" + 2.3" Need 225 to split AB \rightarrow double double
 \rightarrow + b.v.

32-33 Com 6.3 + 6.7 95" 10x50b 23:15 EDT - also M 53 (102x)

15-17 CVn 6.3 + 6.0 284" 10x50b

~~ϵ Boo 2.5 + 4.9 2.8" 225x~~

Mars: drawing @ 23:40-23:49 EDT 225x binocular

Mars doubles:

ϵ Boo 2.5 + 4.9 2.8" 225x

δ Boo 3.5 + 8.7 105" 56x

μ Boo 4.3 + 7.0 108" 56x

ζ CrB 5.1 + 6.0 63" ~~Split~~ Split = 56x, but better @ 102x

Clouds moving in.

688 e 2001-06-17/18 22:15-23:45 EDT Oriole Obs & NW yord 7 15cmmm 10x50b 13cmrd

Double stars:

α Lib 2.8 + 5.2 231.0" 10x50b 22:25 EDT

ν CrB 5.3 + 5.4 364.4" 10x50b 22:30

μ Boo 4.3 + 7.0 108.3" 10x50b 22:32

ζ Sco 4.8 + 7.3 7.6" 15cmmm 225x

since 1999 7.4 + 8.1 11.6" 15cmmm 225x

16-17 Dra 5.4 + 5.5 90.3" 10x50b 22:55

ν Dra 4.9 + 4.9 61.9" 10x50b 22:57

31 = α Cyg $3.8 + 4.8 + 6.7$ $107.0'' + 337.5''$ Only wide pair visible @ 10×5 , needed Bcmrl @ $26 \times$
to see third star 23:15

16 Cyg $6.2 + 6.2$ $39.5''$ 13cmrl @ $26 \times$
(NGC 6826) - could not see disk @ $65 \times$ in 13cmrl (close to 16 Cyg)
M57, M27, & Cr 399 observed @ 13cmrl, soon to be traded to
Montreal Centre for 11cm Edmund rl.

Mars: seeing too poor to see much detail beyond what was seen last
night. ~~15~~ 15cmml 180x

689e 2001-06-24/25 21:05 - 21:25 EDT Oriale Obs. 6 15cmml
Moon: First observations with U.D. 12.5mm orthoscopes in binoculars
- these are superb 290x - especially Petavius.

→ 22:45 - 23:45 EDT Oriale Obs 3-6 15cmml 10x50b
Mars: Seeing very poor - best @ $24.5 \text{mm} \div 150 \times$ - bright area
along Sp limb, ~~surrounded by thin~~ bounded by thin dark
area.

M57 under various mags from $41 \times$ to $180 \times$, Nagler 22 just
encompasses bright stars on either side of it,
putting it in context. Probably best @ $102 \times$.

Cr. 399 @ 22mm Nagler

Ended with reviewing some of the binocular doubles from
the other night: α Cyg γ Dra, 16-17 Dra. I think I can
see M27 @ $10 \times 50 \text{st}$.

690e 2001-06-25/26 21:40 - 01:00 EDT Oriale Obs 7 15cmml 10x50b ne
Moon 290x @ bin. Fabricius & Janssen especially interesting Also Rima
G. Bond, Rima Romeri, Rima Cauchy (Faint) & Rupes Cauchy (dark)
Mars: $150 \times$ & $225 \times$ @ bin. Bright rim along Sp limb, @ thin
dark outline. Seeing poor.

June 22 Oh 100.7
30 Oh 29.7

$$A = 8.87$$

Jun 27 56.35
03:05 + 45.02 = 101°
03:15 + 47.45 = 104°

Double stars

- α Cen 2.9 + 5.5 19.4" 23:25 37x
K Boo 4.6 + 6.6 13.4" 23:35 split c 22x, better c 102x } in same f.o.v.
L Boo 4.9 + 7.5 38" 23:35 " " 22x, " " 102x } @ 28x
E Boo 4.9 + 5.8 5.6" 23:45 102x
E Boo 4.7 + 7.0 6.9" 23:48 102x
S Ser 4.2 + 5.2 3.9" 23:53 102x
K Har 5.3 + 6.5 28" 00:05 ~~22x~~ 22x < Mars
 σ CrB 5.6 + 6.6 6.2" 00:25 102x satellite passed through field
- Deep sky M11: beautiful @ 150x c bino - very three-dimensional, like jewels spread out on black velvet
M27: visible in 10x50b - best @ 102x c UltraBlack filter.
- I'm feeling mixed about double star observing. In some ways it's "busy work", since they all pretty much look alike, and few on the AL list are challenging even c a 15cm scope. But it does keep my starhopping skills in shape.

- 691e 2001-06-26/27 22:50-23:25 EDT Oriole Obs 4 15cm mm
Moon: ^{225x} 290x in binoculars. Quick look as Moon is setting & Mars is near trees.
Mars: 290x in binoculars. Seeing quite good. Bright S polar region seen again. Otherwise little detail because of current CM.
101° - 104°
- 692e 2001-06-27/28 21:30-22:20 EDT Oriole Obs. 4 15cm mm
Moon: 290x c bino views. Located Alldrin, Collins, & Armstrong. Artemis well placed. Huginus mostly in shadow.
Mars: still rather low for observing - detail making onto half at disk.

Jun 22 Oh 100.7

Jun 28 Oh 47.48

02:40 40.15 88°

03:52 41.85 89°

→ 22:40 - 23:15 EDT Oriole Obs. 4-3 15cm mm

Mars: seeing not as good as last night, made drawing @ 225x
E binoviewer 02:45 - 02:52 UT

Moon: binoviewer @ 225x, due to poorer seeing, still could see
Armstrong, Collins, & Aldrin.

107-01

693e 2001-06-30, ~22:00 EDT Fenshawe College, London ON 2-0 9cm mm David
Lamy, Peter Jedicke, Mark Kaze, etc.

Mars: quick look @ 278x E David's new Questar through passing
clouds

Moon: ditto.

694e 2001-07-01/02 21:30 - 23:00 EDT Fenshawe College ON 7-2 13cm mm 9cm mm
David Lamy, Ray Bishop, Heidi DeBond, Eric Clinton, David Oranstein, etc.

Mars: in both Eric's AP starfire 125 & David's Questar. Seeing
poor, but interesting face coming around, white haze around S pole.
View in Starfire disappointing but marked on CV-5 so lots
of vibration - seemed washed out. Better in Questar.

Moon: Gassendi, Sinus Iridium, Clavius in Questar.

695e 2001-07-02/03 21:15 - 22:10 EDT Oriole Obs. 4-3 11cm ml

Testing my old Edmund 4.25" (= 11 cm) Newtonian, traded yesterday
with the Montreal Centre for my Sky-Watcher 13cm Newtonian

Star test on Arcturus @ 175x ⇒ turned edge

E Lyra the 2.3" pair was easily split, but the 2.6" pair was unclear
@ 260x.

Mars showed a sharp-edged disk, with hints of Spaler head & two
dark markings on disk - very similar to views in Questar & 5" rx
last night

Moon: a lot of scattered light, but haze & high clouds over Moon.

July 8 318.3

$\Delta x = 9.02$

July 9 309.28

21:47 335°

21:55 337°

It was a thrill to be observing with my old friend again. The optics were not very good, though conditions were poor. I'm suspicious about the diagonal (always have been) since it's a rather crudely cut rectangle of glass 30mm x 22-23mm. I may replace it with a Prato Star diagonal. The mount showed a lot of long-term vibration on concrete pad, but almost none on grass so vibration pads may help. The mount is not my old wooden tripod equatorial, but rather a more recent Edmund pedestal mount. RA is smooth, but Dec clamp ~~has~~ is very uneven. Original finder has been replaced by a 6x30 Japanese Finder. Tube has been repainted a nasty green, and the holes I drilled for my 7x50 finder have been filled. I suspect Castantine Papacostas' hand in this! I will probably replace the diagonal with a 1" minor axis one, ~~cut~~ cut off the surplus 4" at the mirror end of the tube, and repaint the tube & finder to the original black (or maybe white?)

696e 2007-07-08/09 21:30-22:05 EDT Oriole Obs 6 15cm mm
Marsi disk appears pale yellow rather than orange, markings very indistinct, drawing made @ ~~2007~~ 150x @ binoculars. 21:47-21:55 seeing then got much worse. (Dust storm in progress.)

→ 22:30-23:55 EDT 7

Marsi seeing still poor

Messier: I decided to reacquaint myself with the Saggiarius goodies since the night was unusually clear.

M8: Lagoon Nebula: main nebulosity really obvious W of star cluster

M20: Trifid Nebula: nebulosity only, suspected @ UltraBlack

M21: scattering of stars

July 8 318.3

$\Delta 89.02$

July 10 300.26

1:55 328°

2:05 331°

July 13 00:00 273.2

01:44 299°

01:55 301°

M16 Eagle Nebula: nebulosity only suspected \bar{c} UltraBlack

M17 Omega Nebula: nebulosity very bright, even $\bar{5}$ UltraBlack

M18 \rightarrow small cluster "check mark"

M24: tried unsuccessfully for NGC 6603

M25: diam out dust, best in ~~16mm~~ 8.8mm 102x

697e 2001-07-09/10 21:50-22:10 EDT Oriole Obs 6-3 15cm mn

Mars: Pale yellow with hint of orange. Grey haze on S & P limb has now spread around to N limb, making a pale grey "C" around 3/4 of the limb. Surface features very much veiled. Made drawing 2001-07-10 01:55-02:05 UT. Seeing deteriorated half way through. 225x/binoviewer. Clouds moving in from NW.

698n 2001-07-11/12 00:00-00:30 EDT Oriole NW yard 3-6 10x50b 25cm r1

Comet LINEAR C/2001 A2: easily visible in 10x50b, looking rather like M31. In 25cm r1, it was best @ 71x & 129x. At 00:10 it was right in front of a 10.75m star, which closely matched the comet's nucleus in brightness, giving the effect of a double nucleus. Nucleus is bright and concentrated, and core is oval in shape, also quite bright.

Double stars

δ Caphei 25cm r1 @ ~~71x~~ 71x 00:27 EDT Very much like Albireo

α Capricorni: 10x50b beautiful golden pair, almost equal 00:30 EDT

β Capricorni: 10x50b unequal pair 00:30 EDT

699e 2001-07-12/13 21:45-00:30 EDT Oriole N yard 7 15cm mn 25cm r1 10x50b

Mars: Drawing 21:45-21:55 150x bino 15cm mn Syrtis Major so pale as to be unrecognizable.

Double stars:

22:14 EDT α Herculis 15cm mn @ 150x

23:44

20:28

22:25 EDT δ Herculis 15 cm mn @ 102x
 22:35 γ Ophiuchi 15 cm mn @ 102x
 22:43 θ Serpentis 15 cm mn @ ~~102x~~ 37x
 ↗ 23:11 36 Ophiuchi 15 cm mn @ 102x
 ↘ 23:09 \circ Ophiuchi 15 cm mn @ 102x
 23:23 ζ Aquilae 15 cm mn @ 41x
 00:02 α Ursa Minoris 25 cm r1 @ 129x
 00:08 32 Camelopardalis 25 cm r1 @ 129x
 00:19 γ/δ Draconis 25 cm r1 @ 129x
 00:22 ψ Draconis 25 cm r1 @ 129x

Comet LINEAR C/2001 A2 25 cm r1 @ 71x plotted @ 23:44 &
 00:28 EDT showing significant movement. No discernible tail.
 Looks rather like M31 except for more concentrated
 nucleus. Nucleus much less point-like than last night.

Louise

7000 2001-07-14/15 22:00-00:30 EDT ~~9-2~~ Corbell 9-2 25 cm r1 15x70b 10x50b
 Mous: dish almost uniformly bright, no detail 129x
 Deep sky: fantastic views alternating \bar{c} total frustration as
 clouds covered & uncovered objects I was looking at. I
 started \bar{c} Scorpius/Sagittarius Milky Way. M4 M7 M6,
M8 gorgeous, both parts of nebula visible.
M20 nebulosity very clear.
M21 M24 M25, M18, M17 then clouds moved in.
 Comet LINEAR C/2001 A2 no tail visible, looks very much like
 M31.

Tried unsuccessfully for Veil Nebula because of clouds
 M31, 32, 110: sharp cutoff on side of M31 towards M110 = dark
 lane? Double Cluster in Perseus
 M51 & satellite, M101, M13

For the first time @ 25cm I found myself using 22mm a lot. When the view is so rich, I'm not bothered by coma at edge of field (52x). Also using 15x70b under dark sky for the first time. These are quite wonderful, especially views of Sagittarius/Scorpius Milky Way. Easy to see objects like M51 with them.

→ 01:05 - 01:25 EDT Corbeil 9 15x70b Minou

I was inspired by writing the above, that I went back out with just the 15x70s, and did a quick bino. tour, the sky having cleared quite well. M31 + 110 (no 32), M33, Double Cluster, ~~M103~~^{M2663}, Comet LINEAR, North America Nebula, hmf of Veil Nebula, M20, M8, M16, M17, M24, M19, M12, M51, M101. There's a ~~wonder~~ M81, M82. There's a wonderful sense of freedom had holding these big binocs (braced against car most of the time. also M27, M71

Steph in Lyra 01:20 EDT small grouping of very bright stars around δ Lyrae

2001-07-16

Received Kendrick solar filter for Intes MNB1. Also fits dew cap of 15 cm Synta achromat.

