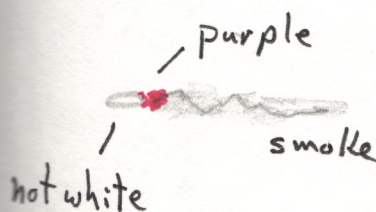


Aug 11 Friday. 10:30 → 3:30

- Perseids meteor shower -

For the 1st time I just layed back in a lawn chair and enjoyed the entire night, there was around a dozen of us and we powered out at 3:30 although it was still clear and dark,

total 415 meteors! One exceptional one still stands out, it was high towards the Zenith and so bright we guessed -8 mag. and it burned with a hot white and a Deep purple just behind. The twisted smoke trail lingered on for at least 20 seconds, and could be seen nicely as a white trail.



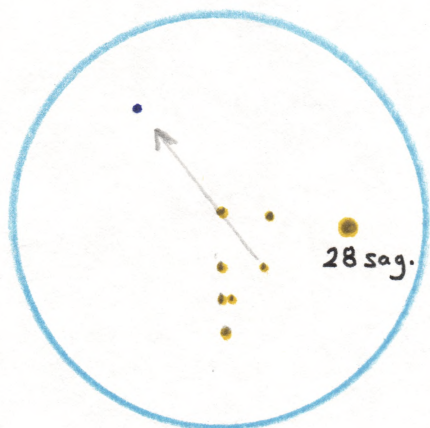
the image of the trail lasted on for at least 20 seconds.

The shower peaked around 2:00!

GREAT NIGHT!

Aug 11 cont

Neptune



//

Mount Kobau 1989

The flight down was O.K. but in some fog and the small airport run ways are a bit unerving. It didn't clear thurs night untill 3:00 so I got up for an hour but all we saw was a nice shadow transit on Jupiter, it has lost it's southern belt!! Friday was rained out with a spectacular lightening storm which I photographed as it rolled in, I really enjoyed that! Sat morning it rained untill noon and I wisbd I hadnt come! Sat afternoon the guy from Van. rolled up with a car full of junk, I got a 32m Erfle for \$50 things were looking up! The walk through the forest was really nice with red & white giant mushrooms and moss covered spruce trees. At 4:00 the telescope making contest was O.K. but I had to wait beside mine. At 6:00 the swap table was a joke. At 7:30 the awards. I won! the club and Bob Breckenridges also won but they had no other enteries! Murray won for his astrophotos and all in all Edmonton stole the show! The sky cleared and we observed untill 5.A.M. sunday →

Friday 3 A.M.

- ① **Jupiter** a very nice shadow transit of IO and the southern Band is GONE! The shadow was a perfect Black Dot.

No S. Belt!



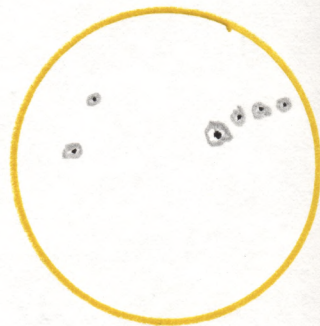
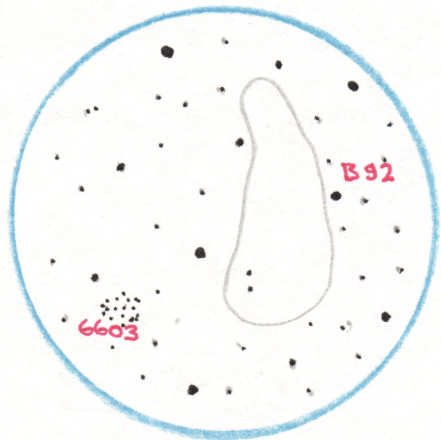
IO transit

Friday afternoon

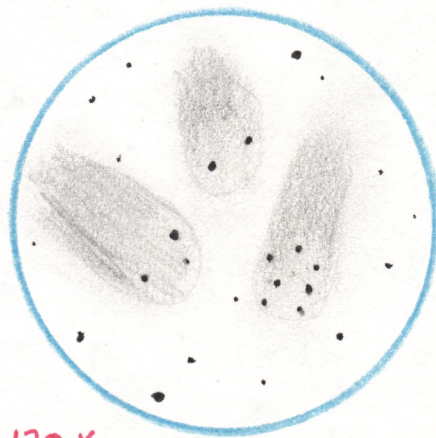
- ② **Sunspots** we saw some very nice sunspots that looked like the hawian islands through a 4" sun scope with a gas filter and polarizer.

Sat pm.

- ③ **B92 Dark nebula** in Sag East of 6603/m24. The 32 erfle is excellent for this.

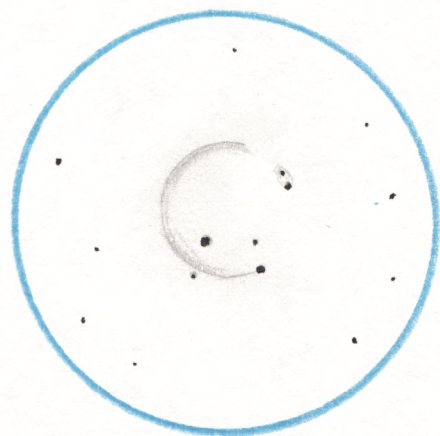


- ④ **Trifid** spectacular! like a photograph! u.H.C filter.

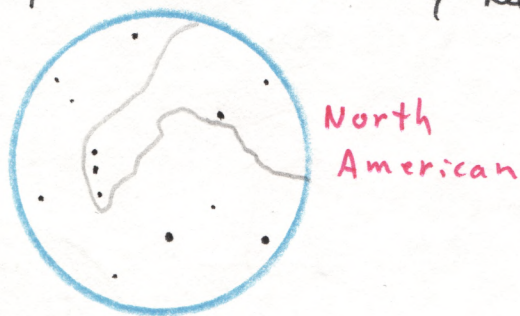


170X u.H.C.

- ⑤ **The Swan** there must have been a lot of haze drifting around because the trifold was fantastic and yet the swan I had seen better many times at Blackfoot.
- ⑥ **The Ring M57** here again it was O.K. but no better than here and actually less of a blue color.
- ⑦ **The Crescent Neb. 6888** in cygnus, a beautiful object, use u.H.C.

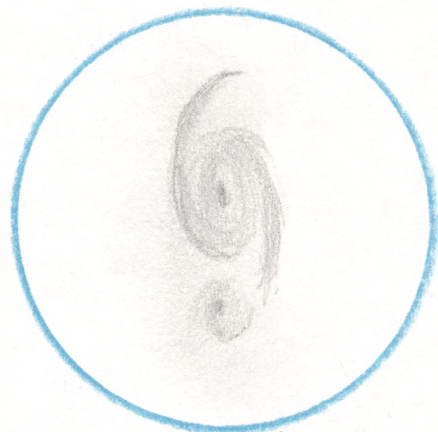


- ⑧ **The North American & Pelican nebulas** they were slightly more obvious than they were here but they need a 2" OIII on the 32 erfle.



- ⑨ **The Veil** again it was O.K. but I've seen it better here many times. Also needs a 2" filter.

- ⑩ **M51** the only object I saw through the 36" it was very hazy but the detail in the arms was excellent.

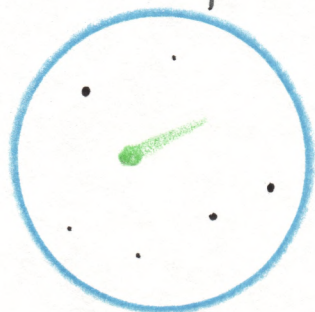


- ⑪ **M15** at 600X M15 was still sharp but the fast drifting and vibrations made it very hard to observe, at 300X it was great!

- ⑫ **M81/M82** Again the views were not as good as I have seen at Blackfoot.

- ⑬ **Andromeda** rather poor actually the main body could be seen but not the vast expanse that sometimes goes on forever.

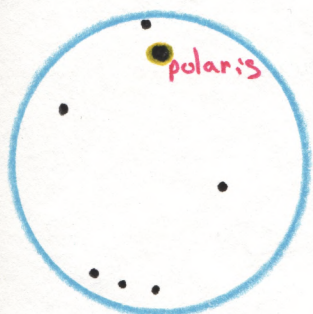
- ⑭ **Borensen-Metclaf** the comet is totally different now small with a tail and green!



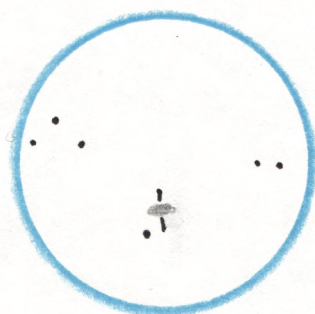
(15) **IC 59** a challenge nebula we could never find at Blackfoot. It is questionable but there was definitely something there. Suspected?

(16) **IC 1396** another challenge nebula but this time there was no question it was massive and as you swept the field you would suddenly hit a darker area where the nebula ended.

(17) "**Polarissima Borealis**" finally I found "polarissimo" after endless searching at Blackfoot. It was right in the field I always looked.



finder scope.

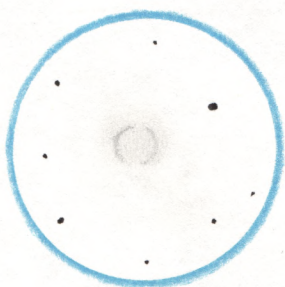


100x



160x

(18) **Jones I** with the **O III** this is a FF but a fun object it is split into 2 halves. 160x



—

Sat Sept 9

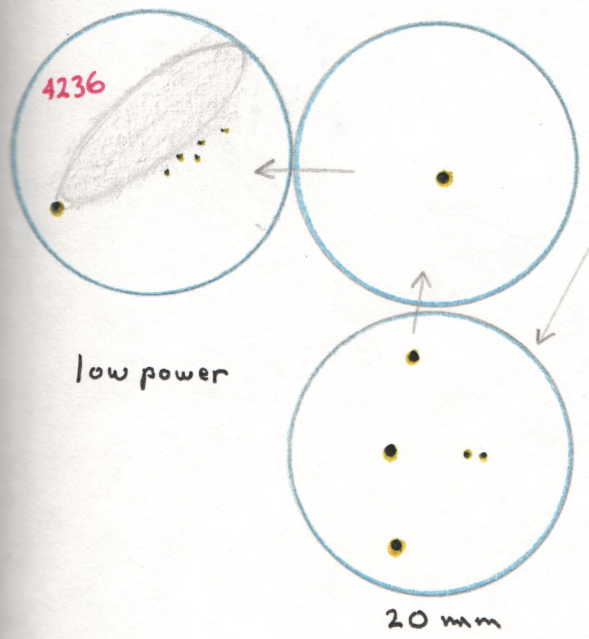
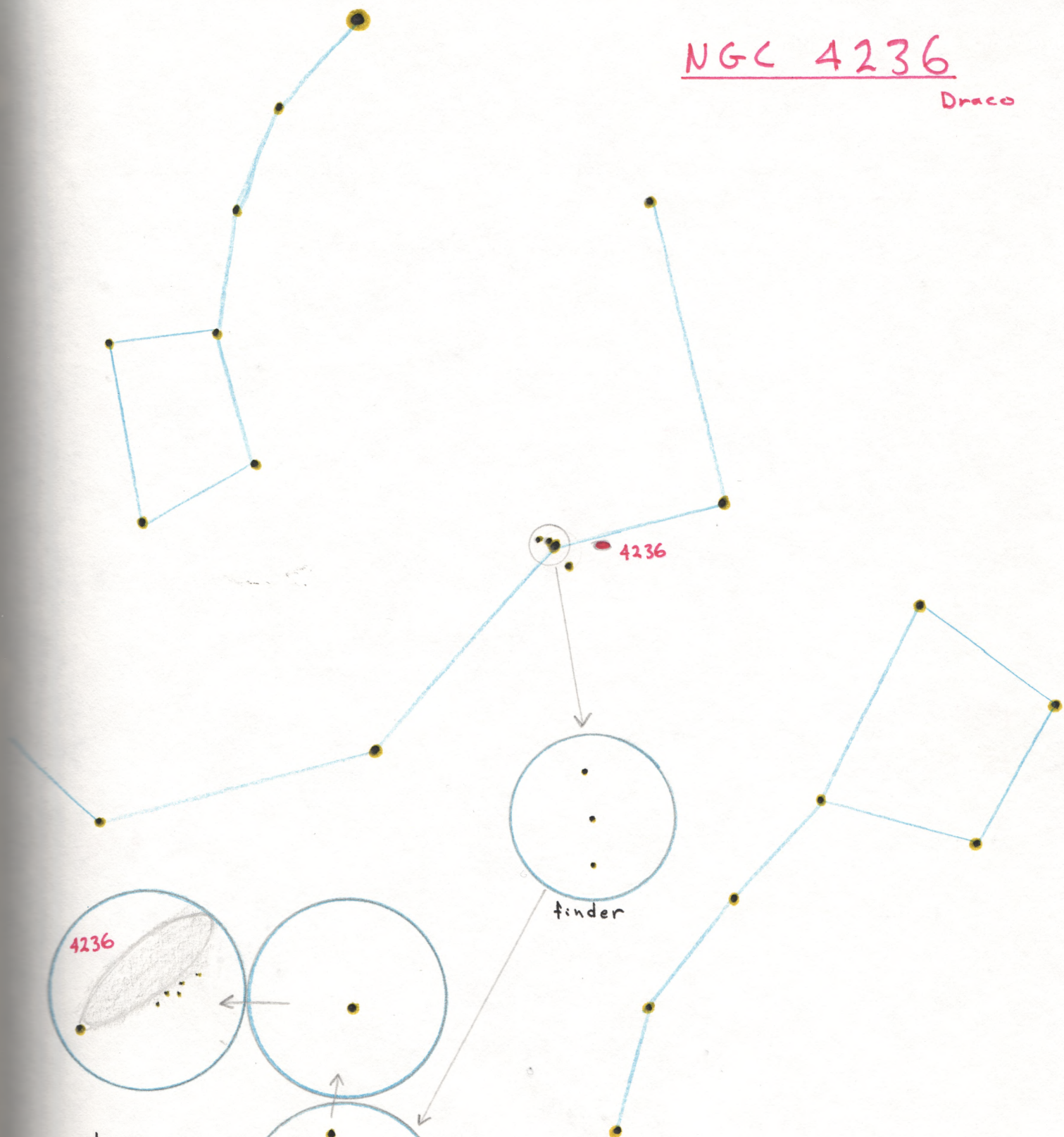
9:00 → 2:30

Heavy frost! -2° every iced up severely.

- ① **polarisimo** 1st time I could find it at Blackfoot. very faint. I would not have seen it had I not known where to look after seeing it at Kabau.
- ② **Footprint** confirmation of last observations. ✓
- ③ **Saturn** hazy, mushy, crapy.
- ④ **6823** } 2 O.C. in Vol off of the Herschel 400 list, too easy!
- ⑤ **6830** }
- ⑥ **6818** P.N. from Hershels in sag. This was fun! a nice blue round planetary just difficult enough to make it a good hunt but not frustrating.
- ⑦ **6822** Barnard's galaxy, large, Dim. Sgr. 11 mag. almost in the same field as 6818 above. S.W. of 6818
- ⑧ **4236** a giant gal in Draco, challenge list, 10 mag. Diffused glow, it filled the eyepiece in the 20mm Nagler → chart 2 sky atlas center.

NGC 4236

Draco

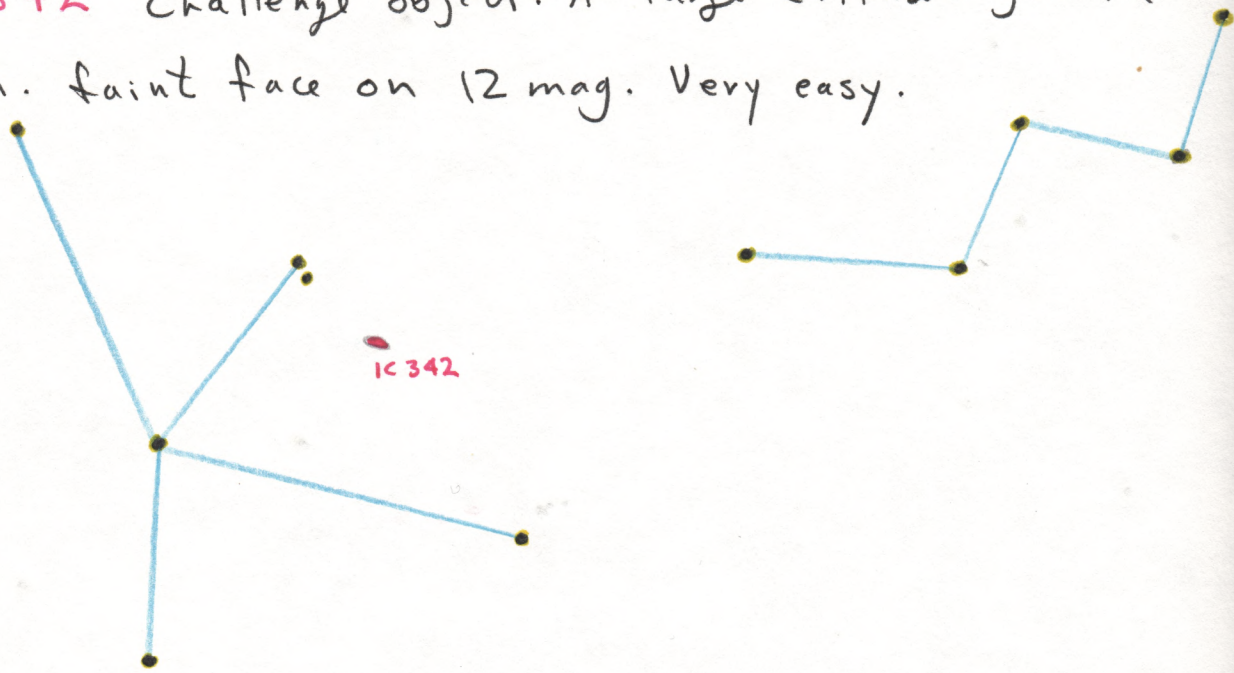


Sunday Sept 10

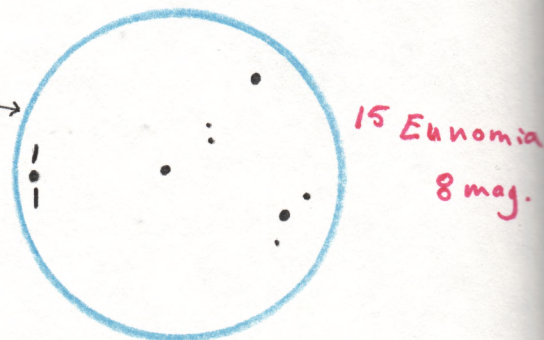
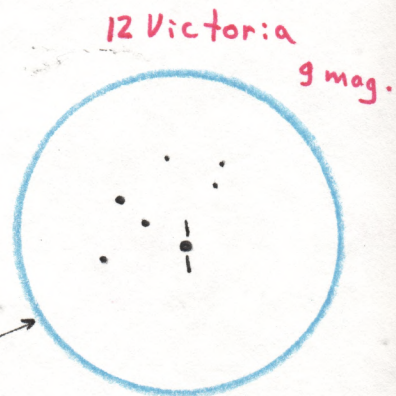
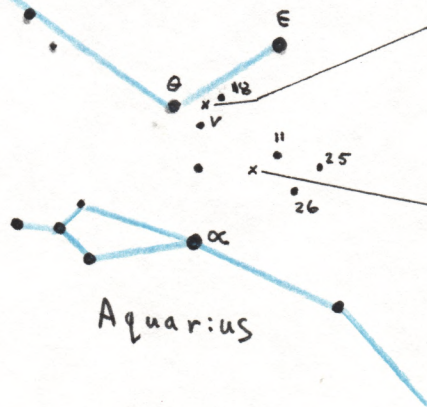
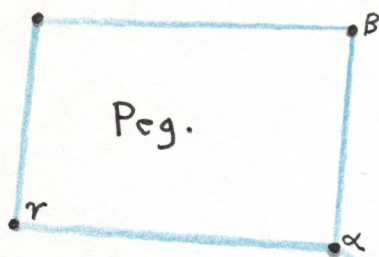
12:30 → 4:00

excellent! trans. & dry!

- ① **IC 342** challenge object. A large diffused gal. in Cam. faint face on 12 mag. Very easy.

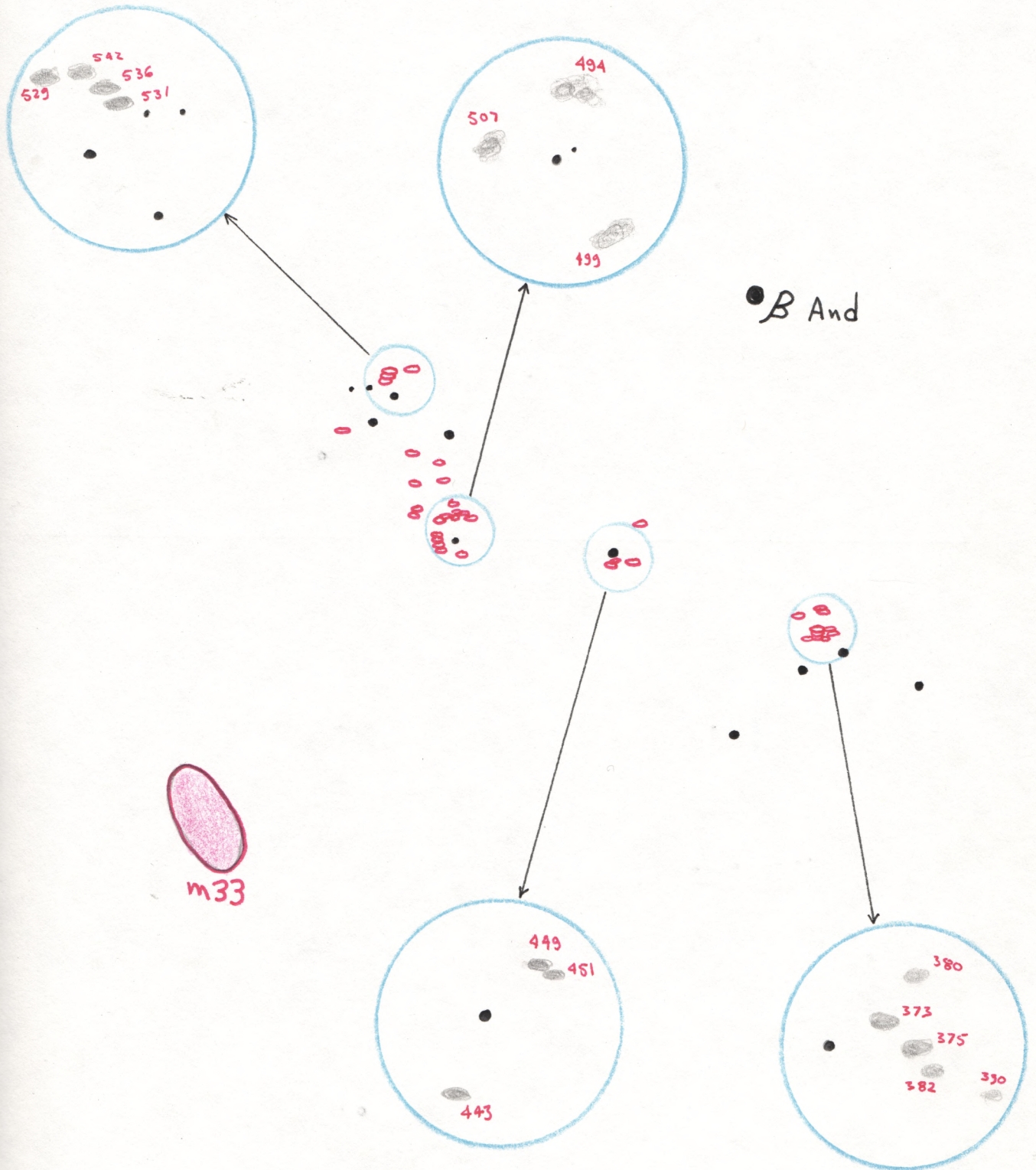


- ② **12 Victoria** } asteroids in Pegasus.
③ **15 Eunomia** }



④ Gal clusters in Andromeda/Pisces pg 91 Uranometria
Very faint

37M
●



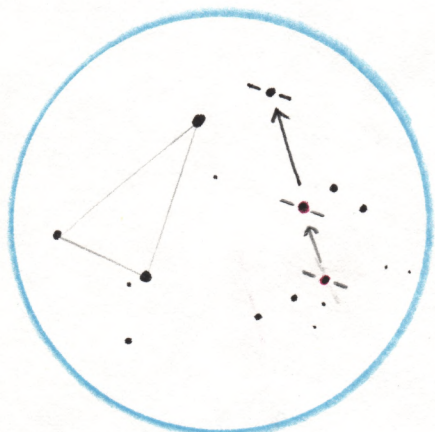
Fri. Sept 22.

9:09

see pg 291 skyatell
sept '89

45x

12 Victoria



9 p.m. Friday Sept 22
to 9 p.m. Sat. Sept 23
to 9 p.m. Mon 25

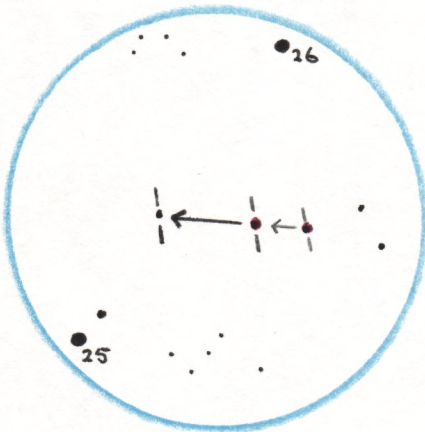


IN Pegasus

• 22v

15 Eunomia

In Aquarius



9:15 Friday Sept 22
to 5:30 Sat. Sept 23
to 9 Mon 25

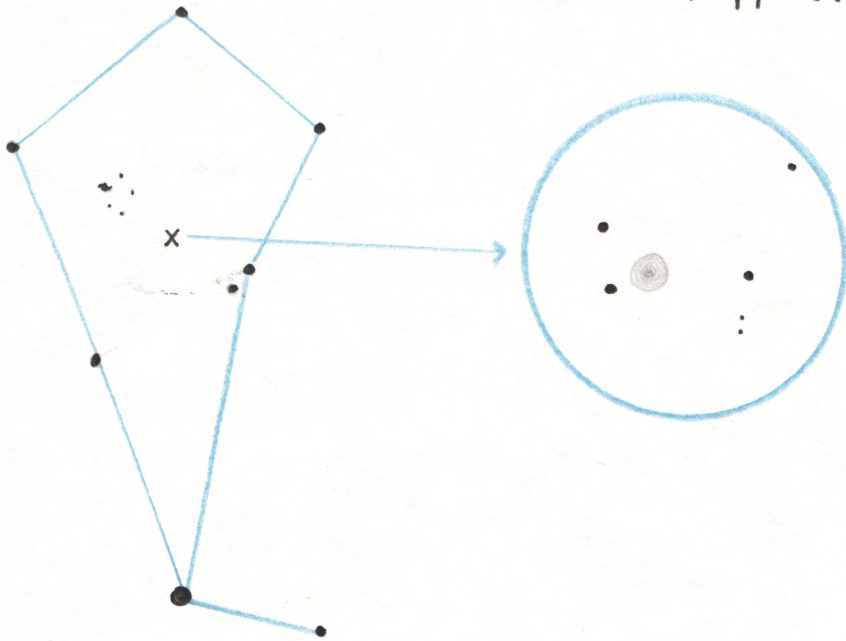
• 11

Sat Sept 23

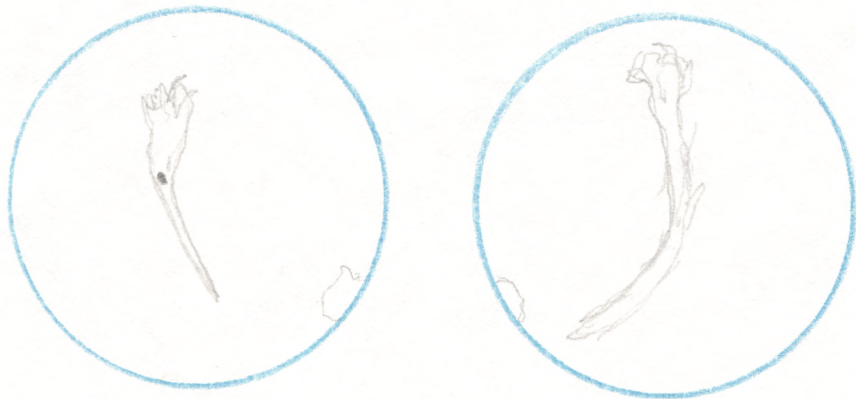
8:30 → 1:00 +8° warm some cloud 46%
Humidity

① Asteroids 12 Victoria 15 Eunomia
- see positions plotted on sketch from last night.

② Comet Radenko-Levy - large, difused, bright, central core,
No tail, apparently slow moving.

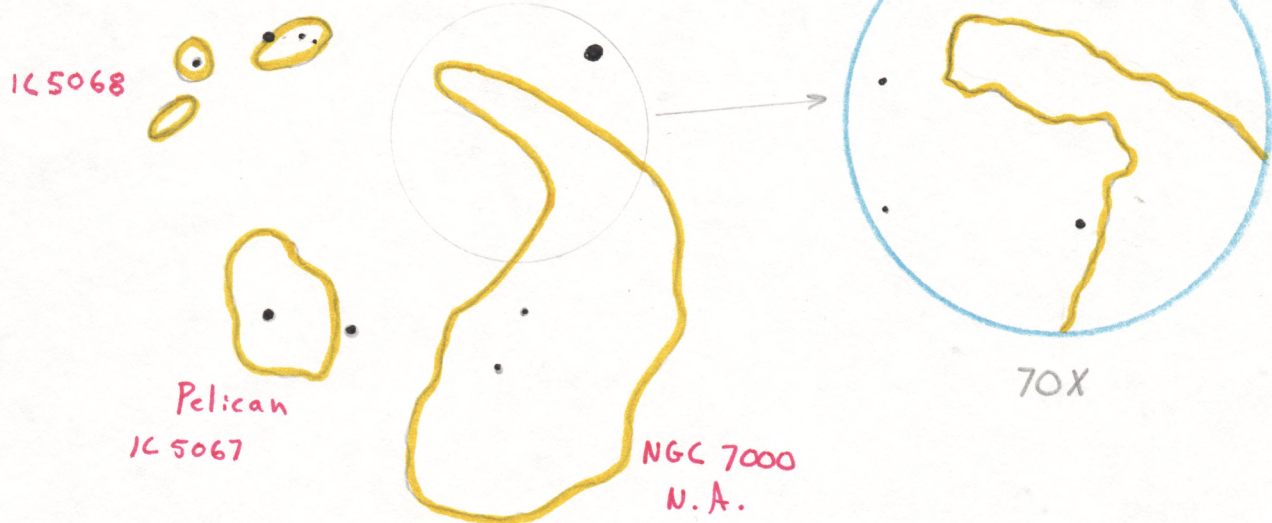


③ Veil with the O III it was fantastic, the filaments were everywhere and the center portion great. I will have to spend a long time sketching this soon.



32 m entle & 2" O III

- ④ The North American
 - Pelican
 - IC 5068



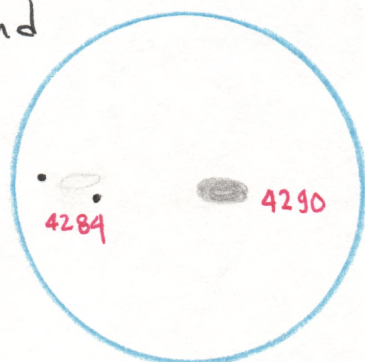
Deneb

Tonight the pelican was easy and the other group of 3, IC 5068, could be seen for the first time.

- ⑤ 507 galaxy cluster In the 17" the group showed a dozen plus galaxies. Too many to keep track of, as you slewd around they were everywhere! Andromeda/Pisces area.

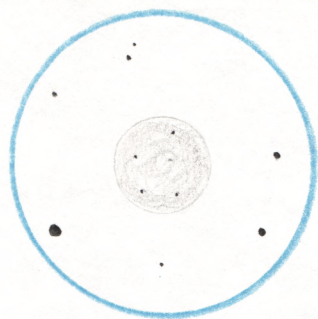
- ⑥ 4290 a bright galaxy and a faint galaxy with 2 stars.

17", Darkcloth.



ursa major next to m40

- ⑦ Helix very nice, 17" w 20 mag. & OIII seeing fair. pin point stars could be seen inside the Helix.



- ⑧ IC 405
410



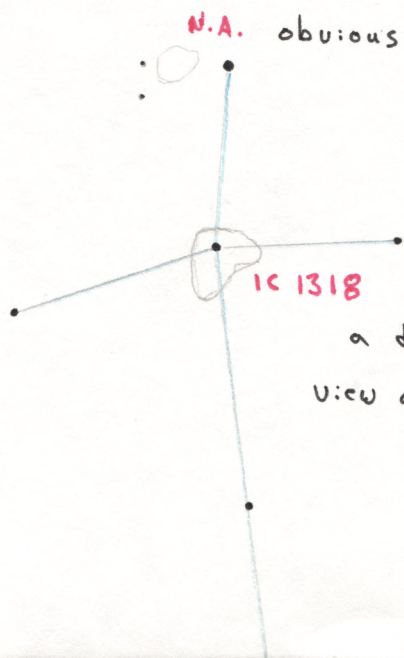
easy, a nice crescent with a loose cluster inside.



405
~~IC 410~~

suspected, extremely faint and difused.

- ⑨ IC 1318 nebulosity around γ Cygni. and N.A. nebula
Naked eye challenge objects. OIII filter handheld!



IC 1318 a soft glow (not condensation) with a dry filter you had several seconds to view and then the filter would fog up.

Monday Sept 25

A 5 star night!

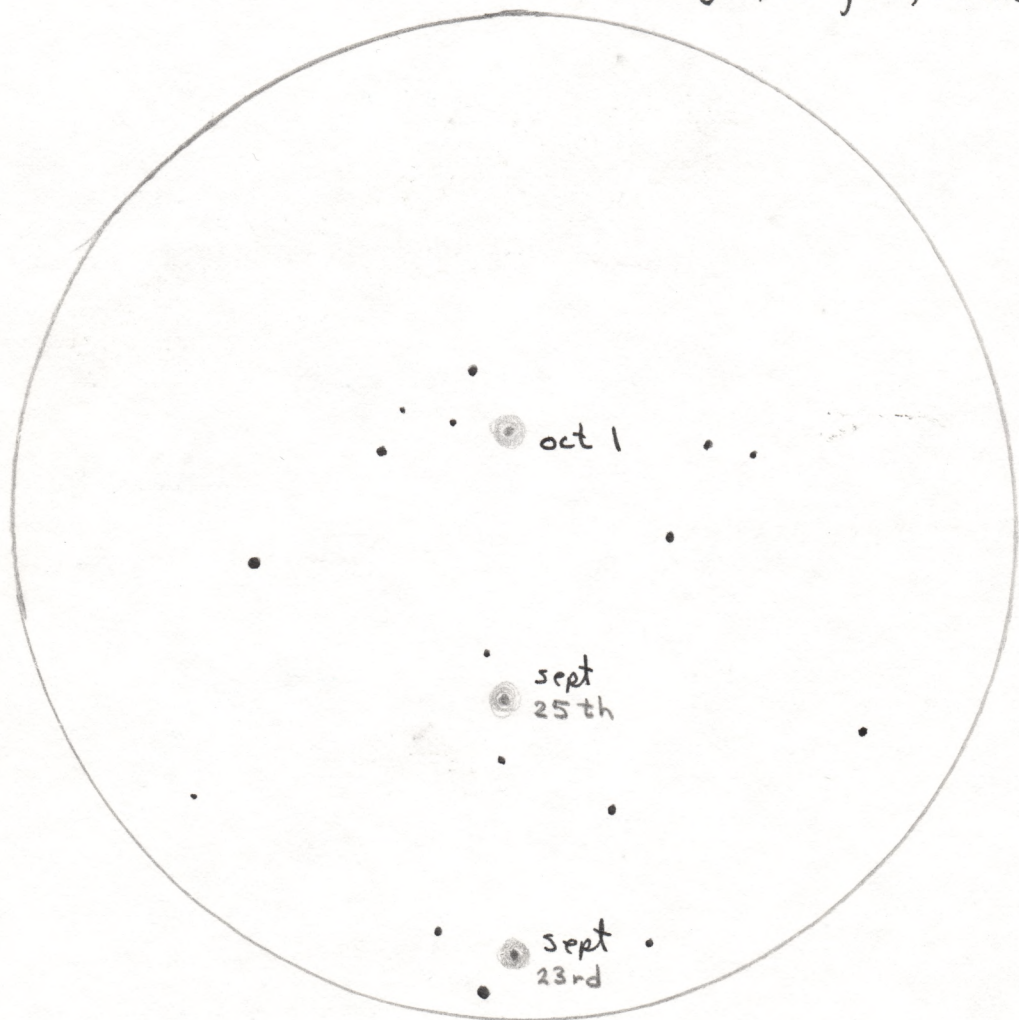
8:00 → 2:00
Excellent seeing.
and Transparency

① 12 Victoria and 15 Eunomia

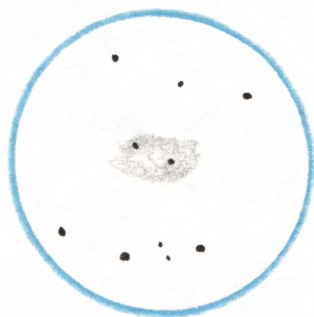
The nice thing about these asteroids is that they make a good warm up exercise while your mirror is cooling. See previous pages for tonight's locations.

② Comet Rudenko-Levy -

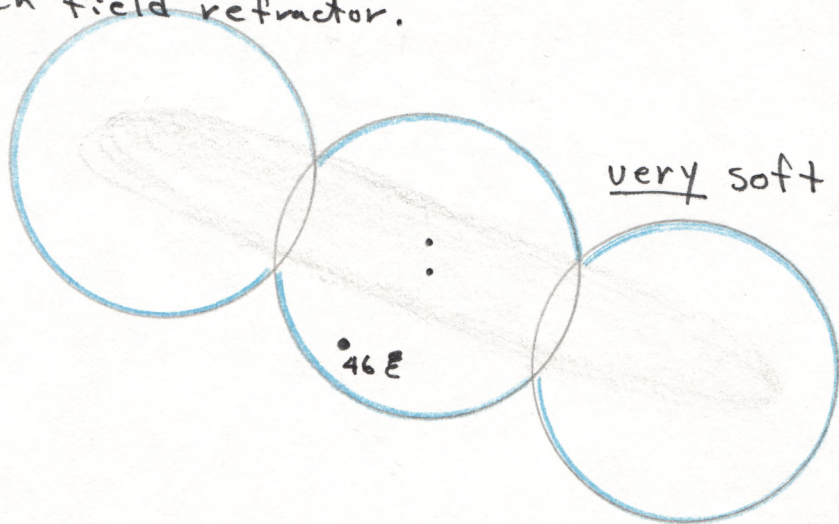
Large, bright, round, with a core.



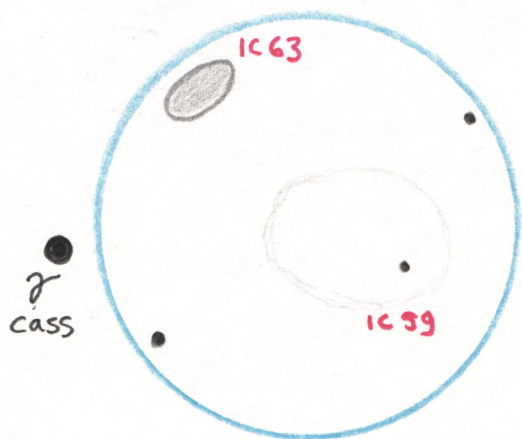
③ **The Cocoon** a nice nebula with Bob's H Beta filter, I could see it without after, but I never would have found it without.



④ **The California neb.** finally I get to see it! again with Bob's H-Beta. It was 3 fields wide in Dave's 5" Rich field refractor.

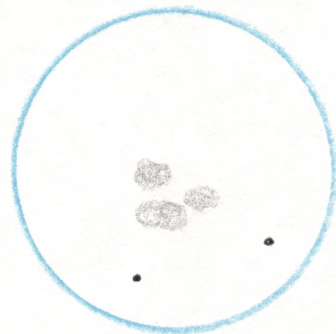


⑤ **IC 59, IC 63** 59 was more of a glow but 1663 was easy and Defined. The 17.



⑥ Stephens Quintet.

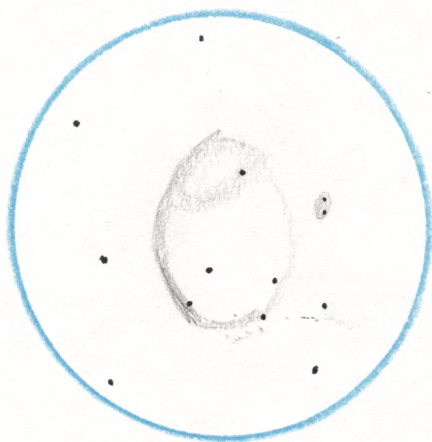
This was the best I've seen them so far!



7331

⑦ Jones I O.K. but I've seen it better at Koban! the break was not apparent.

⑧ the Crescent neb. fantastic! much better than at Koban, figger that one?

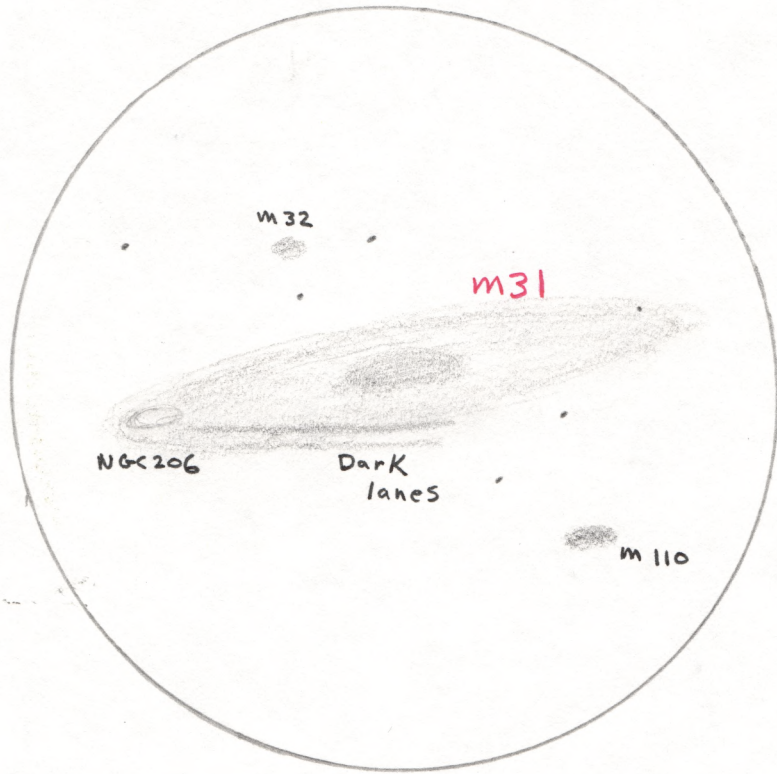


crescent with OIII

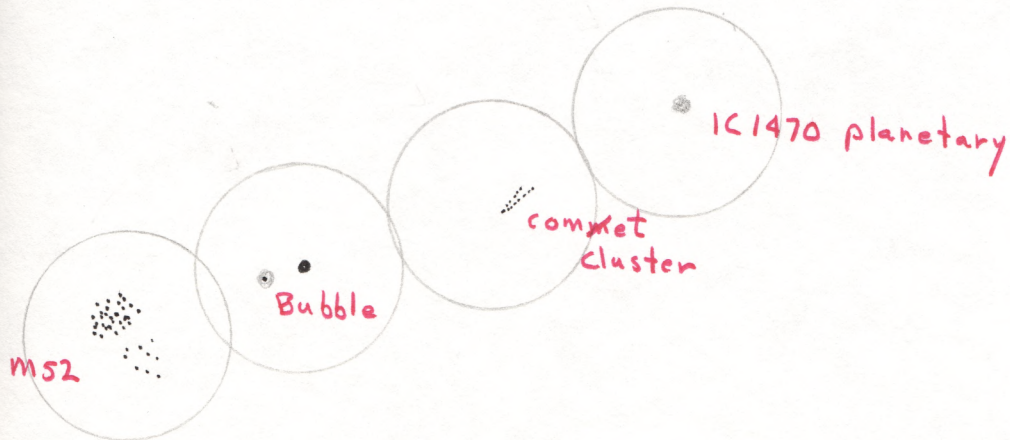
⑨ the Veil sketch! The filaments were excellent, see sketch book #1 for proper field sketch.