2001-07-17

Received Oria SkyView Deluxe mount with 4.5" rings & motor drive, primarily for 102 mm f/5 refractor & 108mm f/10 Newtonian. Occultation of Venus by the Moon @ 14:27-15:26 EDT, clouded out.

7000 d

2001-07-18 09:15 - 09:45 EDT Ojide driveway 15 cm mm

Sun: tested new Kendrick Baader solar filter at all powers. View is bright & incredibly sharp, even @ 225x. Much detail visible within umbrae &

penumbrae.

702e 2001-07-19/20 22:30-23:10 EDT Oriole NE yard 4-5 11cm r/l
Mars: dodging trees by moving around the yard. SkyView Deluxe is as good as I remembered it. Mars was best @ 142x (7.4m PI) 167x (6.3m PI) & 175x (6m Radian) - it actually stood up fairly well @ 210x (5mm Rad) but 262x (4m Rad) was too much. Disk was clearly gibbous, and some dark markings were showing through the dust storm.
Lyra: split @ 167x, but images seemed doubled: " :: "

703e 2001-07-20/21 21:15-21:25 EDT Oriole Obs. 5 15cm mn
Mars: seeing poorer than last night: ripples on Mars' limb. Clearly gibbous. Markings very indistinct, grey on yellow background. 225x & 150x in binoculars. In trees @ 21:25.

—————→ 21:55 - 22:00 EDT Oriole Obs. 5 15cm mn

Mars: glimpsed in gap between two trees @ 225x. N polar region appears shaded in grey. Some white near S pole. Faint band N of S polar region.

—————→ 22:20 - 23:05 EDT Oriole Obs 5 15cm mn

Mars: seeing deteriorating

Lyra, Vega images in & out of focus very symmetrical @ 225x
M27 Very hard to find tonight in haze & muck, finally seen @ 41x @ UltraBlack

704e 2001-07-21/22 21:00-23:10 EDT Carr Observatory 3-4 40cm set 11cm r/l
First light for 40cm Meade LX200 @ Carr Observatory: Mars, M13, M12, M57. Also Mars in 11cm @ Edmund r/l. Seeing poor - these seemed to be more detail in 11cm than 40cm!

July 24 00:00 173.2

- 9.21

00:00

163.99

July 25 02:07

194.9°

02:16

197.1°

705e 2001-07-23/24 20:30-23:15 EDT Ontario Science Centre Speaking lot 1-4
15cm mm 10x50b John Ginter, Guy Mason, Sara Poirier, Patrick Stonehouse
(discoverer of Comet Stonehouse 1998), & many others.
Moon, Mars, ϵ Lyra, M57, β Cygni. Public star party sponsored by
OSC & RASC Toronto Centre.

706e 2001-07-24/25 21:30-23:00 EDT Oriole Obs. 7 15cm mm 10x50b
Moon: Colonyitude 325° 225x & 288x \bar{c} binoviewer - better @ 225x,
slightly soft @ 288x. Rupes & Rima Cauchy perfectly placed.
Rima Eulerius, Messier & Messier A (Pickering), Atlas &
Hercules.
Mars: contrast & colour seemed a little stronger - dust storm
may be subsiding. Drawing made 02:07-02:16 UT July 25
 $195^\circ - 197^\circ$

Transparency seemed particularly good tonight, so I spent
some time with naked eye seeing how faint I could see.
I could see all 4 stars of Hercules key stone, though NW
& SE stars need averted vision \Rightarrow $M_{\text{lim}} = 3.9$

707e 2001-07-26/27 20:30-21:00 EDT Oriole SE yard 7 15cm rr
Moon: revisiting \bar{c} 15cm f/8 refractor: line green highlands and blue
shadows! 200x in binoviewer, no diagonal. Texture is there, but
not quite as well defined as in Mak Newt, plus all that
colour!

Mars: tons of colour, hints of detail @ 200x in binoviewer \bar{c}
2" diagonal

\longrightarrow 21:55-23:30 EDT Oriole Obs. 7 15cm rr 15x70b 10x50b
Mars: chromatic aberration very strong @ 200x \bar{c} binoviewer.
Altair: star tests show moderate over-corrected spherical aberration,
"fuzzball inside focus, doughnut outside" according to Terry Dickinson

~~257~~

2.54

74

1016

1778

187.96

07/31 00 h 108.8

1:43

134°

1:51

136°

[Comet LINEAR 2001 A2] could not locate with 15x70b or sweepy
c 15cm rr @ 30x.

M11, M27 — both best @ 136x

This 15cm f/8 achromat is not as good as Pedro Braganca's:
It shows a lot more ~~chromatic~~ secondary spectrum & I think is
more over corrected. I'm once again reminded of how awkward
a large refractor is to observe with. Putting that heavy
weight on a high mount (GPDX c tripod & half pier) ~~is~~ feels
dangerous & the eyepiece is always at the wrong height.
I'm pretty close to putting it up for sale. All the time
I was using it, I found myself wishing I was using the MNB1.
It's so much more compact & comfortable, & its image is
so much more beautiful.

188~~cm~~¹⁷⁸ cm cass

708e 2001-07-27/28 21:00-00:00 EDT David Dunlap Obs 3-4 15cm mn
Moon, Mars, & Lyra, β Cygni, ET cluster in 15cm.
M13 in 74" (188 cm): more than filled the field of view,
stars seem widely scattered.

10x50b 15x70b

709e 2001-07-30/31 20:50-23:30 EDT Oriole Obs 7 15cm mn 25cm r1
Moon: ^{15cm mn.} binoculars @ 225x & 288x. Delisle & Diaphantos, rupes between
them, Rima Diaphantos. Jones N of T. Mayer. Rima Hippalus. Rima
Ramsden. Capugus

Mars: drawing made @ 21:43-21:58 EDT (134°-136°). Orange
colour has returned to Mars! Limp whitish on three sides (P,N,S)
Sirenum Mare visible, 15cm mn @ 225x

NGC Triplet: three satellites moving in formation seen @ 22:40
with 15cm mn @ 22x, low in S.

Vega: star test shows almost identical patterns on either side
of focus.

[Event LINEAR 2001/AZ.] Searched unsuccessfully for it @
15x70b, 15 cm mn, & finally 25 cm r1 @ 28x-190x

710e 2001-07-31/08-01 21:00-22:20 EDT Oriole Obs 6 15 cm mn 10x50b
Moon: Gassendi, Aristarchus, Tascarelli, Rupes Tascarelli, Kepler,
Seuss (could not see Rina Seuss), Rina Marsenius, Seeing very
poor binoviana @ ~~150~~ 225x & 280x
Mars: Seeing too poor to make drawing (~~01:43~~ ~~01:54~~ 21:48-21:55)
~~150x~~ ~~150x~~ 150x & 225x
I.S.S. Nice passage from S to E wand 21:50 EDT
15x70b

711m 2001-08-4/5 04:30-05:30 EDT Oriole NW yard 7, 11 cm r1 15 cm mn
~~15x70b~~: Saturn, Hyades, Pleiades, & Perseid Cluster
11 cm r1: Saturn @ 37x, 142x, 167x, 175x - probably best @
142x (TV 7.4 Plössl) - could see Titan, Rhea, Tethys, & Iapetus,
esp @ 119x (8.8 mm UWA) - Dione too close to Rhea to
be distinguished.
Venus & Jupiter in conjunc

15 cm ~~mn~~: Saturn @ 102x: Titan, Rhea, Tethys, Dione &
Iapetus all easy, 225x in time. EXCELLENT! A little
soft @ 290x - seeing mostly steady, but some "tearing"
(rapid jerks of whole image).

Venus & Jupiter conjunction: just fit (along ϵ M Gem in Plössl
Nagler field (56x 1°27' fov.) - view is better in 22cm
Nagler (41x, 2°0'). Venus is tiny but brilliant, Jupiter
larger, much dimmer. Looked @ both @ 225x in bino, but
seeing very poor: J's satellites were blurs, nothing beyond
SEB & MEB visible.

Good to see the giants again!

712e 2001-08-10/11 21:00-21:45 EDT Oriole Obs. 7 15cm mm 10x50b
Mars: 150x ~~225x~~ \bar{c} bino. no detail well enough defined to draw,
seeing 3-4. 21:10-21:20 EDT = 01:10-01:20 UT Aug 11
S Boo: tried to split @ 288x - appeared elongated EW but
no division (predicted 0.8" 299° p.a.) - diffraction pattern
in motion due to seeing.

→ 22:00-08:10 EDT Oriole Obs. 7 15cm mm 10x50b

Double Stars:

22:32 Struve 2404 (Aq1) 102x: both reddish [stars

22:35 NGC 6709 (Aq1) 102x: a few bright stars against a scattering of faint

22:42 γ Delphinus 102x: blue & gold, like Albireo

22:55 ϵ Pegasi 22x: wide pair, very d. flare & brightnesses

Neptune: 225x tiny disk, Triton not visible, 23:25 EDT

23:52 ρ Her 102x

23:58 η Her 102x blue & gold

00:06 μ Dra 150x close, both white, equal brightness

Also saw passage of NESS triplet ~ 22:40 EDT in Delphinus

713e 2001-08-12/13 21:55-22:10 EDT Oriole E yard 5 25cm r1 10x50b

Mars 190x no detail visible, seeing poor 21:55-22:00

M11 best @ 190x

714m 2001-08-14/15 03:30-05:50 EDT Oriole W yard 6 15cm mm 10x50b

Saturni best @ 225x \bar{c} binoviewer. Eye relief \bar{c} 12.5mm eyepiece is
very short, eyelashes hit eyepiece all the time, 16mm much more
comfortable. Dione more difficult to see than Tethys @ 102x

Moon: thin waning crescent, Aristarchus & Vallis Schröteri very well
placed. Could just see S portion of Rine Seuss \bar{c} inverted
vision. Wargentin actually has a rim on its N side
at this lighting. Reiner Gamma like a splash of white paint

on the move. 225x & 290x

Jupiter: NEB has very distinct burnt orange colour. SEB is doubled at this longitude. Not much detail visible due to seeing & small disk. Waiting for RS to rotate around from limb. 225x

Venus: slightly gibbous @ 225x

10x50ab: M45, M42, Hyades, Double Cluster, M31, [M33]

Jupiter: Red spot visible floatingly in RSH. 225x Pale pink in colour. Seeing quite poor 1-2.

715e

2001-08-18/19 21:30-22:00 EDT Starfest 8-2 56cm r | 38cm r
Jim Kendrick's, Doug, Joe, etc. belonging to Jim

M57, M27, ~~Case~~ ^{12"} Casse, Veil Nebula in 22" Starmaster, M15 & Thyrae (Carbon star) in 15" Obsession

Then sockets have closed in.

Earlier had a good chat w/ Terry Dickinson. New edition of Backyard Observer's Guide due out July 2002. He has an 11" EL (in San Diego) and a 20" Starmaster on order. Says Starmaster & Zambuto have finally figured out how to do Dobs right.

After trying 22" SM, I really can't see myself using something that big that requires climbing up a ladder to look through.

716e

2001-08-21/22 20:30-23:00 EDT Ontario Science Centre 3-7 25cm r |

Star party @ Science Centre w/ RASC Toronto Centre members.

Moon, Mars, Mizar-Alcor, Albireo, Coma cluster, ET cluster, M13, M27
M11

Dob is a problem at public star party as people keep moving it & I have to keep centering the objects. Though

I

II

~~08/27~~

08/00 ~~71.4~~ 877.76 329.2 870.13

08/27 Qm 10.9

62.7

it is nice to be able to show some DSOs. I might use the Cave on the G11 next time — no good, because I need power for it. Want to try making the Cave on the GP-DX soon.

717d 2001-08-23 11:40-12:30 EDT Duffresin - Clark CC 6-3 10 cm rr Justin Trattler
Sun: 18x ~~8x~~ Baader filter - showed Sun to a 80 kids + counsellors at Day Camp. Popular questions were: "Why is the Sun white (not yellow)?" and "Why is the sky black?"

718e 2001-08-25/26 20:15-22:30 EDT David Dalry Obs. 3-5 15cm mm

Moon: Hyginus on terminator

Mars: hints of detail

Albireo

During evening I noticed that drive controller was damaged:
 - strain reliever on dec cable pulled out & lost, wires damaged by sharp metal edge inside. Will try to patch w/ electrical tape. Also noticed one of azimuth adjustment knobs is missing. This almost looks like malicious damage, but I can't figure out when it could have happened.

719m 2001-08-26/27 05:15-06:26 EDT Orin NW yard 6 15cm mm

Saturn: exquisite @ 290x bino.

M42: best @ 102x w/ UltraBlock. Able to see only A-D in Trapezium.