⑩ M31 w companions and NGC 206 and Dark lanes.



⑪ M52 / Bubble neb. / 7510 comet cluster / IC 1470.
a really nice chain of objects in chepus.



Sunday Oct 1

Blackfoot North. -5° Heavy frost.

Good.

8:00 \rightarrow 1:00

① **Comet Rudenko-Levy** - it's moving very slowly and not changed in one week. It's in almost the same spot as it was on the 23rd.

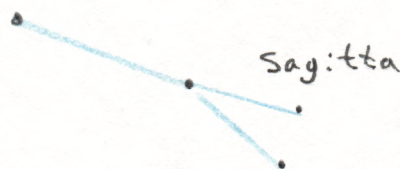
② **M 82** for the 1st time I noticed 2 Bands or lanes near the middle of the galaxy.



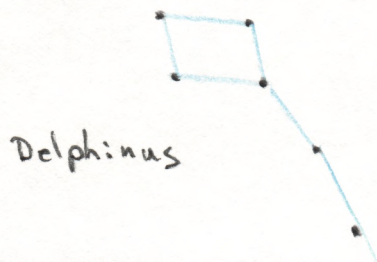
③ **IC 4997** a challenge P.N. in Sagitta being bright and stellar, 11 mag.



with O III filter



Sagitta



Delphinus

- ④ 7822 very large difused OIII nebula in ceptus
I spent a totality of nearly an hour on
various nights looking at this area and
finally I can say that there is brighter
sections that I assume is the object.

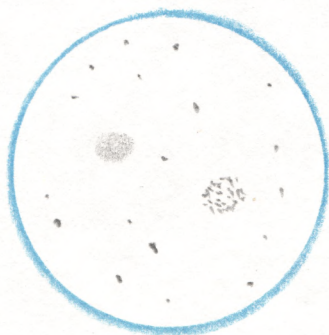


NGC 7822

- ⑤ PK 64, Campbells Hydrogen star. challenge object.
a P.N. that is stellar in Cygnus, 9 mag.
a very hard object.



- ⑥ IC 3295 and 6712 a globular and a P.N. in the
same eyepiece field in scutum. nice!

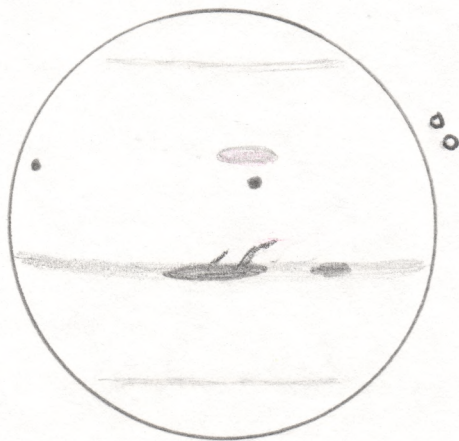


use OIII for the P.N.

Oct 24

After a very frustrating month of cloud and Aurora (skunked 5 nights at Blackfoot) on Tues Oct 24 I got up at 4:00 A.M to observe my first Double shadow transit of IO and Europa. It was GREAT!

6:00 A.M. 6" with the 4.8, only a few seconds of Excellent seeing in an otherwise very cloudy sky.

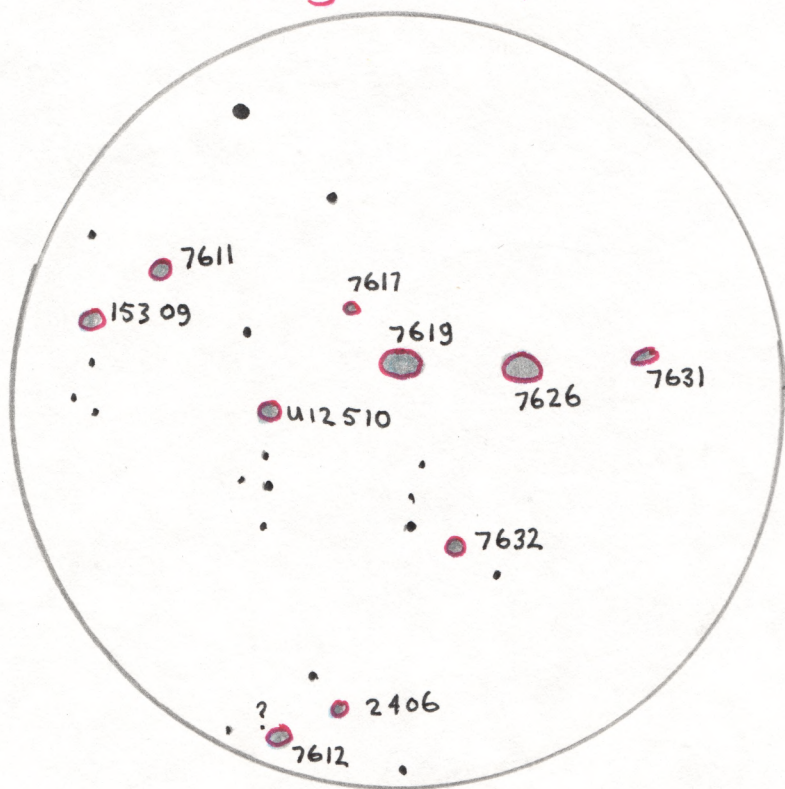


- Dark spots on N Belt.
- No southern Belt
- pink Red spot
- N & S polar Zones
- shadow transits of IO and Europa

Oct 29

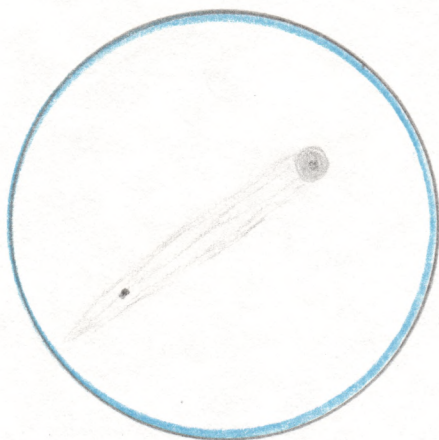
The Astronomy workshop '89. was a great success. All talks were good and we got an hour of good observing sat. night. I had a great $\frac{1}{2}$ hour with Alister viewing the Pegasus 1 galaxy Cluster. Deep sky said you may see 5 or 6 galaxies in a $12\frac{1}{2}$ and we saw nine for sure and an unconfirmed 10th! Excellent!!

Pegasus 1



Oct 29 cont

comet Rudenko-Levy - what's his name.



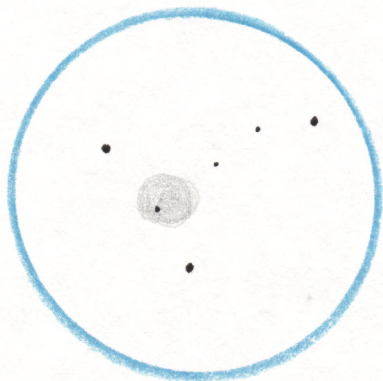
central core with a $\frac{1}{3}^\circ$ tail about 6 mag.

Nov. 19

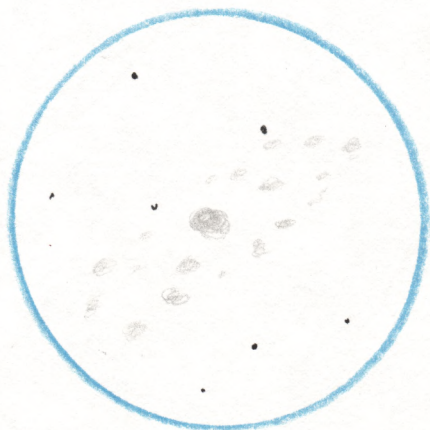
Finally an excellent night after so many rainy & cloudy nights. Waskahogan -7° .

① **NGC 428**

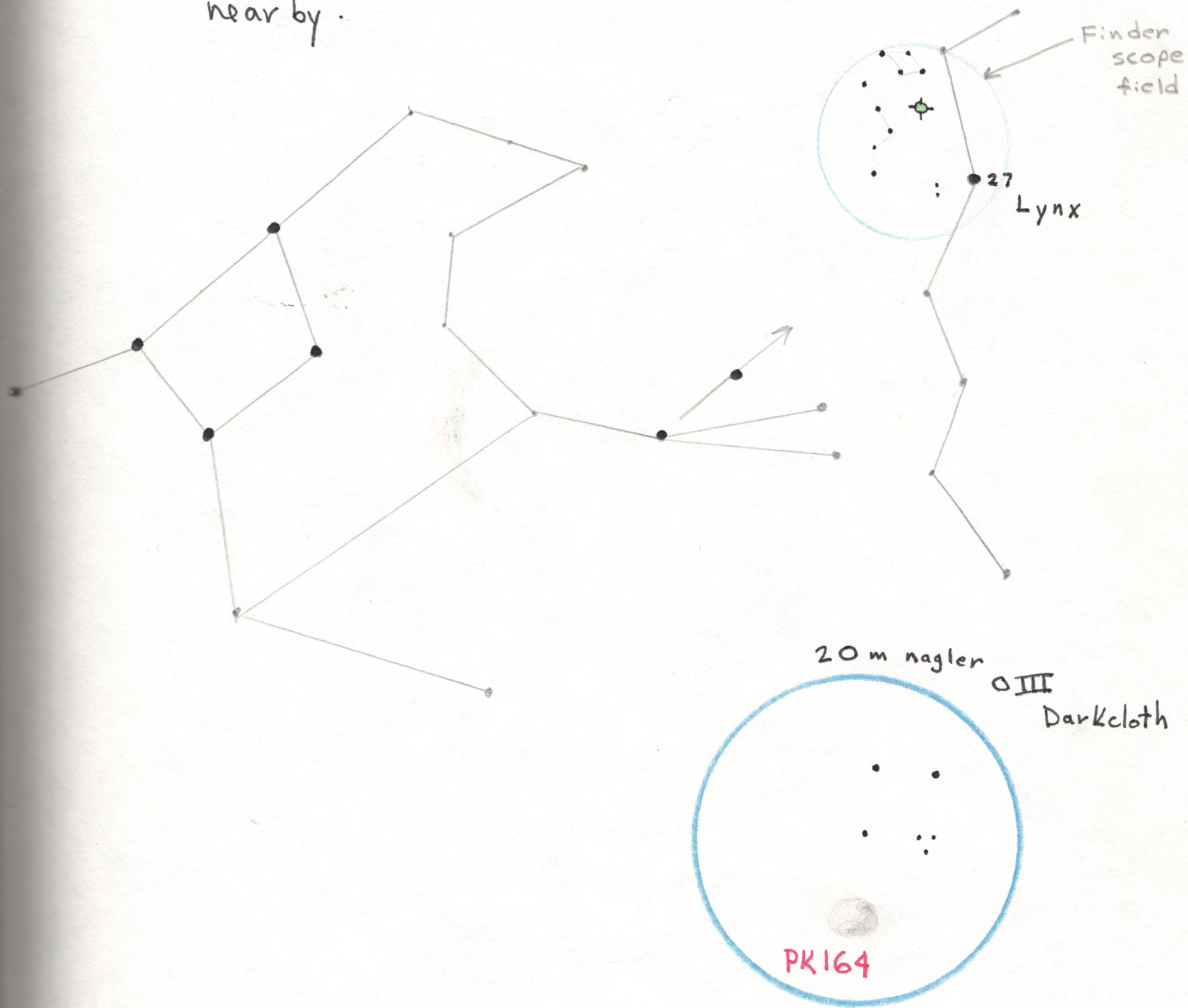
A very soft large galaxy 10 mag. IN Pegasus.



② **Abel 426** 1275 was bright and at low power the other galaxies popped in and out in a diagonal patch across the field. Like a piece of the Milky way.

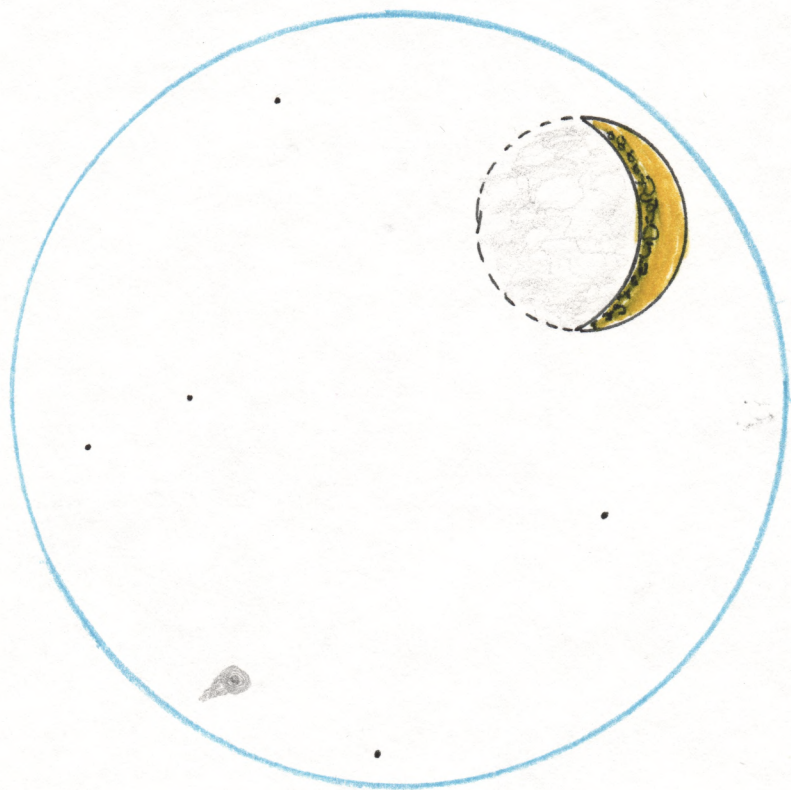
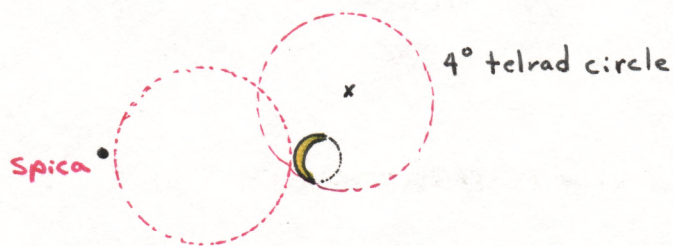


③ **PK 164** a faint P.N. in Lynx 14 mag. Very large 400" OIII filter and low power. A fun object, a good star hop. I couldn't see the galaxies 2474/5 that were supposed to be nearby.



Nov 24

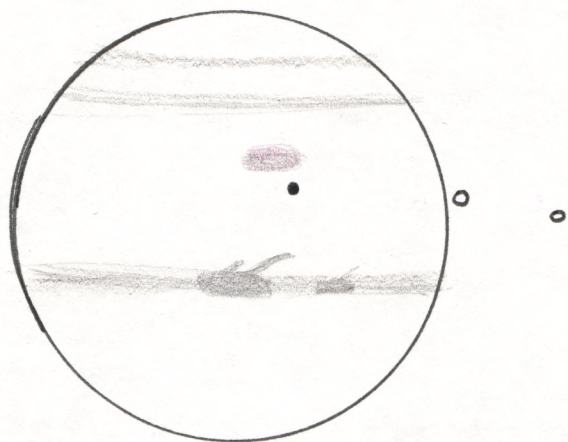
5 A.M. comet Levy-Rudenko -
was in the same field of view as the crescent
moon.



The comet likely had a long tail but the glare of the moon was quite bright. A very nice view! The earthshine on the moon was excellent!

Nov 25 (Same Day)
1:15

Double shadow transit



Io's shadow was just below the red spot. The red spot is darkening, there are dark knots and festoons on the North Belt and still no sign of the Southern belt. The clouds rolled in so I didn't see Europa's shadow transit.

The 6" is giving great images of Jupiter, I've been getting up at 5 A.M. to view the comet and I've also seen a few shadow transits in the early morning. The Air is very calm at 4 or 5 A.M. and I've had my best views of Jupiter in the morning. The temperate belts are usually always visible.

Nov 28

We finally had a beautiful night after so much cloud. My Birthday! -2° clear & calm!

- ① **Pegasus 1** I could see all of the galaxies that Alister and I found and I confirmed them in the 17".
- ② **PK 164** Easy to find after you have seen it for the first time. But the odd thing is we can not find the 2 nearby galaxies that they said you should not get confused with. Dave and I agreed the galaxies should have been the challenge objects!
- ③ **Abell 12** after much adew it is a great let down. Too easy and too wispy washy



with the OIII it is a smudge off the N.W edge of μ Orion.

- ④ **m82** yet another nice view of the dark lanes
in m82



- ⑤ **Horse head**. well finally I saw the horsehead
in one of my own scopes. It was faint
but quite easy to find.



Sat Dec 2nd.

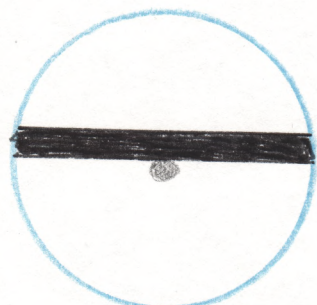
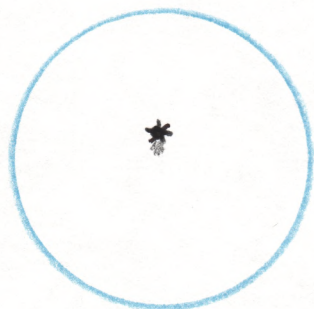
The Russian space station Mir lost a satellite while trying to dock it and it was drifting. As Mir passed overhead we timed the trailing satellite at 2 min. 2 sec behind. Someone in the East wanted to monitor its path and keep track of it. It was a fun change of observing.

*Note: They recovered it
5 days later

Dec 2nd cont.

- ① **Abell 12 or PK 198** a P.N. right beside μ Orionis (above Beetlejuice) with the O_{III} and occulting bar is was very nice. Without it it was a smudge off of the star.

μ .
Orionis



Abell 12
 O_{III} , occulting bar
& Barlow

150X

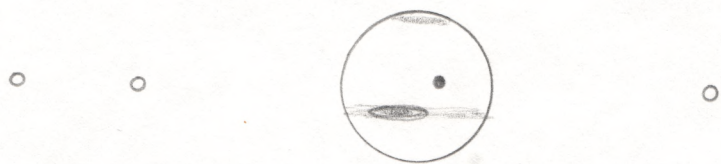
A nice round planetary with the starlight blocked.

- ② **M1** in the 17" it was mottled and ~~darker~~ brighter on the left side. A bit of an oval, rectangle.



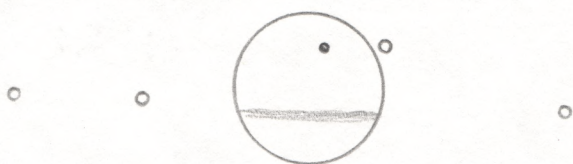
Dec 5 9:40 Backyard -9°

Io shadow transit across Jupiter



Dec 7 8:35 Back yard -12°

Ganymede shadow Transit across Jupiter



Dec 21 Clouded out soon after arriving at Blackfoot.

Dec 29 Great seeing at first, Polaris: mo was easy. But clouds rolled in later. Spent A good 40 min pissing around setting up the 17" that could have been good observing. I did find one of Walter Scott Hustons objects, Kohoutek 2-1, also called PK 173-5.1.

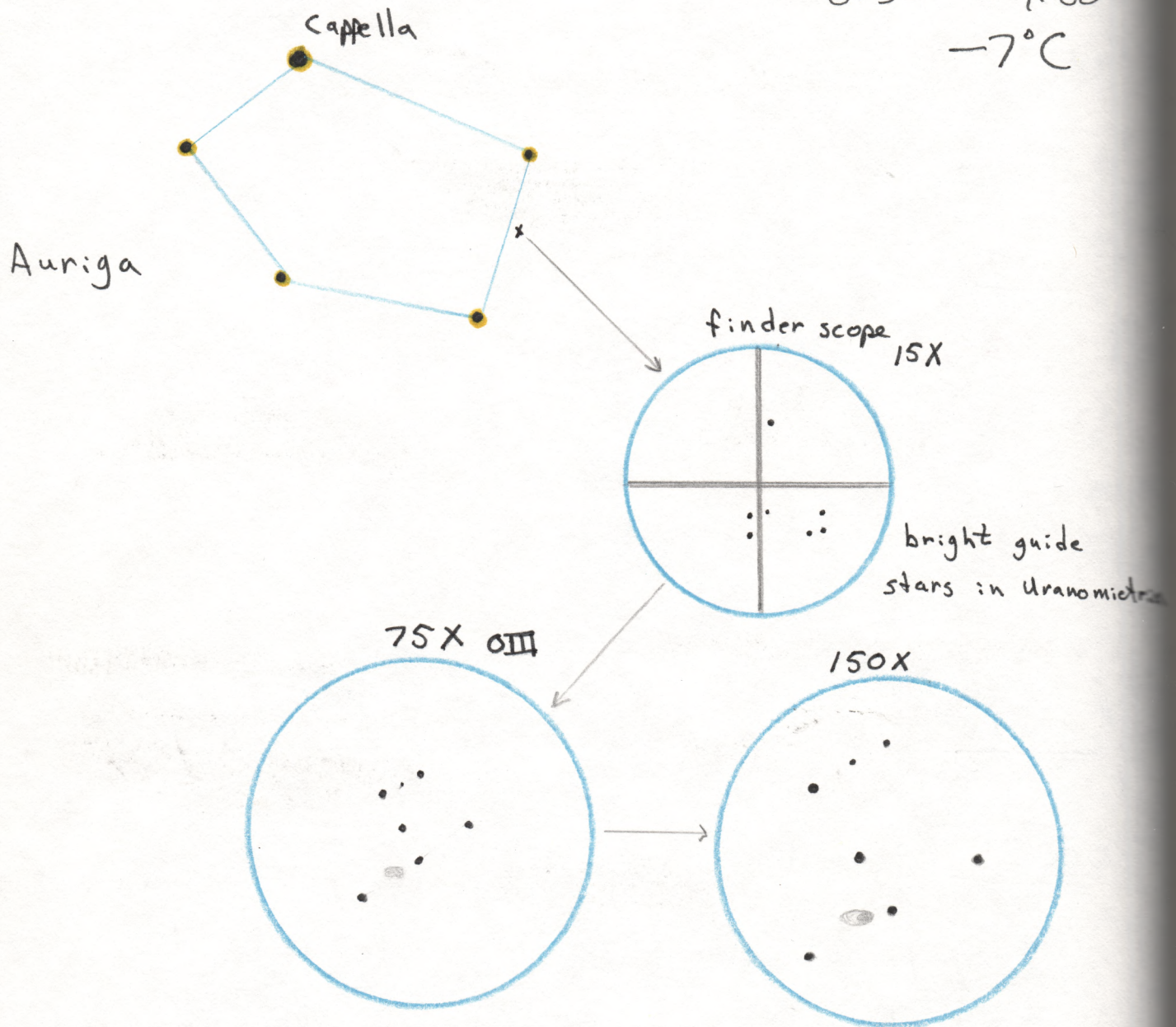
See over \rightarrow

Kohoutek 2-1 (PK 173 - 5.1) Dec. 29.

Blackfoot

6:30 → 1:00

-7°C



About 2' in size, elongated and brighter on the East side.

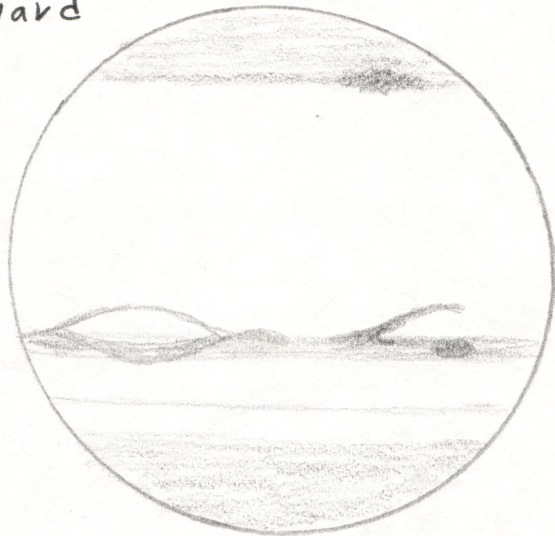
my Challenge list

Jan 10 Backyard

300X

12:05

seeing U.G.



A lot of things going on tonight on the northern Belt.

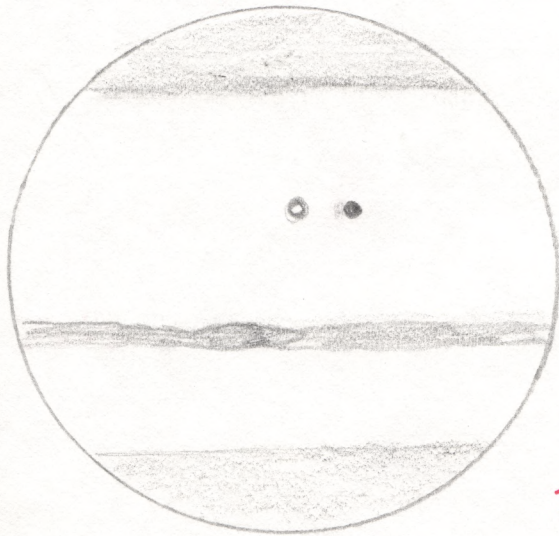
Jan 11

Backyard -15°C 7:00 → 11:00

Io Transit and shadow transit

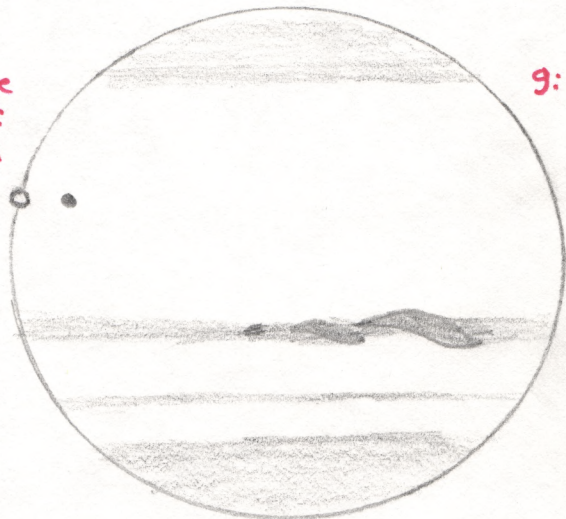
seeing 2 to F

7:55



Bubble effect
↓

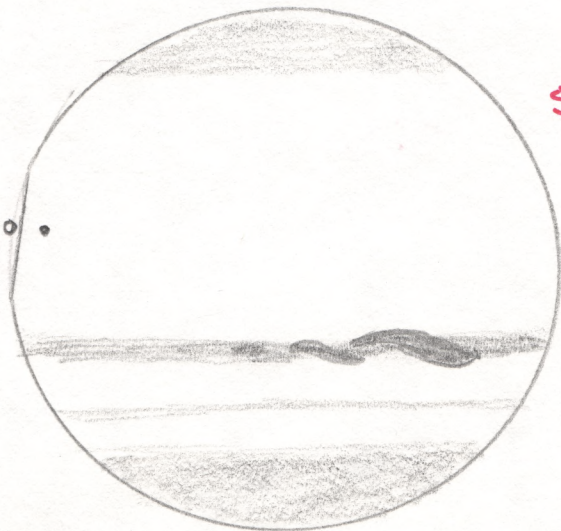
9:05



300X
12½"

9:10

There was a definite flattening effect as Io left the disc!



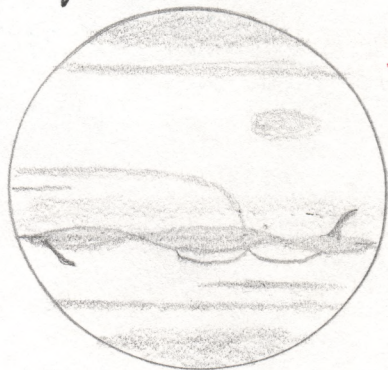
Jan 17.

7:25

+3° daytime
-7° night!

Backyard

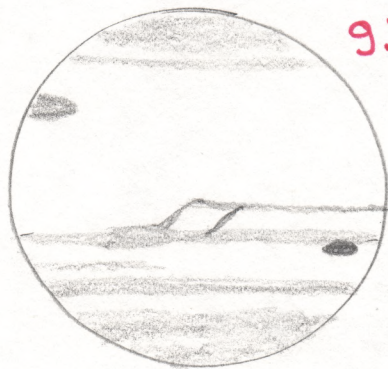
Fantastically warm weather but it's clear all day and some kind of hazy ice crystals form after sunset so althou one would thing observing would be great it has been to pits. Jupiter and Venus are unaffected but deep sky objects are out of the question.



Jan 17

7:25

300x

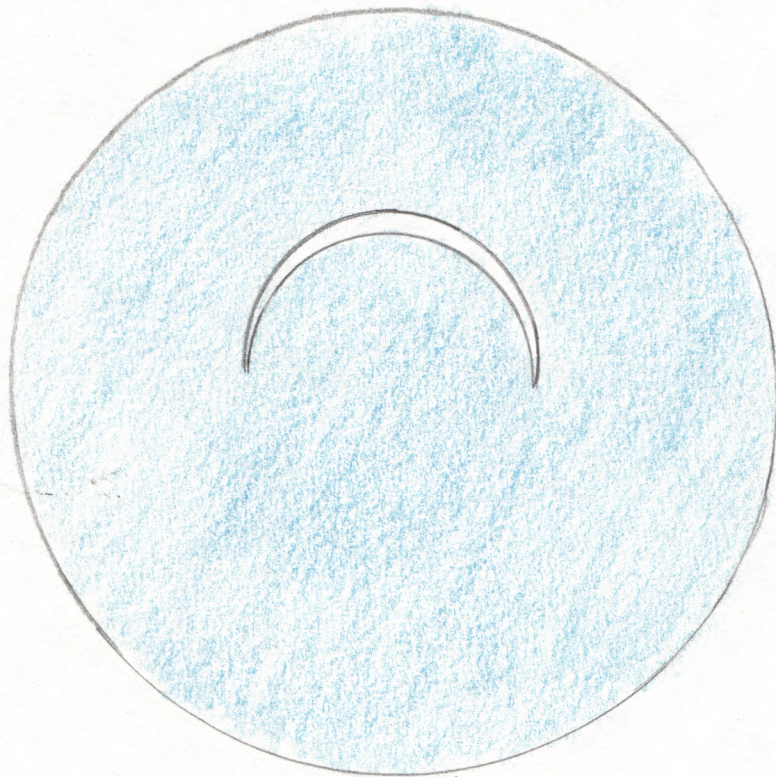


9:20

Jan 18

Noon at work

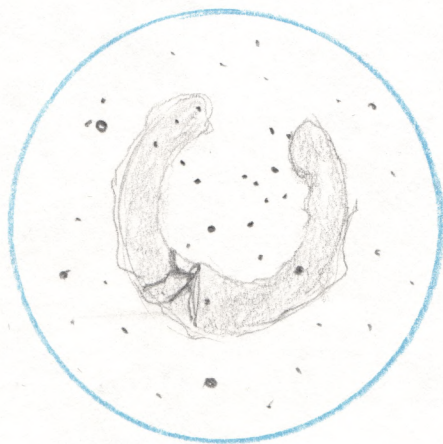
Venus at about a 10% crescent.



4" Bosch & Laumb
at 75X. Approx
6° north of the
Sun.

Jan 18 9:00 p.m. Blackfoot. -3°C

It was again hazy and I searched for a lot of challenge objects and could only find Kahoetec 2-3. But I did see the Rosette neb. nicely with the OIII.



Rosette nebula
50X OIII

32 mm

Jan 21

A Great night! +2° Blackfoot 7:00 → midnight

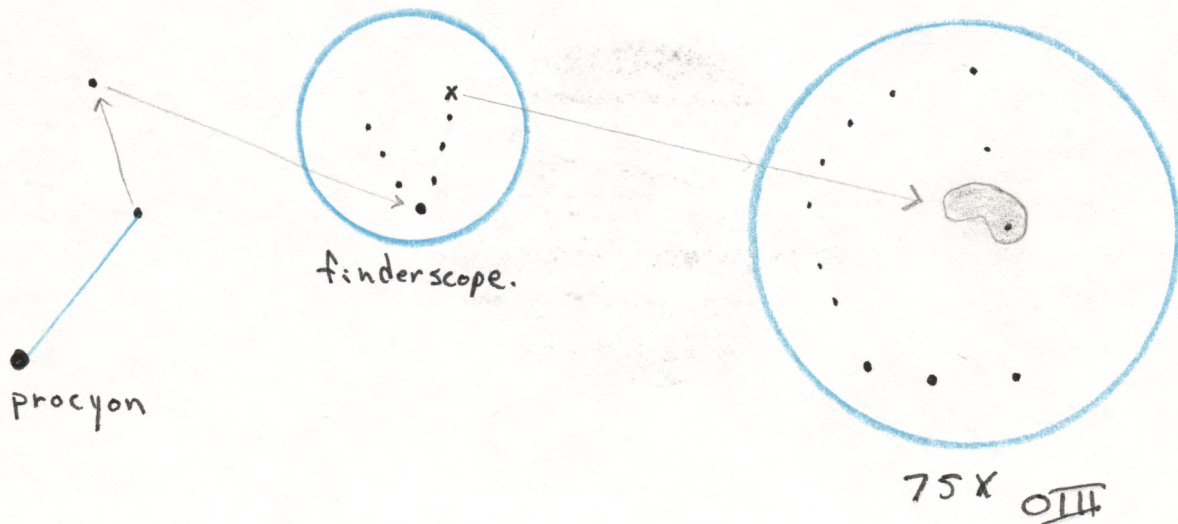
It was black by 7:00 and the Milky way was great! Even with a hot mirror polarissimo was easy! The clouds rolled in at 10:30 but Jupiter was still great.

① **J900** very hard, stellar, needs high power & 0III



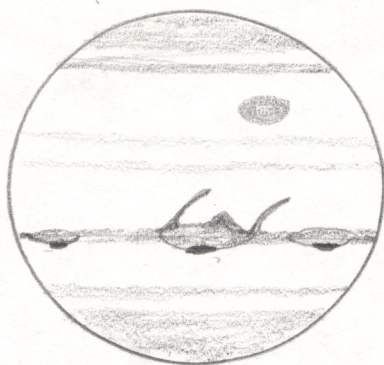
② **Medusa nebula, PK 205**
or
Abell 21

13 mag, very large, an easy object and fun star hop. An Asterism like taurus



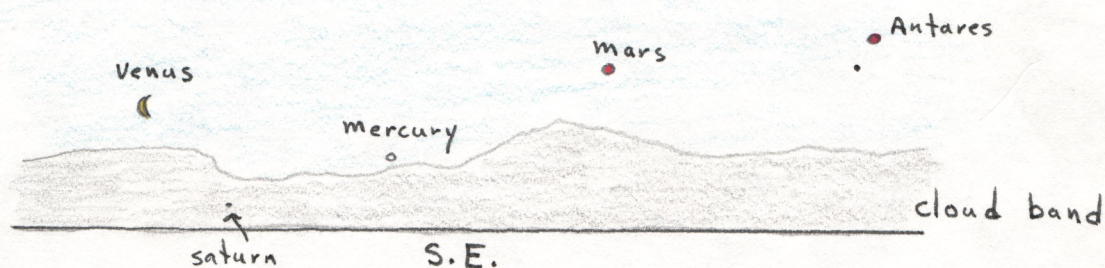
③ Jupiter excellent seeing!

Jan 21 10:30



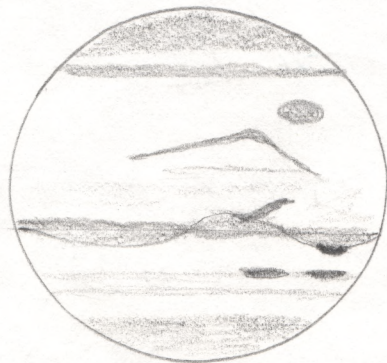
We could glimpse 2 dark streaks below the Red spot and a lot of detail on the N Belt.

Jan 26 7:15 am Top of Torv w 11x80.5



Jupiter had just set in the N.W.

Feb 5 7:50 p.m.



A "peak" just below and west of the Red spot.

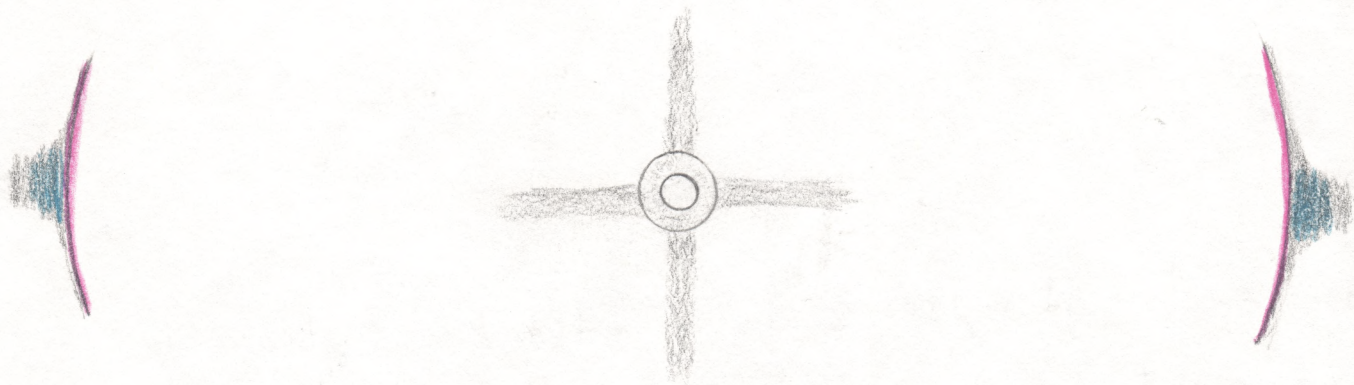
Feb 12

6:50 A.M.

Moon

-24°C

Moon Dogs



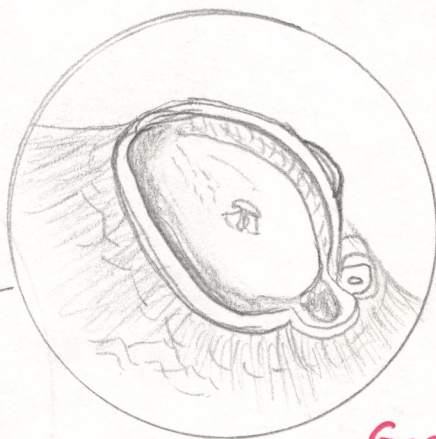
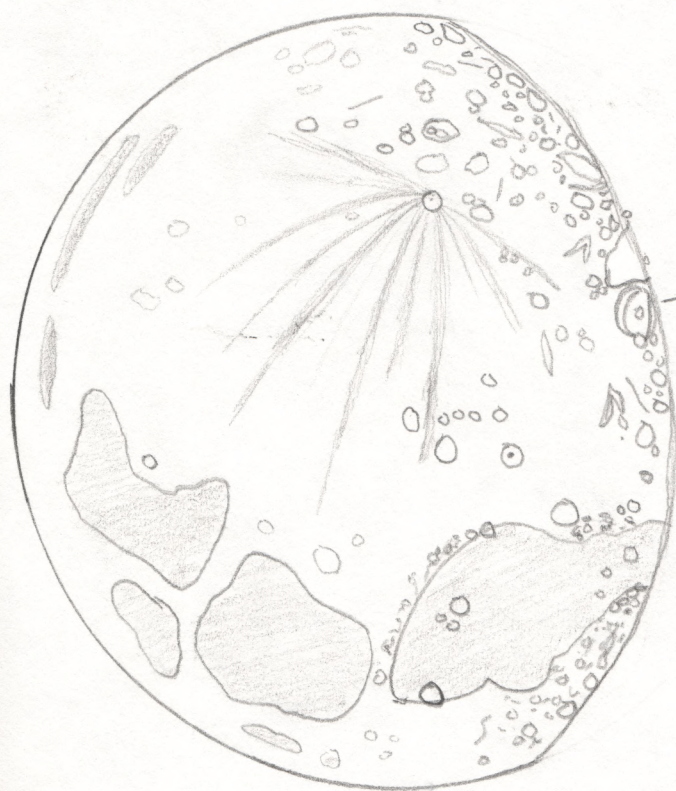
At -24°C it was cold and clear but this must have been caused by ice crystals. The moon had a 2° Halo, spikes several degrees in perfect 90° angles, and rainbow arcs about 20° to either side! The sky was still black and yet the color showed well!



misc. well looking for a comet I saw a meteor come straight at me during a few days around a shower. It was a pin point of light that flashed!

Feb 5 9:30 to 10:20

Ten Day Moon 87X



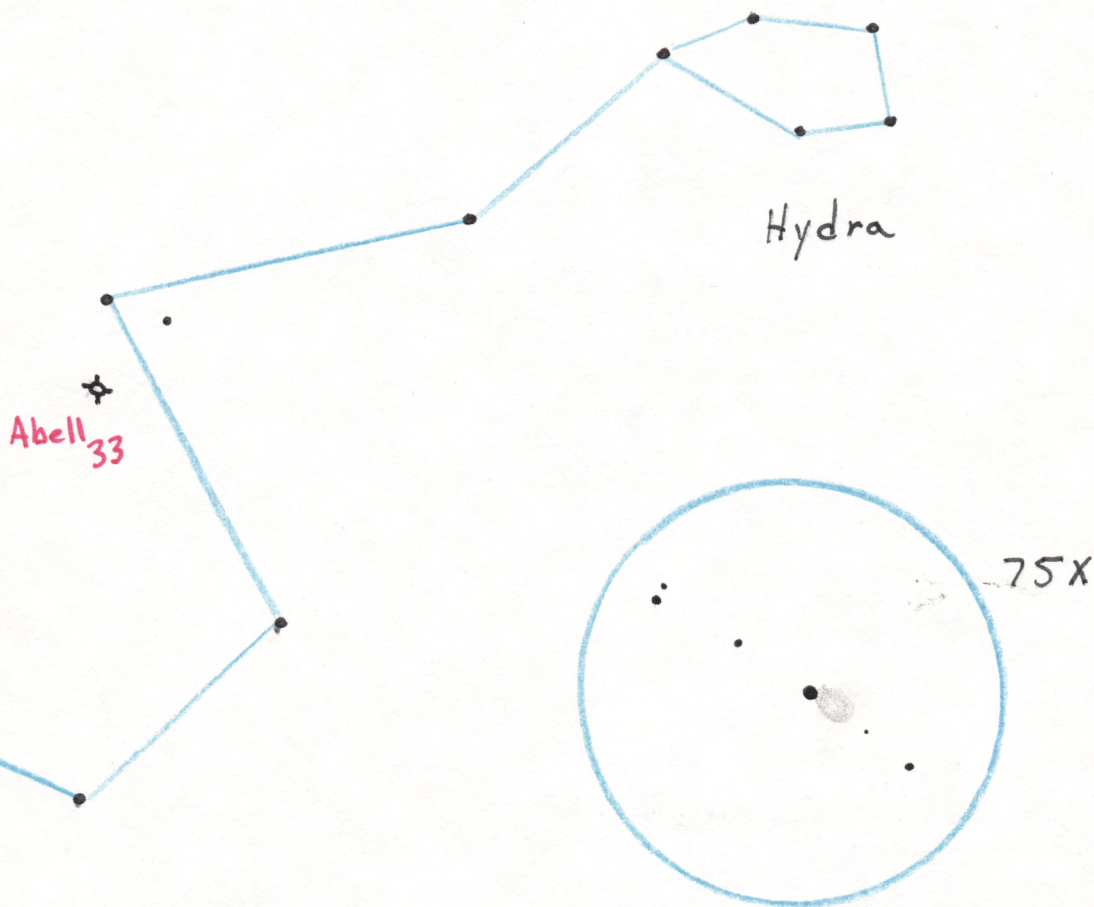
Gassendi
at 600X

In 3 months we had 3 days of good observing. It got so bad that I decided to go back to some Lunar work. At least we were able to still watch Jupiter.