Jupiter 225x bino

05:15 Obs. com. alt 33°

					<u>I</u>	<u>II</u>
9:50 1	05:50	SEB Wp	SEBc	RSH	-	62.4 59.3
9:53 2	05:53	DP	STeZ	RS	-	64.2 61.1
10:06 3	06:06	DC	STeZ	RS	-	72.2 69.0



2001-09-04/05 Moon, Vega, ϵ Lyrae, M57
05/06 in M42, Rigel, Saturn, Jupiter, Moon
07/08 in Jupiter, Venus
13/14 in Jupiter, Saturn

	15 cm f/8	
	<u>1200 mm f.l.</u>	
40	30 x 5 mm	
25	48 x 3.1 mm	
16	75 x 2.0 mm	1° 06'
10	120 x 1.2 mm	
8.8	136 x 1.1 mm	37'
7.4	162 x 0.9 mm	18'
6.3	190 x 0.8 mm	16'
6	200 x 0.8 mm	18'
4.8	250 x 0.6 mm	20'

				I	II
10:08	4	06:08	We SEBs RSH	—	73.4 70.2
10:19	5	06:19	Df STeZ RS	—	80.1 76.8
10:23	6	06:23	Wf SEBs RSH	—	82.5 79.2
10:24	7	06:24	Dp NPR vague dark area $\approx 1/2$ distance from NNTB-pole		
		06:26	Obs. disc.	—	83.1 79.8

Red spot difficult to see most of the time. RSH very asymmetric. Dark area in NPR is one of very few times I've seen anything that far N. Image was gorgeous most of the time, looking just like Cassini image. I'd forgotten (again!) just how good this scope is!

720e 2001-08-27/28 22:05-22:35 EDT Oriole E yard 6-3 15cm mm
Mars: Strongly gibbous. Some hints of surface features, 225x b.v.
Moon: 225x b.v. Terrain SE of Copernicus very rough & rugged. No craterlets visible in Plato. Hints of rima in Alpine Valley. Tycho & Clavius make a striking contrast: small deep & bright vs. large shallow and dusky floor.

721e 2001-09-04/05 22:40-23:20 EDT Oriole N yard 3-6 15cm r1
 Testing Sky-Watcher 15cm f/8 reflector on Dob mount
Moon: just past full - seemed best @ 162x - more contrast than @ 190x - all eyepieces reach focus except 22mm Nagler & possibly 40mm MK70 (but not sure because of perforal ring).
Vega: star test @ 190x; very good, very slight spherical aberration, no astigmatism, slightly rough surface.
Lyra: nicely split @ 120x w. supplied 10mm - very clean @ 190x. M57 best @ 120x despite near Full Moon.
 Optically this is pretty good for a mass-produced scope. Collimation was nearly perfect. Scope is a bit front heavy ^{even} with light eyepieces

like supplied 25mm ϕ 10mm, 7.4mm TV Plössl, 6.3mm SW Plössl. Even a Radian makes scope unbalanced*. Needs a bit of weight on mirror end. [2001-09-23 - Just discover balance cw plate in custom.]

722m 2001-09-05/06 05:20-06:10 EDT Ariale N yard 7 15cm r1

Further testing of Sky-Watcher 15cm f/8 Dob.

M42: Nice # @ 48x \pm 120x. Could not see E & F of Trapezium, even @ 190x, but Moon still bright.

Rigel: companion visible @ 190x, even though mirror not fully coated

Saturn: best @ 200x (Radian 6) - Cassini's division strongly marked all the way around the rings, Titan, Rhea easy, Tethys & Dione more difficult, close to planet, but seen \bar{c} averted vision. I had not made computer plot ahead of time so didn't know where to look for Iapetus.

Jupiter: just missed Red Spot (not visible, close to plumb), SEB clearly double, NTB sharp & clear, dark spot visible with a NEBn. No festoons visible, but none were seen \bar{c} Mak-Nant the other night. 200x seems best.

Moon: Plata favorably librated, 2 central craters easily visible as white spots. Mostly 190x. Strange effect in behind Neander: deep shadow, but with a lot of "rubble" lit by setting Sun on far side.

Scope seems to handle magnifications up to 200x just fine, but image breaks down beyond this. The images weren't quite so clean as last night, but it was cold and the mirror was fairly warm so cool down was a problem. I was struck by how bright the images of Jupiter & Saturn were. Possibly this is because at slower mag's than I usually use on MNB1, but had to do side-by-side. Not possible this morning because I overslept to 5:20 am & didn't have

time to set up two scopes.

At dawn, it was neat to see Venus, Jupiter, Saturn & the Moon in a huge arc across the sky!

723 e 2001-09-07/08 20:15-20:45 EDT Oriole NE 4 25cm r/l 10x50b
Mars: except for obvious gibbous phase, Mars appears a uniform orange colour @ 190x, also \bar{e} orange & green filters. Not even a hint of the polar regions.
Capricornus: checking double & multiple stars for talk at Tex. Cen. next week, but still mostly lost in haze. There's an occultation of a 7th mag. star by Titania around 10pm tonight, but probably a complete miss here - visible in band from Portugal through Canaries to Venezuela & Ecuador.

→ 21:30-22:10 EDT Oriole NE yard 4 25cm r/l 10x50b
Double stars: α Cap (quad), β Cap (triple), ρ Cap (all wide), σ (closer, equal), τ (very close unequal) - last needed 284x.
Neptune: tiny disk @ 284x
Uranus: "Double star/planet": ZC 3167 looks orange compared to blue-green Uranus. Best @ 228x. Uranus is much easier to see as a planet than Neptune.

724 m 2001-09-07/08 05:00-06:30 EDT Oriole N yard 4-3 15cm r/l (15cm r/l)
Moon: superb seeing in very hazy sky, very muggy air, warm, 288x^B
Plato: craterlet I seen clearly as a crater, with rim in total shadow. Albedo spot W of I also clear. 4 & 3/5 suspected.
Rima Hadley very clear N of Hadley Delta
Marsalycus: fantastic shadow on floor cast by SW wall.
Sun too high to see Catene Davy.
Saturn: lovely, but static 288x

Jupiter: 225x B

05:46 Obs. comm

II

9:56 8 05:56 Wp SEBs RSH

65.1

9:59 9 05:59 Dp STeZ RS

66.9

10:10 10 06:10 Wc SEBs RSH passing clouds

73.6

10:11 11 06:11 Dc STeZ Rs

74.2

10:23 12 06:23 Df STeZ RS

81.4

10:26 13 06:26 Wf SEBs RSH

83.2

06:31 Clouded over.

All of above observations made with 15 cm mm. Around 05:45 I brought out 15 cm Sky-Watcher Dob for some comparisons. It's pretty good, showing Jupiter's ~~the~~ moons as tiny disks, and I was able to see the RS momentarily in averted vision. But it's definitely not in the same league as the MNG1! The MNG1's images have a depth of detail which is quite remarkable. Again the SW seemed to top out at ~~ca~~ 200x. The 7.4 mm TV Plössl is much sharper and contrastier than 6.3 mm ~~SW~~ Sky-Watcher Plössl.

Venus: observed in 15 cm r1 @ 162x. Six planets in one night, one off my record!

725e 2001-09-10/11 20:40-22:20 EDT Oriole E 2-7 25 cm r1 10x5ab

Excellent transparency (for the city) but constantly dodging big cumulus clouds. Preparing for Tor Centre presentation.

Double stars Went through the 5 Capricorn doubles again

Deep sky: Saturn Nebula - very bright, looks like 9th mag star @ 28x, needs 129x to show as non-stellar. Very easy, even in passing clouds, city haze, search lights from Film Festival, etc. (M72) could it be sure of it "averted imagination"

24.5m 63x 2.0m 1^o04'
 16m 96x 1.3m 51'
 8.8m 175x 0.7m 29'
 7.4m 208x 0.6m 14'
 6.3m 244x 0.5m 12'
 6m 257x 0.5m 14'

2001-09-13/14 e: Altair, α Cap, ϵ Lyr, M57, M13, M15, Uranus

13/14m: M42, Jupiter, Saturn, Aldebaran, Magn

16/17e: Mars, λ Sag, Altair, Albireo, ϵ Lyr, Neptune, Saturn, Neb
 M15, Uranus, Bracchi's, M27

22/23m: M42, Saturn, Jupiter, Rigel, Castor, Betelgeuse, transit
 at Ganymede

28/29e: Moon, Mars

29/30e: Mars, Moon

Moon	α Cap	M57
Uranus	ϵ Lyr	M13
Jupiter	Albireo	M15
Saturn	Rigel	M42
Mars	Castor	Saturn neb
Neptune		Bracchi
Ganymede transit		M27

M73 - could only see three stars @ 190x

M30 - quite easy despite low altitude, best @ 129x

M2 - very easy, resolved @ 190x

M27 - big & bright, best @ 129x.

726m 2001-09-10/11 09:50-06:10 EDT Oriole N7 15cm mm

M42: best @ 129x \bar{S} UB. Unable to see E or F in Trapezium

Saturn: easily able to see 5 moons @ 129x. With bino, able to use 288x. Encke minima probably seen.

Jupiter @ 225x strangely bland. No sign of festoon activity on NEBs. Red color of NEB very striking, plus darker condensations within it.

Moon: Floor of Plato in shadow 288x. Incredible detail E of Copernicus. One crater chain looked just like a hedge. Fascinating cleft detail on floors of Fra Mauro & Bayard. Rima Herschewits & Rima Rensden spectacular. Rima Casselie just barely visible. Wugarten almost invisible except for bright E wall.

Rigel - easily split @ 129x

Eschmo Nebula - best @ 129x

The sky was gorgeous this morning with Venus, Jupiter, Moon, & Saturn set in circle of Winter First magnitude stars. I'd forgotten how bright the images are in the MNB. Jupiter is so bright that the fine detail gets washed out. Nice pass of ISS @ 05:26.

727a 2001-09-13/14 21:50-23:20 EDT Oriole Obs. 6 13cm mm

Testing new Orion Apex 127 Mak-Cass which arrived yesterday. Mounted in GP-DX while awaiting adapter for SVD.

Star test Altair @ 257x. Image in focus nowhere as tight as MNB!

star test (Aldebaran) 257x

out of focus in focus



- images in & out of focus symmetrical, some hints of pinching.
I'd say spherical aberration $\approx 1/4$ wave - better than most
Newts, but not as good as MNB1.

Doubles: \odot Cap easy, TC cap not resolved.

\in Lyr, just resolved @ 257x - much overlap of dots,
rather fuzzy.

DSO M57 very nice, hole in donut plain @ 175x.

M13 resolved nicely @ 175x

M15, bright central core, not resolved, 175x

Uranus: nice sharp little blue disk @ 175x

Optical performance a bit disappointing, but seeing
poor tonight (Mars was twinkling earlier naked eye!) I've
left most out to try planets before dawn.

728m 2001-09-13/14 04:30-06:00 EDT Oriole yard NW 713mm c 15cm r1

M42: 130mm c @ 96x: beautiful view, high contrast M43 easily seen

Jupiter Saturn: image was at first disappointing, but gradually improved
as scope reached air temperature (a lot cooler than last night)
View in two scopes fairly similar in terms of detail. 15cm
brighter, but diffraction from spider very distracting, esp. ex
Jupiter. On the whole, the image was more pleasing in
Apex than in Deb. Apex not as sharp as MNB1, but than
it only cost 1/3 as much.

Star test: on Aldebaran. In focus, diffraction rings very clear,
but asymmetrical: mostly lit on one side. Slightly out of focus
there is a bright blob off centre from main pattern.

While observing Jupiter @ low power, a bright irregular arc visible
to one side of planet.

Moon: Aristarchus & Wargentin on terminator. Apex can handle 257x
easily. Jupiter seems best @ 175x

When I went back to the garage to get the 6" Dob, I realized I wasn't alone; someone was rustling a garbage bag. I turned on the light and found a young skunk, with tail all black except for a white blaze at its tip. Not bothered by my presence in the slightest, but didn't like the light. I left the light on & retreated to the yard - five minutes later the skunk was gone. Strangely, I detected no odor at all, though in the evening I'd smelled it on a couple of raccoons. I guess the skunks & raccoons are fighting for territory.

729m

2001-09-15/16 04:45 - 05:40 Oriole N. yard 6 25cm r1
Because it was late & seeing looked poor, I setup 25cm r1.
Saturn: had an 'extra' moon this morning: 9th mag star just S of the planet. Mirror not cooled down. Best @ 190x
Jupiter: very bright, best @ 190x. Harder to see detail than with 15cm mn because of glare & scattered light.
M42-43 & sword of Orion: best @ 71x. Unable to see E & F in Trapezium due to poor seeing & transparency.
Star tests on Betelgeuse & Aldebaran @ 228x. Diffraction rings very clear, pattern in & out of focus very symmetrical \Rightarrow very little spherical aberration. Surface does appear rough though.
Rigel Double: Rigel; ~~Star~~ 228x. Companion almost lost in scattered light from primary.
Andi Very nice @ 129x
M31 - brief look - in hedge 28x.