Feb 27

Warm but the same cloud problem, also northern lights now.

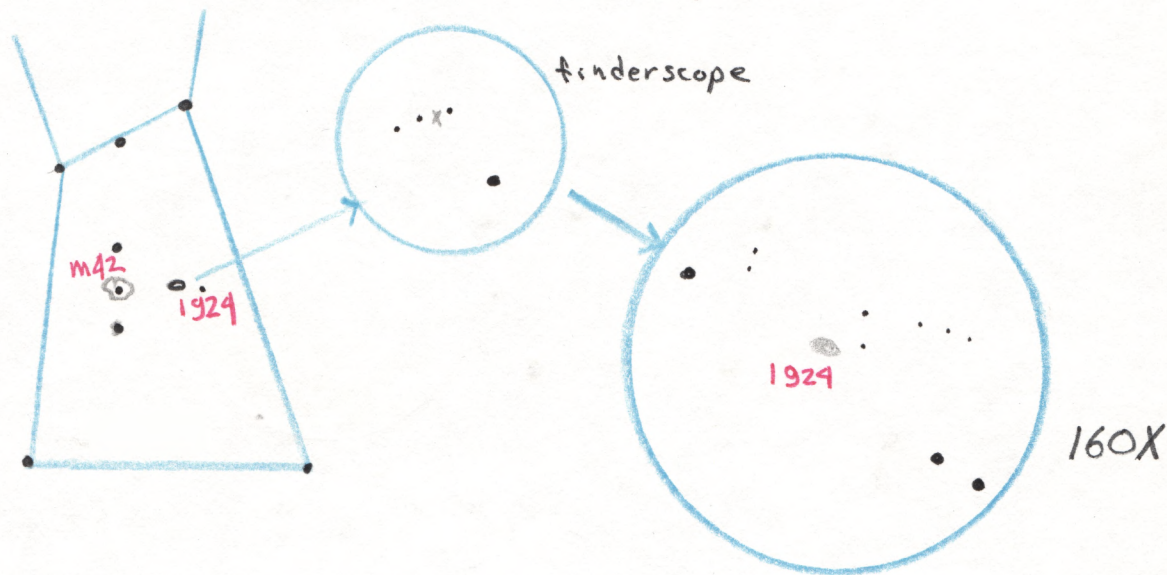
Abell 33 a challenge from Walter Scott
Hustens list for a 13". P.N.



a 4' faint glow next to a 7mag star

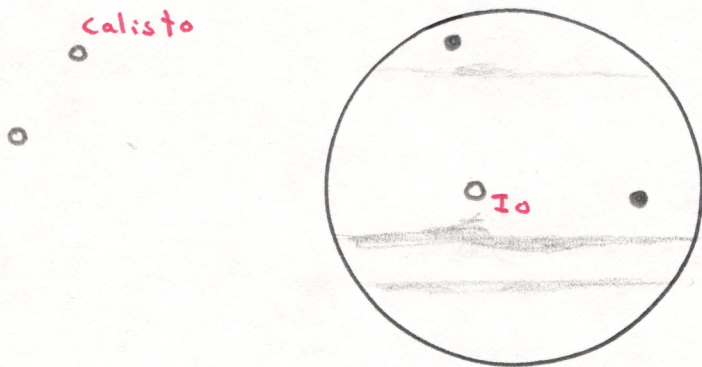
Feb 28

NGC 1924 a 12 m gal that Deep sky called one of the sky's best kept secrets because it is so close to M42!



Feb 28

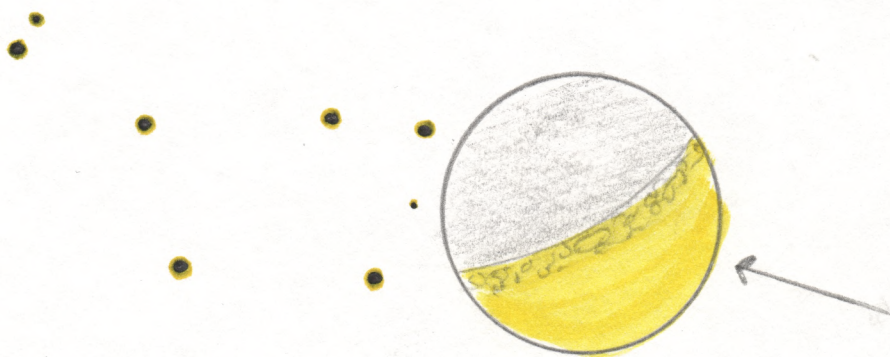
Double Transit, Calisto & Io



March 2

7:00 → 8:00 p.m.

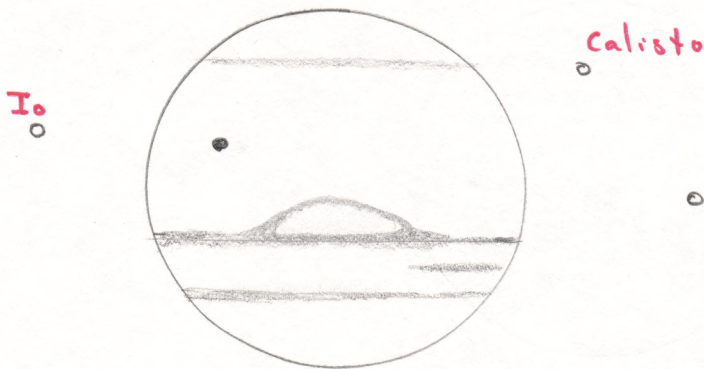
The 1st quarter moon occults
the pleiades.



seeing the stars reappear was pretty o.k.!

March 14

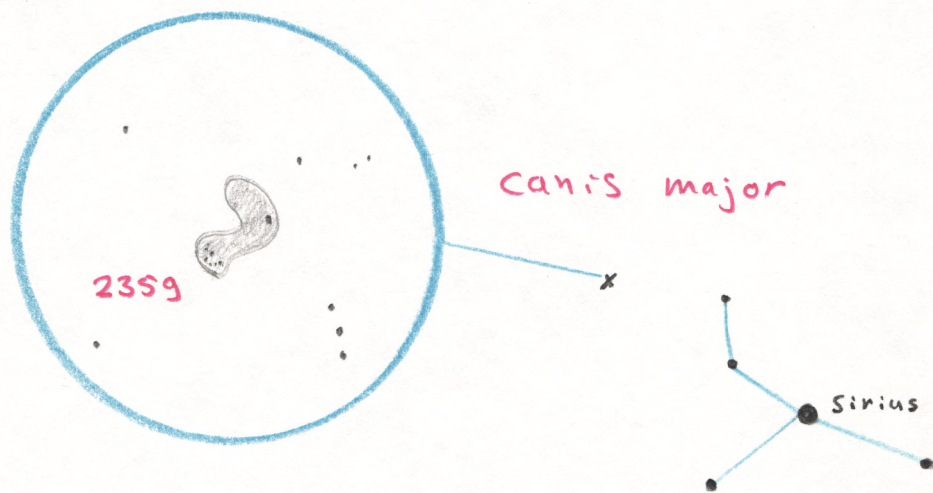
At long last an excellent night, although
the moon came up at 11:30 we had 3½ hrs of
good dark sky.



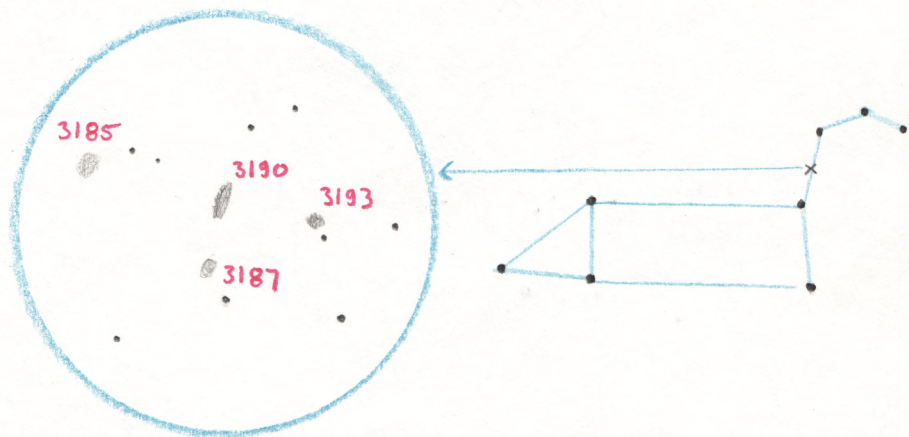
① Io sh Tr. with a nice large loop festoon. Later
calisto transited across the top.

② Eagle neb. sections could be picked up around the O.C. 2335. O III filter. very iffy!

③ 2359 / IC 468 left of Sirius, a large pair of difused Neb. A very nice object, S shaped, a half dozen stars in the N. end. needs O III.

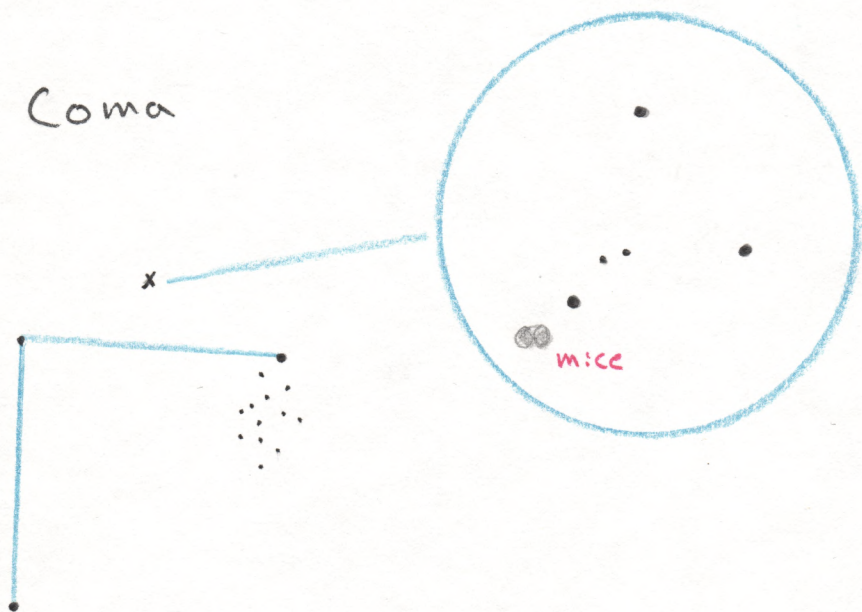


④ 3190 gal cluster in the neck of Leo a group of 4 gal. 3190 is edge on the other 3 face on 2 easy 2 harder.

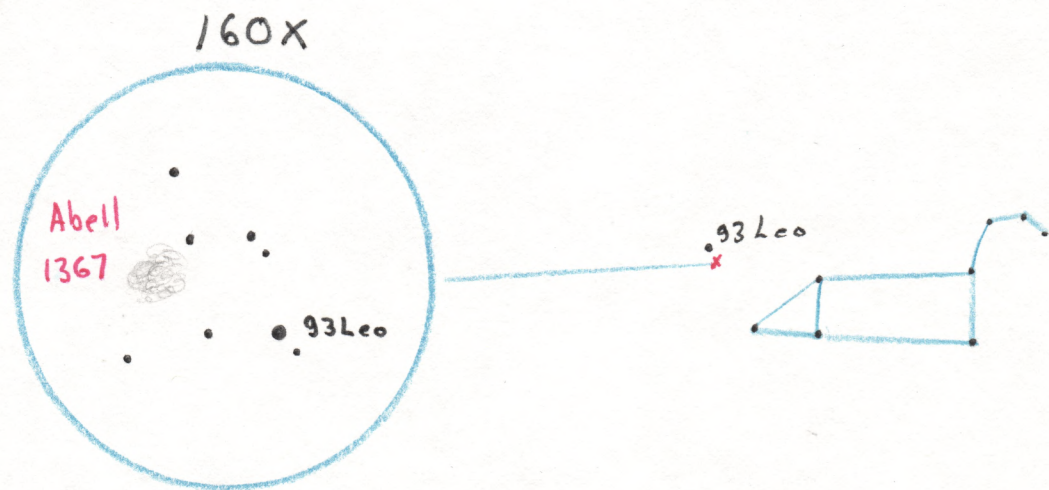


⑤ The Mice

Very tuft little guys! faint, needs highpower, nice star hop. 160x

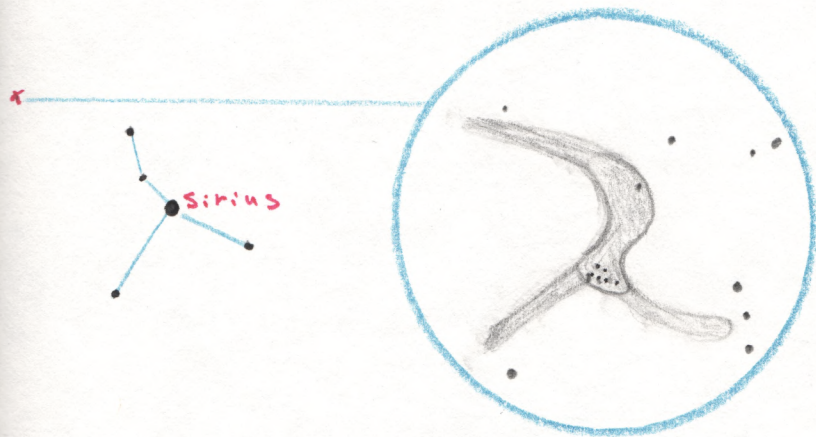


⑥ Abell 1367 the challenge list says 30 gal in a 30-40 cm. Well I could just see a clump!



march 17 An excellent night!!!

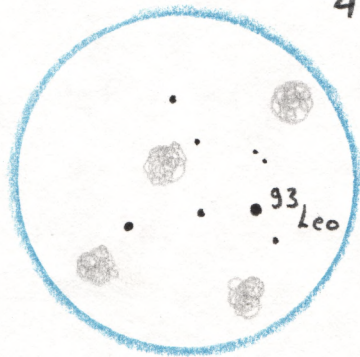
- ① **2359** the large diffuse nebula (from last night)
this time in the 17" w OIII, it was a pinwheel!



75X The arms are much fainter than the main S shape. fantastic.

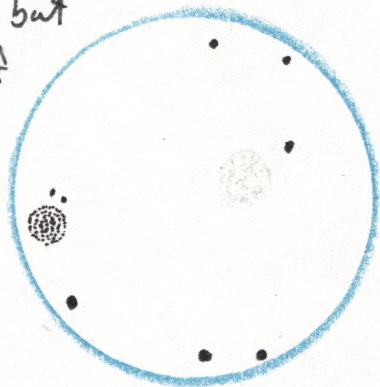
Stars embedded in N end.

- ② **Abell 1367** the 30 gal. just appear as clumps. ^{4 main clumps.}



- ③ **M53 and 5053**

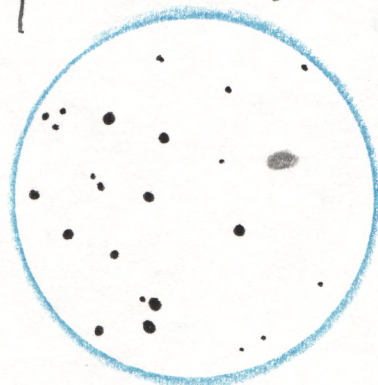
easy to see but only a hint of stars being resolved.



- ④ **A gal in the Beehive?**
of the 5 there I think I found 1

2647

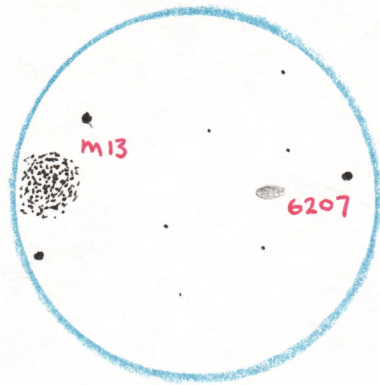
M44



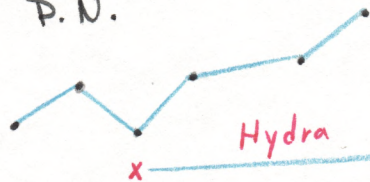
suspected only!

⑤ M13 & 6207

These is an I.C.
somewhere between the 2
but we found nothing.



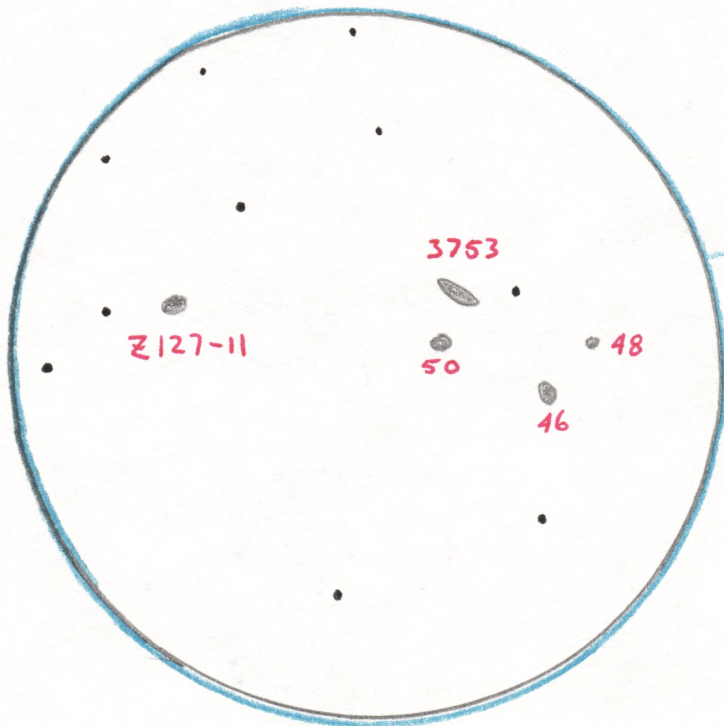
⑥ Ghost of Jupiter 3242 in Hydra
a nice large blue P.N.



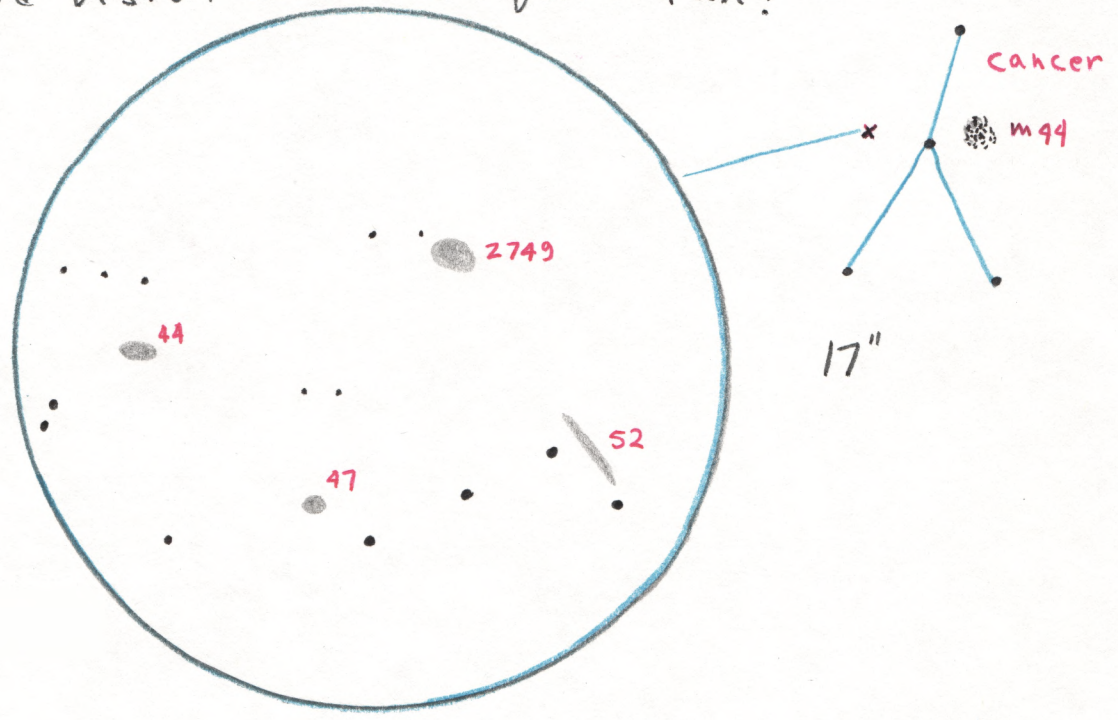
⑦ Markarians chain and gal in Leo
were so plentiful, there is no way you could even
start to draw them!

⑧ M3 & M5 fantastic as usual!

⑨ Copelands Septet 4 of 7 found with 17"

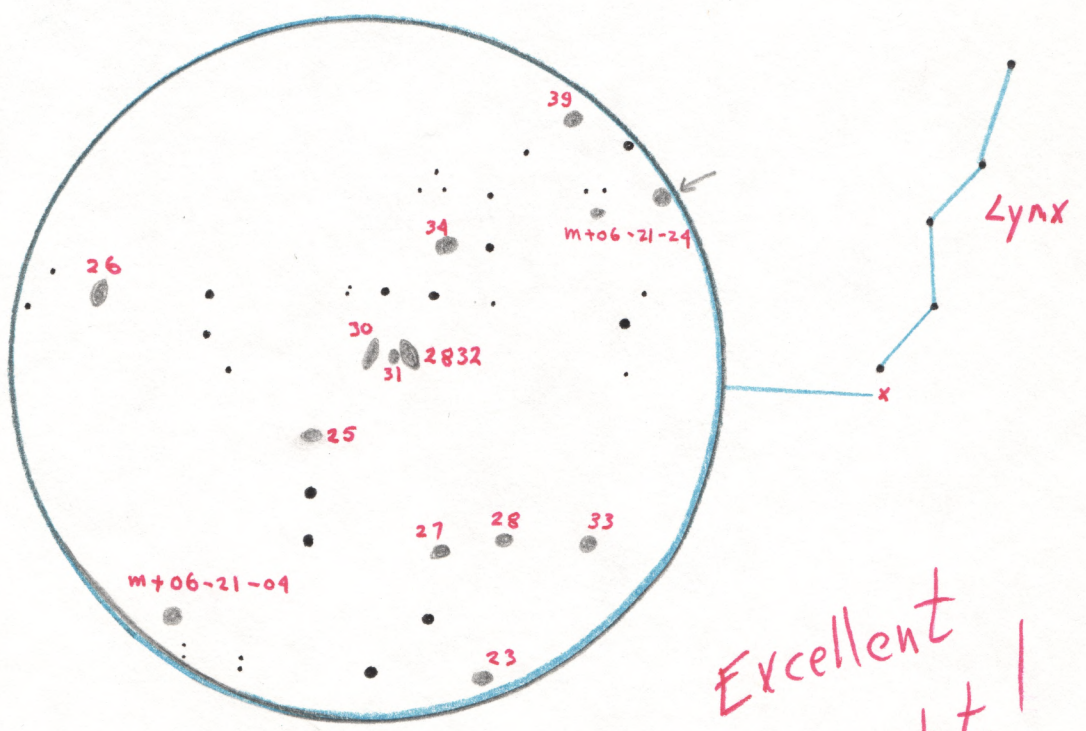


⑩ 2749 gal cluster in Cancer just w of the Beehive a really fun cluster 12 → 15 mag. The slash 2752 is by averted vision and was quite fun!



⑪ Abell 779

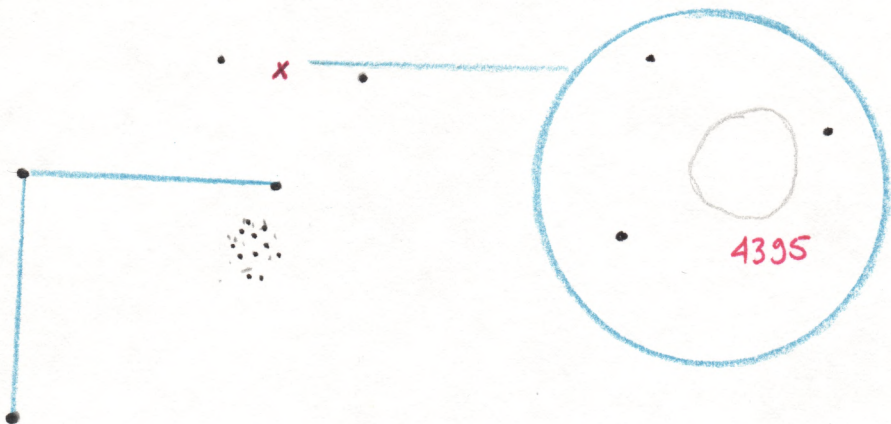
Just off the bot star in Lynx a cluster of 13 gal Skiff had and one he didn't.



Excellent Night!

from 11 to 15 mag in the 17"

- ⑫ 4395 A massive soft faint gal in Coma.
like a soft glow.



- ⑬ 4298/4302 Interacting gal in Coma.



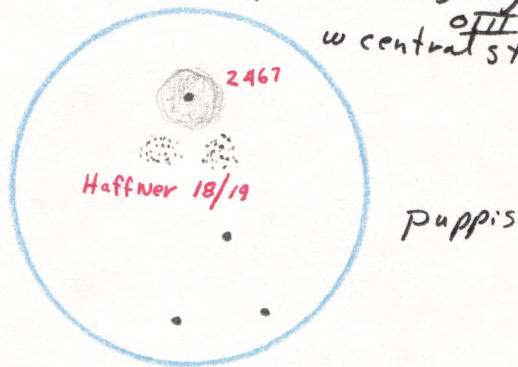
March 23 7:00 → 1:30 V.G. night, a bit of Aurora but not bad. The temp was only -8 but for some reason we all froze! even dressed to the max.

- ① Leo 1, it was in the perfect spot but even with the 17 it was not there.
- ② Comet Austin, 4 of us spent 40 min looking and it just wasn't visible.
- ③ **3995 group**. A triple interacting system in Ursa Major.

3395 / 3991 / 3994
 12 13 13

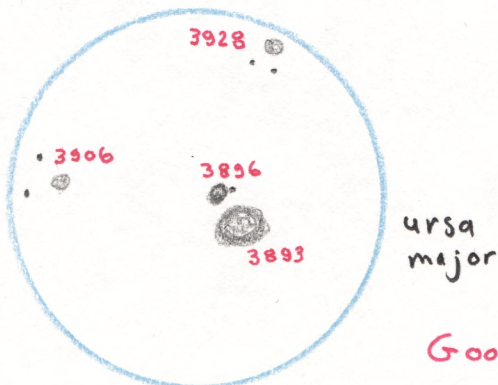


- ④ **Haffner 18/19** 2 o.c. } in Puppis all 3 in a group. 2467 9 mag. ^{off} w central star
- NGC 2467** E.N. }



⑤ **3893 group**

3893 11 mag.
 3896 } 14 mag.
 3896



Good test for the 12 1/2"

3893 large bright mottled. 3906 quite hard 3896 quite easy.

March 24 Another excellent night!

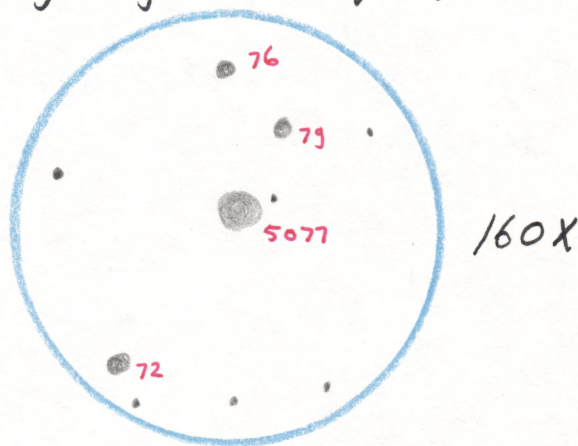
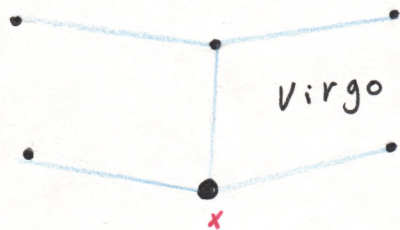
① PK 164. I thought it would be easier now as it was overhead, but it was still hard.

② 3898 group in Ursa Major, a group of 5 gal about 11 mag \rightarrow 13.

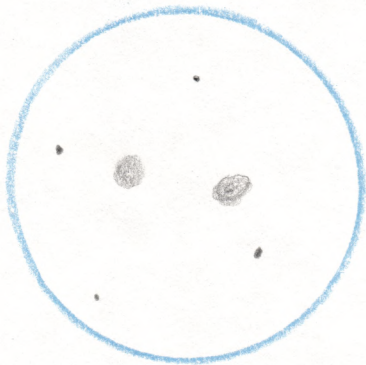
③ 5077 group in Virgo just S of Spica.

5077 11 mag.

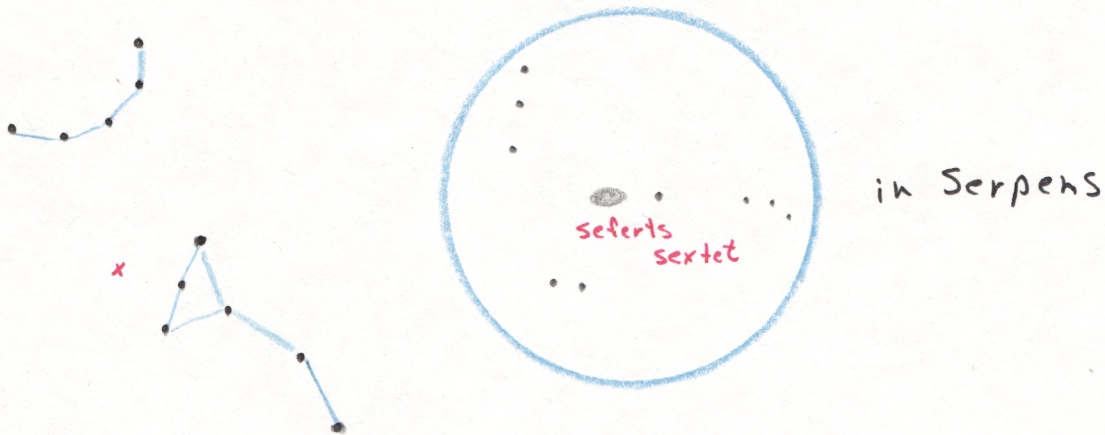
79/76/72 13 mag.



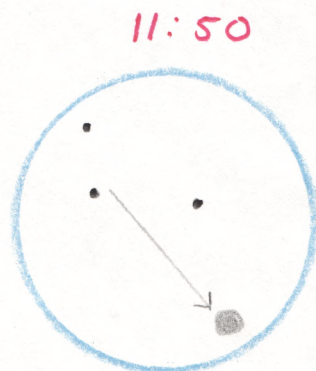
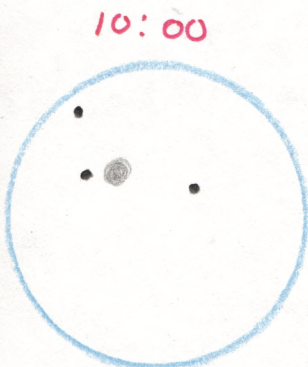
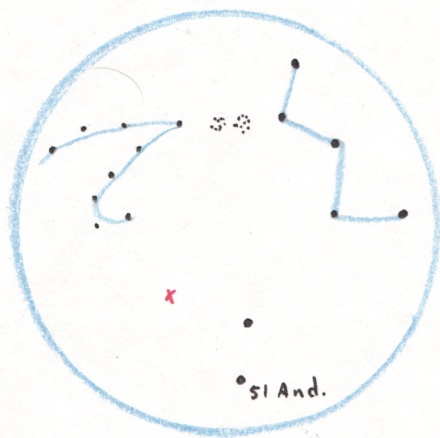
④ 3718/3729 an interacting pair in Ursa Major
10 mag 11 mag



⑤ **Seferts Sextet!** this group is 15 mag and is a challenge for a 16". Paul and I both found it separately in our 12's.



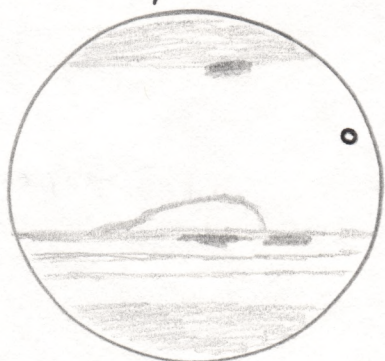
⑥ **Comet Cernis-Kiuchi-Nakamura** in Perseus.
a great 9 mag comet going like a bat out of Hell!



March 28 fantastic night!!! 8:00 → 2:00

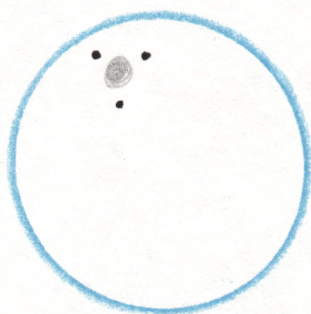
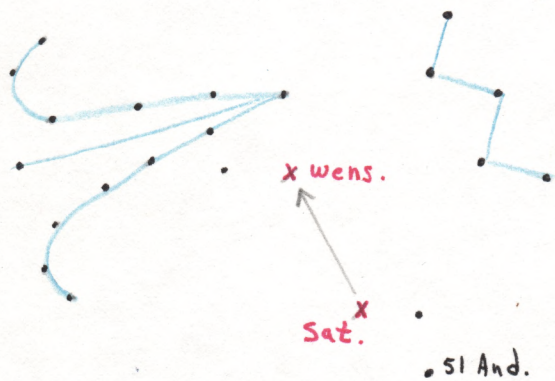
No cloud, No Aurora, snow melted, 0°,
30% humidity!

①

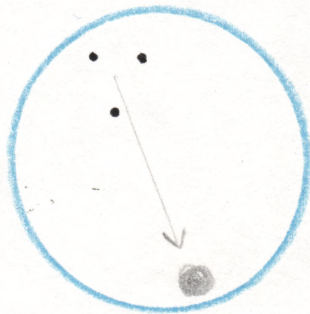


A large loop festoona, a dark patch
in the S. polar region, 3 N belts
and Io was a brilliant white
against the disk!

② Comet Cernis-Kiuchi-Nakamura is headed into
Perseus very quickly. It's round, condensed and
about 8 mag. Moving extremely fast!



9:00

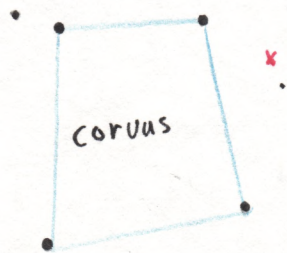


11:15

③ Rat tail or Ringtail galaxies. 2 interacting gal in
Corvus. The formed a backwards L with the Bot brighter.

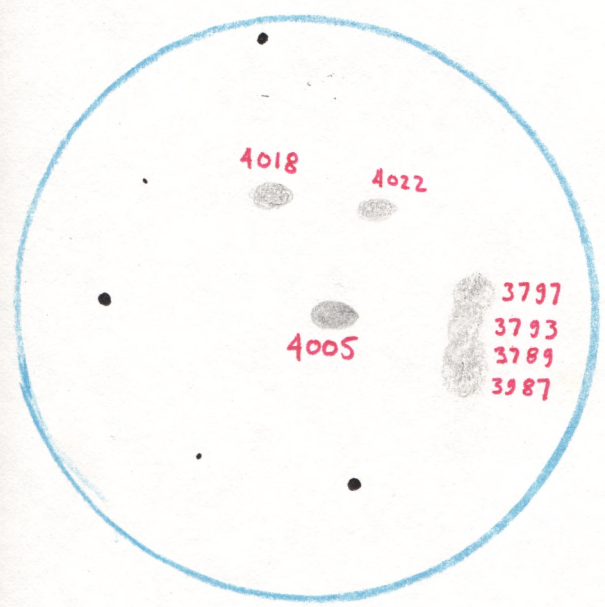
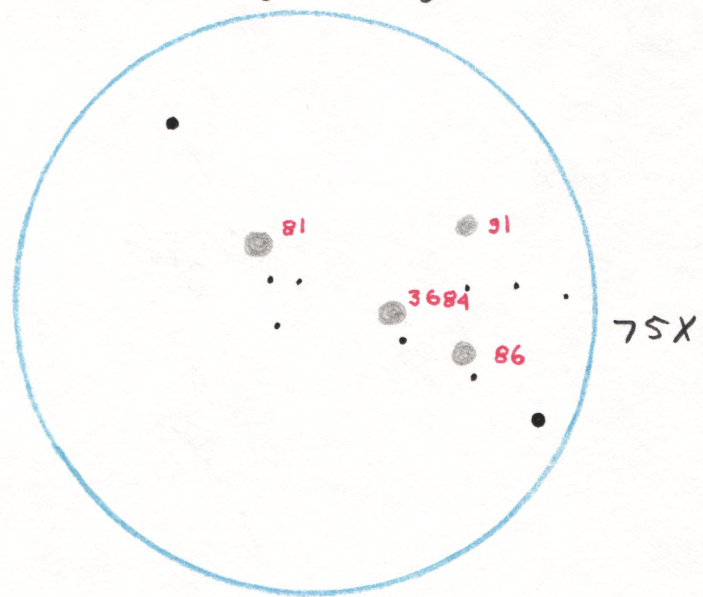
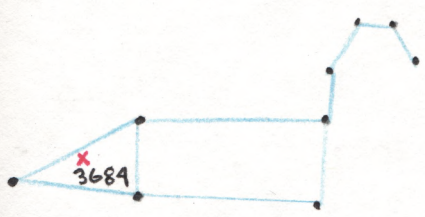
170X

NGC
4038/39



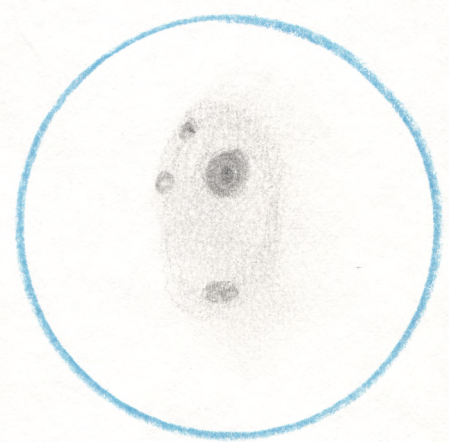
④ 3684 group in Leo's back end. A nice string of 3 gal & 1 above.

4005
x



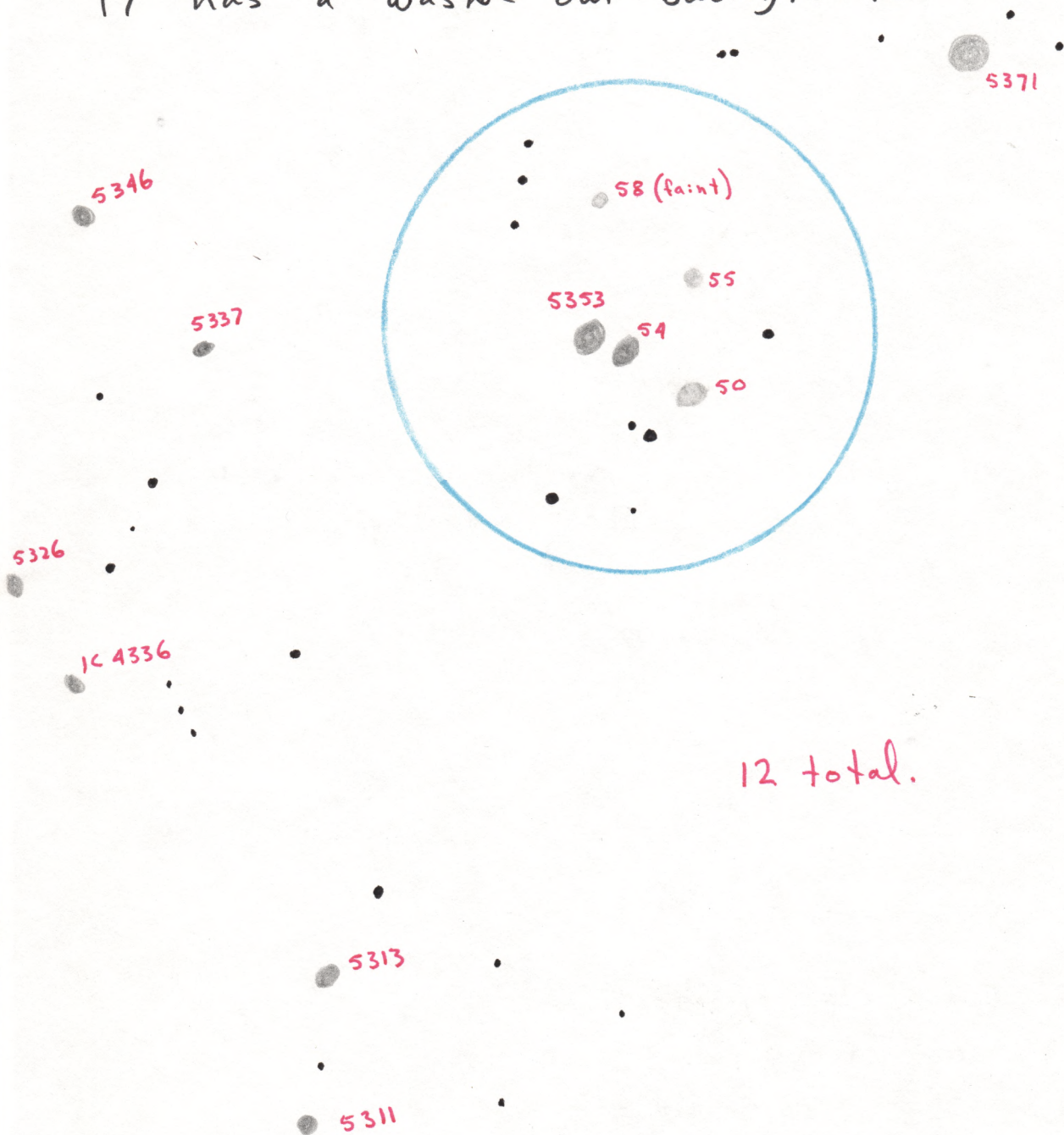
⑤ 4005 group in Leo. 4005 is bright and there is a mottled long clump East and 2 gal south. A very hard group to sort out.

⑥ M101 T6 H II regions showed up best in the no filter view. 3 main areas besides the main core, and other mottled areas.



M101 (102)

⑦ 5353 group in Bootes, I had a better view of this overhead in the 12½ than we had lower in the 17. Mainly because the 17 has a washed out background.



⑧ I found an incredibly high slow moving blinking satellite it took about 10 minutes to move a degree and it blinked slowly with a bright flash. Very strange!

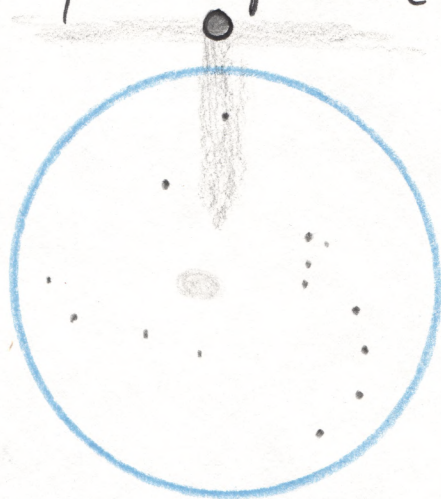
April 15 A 5 star night ****

Dark, very transparent, dead calm air!

① Leo 1!

12½"

125X



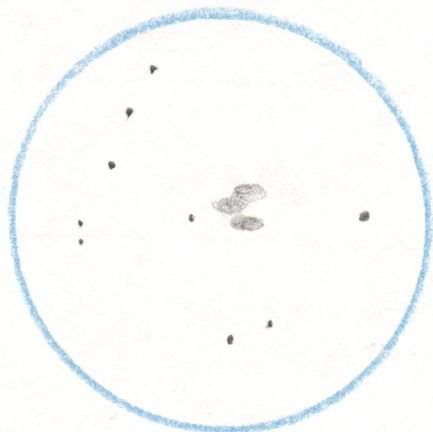
Very faint & at the bottom of a spike off of Regulus. Averted vision.