I thought I saw a bit of aurora, but may have been thin clouds. This size of scope is so perfect for me. Easy to find & observe anywhere in the sky while seated. I'm really looking forward to my Stormaster ELTS,

ε Lyrae 257x



730e

2001-09-16/17 19:50-20:25 EDT Oriole obs. 7 13cm mc

~~At~~ I ~~put~~ set the scope up at ~~18:50~~ 18:50 to give it a chance to cool down.

Mars: boiling due to seeing @ 175x, BUT some albedo features were visible for the first time since the end of June!

Star tests: λ Sag, mag 2.8 - boiling, so moved to higher stars!

Altair: beautiful star test @ 244x! In focus diffraction rings perfect, out of focus symmetrical, bright outer ring due to c.p. ($\approx 3\frac{1}{2}\%$) - star test problems the other night must have been due to inadequate cool down.

Albireo: beautiful @ 63x

ϵ Lyra: ~~cracked~~ split cleanly @ 175, cranked up to 257x with no problems. Bright central spot surrounded by fairly prominent diffraction rings. Am I ever relieved!

—————→ 21:10-22:30 EDT Oriole obs. 7 13cm mc 10x50b

Double stars: did my tour of the 5 doubles at the west end of Capricornus - all cleanly split except for π

Neptune: tin dish @ 175x

Saturn Nebula: bright oval @ 175x

M15: not resolved @ 175x

Uranus: dish @ 175x

Bracchi's Cluster: too big to fit in field @ 63x!

M27: 63x - very nice

This is an excellent little telescope - I think it's better than the Synta 102 mm f/10 rr.

731m

2001-09-22/23 04:00-06:35 EDT Oriole N yard 6 13cm mc

M42, Saturn, Jupiter, Rigel, Castor, Betelgeuse, Heavy dew.

Transit of Ganymede mostly \bar{c} bino view ϕ 12.5mm eyepieces, no Barlow, $\approx 160x$

Sep 23 III Tr I 7:47 7:47
III Tr E 10:42 1:27.5
2:55 9:14.5
/2 1:27.5

- 2
 05:00² EDT Gaymade first spotted approaching CM - small
 dark grey spot
 05:09 EDT G. on CM (pred 05:14 EDT)
 05:49 EDT last glimpse of G. as dark spot
 06:24 EDT first hint of G as light spot on limb
 06:29 EDT G. definite on limb
 06:35 EDT G. a purple on the limb.

This morning's objectives were twofold:

- 1) "ghost of Jupiter" - I was unable to observe anything like what I saw on 13/14. Only ghosting was bright moving arc when Jupiter, just at edge of fov. in 24.5 mm. Maybe what I saw was real: some sort of atmospheric phenomenon?
- 2) testing BRO Lomo binoculars:
 - mostly \bar{s} Barlow. $\bar{e}fl \sim 2000$ mm, ie 12.5 mm yields about 160x (a little lower than 88. mm \bar{s} binoculars). With BRO Barlow, it's about double that, best \bar{c} 24.5 mm, but image quite slazy even \bar{c} 16 mm (259x). Setup works really well - images a bit dim but very sharp (Jupiter, Saturn, Trapezium, Castor)

This makes an outstanding planetary scope, easily 83% of MN61 (ratio of apertures). Makes me wonder what a good mak cass of 7 or 8" would be like.

- 732e 2001-09-28/29 20:10-21:10 EDT Oriole yard 6 13cm mc
Moon: Terminator just past Aristarchus, seeing absolutely awful.
 Bino view \bar{c} Ultima is too powerful, even \bar{c} 24.5 mm eyepieces. Best views were @ 175x (8.8 UWA) & 257x (6mm Radian). I find I can

Sept 10 82.1 Δ 9.64

30 - 20 Δ - 249.3

110 μ + 17.0

266.3

265° - 268°



no longer tolerate views \bar{c} short f.l. Plössls
Mars @ 257x. Despite lousy seeing, I could detect detail on the disk again: N polar region & dark marking near centre of disk. I was afraid that SVD motor drive was broken, but it was just a loose set screw. This was the first time I used the Apex 127 on the SVD, having received a pair of 5.7" rings from Joe O'Neil on Monday.

733a 2001-09-29/30 19:45-21:30 EDT Oriole yard E6 13cm mc 15cm mn
Mars: first clear albedo features seen for two months. Polar regions and p limb all lighter than centre of disk. Draw a roughly triangular feature which turned out to be Syrtis Major. In 13cm mc, atmospheric refraction much more marked, & disk more orange. In 15cm mn, disk was almost white \bar{c} little colour at limb. Used 16mm in binoviewer \bar{c} Ultima Barlow adjusted to put equal lengths in and out (18mm protrusion). This seems to yield a slightly shorter e.f.l. than with it as far out as it will safely go (22mm) which is how I used it before. I'd say e.f.l. has dropped from 3600mm to about 3200. $24.5m \Rightarrow 130x$ $16m \Rightarrow 200x$ $12.5m \Rightarrow 255x$.

This puts the powers at a slightly more usable range
Moon: 13cm mc @ 175x \oplus mainly. Strongly librated to S, marking Plato & Sinus Iridium appear nearly circular. Vallis Schotteri beautifully placed. Mars Rümker close to terminator.
* Equipment: see below next entry

734m 2001-09-29/30 03:19-04:43 EDT Oriole yard N6 15cm mn
Saturni: 255x \bar{c} binoviewer - first time I have been almost sure I've seen the crepe ring in the ansae. Seeing very poor (0-2)
Jupite: 200x \bar{c} binoviewer - Ganymede's shadow in transit. Seeing very poor (0-2). Still no sign of teston activity on NEBS.

09/30

129.5

Average Longitude

	<u>RS</u>	<u>RSH</u>	<u>Combined</u>	<u>length</u>	
	<u>RS</u>	<u>RSH</u>	<u>Combined</u>	<u>RS</u>	<u>RSH</u>
Aug 27	69.0°	69.6°	69.3°	15.7°	19.9°
Sep 08	74.2	74.0	74.1	14.5	18.1
Sep 30	73.5	72.5	72.8	-	23.6

EDT

03:19 Obs comm.

II

08:01 14 04:01 Wp SEBs RSH 60.2
(04:03 Dc STB shadow of Gany mede) (predicted mid transit 04:02)
08:23 15 04:23 Dc STZ RS 73.5
08:23 16 04:23 Wc SEBs RSH 73.5
08:40 17 04:40 Wf SEBs RSH 83.8

04:43 Obs. disc. due to cutting bad seeing
Gany mede's shadow was dark & intense, just S of p end of
RSH & RS. Seeing very poor: whole image jumping & making
large excursions. RS was only glimpsed about once a minute,
and it was impossible to define its p or f end. RSH has
marked shoulders, so much easier to find

* Equipment: motor drive still wasn't working on SVD, Warm
was turning but scope wasn't moving. Then I noticed that
RA clamp wasn't clamping. I took mount into garage &
discovered that the worm had slipped when I was last
working on the motor drive so that it wasn't engaging
the ~~spur gear~~ gear. I removed the worm entirely,
attached the motor, & reinstalled as a unit, setting
even pressure on gears. Drive then operated correctly,
but speed setting is very sensitive. Needs some sort
of knob or wheel on the end of the shaft for fine
tuning.

735e

2001-10-01/02 21:15-21:25 EDT Oriole yard 5 10x50b ne.

Mass: for the last few nights I've been watching Mars more past
Nunki (or Sag). Last night Two nights ago they were very
close, but now Mars is well to the E of Nunki. Because of
haze & full Moon, needed 10x50s to see Nunki tonight.

Oct 0.0

3372

877.92

129.5

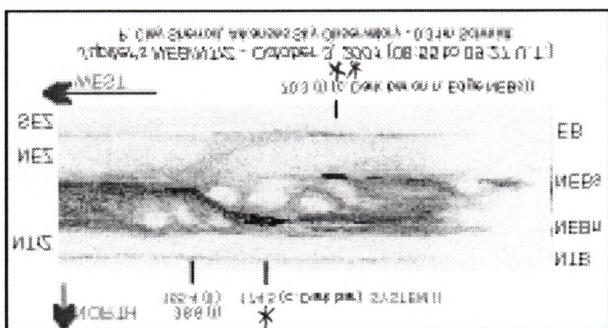
~~129.5~~ 870.29

Oct 3.0

90.96

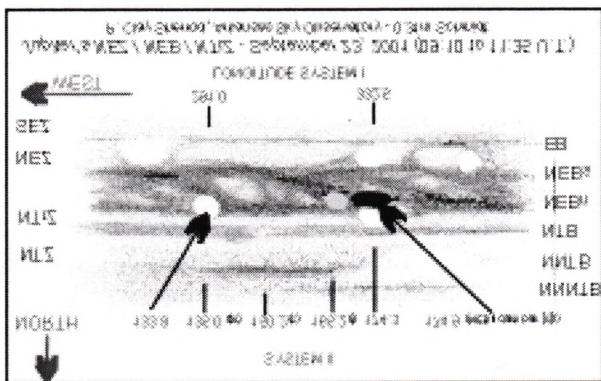
~~90.87~~ 220.37

S



P

f



N

Moon; remarkable how much can be seen \bar{c} naked eye & 10x50s:
Grimaldi, Plato, Aristarchus, Tycho, Sinus Iridium.

736m 2001-10-02/03 04:10-05:30 EDT Oriole N 5-3 15cm mn

Jupiter: 250x bin. Seeing 4-2 Cf. drawing by Clay Sherrod

8:11 04:11 Obs. cond. I II

18	8:21	04:21	Dp elong cond NEBn *	—	237.3 163.2	} 174.3
19	8:38	04:38	Dc elong cond NEBn *	—	173.5	
20	8:59	04:59	Df elong cond NEBn *	—	186.2	
21	9:07	05:07	Dp cond NEBs **	64.5	—	} 69.8
22	9:16	05:16	Dc cond NEBs **	70.0	—	
23	9:24	05:24	Df cond NEBs **	74.9	—	
	9:25	05:25	Obs. disc.			

Saturn: 250x

737e 2001-10-03/04 22:20-22:25 EDT Oriole yard 6 15x70 b

Moon: Quick look with 15x70s just past full - terminator just visible. Noticeable dark grey spots near centre of disk. Plato & Grimaldi easily visible.

NGC 457: can just see ET's eyes in bright moonlight.

738e 2001-10-08/09 19:15-19:40 EDT Oriole Obs. 7 15cm mn

Mars: Seeing 9-2, best @ 200x \bar{c} Binoviewer; slight hint of shading towards middle of disk, esp towards S terminator & brightness towards limb, but that's about it. Bailing!

739m 2001-10-08/09 05:15-05:55 EDT Oriole N 4-3 15cm mn

Jupiter 200x binoviewer. Tried to observe transit of Europa's shadow. Predictor for 05:12, not seen until 05:27, by which time it was well in from limb. 05:50 shadow just N of end of RSH.

Moon: very close to 3rd quarter. Alpine Valley filled & shadowed.
~~S~~ Face of Straight Wall brightly lit. Rima Bradley cutting through badlands between Archimedes & Appennines. Contrast very low due to high haze & cirrus clouds

740e 2001-10-09/10 23:30-23:45 EDT Oriole yard 7 15x70b ne.
Saturni: clear of the trees @ 23:30. Tiny ellipse in 15x70.
M31, M45, ET cluster, Double Cluster
ne. Limiting magnitude 3.3

741d 2001-10-18 ~~08~~ 16:15-16:25 EDT Oriole driveway 3 13cm mc ne
Sun: Checking out Kendrick Beader solar filter & dew shield which I just bought from Jim Kendrick's new store. Two naked eye sunspots & at least 24 (didn't count because Sun moving into trees) telescopic @ 62x (25mm Sirius Plossl)

742d 2001-10-19 09:35-09:50 EDT Oriole driveway 3-4 13cm mc ne
Sun: Counted 76 spots @ 96x (Nagler 16) despite high cirrus clouds over Sun. This makes a dynamite solar telescope: 30 second to set up & enormous detail visible in spots. Wow!

743d 2001-10-20 11:05-11:35 EDT Oriole driveway 6 13cm mc
Sun: Counted 72 sunspots @ 96x. Took two photos @ 11:33 @ prime focus using meter on Katak Elite Chrome 200.

2001-10-20 Louise & I added another row of patio blocks on the S side of my observing pad, making it 6x7.5 ft. Also put small "Rubbermaid observatory" back in place. I discard that G-11 short tripod will fit inside Small Rubbermaid shed. This will mean I can leave it, eq. led, etc. in shed & only

II

195.9

341.5

I

211.4

347.5

348.1

352.4

have to make tripod a few feet to observe, rather than across the yard from the garage. Roof of shed badly warped over summer - I've put it on blocks & more blocks in centre to try to warp it the other way.

744e 2001-10-20/21 19:30-19:45 EDT Oriole front & back 6-3 in N. ha FE & 55mm f/1.2
Took a series of slides of crescent Moon & constellations. Moon shot was metered, all except first constellation shot were 15 sec exposures. All with 55mm f/1.2 lens stopped down to f/2 & L39 filter.

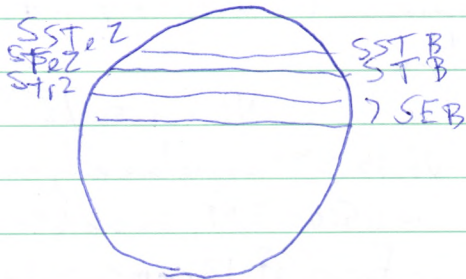
(N. ha FE & 55mm f/1.2)

745m 2001-10-21/22 04:45-06:35 EDT Oriole back yard & driveway 6-3 15cmmm 13cmmc
Constellation photos ~ 05:00 EDT 15 sec & 30 sec @ f/2
Saturn & Jupiter @ prime focus of 13cmmc ~ 1 sec \pm 1 stop 05:45
Jupiter: just missed NEB disturbance
~ transits 15cmmm @ 225x binoc S: 4-6

	05:24	Obs. com.		I	II
24	05:25	Df cond NEB _n	9:25	—	177.4 177.4
25	05:30	Wc oval ^{S edge} NEBs	9:30	198.9	—
26	05:31	Df festoon S edge NEBs - EB	9:31	199.5	—
27	05:38	Wf oval S edge NEBs	9:38	203.8	—
	06:31	Obs. disc.			

The views of Jupiter and Saturn in the Apex 127 are quite exquisite, pretty much what I'd expect from a 5" version of the MNG1. For \$400 USD that's amazing!

746e 2001-10-22/23 18:30+20:30 EDT Rick Hansen S.S. Mississauga, 4-3 15cmmm
School star party for grade 9 students. Showed binoculars to John Ginder & others. John just bought Gitzo fluid head tripod for his Traveler - very nice. Quick look at Moon, but mostly on Mars.



747e 2001-10-24/25 20:00-21:15 EDT OSC-S parking lot 6-0 13cm c
Public star party in conjunction with lecture by Ivan Semeniuk.
Mostly Moon @ 62x, a bit of Moon @ 208x & Mars @ 208x, but
motor drive wasn't working properly - turning too slowly.
Sold 102mm f/5 Sky-Watcher refractor to Guy Nason.

748d 2001-10-29 11:45-12:30 EST Trelawny PS, Madburyvale 3-0 13cm c
Solar viewing for grade 6 students, after 2hr talk. Image
was sharper than Big Bear image from yesterday. Main spot
group has broken up into about 25 tiny spots. Motor drive
running slow.

Guy Nason dropped by w/ cheque for \$350 to pay for SW
102mm f/5, including Baader solar filter, 90° prism diagonal, and
padded soft case.

749m 2001-10-30/31 03:30-05:30 EST Oriole driveway 7, 20cm r 15cm m n
Saturn: brief view of Saturn @ 20cm r @ 232x - seeing poor
& tube currents
Jupiter: Seeing poor at first @ 232x (Rahim) & then about
the same magnification with binoculars of 24.5m eye eps.
As seeing improved I set up 15cm m n & spent 2
hours comparing the two. The 15cm seemed to have
a slight edge in contrast but 20cm had slight edge
in resolution. Generally I would spot fine detail first
in 20cm, but was always able to repeat observation
in 15cm once I knew what to look for. Extraordinary
amount of detail in polar regions, esp. SPR. Could see
STB, SSTB, ST, 2, STe 2 & SSTe 2. Little detail
suitable for transit timing.

$$\begin{array}{r} 318.2 \\ 12.9 \\ \hline 331.1 \end{array}$$

15cm mn @ bmo 20cm r1 @ bmo

24.5	142x (140x)	219x (220x)
16	217x (220x)	336x (340x)
12.5	278x (280x)	430x (430x)

+ 15cm mm 225x

03:30 Obs cam 20cm r1 ~~230x~~ bino Si: 4-8 I II
 28 05:17 Dc cond NEBn 10:17 UT 331.1
 05:30 Obs disc.

These are both magnificent instruments, 20cm Cave is even better than I remember it. ~~It's~~ Its main drawback is that it is huge compared to MN61. Putting Cave + G11 in Super-Dallies makes it much more accessible & usable - don't know why I didn't do this earlier!

750m 2001-11-2/3 03:05-05:30 EST Outside driveway 7 20cm r1 15cm mm
 Except for a brief look at Saturn (15cm mm @ 290x; glabe looked strongly yellow compared to white at Ring B) all observing on Jupiter! 4-5

03:10 EST Obs, cam + 25cm r1 + 15cm mm 225x bino Si: ~~5-6~~
 Missed shadow of Io, Europa's shadow still in transit

29 03:59 Dp cond NEBn (probably late!)

30 04:02 Dc cond NEBn

31 04:13 Df cond NEBn

Io bright on p limb

32 04:35 Dc drag cond NNTB

33 04:39 Dc cond EB

34 04:49 Df cond EB

05:14 light area p NEB dist, does look like RS when rotated this far from CM

35 05:21 Dp thicker section NTB

05:25 Obs. disc.

Measured exit pupil of 16mm apertures in binoculars on 15cm mm = 0.7mm
 $\Rightarrow 277x$ at 3474mm, mag factor 3.86

2001-Nov-7 00:15

2001-Nov 7 01:00

751m 2001-11-3/4 06:25-0:630 EST Oriole ~~NE~~ yard 5-3 10x50b
Mercury & Venus pseudo-conjunction — Mercury much brighter than I expected, just to left of Venus in dawn sky. (39' sep'n)

23:10

752e 2001-11-5/6 22:40-~~22:50~~ EST Oriole yard 7 n.e. Louise & David
Aurora: first one I've ever seen in Toronto — brilliant coraa overhead, huge streamers to horizon E & W, not much to N. Brilliant despite rising waning gibbous Moon. I was out earlier & suspected streamer to E, but assumed it was just moonlight. Brilliant deep red to NE all the way up to zenith — fading by 23:10 to pale pink. Jupiter & Moon above trees to E.

753e 2001-11-6/7 19:00-20:00 EST Oriole N yard 7-0 15cm ~~10x50b~~
Doubles: Eta Cas 19:15 41x companion east, much fainter than primary, red

① Variables: T Cas 19:39 EST 102x = 110 Chart: s/d/1994*
② U Cyg just got field identified when clouds rolled in < 10.8

102x 20:00 EST Chart: s/d/93 Kaji U
comp star 108

*comp stars 105 110 113

754e 2001-11-7/8 ~~19:20~~ 20:00-21:00 EST Oriole NW yard 6-0 25cm r/l 10x50b
Comets: searched unsuccessfully for LINEAR C/2000 W₁ @ 71x & 129x
— need to make sure orbit in Starry Night up-to-date*

Doubles: Eta Cas @ 71x companion very red

③ Variables U Cyg 20:37 EST mag 11.7 comp 11, 117 s/d/93 129x
④ T Cas 20:57 EST mag 11.3 comp 105, 110, 113, 118 s/d/93 129x

*I downloaded ^{new} orbital elements, and the position plotted was correct.

755d 2001-11-10 10:25-10:35 EST Oriole driveway, 7 13cm mc
Sun: quick look @ 62x - tons of spots in several large groups.

756e 2001-11-11/12 11:10-00:10 EST Oriole NW yard 7 25cm r 10x50 b 15x70 b
[Comet LINEAR 2000 WMI] - not seen in either binocs - right overhead
in Dobson's Hole

77-78 Tauri: ^{23:15} 10x50 b split easily, 77 appears yellowish in 15x70s
M1: - easy in ~~10~~ 25cm r @ 71x - much larger than I remember
it.

M42-3 wings plain in ~~10~~ 25cm \bar{c} Ultrablack @ 71x

M45, M37, & M36 in 15x70s

Quick looks @ Jupiter & Saturn, but seeing poor.

16/17.

757n 2001-11-~~17/18~~ 03:27-03:44 EST Oriole N yard 6 ne
Leonids: watched for above period. Saw one 1st mag. meteor.
Limiting magnitude ~ 4.0

758e 2001-11-17/18 23:00-23:15 EST Oriole N yard 6 ne
Leonids: Limiting magnitude 3.4. None seen in 15 minutes.

[03:10-04:40 - drove to Averara sideroad #404 in search of sucker holes - fog so

759m 2001-11-17/18 05:00-05:50 EST Oriole N yard 0-1 ne ^{but I had to turn back}
Leonids: observed 11 ~ 0 mag through sucker holes between 05:22
and 05:45 - all were brighter than Regulus, all but
one very fast

→ 06:05-06:10 EST 0 ne.

Sky is back to featureless gray it was most of the night.

760d 2001-11-21 09:30-09:50 EST Oriole N yard 3 13cmmc ne
Sun: Still many spots on Sun, including one naked eye spot.
Testing dual axis drives for SkyView Deluxe mount, which arrived last night. A lot of backlash, esp in RA, but much more positive than single axis drive I'd been using up until now. 62x & 208x

761e 2001-11-21/22 20:00-21:30 EST St. Paul's School, Whittier 3-7 13cmmc
Star party @ Raulo Attwood & Frank Dampsey & ~100 kids, parents & teachers.
Saturn 62x a little too low & 208x too high for public - need something ~ 2/3 of the way up 11" = 140x
Lorise, Samba, Brian

762e 2001-11-23/24 19:15-23:10 EST Oriole yard 6 13cmmc 25cm r1
Moon: in 13cm @ 175x. Plato looks round, shadows half-way across floor, straight wall well placed.
Comet LINEAR 2000/WM1 in 25cm, Plainly visible @ 28x & 71x, looks triangular. It reminds me of M78.
Pleiades 28x in 25cm
Saturn } best @ 228x in 25cm - image starts to break down above that
Jupiter } → 71x @ Ultrablock for nebulosity, 190x for Trapezium
M42, Rigel - clean @ 190x.
Saturn & Jupiter best @ 175x @ 13cmmc. Declination slow motion not working. RA drive tracks well.

763e 2001-11-30/1 19:40-19:55 EST Oriole N yard 0 12cmrr
[Moon & Saturn] - attempt to observe occultation of Saturn clouded out (ingress)
→ 20:30-21:15 EST
|| Moon - glimpsed for a few seconds @ 25x after end of occultation
Traded 150mm f/8rr for 120mm Antares f/8.3rr at Khan's today.

764d 2001-12-02 12:10-12:20 EST Oriole driveway 7 12 cm rr ne
Sun: Observed \bar{c} new Antares 120 mm f/8.3 refractor @ 40x (PI) 62x (EFL) & 100x (SPI). Limb of Sun yellow & sunspots blue violet. 2 spots visible with naked eye. Seeing very poor, but faculae visible clearly near limb.

765e 2001-12-02/03 ^{19:50-21:25} ~~7:50-9:25~~ EST Oriole NW yard 7-6 12 cm rr 13 cm mc
Saturni: despite smaller aperture, image seems brighter in 12 cm rr. ~~Comparisons~~
Comparisons mostly made \bar{c} 4m Radian in 12 cm rr (250x) & 6m Radian in 13 cm mc (257x). Image exquisite in both, but slight purple haze in rr. Yellow filter reduces this. 16mm in binoview gives fantastic 3D effect (250x) - tried 12.5mm (320x) but image began to break down

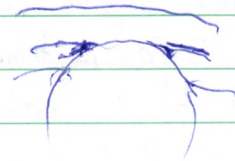
Moon: 250x in bino \bar{c} 12cm rr - image yellowish, but shadows not blue. Some texture effects, but not as pronounced as with 15cm mn.

Jupiter: 250x in bino was pushing it a bit, but 165x was a bit low. New 10mm Antares SuperPlössl (=Ultina) excellent in 13cm mn (154x). \rightarrow green filter, 2" diagonal, 4m Rad. Copell

Star tests of 12cm rr. Noastigmatism. Looks like slightly under corrected spherical aberration $\approx 1/8$ wave.

Chromatic aberration seems markedly less than \bar{c} 15cm f/8 rr, and ~~image~~ spherical aberration very slight. Looks like a good scope. I think I will try one of Al Misiuk's Minus Violet filters.

2001-12-03 Above tests were with 12cm rr on GP-DX & 13cm mc on SVD. I moved MN61 back to EP-DX and mounted 12cm Antares on SVD to see if it's adequate (EP-DX was solid as a rock with it).



766e 2001-12-03/04 18:10-18:35 EST Oriole obs. 6 25 cm r
Canet LINEAR c/2000 WMI observed @ 18:31 @ 71x mag 7.8 based on two
stars just S & SE of it. Vaguely triangular, brighter than
last time.

—————→ 19:25-21:00 EST Oriole obs. 6 25 cm r
Canet LINEAR c/2000 WMI - confirmed magnitude.

INOC 246 - tried to spot this planetary without success.

Double stars 20:20 Zeta Piscium 28x one reddish

20:25 γ Arietis 129x equal white

20:30 \uparrow Arietis 28x

20:40 Psi Piscium 28x equal

Saturn @ 284x Euckeminionon easy - not sure of cratering,
tiny "ears" where Spolar region intersects with Cassini's
Division. Tychas Titan is "double" tonight - star
very close to it ~ same magnitude. Ball of planet
is noticeably yellow brown compared to brilliant white
of B ring. S Equatorial Belt well marked.