② M64 Blackeye gal. The best view I've ever had.



220X

③ **Serfer's Sextet**. It was such a good night
it actually broke into components! In the
 $12\frac{1}{2}''$!



④ **Comet Austin**

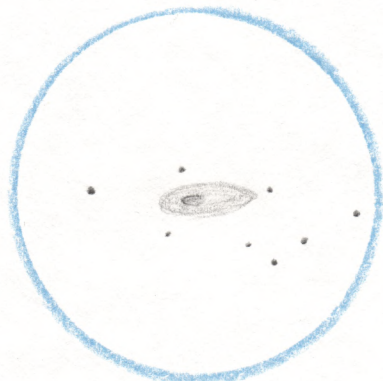
A faint $\frac{3}{4}^\circ$ fan tail.
The nucleus is about
triple the size of
Jupiter.



160X

④ **4293 in Coma**

a lens shaped gal with a dark
oval inside.



125X

⑤ Barium shot

Barium was fired from a satellite as part of a study of the ozone layer.

A 3° smoke ring shown above Cass as it grew out of a funnel. Green, yellow & purple. Very bright!

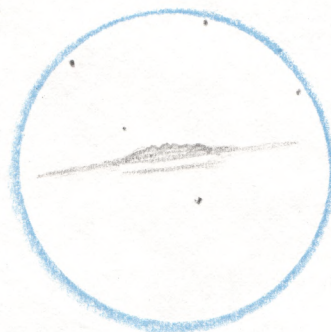


April 16/15

11:45

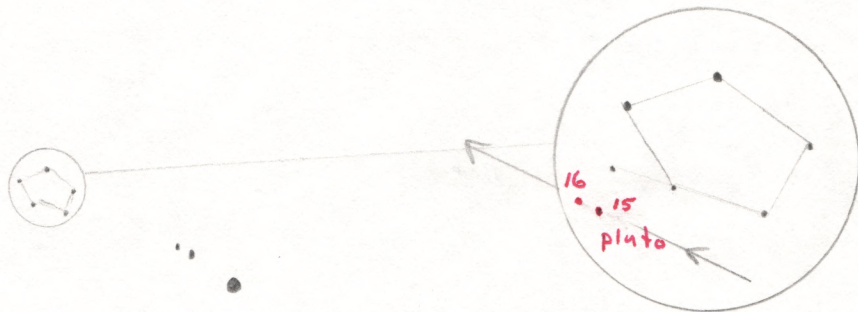
See next page

⑥ 4565 an excellent view, at 300x mottling and the dark lane was striking.



300x
4565

⑧ pluto



Note: sky & tell's finder is useless, use April's Astronomy!

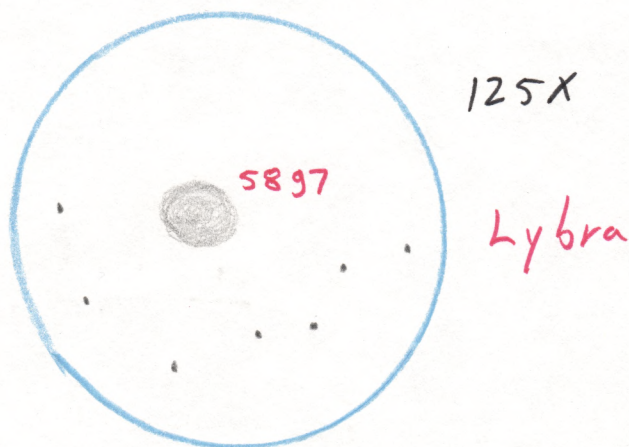
April 16

We wasted a fair bit of time waiting for the 2nd Barium shot but it never did happen. Still a very good night. No where near as transparent as the night before.

① 5897 challenge object!

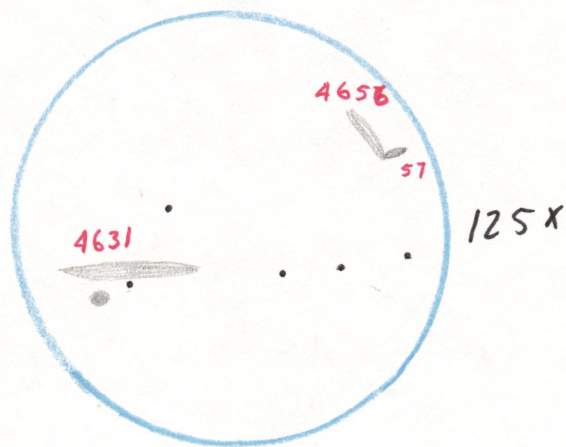
a very large globular cluster in Lybra. It looks like a Nebula, plus it is very low.

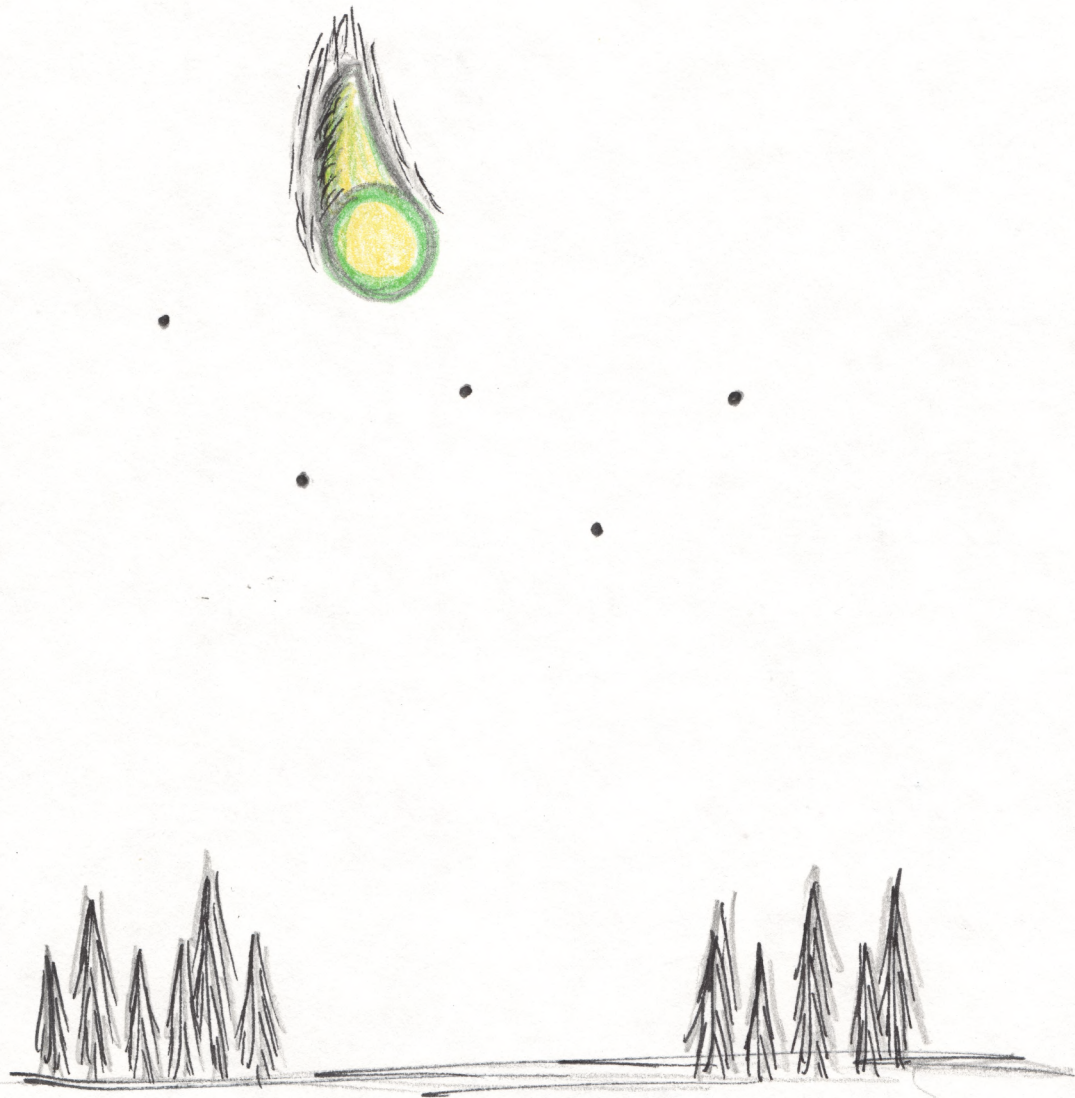
12"



② 4631 & companion
4656/57

Both in one field with the
12 magler at 125X
4656/57 is one galaxy with
a hooked end.





April 15/90 11:45 p.m.

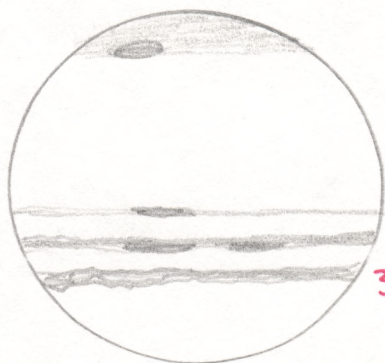
Barium shot from satellite

May 10 10:30

The poncet is done, it's a joy to use, I had alot of gremlins to work out but it was well worth it!

Jupiter:

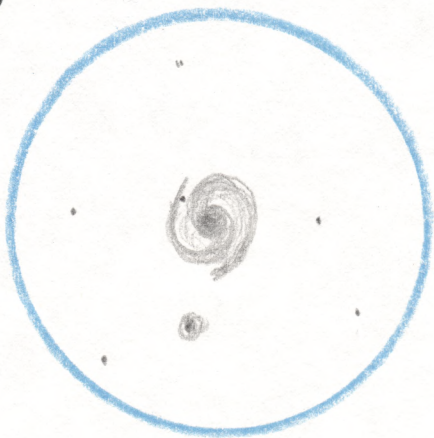
The N. temperate belt was thick dark and lumpy. the N.E.B. had 2 large knots and a thin Band ran south of the N.E.B with a knot in it.



dark spot in the S polar region.

May 15 first "Deep Sky" light for the Poncet, Fantastic!

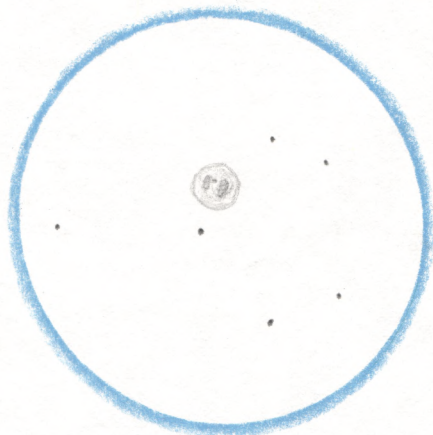
① M51 The arms were defined better than I've seen before, the fact that you aren't jerking it all the time makes all the difference.



② M97 "Owl"

Finally I've seen the "face" of the Owl, best w OIII filter, also there is an embedded star in it's middle.

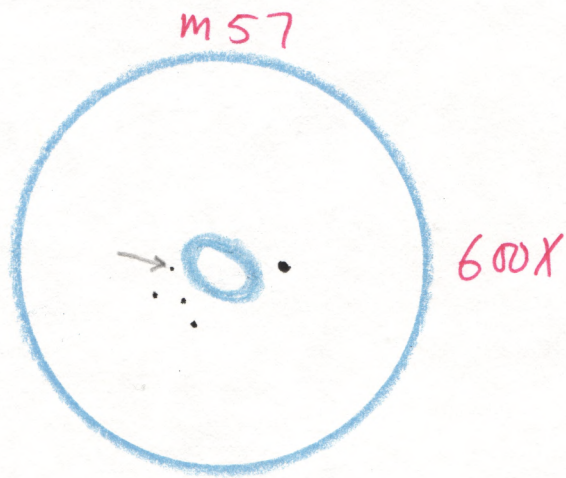
Dark cloth
really helps this
one.



Owl 300X & OIII

③ M57 "Ring"

at 600X I could see several faint stars that I hadn't see before, when I got home I read an article that Alister wrote that said if these stars are seen then the central star should be visible!



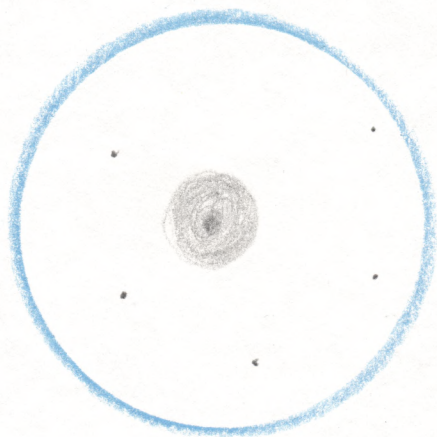
M57

600X

May 18

④ Comet Austin

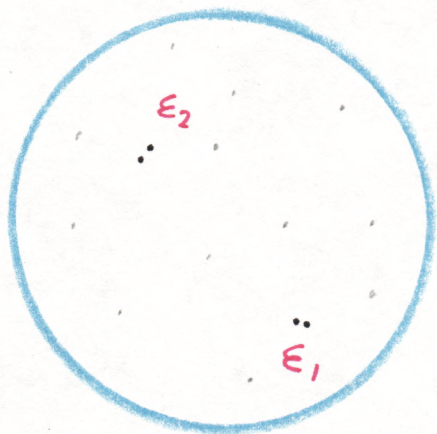
Very large & difused, central core,
No tail at all.



Austin
125X

⑤ Double Double

The point is really nice for splitting
doubles!



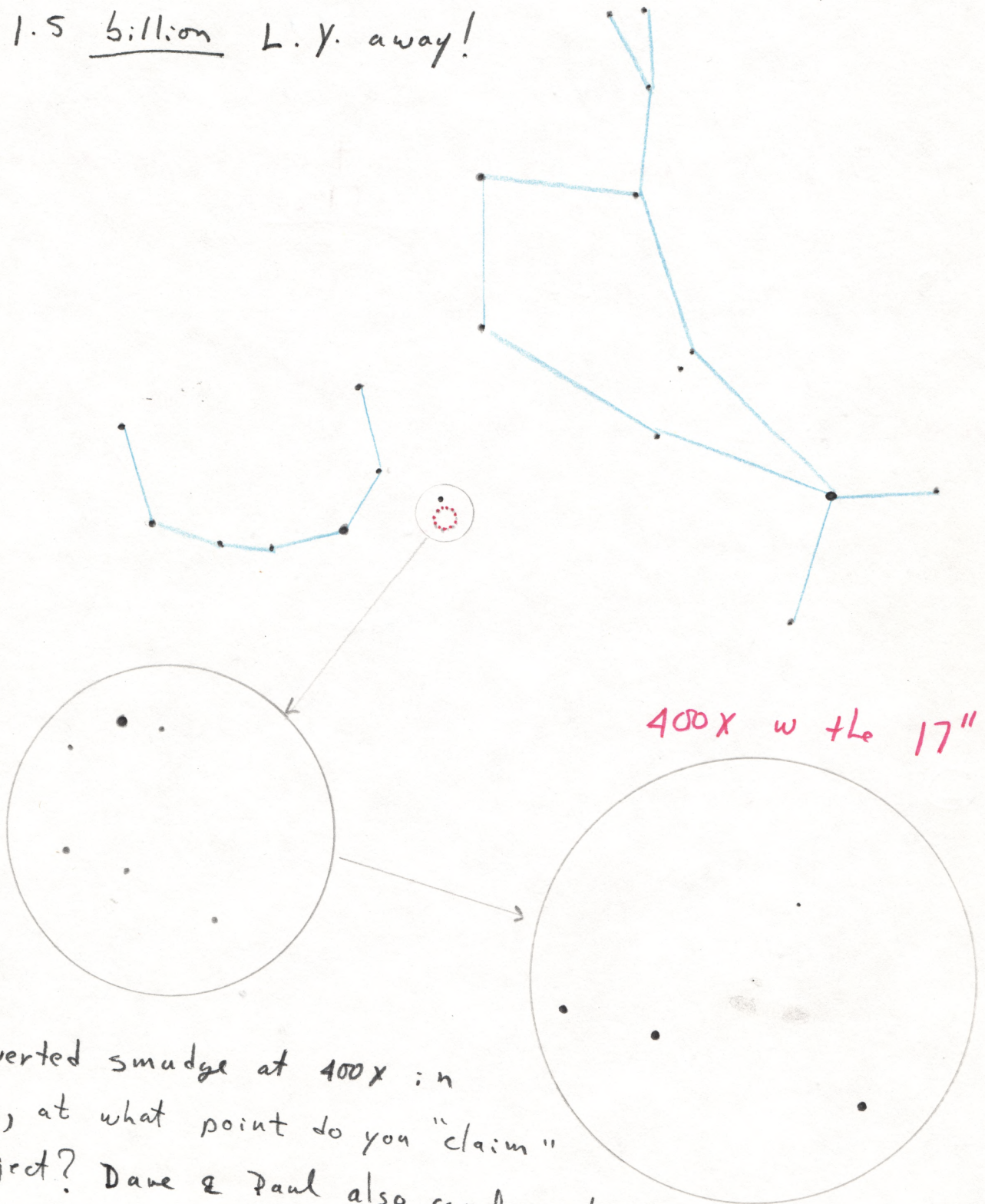
ϵ Lyra

⑥ Saturn made it's first appearance, I'm
looking forward to it this summer.
rose at \approx 3:00 A.M.

⑦ Corona Borealis galaxy cluster!!!

Abell 2065 16 mag 50cm in superb sky!

1.5 billion L.Y. away!



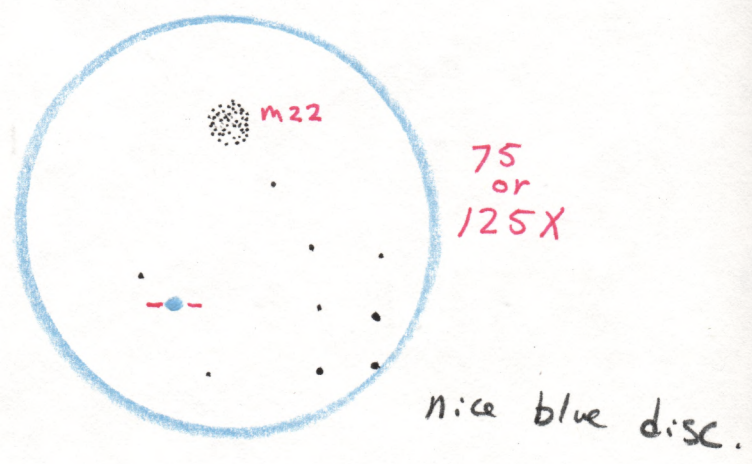
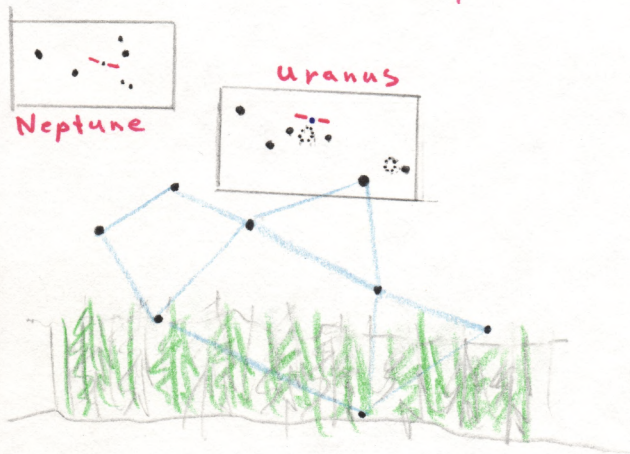
An averted smudge at 400x in the 17, at what point do you "claim" an object? Dave & Paul also confirmed it.

May 24 SKunked, Aurora Borealis Severe!

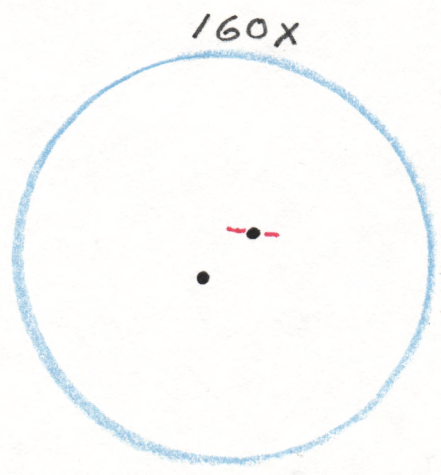
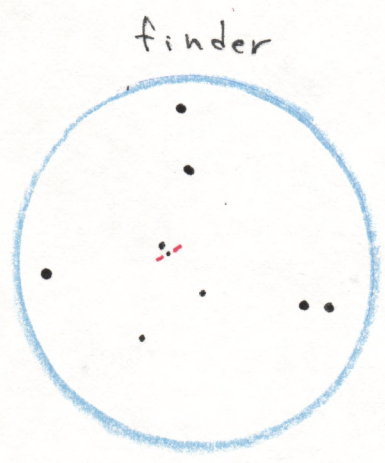
June 15 good sky by 12:30, to 2:30.

at around 1:00 you could just make out the milky way in Cygnus, quite high in the sky. The sky was very bright by 3:30. Sparks flying out of my poncet turned out to be fireflies!