767e 2001-12-6/7 20:30-22:00 EST Oriole S yard 7 12 cm rr

Saturn seemed best @ 200x (5mm Radian) without the yellow
filter. Could not see the colour differentiation between
white B ring and yellow brown globe that was so obvious
in 25 cm r the other night.

Jupiter: Secondary colour interfered with fine detail at all
magnifications.

Rigeli companion visible but seeing poor at 200x.

Capella repeated star test with green filter - inside &
outside of focus views remarkably similar → good correction
of spher. aberr.

M42: could actually see the wings \bar{c} averted vision @ 62x & especially 45x (22mm Nagler). Latter view was spectacular with whole of Orion's sword in field of view. Wings actually seemed clearer without UltraBlack, probably because it blocks too much light.

M45: spectacular in 22mm Nagler (45x)

Tonight I had the 12cm rr mounted on the Sky View Deluxe mount. Not as solid as GP-DX, but it actually is "grab and go"; can pick up scope and mount as a unit & shuffle about the yard with it! Today I picked up 8x50 finder (Antares, not Sky-Watcher) straight-through, very long \bar{c} binocular eyepiece, from Khan.

I think on the whole, the Orion Apex 127 is a more satisfactory telescope; sharper & free of colour, and a lot more portable. What the Antares offers is very wide field of view with high contrast. I plan to experiment with Sirius Minus Violet filter. Valery Derushyn wants me to try a Chromacor at reduced price. I will need to do some work on the focuser, since it has a lot of slop in it.

768e 2001-12-07/08 17:45-18:35 EST Oriole E yard 7 ne 70x50b 25cm rd
International Space Station & Shuttle: beautiful high pass from SW to NE passing almost through zenith. After ISS passed through sunset it seemed to emit 2-3 white flashes

Mars: 284x disk gibbas, no detail visible despite not bad seeing.

Doubles: Zeta Aqr very close, equal brightness white, needed 228x to split 18:18 EST

94 Aqr unequal wider 18:24 EST 129x

Comet LINEAR c/2000 WML1: very close to β Ceti, bright condensed nucleus, mag = 8.0 at 18:34 EST 28x71x129x

→ 20:15-20:45 EST Oriole E yard 7-3 10x50b 25cm r1
Comet LINEAR c/2000 WML1: reobserved 28x129x

Doubles α Psc 20:35 190x needed to split - very close, equal
 γ Cet 20:43 228x needed - very unequal
Thin clouds in Cygnus where I planned to look next
Also very cold!

→ 22:10-22:35 EST Oriole E yard 7 25cm r1

Saturn: not quite as good @ 284x as a few nights ago.

Jupiter: best @ 228x ^{dark} red spot in NEBn past the CM.

Brightness seems to wash out detail. UltraBlack seems to increase contrast enormously, but it may just be because it cuts out so much light.

~~Oriole~~ Doubles: η Cas.

Orion Nebula - fantastic @ 71x, 129x, E & F seen @ 284x.

UltraBlack makes it more dramatic & emphasizes the Fish Mouth & dark clasts. Without filter the nebula is more delicate and wispy. I love it either way!

2769a
~~2001-12-09~~

2001-12-09/10 18:25-19:05 EST Oriole mid yard 7 25cm r1 10x50b

Double stars: σ Cas 18:38 190x hard because close & d. ff. mags.

[65 Psc] too high, in Dobson's hole

η Per 18:48 129x gold & blue wide & easy

Strouve 331 Per 18:51 129x white & white

ζ Tri 18:55 129x white & blue prettier @ 228x

χ Tau 19:00 46x wide & easy

Saturn: Titan & Rhea opposite, Dione & Tethys opposite 228x

→ 20:10 - 21:15 EST Oriole mid yard 7 25cm r/l 10x50b
Double stars: β Cep 20:14 visible @ 46x, best @ 129x white-white wide

~~10~~ } γ Cep 20:20 " " " "
Strove 2816 20:38 129x white violet violet lady triple

Θ Aur 20:50 228x - like Rigel

118 Tau 20:56 129x white-white

λ Ori 20:59 129x

Carbonx:

Also observed μ Cep, Herschel's Garnet Star - colour amazing even in 10x50, close to Strove 2816

Reobserved Rigel & Castor @ 129x

Jupiter: The Red Spot is BACK! Seeing poor, best @ 190x. Fasten or dark S border appears to enclose Red Spot, which is decidedly pink. This is the clearest I've seen it since the '60s! Much detail p&f RS, and in NEB, but seeing too poor to time anything.

770e

2001-12-10/11 21:00-22:50 EST Mt. Albat Lions Park 8 ^{10x50b} various RASC members scopes
Deep sky observing @ new RASC observing site - I got lost and spent an hour & a half driving around rural Ontario. By the time I got here, I was wiped and couldn't be bothered setting up the 25cm r/l which I'd brought with me, so I looked through other peoples' scopes, including Bob Chapman's 15cm f/8 Sky-Watcher, which is the best I've seen, Ray's rather poor NewStar version (bad chromatic and spherical aberration), and an absolutely awful 12" Meade SCT. Site has a lot of local light pollution, including railroad tracks - I think I prefer Falls of the Credit. 60 km from Oriole Pkwy to this site.

771e

2001-12-11/12 20:30-20:50 EST Oriole mid yard 5 15cm mm

Saturn 225x bino. Very beginning of ball shadow on ~~glabe~~ rings
on f edge of globe. Cassini visible right across front
of rings. Tiny "ears" where Cassini meets globe shadow.

Jupiter 225x bino. Still too low to see detail well. Callisto
just coming off of disk of Jupiter

30
—————→ 21:30-23:05 EST Oriole mid yard 4 15cm mm

Jupiter mostly 225x bino S=5-6

21:34 Obs com

36 21:35 WF oval S edge NEB

37 21:49 Df cond NEBn - there seem to be a string at these ^{290x} ~~300x~~
SEBs clearly divided into N & S components, which wrap
around RS ~~300x~~ 290x

38 22:06 Dp cond NEBn dark red 225x

39 22:08 Dp sect EB

40 22:13 Dc cond NEBn dark red - looks like slat in transit

41 22:16 RSp translucent SEBs sweeps around RS forming
dark distinct border

42 22:19 Df cond NEBn dark red

43 22:33 RSc pale translucent pink

44 22:43 Dp cond NEBn dark red

45 22:47 Wp oval SEBZ (between SEBn & SEBs, FRs)

46 22:52 Dc cond NEBn dark red

47 22:55 RSp

48 22:57 Wc oval SEBZ

49 23:00 Df cond NEBn dark red

50 23:02 WF oval SEBZ

23:04 Obs disc because of dew on corrector!

772e 2001-12-14/15 19:30-22:30 EST Oriole driveway 7-3 (ax5ab) 15cm mm Briggs
Asteroid 1998 WT24 had great difficulty finding it until I
compared my charts \bar{c} recent ephemerides & discovered it was
about 1° further along ^{path} chart than predicted. Finally
spotted just S of pair of stars @ 21:04, followed for a
few minutes, then lost. Observed (but not recognized) at
21:30, just when Eric Briggs dropped by. I recovered it
briefly, but lost it before Eric could see it, then
thin high clouds moved in, and asteroid moved into
Dabson's Hale. Best view was $\sim 21:04 \bar{c} 25\text{cm rr} @ 129\times$
(8.8mm UWA watch!).

773n 2001-12-29/30 03:00-05:30 EST Oriole bedroom 5 ne
Penumbral lunar eclipse: checked from time to time while awake
with bed head cold - shading barely perceptible. Jupiter
quite close to Moon & very pretty.

774e 2002-01-01/02 19:55-21:15 EST Oriole driveway 7 10cm rr 12cm rr
Testing @ TAL 100 RMT: 100mm f/10 rr with motor drive on tripod, on
loan from Khan Scope Serial #009
~~Setup~~ (a) Sirius MVA filter 48mm on 12cm Antares rr
(a) Saturn: Cassini's division easily visible @ 100x (10mm Plössl), @ 200x
(10cm rr) (Radian 5m) equatorial belt very easy plus dark shading on
polar region
Jupiter: many belts & zones visible, best @ 167x; large in NEBn easily
seen
Betelgeuse: star test @ 250x, 4mm Radian E green filter, no
rings visible inside or outside focus, but image boiling
Optically the TAL seems like a pretty good ~~scope~~ 12cm scope.
Mechanically the mount is the absolute pits. Vibrations take

forever to die damn, making Jupiter's moons into Lissajous figures. Vibration pads helped a little, but not much. Adjustment on RA clutch is very inconvenient, requiring screwdriver on three screws through little access hole. RA slow motions very stiff, Dec much better. Object cell loose on tube. Wood tripod very crudely finished. This really is a scope from another country, much more so than Intes Mak-Naut. Everything about it smacks of Soviet technology at its crudest.

(b) Sirius MVI filter on ~~12cm~~ 12cm Antares, compared Jupiter & Saturn \bar{c} & \bar{s} filter. Effects particularly striking on Jupiter; greyish blue haze around the planet was totally killed, and fire belt detail just snapped into place. Filter causes slight yellow cast to image but it enhances the contrast at least 100%. The effect is nearly miraculous: image looks more like MN 61 than anything else. I need to try side-by-side with 13cmmc & 15cmmn — I don't think it comes close to MN 61, but may challenge 13cmmc, which easily beat it in previous comparison without MVI filter. Chromatic aberration is reduced to level comparable to 10cmrr, i.e. not noticeable at all.

(a) I noticed, I didn't even mention chromatic aberration in writing about TAL100, because it just wasn't noticeable, except in star test when defocusing star. Even at full extension, tripod is way too short for a retractable shorter than SVD at "half mast" (lower top of lower legs even \bar{c} tray supports)

Manta

Sky Season 25cm

Magn

Saturn - 250x 4 moons easily visible

Jupiter - best @ 210x

M45 (N22)

Rigel split 10x 163x

Castor 163x

M35

Eschimo Neb (28° from full Moon)

mentor

-6°C

775e 2002-01-19/20 19:40-21:15 EST Oriole driveway 7 25cm r1 x 2 12cm rr

Testing Sky-Sensor 25cm Dobsonian in generally poor seeing
Moon: Trieb supplied 25m (50x) & 9m (139x) Plössls - latter was as
much as seeing could bear

Saturn & Jupiter - seeing really poor. I tried moving scope to
different locations in driveway, in case of nasty heat
pulses, which helped a bit. Gradually I began to suspect
tube currents were to blame, also star test \Rightarrow astigmatism
I set up ~~the~~ 12cm Antares rr & MV-1 filter, and images
of Saturn & especially Jupiter were excellent @ 200x:
splits in SEB & NEB, easily seen, berges, ovals, etc. Tried
without MV-1 and detail was still visible, but there was a
blue haze & contrast was weaker. Then I set up 25cm
Meade r1. Even though it hadn't time to cool down
image was better than in Sky Sensor. I've now left
all three scopes outside to thoroughly cool down while
I warm up!

\longrightarrow 22:00-22:50 EST Oriole driveway 6.5 25cm^{r1} x 2 12cm rr
Now that Sky-Sensor has had more time to cool down, its
image is much improved but still shows astigmatism & rough
surface and/or spherical aberration. I want to take a look at
its cell - I suspect, like the 20cm Premiere scopes, that the
mirror is thin & poorly supported - certainly, the collimation
screws, apparently acting on a thin metal plate don't inspire
confidence. More & more I get the feeling that this is
an Orion XT10 with lots of camera cut. Io and its shadow
were in transit. The moon itself was invisible in all 3
scopes, but its shadow was clear in all, though not as clear
in the Sky-Sensor as in the other two. A large kitty-corner to

Io's shadow was also seen in all three; Best in the Meade, next in the Antares, third in the Sky-Sensor, though the last two were very close.

- The Sky-Sensor's mount has very rough azimuth movement; sharp corners of nylon pads are digging into bearing surface. I think adding central washers would help, but replacing bearings with Teflon would be better still. Altitude movement is too free, even \bar{c} both springs engaged. Scope is rear heavy, so that \bar{c} 9m eyepiece it drifts up in altitude. I was able to use Paracorr & heavy eyepieces \bar{c} no problems.

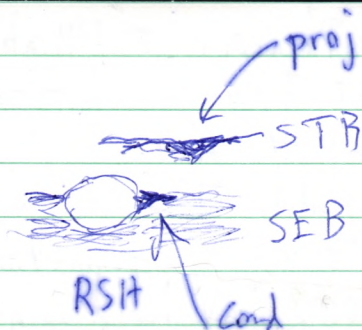
- Orion Nebula was particularly nice \bar{c} 22mm Nagler + Paracorr (65x, 1°15' field) and Ultrablock. Also good \bar{c} 8.8mm \bar{c} Paracorr \bar{c} Ultrablock (163x 31'). Unable to see E & F in Trapezium, but seeing poor.

- The performance of the Antares 120mm rrt + MVJ filter is quite remarkable. The level of detail easily visible in Jupiter's belts was quite astonishing. Image was very sharp @ 200x, and held up quite well @ 250x.

Orion drive

776e 2002-01-22/23 19:00-21:32 EST, 6-4 25cm r1 13cm mc 15cm mn +4°C!
Further testing of Sky Mentor 25cm Dob (Evan Sharp). Today I removed metal plate behind mirror & relieved pressure on mirror clips. Cell has unusual 4-point ~~suspension~~ support. Nice cast aluminum cell painted black. Mirror cooled down much quicker, but still took well over an hour. Once cooled, the astigmatism vanished. Spherical aberration is almost undetectable. Some roughness of surface. Image of Jupiter @ 208 was flawless - combinations in NEBn clearly resolved. Not quite sharp @ 250x, but Saturn excellent.

Clay Sherrod
 Image @
 21:02 EST



Clay Sherrod
 Image
 From
 previous
 night
 (2 rotations
 earlier)



Jupiter Shelan transit of Ganymede (13cm mc)

20:52 Obs coma 15cm mn 225x bino, S 4-5

51 21:24 Dp cond NEBn

52 21:31 Dc cond NEBn

21:32 Obs. disc. due to thick haze

Comparisons Once cooled down, the image in the 25cm was spectacularly good: clean high contrast of Jupiter's cloud features, moons appearing as tiny disks. Removal of metal plate & releasing tension in clips has made remarkable improvement. Star tests still showed astigmatism while cooling down, but this disappeared later. Rigel's companion really easy @ 208x, I replaced broken filter detail = Rigel Quick Finder,

Apex 127 was very good on Jupiter, particularly = 10mm Antares which seems much sharper & more contrasty than TV 74mm Plössl. This will make a great star party centerpiece. Shelan of Ganymede very sharp. Focus knob doesn't seem stiff, as some have reported online.

Intes MNB1 is still great, though image in 25cm Dab was much brighter, & barges in NEBn were clearer (in 25cm).

777e

2002-01-26/27 19:40-21:50 EST Oriole driveway 6-3 25cm r 15cm mn 12cm^{rr}

Planned to test Sky Master further, but seeing mostly too poor.

Jupiter

20:00 Obs. comm 15cm mn 225x bino S 0-3

see image 53 20:13 Wp RSH SEBs

54 20:33 Wc RSH SEBs

55 20:50 Wf RSH SEBs

56 21:04 Dc cond SEBs

57 21:13 Df cond SEBs

58 21:17 Dc proj N edge STB

59 21:27 DF proj N edge STB

21:50 Obs disc

Comparisons: MNB1 had the most pleasing view, most contrast, despite terrible seeing. 12 cm rr had less contrast, less detail visible. 25 cm Dab. suffered most from bad seeing. Best powers on Jupiter: 12 cm rr 165x (bino ^{24.5}), 15 cm mn 220x (slightly lower might be better) (16 cm bino), 25 cm r 208x (6m Radian) or 204x (bino 24.5 cm)

778e

2002-01-28/29 19:50-20:15 EST Oriole driveway 4 15 cm mn

Jupiter

19:50 EST Obs. com S-3-0 Io just off limb, shadow still on disk

20:15 Obs disc. poor seeing.

→ 21:00-22:00 EST 4 Oriole driveway 15 cm mn 25 cm r (Sk, Mastar)
Oriole N yard 12 cm rr

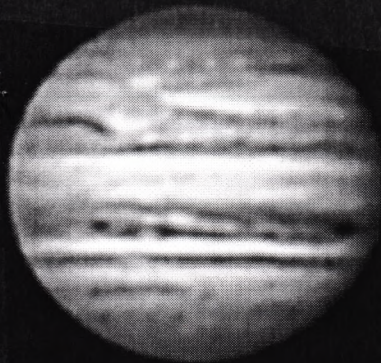
Unable to make out much beyond NEB, SEB, & RSH in really poor seeing with all three scopes. Very frustrating. Unable to use more than about 160x on any scope. The temperature was again $\approx 4^{\circ}\text{C}$ tonight, a lot of haze all over sky (including halo around full Moon). Usually such conditions bring good seeing, but not tonight!

779e

2002-02-14/15 20:40-21:20 Est Oriole driveway 4 25 cm r (Sk, Mastar)

M42, Trapezium (E suspected), Rigel, Castor, Saturn, Jupiter. Gusty wind made planetary observing difficult. Best views were c 6m Radian + Paracorr (240x) & bino view $\approx 24.5\text{m}$ (205x). ~~Get~~

Pink colour in Spout of RS - detail within NEB glimpsed, ~~but~~ Got very hazy.



JUPITER 00:22 U.T. [0218-a] February 18, 2002
Note size and color of BA / activity fol. in STRz
P. Clay Sherrod - Arkansas Sky Observatory
0.31m Schmidt - Olympus C-3000 @ f/70

CM I = 304.4 / CM II = 100.8 / CM III = 189.5
Seeing 7/10 - thick cirrus clouds

Processed: 65 Images
no color correction
640 x 480 - ISO 300

780e 2002-02-17/18 18:30-19:30 EST Oriole driveway 7 15cm mm, 12cm rr
Jupiter Shadow of Europa a tiny black pinprick easily visible
in both scopes (200x in 12cm rr, 225x in bino in 15cm mm) - detail
in general comparable in both scopes - a little less contrast
in 12cm, 15cm more affected by very poor seeing.

1830 EST obs com S 2-3

60 18:45 Wc RSH SEBs

61 19:05 Wf RSH SEBs

19:23 Now that RS has passed the CM, it has taken
on a grey colour & BA oval is just visible, where
it was invisible on CM. (see image at right)

19:25 Obs disc due to poor seeing & cold gusty wind
-6°C, wind chill -14

Saturn 12cm rr @ 200x - very nice - moons easily visible

Regel star test of 12cm rr S diagonal @ 250x + green
filter. Outer ring brighter inside focus - very even
illumination outside focus \Rightarrow mild undercorrected
spherical aberration $< 1/4$ wave. (Valey needs to
know this for Chroma corr)

EST
→ 20:40-20:59 Oriole driveway 7 15cm mm

Jupiter

20:49 EST obs comm 225x bino Si @ -5

62 20:45 Dc barge NEBn - very intense red brown

63 20:55 Df barge NEBn

20:59 Obs disc. cold, wind, poor seeing

In moments of good seeing detail was amazing, but too
far & far between.

781e 2002-02-22/23 19:33 - 20:18 EST Oriole driveway 7-3 15cm mm

Jupiter

- ~~63~~ 19:33 Obs. cam 225x Bino Si 1-2
64 19:43 Dp barge NEB_n seems to be at f and of NEP Lagin rift
65 19:48 Dc barge NEB_n S: 3-4
66 19:55 Df barge NEB_n passing clouds
20:10 Obs. disc. due to clouds & cold

Jupiter & Moon conjunction in same 41x (22cm Nagler = 2.0°) field.

Moon: Three craters in Plato in triangle - Nerata appeared single
→ 21:05 - 21:30 EST Oriole driveway 3-4

Jupiter & Moon conjunction I was able to go up to 6m Radian (150x 24' f.o.v.) and still see Jupiter & north limb of Moon in same field. Fast moving clouds added to drama of scene. Sun just hitting the rim of Gassendi, Rilles around Agatharchides & Hippalus well placed.

782e 2002-02-23/24 19:14 - 20:34 EST Oriole driveway 7 15cm mm

Jupiter

- 19:14 Obs cam 225x bino Si 5-6 NEBs festoon to val on p side of disk
67 19:18 Df sect STB, SSTB & SS to Z both clearly marked at this
~~68~~ 19:48 Wp notch Longitude.
68 19:48 Wp notch N edge NEB_n (p barge)
69 19:52 Wc notch N edge NEB_n
70 19:59 Wf notch N edge NEB_n
71 20:01 Dp barge NEB_n very intense
72 20:05 Dc barge NEB_n
73 20:11 Df barge NEB_n
20:34 Obs disc.

Other observations interspersed \bar{c} Jupiter observations
Moon: 4 craterlets in Plato, Rillos in Gassendi etched
in pumice. Sun just rising over Aristarchus. 225x & 280x binos
Saturn: Titan, Dione, Tethys, & Rhea forming perfect arc.
Seeing nearly perfect - colour & shading exquisite, 225x bin

783e 2002-02-25/26 19:40-20:50 EST Oriole driveway 6-7 25cm r/l mild, ^{+10°C}
Further testing of Sky Mentor 25cm f/5 r/l (= Orion XT10)
- checked finder - field is quite sharp to edge, visible \bar{c} glasses
Saturn: 4 moons easily visible @ 163x - not as crisp as MN61,
Jupiter: best @ 240x barge in NEBn, festoon on S edge NEBs
enclosing oval. Again not quite as snappy as MN61, but
very respectable - colours very striking.

Rigel & Castor easily split @ 163x
M35, M42-43, Esking Nebula latter was very easy despite
nearly full Moon (1 day from full) 28.5° away

Conclusions: this is an excellent scope mechanically excellent,
optics good enough for serious planetary work, mostly usable
sitting down. Handles wide range of accessories. Eyepieces
OK (not great!) With premium eyepieces & Posacarr it
is an excellent performer.

784e 2002-03-04/05 19:30-20:35 EST Oriole driveway 6-7 12cm rr bitterly cold -11°
Chromacar arrived this morning from Aries in Ukraine. Also got email from
Starmaster that 11" will be shipped the week of March 18.
Jupiter, Saturn, Rigel, M42, Chromacar almost totally kills any
false colour, even on Jupiter. Callisto easily visible as dark spot
against SPR. 200x seems best for both Jupiter & Saturn. E in
Trapezium easily visible @ 114x & 167x. There seems to be
some colour fringing, especially on Jupiter, & some ghosting - but I've

done no serious collimation. The images can only be described as "reflector-like", at least in colour correction! Cassiopeia to Regel was easy at 200x - probably could be seen at much less. Same colour around Regel. I can't see going back to non-Chromacor view - no obvious vignetting even with 40mm. MV-1 still does a remarkable job. Interestingly, Chromacor + MV-1 doesn't work as well as either alone. MV-1 gives decided yellow cast to images while Chromacor seems neutral, perhaps slightly warm.

785e ~~M~~ 2002-03-09/10 19:10-19:55 AST Paget Bermuda 7-8 15x70b
Comet Ikeya-Zhang, very bright & condensed nucleus, tail 2° long in haze & twilight
M42-3, M41, M48, M93, Cr132, Cr149, Cr135, NGC2451, M46
M47, M50, cluster in Rosette Nebula, Canopus.

~~~~~~~~~

786n 2002-03-09/10 01:55-02:35 AST Paget Bermuda 7-8 15x70b  
NGC 5128 - faint glow  
NGC 5139 (w Cen) - large glow, not resolved into stars  $\approx 2 \times$  dia of M13  
Also M83, M68, (M104), M81, M82, M51, M12, M10, M13, M4

787e 2002-03-11/12 20:00-21:30 AST Botanical Gardens, Bermuda 2 15x70b 20cm sc  
Observing with <sup>6</sup> members of Bermuda Astronomical Society & Eddie McGonagle. Mostly cloudy - I observed Jupiter & 4 moons lying flat on my back on the grass with my 15x70s, & we had a quick glimpse of Saturn in Eddie's 20cm sc. Nice view of M42 with 15x70s.

6

7

7  
20 mission  
+ 2 NAC

788e 2002-03-12/13 19:10-19:30 AST Paget Bermuda 6 15x70b  
Comet Ikeya-Zhang bright elongated nucleus ( $\sim$  mag 5) tail  $\sim$  2° long  
much brighter than M31

789n 2002-03-12/13 03:05 - 03:25<sup>AST</sup> Paget Bermuda 8 15x70b  
W Cen, NGC 5128, M83, <sup>M68</sup> (M104), M6, M7, M5, M80, M8, M23, M10, M12  
Clearer in S, but hazy in N & E.

790e 2002-03-14/15 20:15 - 20:25 AST Paget Bermuda 8 15x70b  
M42-3, M41, M93, M46, M47, M48, M50, M44, M67, M34 (in same field  
as Jupiter), Eskimo Nebula

→ 21:30 - 21:50 AST

NGC 3242, V Hydrae (no colour noticeable), NGC 2451, 2477

791e 2002-03-16/17 19:25 - 20:25 EST Oriole E yard 7 25cm r1 10x50b  
Comet Ikeya-Zhang getting bigger & brighter. Tail close in is broad  
& fan shaped, now extending  $\sim$  4° in 10x50s. Just above roof @ 19:30  
Deep sky: M47, M46 - finally\* saw planetary NGC 2438 - best with  
16mm + 8.8mm + UltraBlack (71x & 129x), M41, M48, M50  
M35, NGC 2392 (best  $\bar{c}$  5mm  $\bar{s}$  filter, 228x)  
\* not true - actually saw it Zyras age from Oriole! (also Mars & Jupiter)

→ ~~21:00~~ 21:00 - 21:35 EST

Deep sky: M93, M44, M67, M45, M38, M36, M37 (also Saturn)

→ 22:00 - 23:15 EST

Deep sky: M1, M81, M82, M97, M108, M109, M3 (couldn't find M51)

:20

:45

:45

792d

2002-03-19 12:45-13:15 EST Oriole driveway 5 12cm rx

Did some checks on collimation and observed the Sun with & without Chromacor. One of the tube baffles seems to be out of place as one spacer in objective is not visible. Without Chromacor the Sunspots were fluorescent blue with Chromacor they had black umbra and brown penumbra, slight yellow fringe on limb. Seeing was poor, so that Sun was best at 41x — quite mushy @ 114x

793e

2002-03-22/23 18:20-18:40 EST Oriole W yard 6 28cm r1

First light for Stormmaster 11" ELT Shorty Dobsonian, which arrived earlier today.

Moon: Tried 22mm, 8.8mm, & 6mm  $\bar{c}$  Para corr, & 24.5mm & 16mm  $\bar{c}$  binoviewer + Ultima Barlow. Seeing was poor due to cold & gusty winds, but detail & texture were outstanding, especially  $\bar{c}$  24.5mm + bino = 200x. Finally saw Catena Davy.

→ 19:35-20:20 EST

Jane

Moon: ~~Mostly~~ 200x & 300x — saw Rima in Alpine Valley for first time.

Jupiter: 200x time RS really looks red, couldn't see Io in transit.  
Saturn: could see hints of Crepe Ring for first time ever. 345x  
 is bitterly cold, -20°  $\bar{c}$  wind chill

→ 20:40-21:25 EST

-6°C, wind chill -14

Mostly 300x  $\bar{c}$  binoviewer. So much to see, so cold!

Saturn — colours really striking: globe yellow-orange, Crepe ring, mainly in f ansae.

Moon: — Fra Mauro rimae of Bayland rimae Rima Hesodius looks like "crack of doom" Rima Pitatus.



- Jupiter 20:40 Obs com 300x S<sub>c</sub> 4-5
- 74 20:42 Wc spot in rift NEBs
- 75 20:42 RSH p SEBs
- 76 20:50 Wf spot in rift NEBs
- 77 21:06 RSc SEBs (white oval to S in STe2?)
- 21:25 Obs. disc. due to cold,

2002-03-26 Paul Harrison took me on a tour of UTIAS and Dynacore to see preparations for MOST satellite. Loaned him SVD mount and 2" - 1.25" adapter.

7942 2002-03-27/28 19:15-20:25 EST Oriole driveway 7 28cm r1

Jupiter

- 19:15 Obs com 300x binoc S<sub>c</sub> 4-5
- 78 19:15 Dp sect NEBs Sp end of rift
- 79 19:19 Wp oval S edge STB (first of pair)
- 80 19:21 Df festoon from S edge NEB to EB
- 81 19:30 Wc oval S edge STB
- 82 19:41 Wf oval S edge STB
- 83 19:43 Dp cond STB (between ovals)
- 84 19:46 Dp proj S edge SEBs
- 85 19:47 Dc cond STB
- 86 19:58 RSp SEBs \* observations interrupted
- 87 20:00 Df<sup>tip of</sup> proj S edge SEBs (STr2)
- 88 20:04 Wc small oval N edge NEB<sub>n</sub>
- 89 20:05 Wc oval S edge STB (second of pair)
- 90 20:09 Wf small oval N edge NEB<sub>n</sub>
- 91 20:11 Df sect EB
- 92 20:13 Wf oval S edge STB
- 93 20:14 RSc SEBs

94

20:19 We shallow bay S edge NEBs

20:25 Obs. disc. S:3

\* gap was to do some quick sightseeing:  
Saturn: Encke minima + crepe ring, both visible in ansae both visible 300x bin. Globe appears yellow-<sup>olive</sup>green vs cream at Ring B

M42 63x + 157x E+F easy @ 157x!

Rigel easy @ 157xCastor + Y Leonis @ 157x

The Stormaster is absolutely stunning. Things that were challenging or invisible in other scopes are dead easy, such as Crepe Ring, Encke minima, E+F in Trapezium, STB ovals. I'm seeing a whole new level of detail. Wonderful! I can use 300x routinely on Jupiter! Detail looks etched in place.

795e

2002-03-30/31 19:20-20:30 EST Corbeil 9 28cm r / 10x50b

Dylan, Maxine  
Dan, Ginette,  
LorseJupiter, Saturn, Venus, Mars 157x

Comet Ikeya-Zhang just below  $\beta$  And. 63x. Tail more than 1  
 Fieldwidth  $\approx 1.5^\circ$ , longer in binoculars,  $\sim 1$  mag fainter than  $\beta$  And.

Messiers: M42, 43, 78, 1, 108, 97, 109, 81, 82, 51, 101. Saw spiral structure in M51 for first time @ 157x. Also NGC 5195

20:50-21:40

Messiers: M42, M43, M51, NGC 5195, M44, M67, MGC 3338, 3367, 3377

(mistook them for M95 etc!) M3 beautifully resolved @ 230x  
 22mm Naglar works supremely well both for fiddly & viewing. 40mm V.O.  
 Mx70 has a lot of vignetting at edge of field, mainly from Paracorr

Seeing was very poor - unable to see E & F in Trapezium, & And barely resolved @ 63x. New comars of Emite & Jeanne's house are light freaks! I set up at NW corner of house in order to see comet, but this exposed me to lights. Far deep sky, need to set up on E side of house to block lights.

796e 2002-04-10/11 20:30-22:00 EDT Fakes of the Credit 8-2 28cm r1 10x50b  
Observing  $\bar{c}$  Leonard, John B., Dietmar, &? Jupiter, Saturn, Mars, Venus,  
M42, ~~M~~ (E seen, not F) M41, Eskimo. Dodging clouds. 20cm r1

797d 2002-04-11 14:15-14:30 EDT Oriole driveway 7 12cm rr  
Soni observed  $\bar{c}$  Chromacor @ 40x & 100x. Fascinating group just coming into view on f limb; dark spots & white plages. Chromacor seems to correct chromatic aberration better when both eyepiece & 2"-1/4" adapters are pulled out half way. There is a slight collimation error: one of spacers not visible. I've ordered a self-centering adapter from APM-USA which is supposed to correct this.

798e 2002-04-11/12 20:10-21:35 EDT Oriole E yard 5 28cm r1 12cm rr  
Jupiter: seeing was absolutely terrible, 0-1. Even with 200x in 28cm  $\bar{c}$  bino I could see nothing beyond a few belts. Seeing improved a bit as evening wore on, but never reached the point where any observations could be made. Also viewed Saturn, & Uranus. Trial Jupiter  $\bar{c}$   $\bar{s}$  Chromacor @ 200x - there is still a bit of haze around Jupiter  $\bar{c}$  Chroma, but it is neutral gray, instead of royal blue  $\bar{s}$  Chroma. Seeing too poor to try star test. Again I had eyepiece & adapter slightly pulled out.

- 799m 2002-04-11/12 05:15-05:20 EDT Oriole N yard 4 10x50b  
Comet Ikeya-Zhang still very bright in murky skies, just ~~to~~  
 to the right of right upright of Cassiopeia's "W". Only  
 pseudanucleus visible in 10x50s.
- 800m 2002-04-15/16 03:30-03:50 EDT Oriole N yard 4 15x70b  
Comet Ikeya-Zhang: Close to HIP 114622 (5.6) and a bit  
 brighter than it. Humidity & dew very high, "W" of Cassiopeia  
 not visible NE - limiting mag. in this part of sky about  
 2.5 ( $\alpha$  &  $\beta$  UMi both visible)
- 801e 2002-04-16/17 20:00-21:30 EDT Westacres P.S. Mississauga 7 28cm r1  
Moon, Jupiter, Saturn - about 60 parents & Grade 6 kids  
 - mostly I used 157x (8.8m UWA), but later went up to 230x  
 (6mm Radian). Brian, Leslie, Frank, Ralph, John & Michael  
 B. Short-sleeve weather!
- 802e 2002-04-20/21 20:00-22:15 EDT. Marc Garnau C.I. 7 28cm r1  
Moon, Jupiter, Saturn, Mars - about 200 people for Astronomy Day  
 star party, moved from Science Centre because of OPSEU strike  
 Mostly 157x - tried higher but wind was buffeting scope.  
 Had quite a good look through John Ginter's A-P Traveller at  
 Moon - could see a couple of the craters in Catena Davy  
 @200x. Back to boots, toque, gloves, & winter coat!
- 803e 2002-04-23/24 20:00-21:30 EDT Oriole NE yard 6 28cm r1 15cm r1  
 Moon: Rilles in Gassendi and on W shore of Mare Humorum well  
 placed. Could not see Rima Seuss - just three tiny bright spots.  
 Sunrise in Aristarchus.  $\rightarrow$  P.T.O.

Jupiter 300x b

20:38 Obs com S-3

95 20:39 Df berge NE Bn

21:38 Obs disc. due to deteriorating seeing.

Star test on Kaminsky 6" r1 mounted to Tarant. Center:  $\approx 2$  was overcorrected spherical aberration: stars outside focus <sup>Show</sup> ~~are~~ a bright ring with nothing inside it; single bright narrow ring! Much worse than worst s.a. shown in Suital. Clips on mirror cell are flimsy & flexible, so mirror sags under its weight towards bottom of tube.

804e 2002-04-24/25 20:15-22:00 EDT Oriole NE yard 7 12cm rr

The evening was spent tinkering with the 12cm rr and the Chromacor. Initially I had the same results as before, & the same as Ed Ting reported: off axis fringing & haze around Jupiter, both of which Valley says is due to improper placement. I was startled when I tried the binoviewer: the image was almost perfect: no secondary spectrum, no haze, good contrast (despite poor seeing). Then I noticed that the drawtube was only a couple of millimeters out of focus, i.e. Chromacor was deep inside. Thereafter I experimented with leaving the drawtube in that position. This puts Radians 10-12cm out from Schwaner's adapter, so that the thickness of extension needed between Chromacor and 2" diagonal, 48mm filters are about 5mm thick, so two should give the right spacing. With this spacing & 4mm Radian (250x), the star test is nearly perfectly symmetrical on either side of focus.

M: 14.7  
α: 0.48"

14.2  
0.60"

13.6  
0.80"

13.6  
0.80"

13.2 12.7  
1.0" 1.2"  
Origin 13.8mm c  
15.90mm f/12.1

Meade 25cm r1

Cave 20cm r1

Intes 15cm r1

Synta 15cm r1

~~Edmund~~ 15cm r1

1138mm f1 f/4.5

1391mm f.1. f/7

900mm f.1. f/6

1200mm f.1 f/8

1050mm SW f/10

40mm König

28x 8.9mm 2°28'

35x 5.8mm 2°01'

22x 6.8mm 3°07'

30x 5.0mm 2°20'

~~63x 2.0mm 1°04'~~

24.5mm SWA

46x 5.5mm 1°27'

57x 3.6mm 1°11'

37x 4.7mm 1°49'

49x 3.1mm 1°22'

63x 2.0mm 1°04'

22mm Nagler

52x 4.9mm 1°35'

63x 3.2mm 1°18'

41x 3.7mm 2°00'

55x 2.8mm 1°30'

16mm Nagler

71x 3.6mm 1°09'

87x 2.3mm 57'

56x 2.7mm 1°27'

75x 2.0mm 1°06'

96x 1.3mm 51'

8.8mm VWA

129x 2.0mm 39'

158x 1.3mm 32'

102x 1.5mm 49'

136x 1.1mm 37'

175x 0.7mm 29'

6mm Radian

190x 1.3mm 19'

232x 0.9mm 16'

150x 1.0mm 24'

200x 0.8mm 18'

257x 0.5mm 14'

5mm Radian

228x 1.1mm 16'

278x 0.7mm 13'

180x 0.8mm 20'

240x 0.6mm 15'

4mm Radian

284x 0.9mm 13'

348x 0.6mm 10'

225x 0.7mm 16'

300x 0.5mm 12'

31mm Nagler

45x 4.5mm 1°50'

c  
 2.1  
 nr1 ~~Address~~ 12cmrr  
 /10 1000m F/8.3  
 204' 25x 4.8m 2°48'  
 904' 4x 2.9m 1°35'  
 95x 2.6m 1°48'  
 57' 62x 1.9m 1°19'  
 29' 114x 1.1m 44'  
 14' 167x 0.7m 22'  
 200x 0.6m 18'  
 250x 0.5m 14'

1) Number of observing session

2) Time of day or night: e n m d

3) Date: YYYY-MM-DD/DD

4) Time: (start & end) & zone

5) Location

6) Sky conditions: 0 = almost totally overcast

1 = very cloudy

2 = mainly cloudy

3 = partly cloudy

4 = city: very hazy/murky

5 = city: hazy/murky

6 = city: slightly hazy/murky

7 = city: acceptably clear

8 = dark: quite clear

9 = very clear

10 = absolutely fantastic

7) Instrument used: ne b rl rr sc mn, eg. 10x5ab, 25cm r1

8) Others present