① Uranus by M22



② Neptune



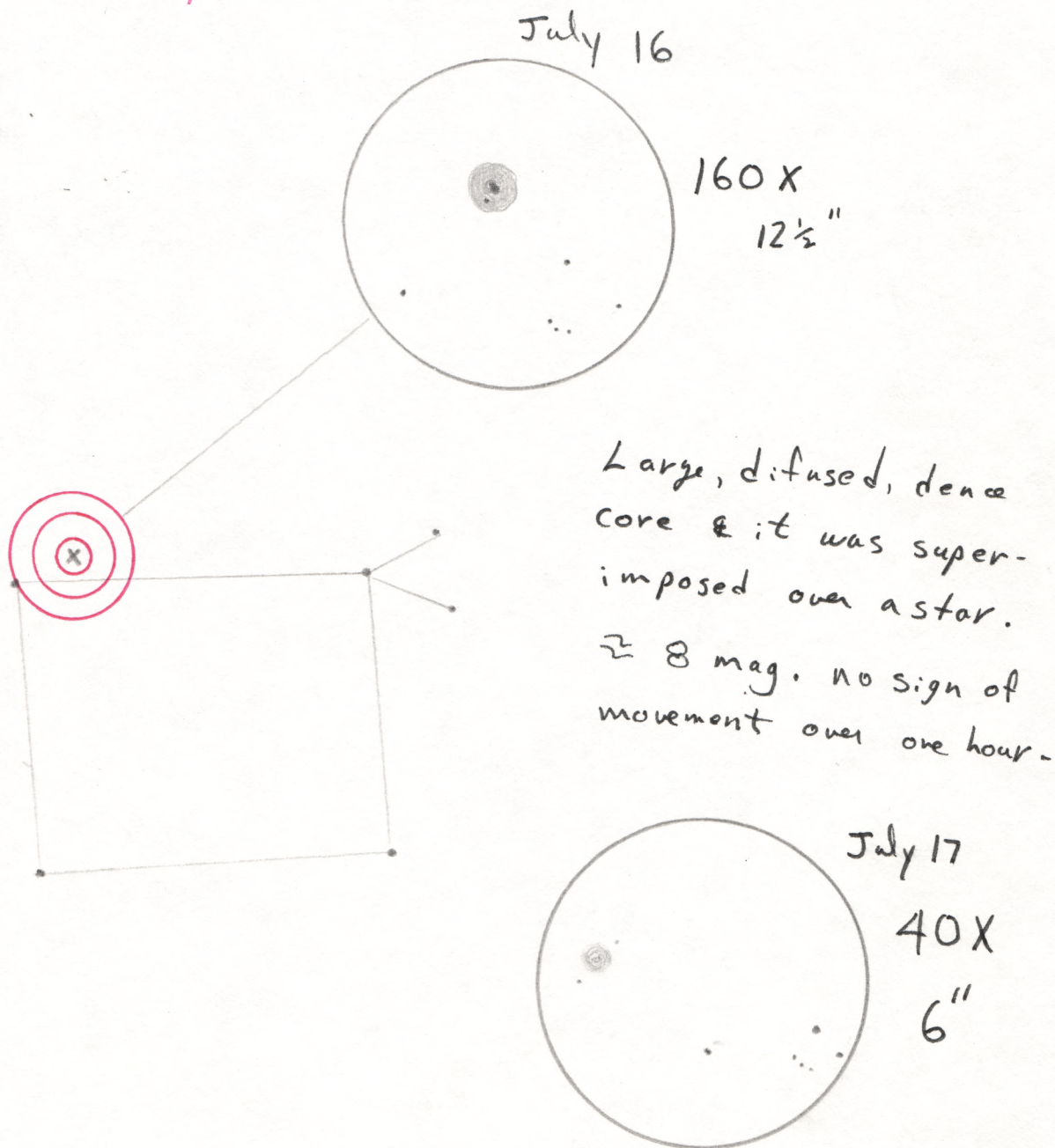
The seeing was bad and they both looked like discs!

July 16

Start 90/91

finally dark skies again at midnight I could see the milky way in Cygnus from the back yard! Saturn was the pits but comet Levy was nice.

Comet Levy.



July 21

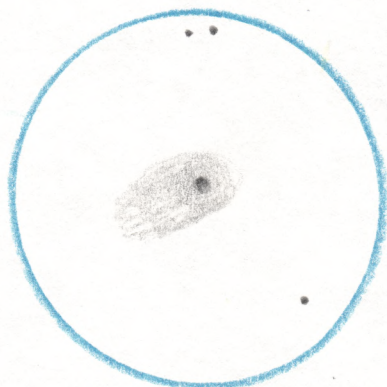
Excellent night.

Black sky No Aurora

10:00 → 4:00!

By midnight the sky is black and the milky way visible, by 1:30 you could see all the dark lanes in the milky way and it stretched from horizon to horizon!

- ① **Comet Levy.** the swan filter helped a lot at dusk to find it when I couldn't without it. about $\frac{1}{3}^\circ$ fan tail.



160x
Swan
filter

- ② **Swan** the best I've seen it yet, the dark lanes in the breast were nice also 2 clumps above & in front of the head.



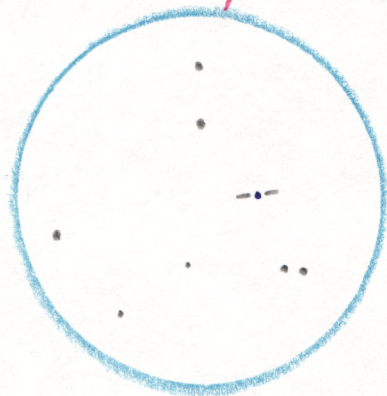
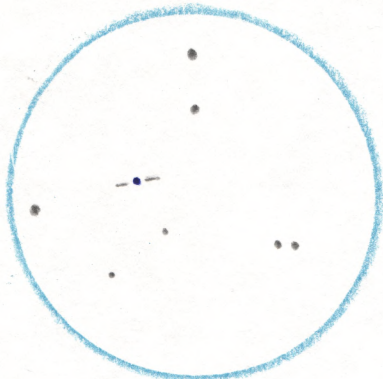
160x
OTII

③ Neptune.

June 15

July 21

finderscope field.



good disc but no sign of Triton.

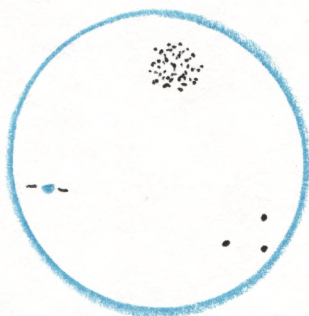
③ Saturn only for a brief few seconds could I see parts of Cassini's division.

④ Mars



The phase could be easily seen but no details.

⑤ Uranus & MZZ



⑥ Venus was just up at 4:00, the only thing that could be seen in the bright Eastern sky.

⑦ Veil with the 40 mm & the OIII it is excellent, the 40 is a fantastic eyepiece.



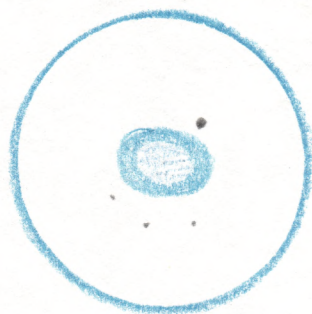
⑧ N. American & Pelican

fantastic with the 40 mm.



Giant field of view.

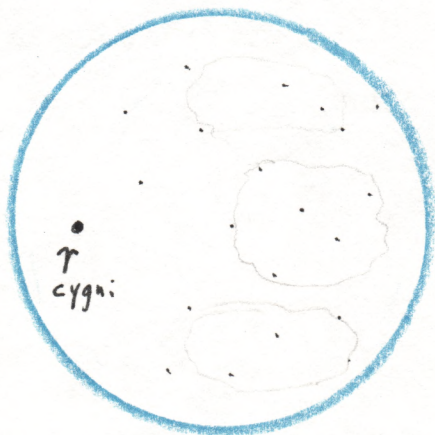
⑨ M57 again I could see the 3 guide stars for the central star but not yet!



⑩ M2 as brilliant as M13, totally resolved and very impressive

⑪ IC 1318

the patches were easily seen, this is the only time I can say it was obvious.



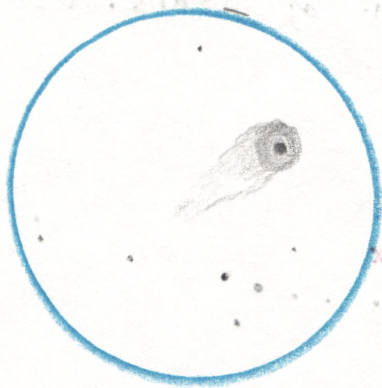
the Dark patch between γ cygni & IC 1318 was very black.

40 mm OIII

July 28 Sat.

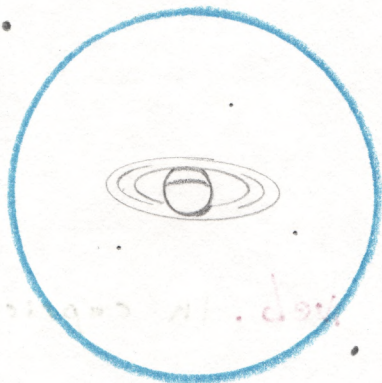
Major Aurora, but we still had a good look at Saturn, comet Levy, and I found & confirmed Triton! It moves 4" per hour with Neptune as they leave the field stars behind.

comet Levy



Just a hint of a wide faint fan tail $\approx \frac{1}{2}^\circ$.

Saturn.

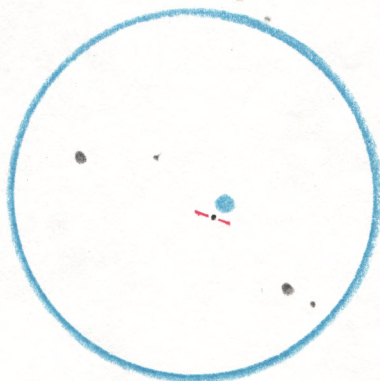


Saturn was quite good. Cassini's a dark band, and crisp shadows from the rings giving a 3D effect.

Triton/Neptune.



12:05



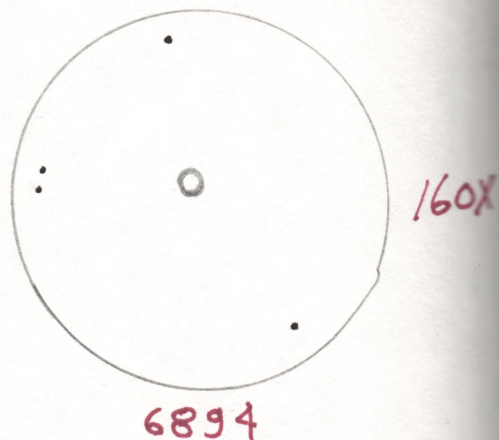
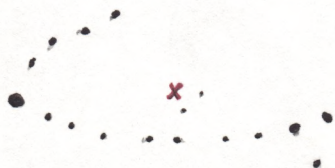
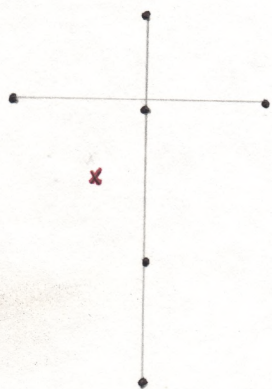
2:40

580X

Sunday July 29.

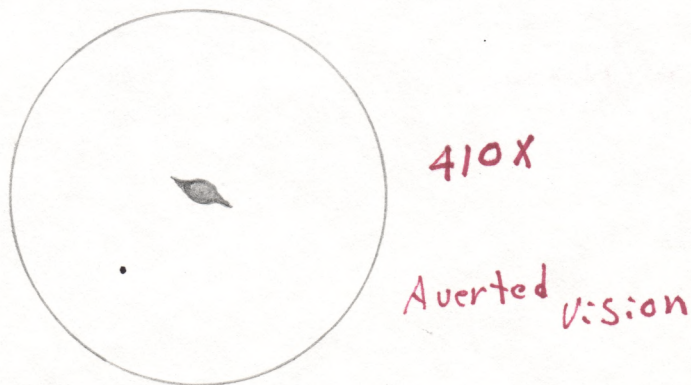
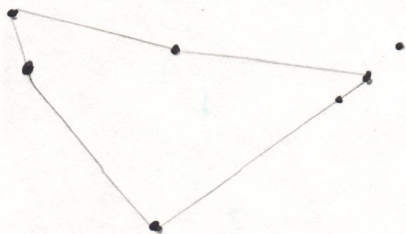
Very nice night, but tired from last night. We looked at a lot of things but the 2 new objects were 6894 & 7009.

① 6894 a small version of M57 in Cygnus close to a nice chain of stars. Use 160X.



② Wings on 7009 saturn neb. in capricornus.

• x

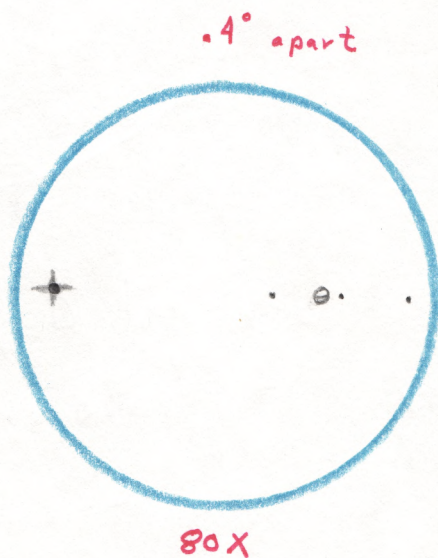
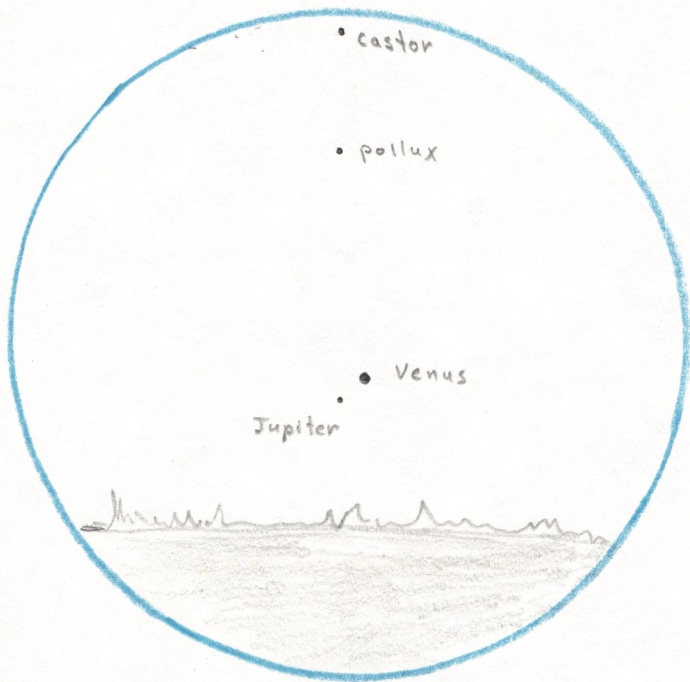


Sunday Aug 12

U of A Research station

Conjunction of Venus and Jupiter. .4° apart

The naked eye view was more impressive than the telescope view, but both were nice. Venus was half the size of Jupiter and twice as bright. Naked eye Venus not only appeared much brighter but much larger.



~~Sunday~~

Friday Aug 16

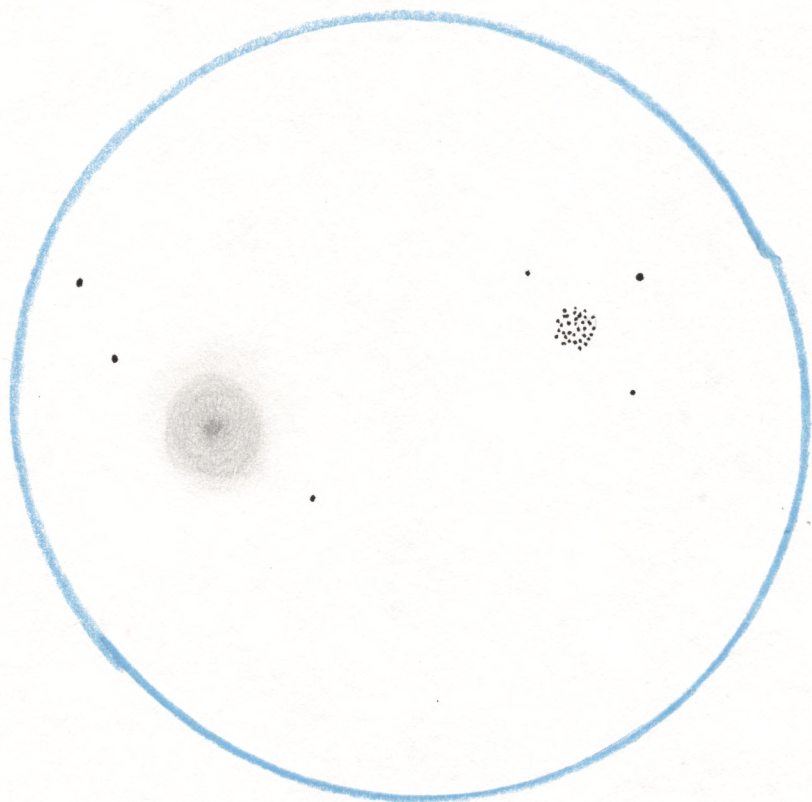
Backyard. 6"

Seeing Fair

70X

Comet Levy 1990e and M15

$\frac{1}{4}^{\circ}$ apart



After several days of cloud it finally cleared at midnight so I went out to check the comet and it was right next to M15. It is moving 4° /day so what luck!

Aug 29
Tues.

***** 5 star night

9:00 → 3:00 Fantastic night!

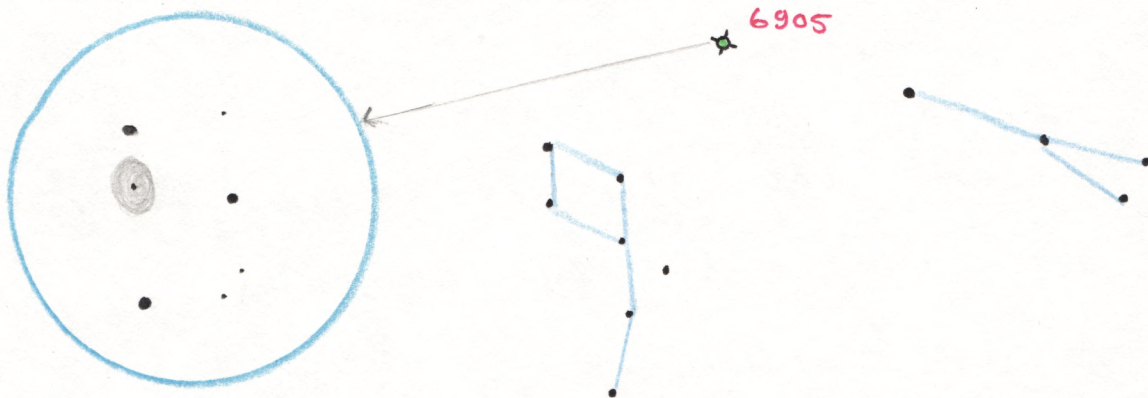
most of the group drove 800 miles to Kobau
& sat in the rain when here we had excellent
clear black sky!

① Quadruple star in Aquarius (A Aquarii)
mag - 6, 7, 9, 13



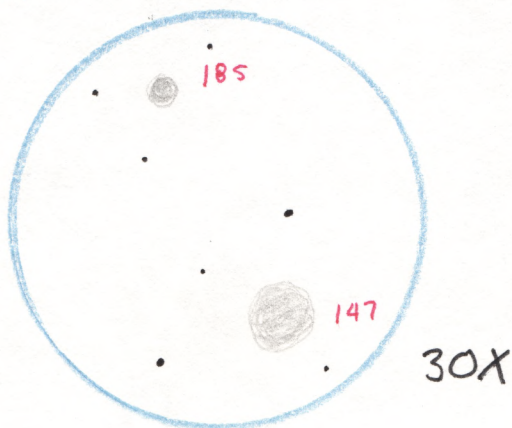
300X

② 6905 Blue flash in Delphinus
N-S elongation w central star



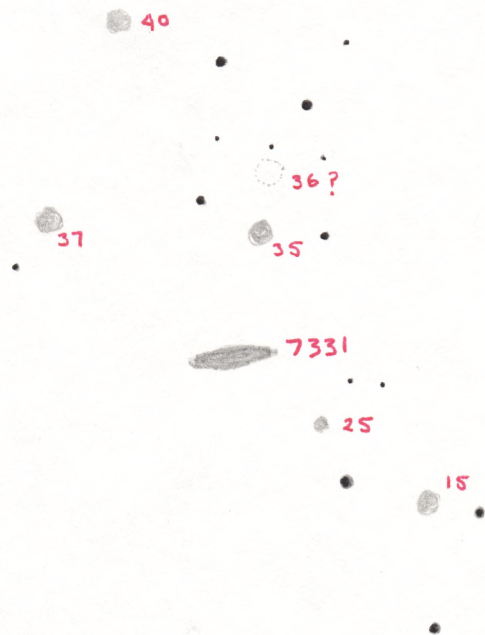
③ 147/185 companions to M31

185 is easy a bright oval glow
but 147 is large & diffused a lot
harder to see



30X

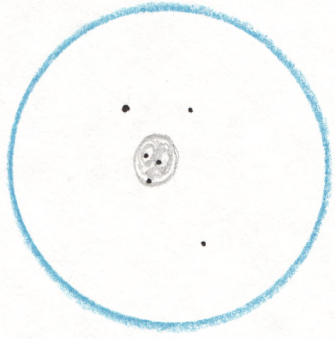
④ 7331 & Companions. - 5 - a 6th suspected.



The 6th was 7336 and it was not confirmed but the other 5 are definite. After seeing them in the 17 I could see them in the 12½ but otherwise I would only have seen 4.

⑤ 246 in Cetus.

An Owl like planetary with 3 central stars
needs OIII filter, very nice!

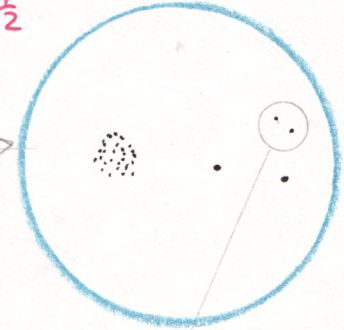


⑥ UGC 11909, My first upsalla object!

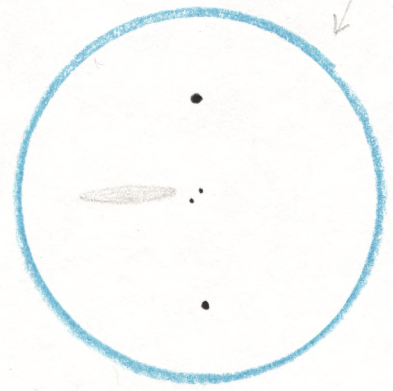
an excellent challenge for the 12½
fairly easy in the 17



Lacerta



finderscope



125X

these are the main
finder stars but it
is a very rich field,
too many to draw.
Double star is 10 mag.

14 or 15 mag
(I think)

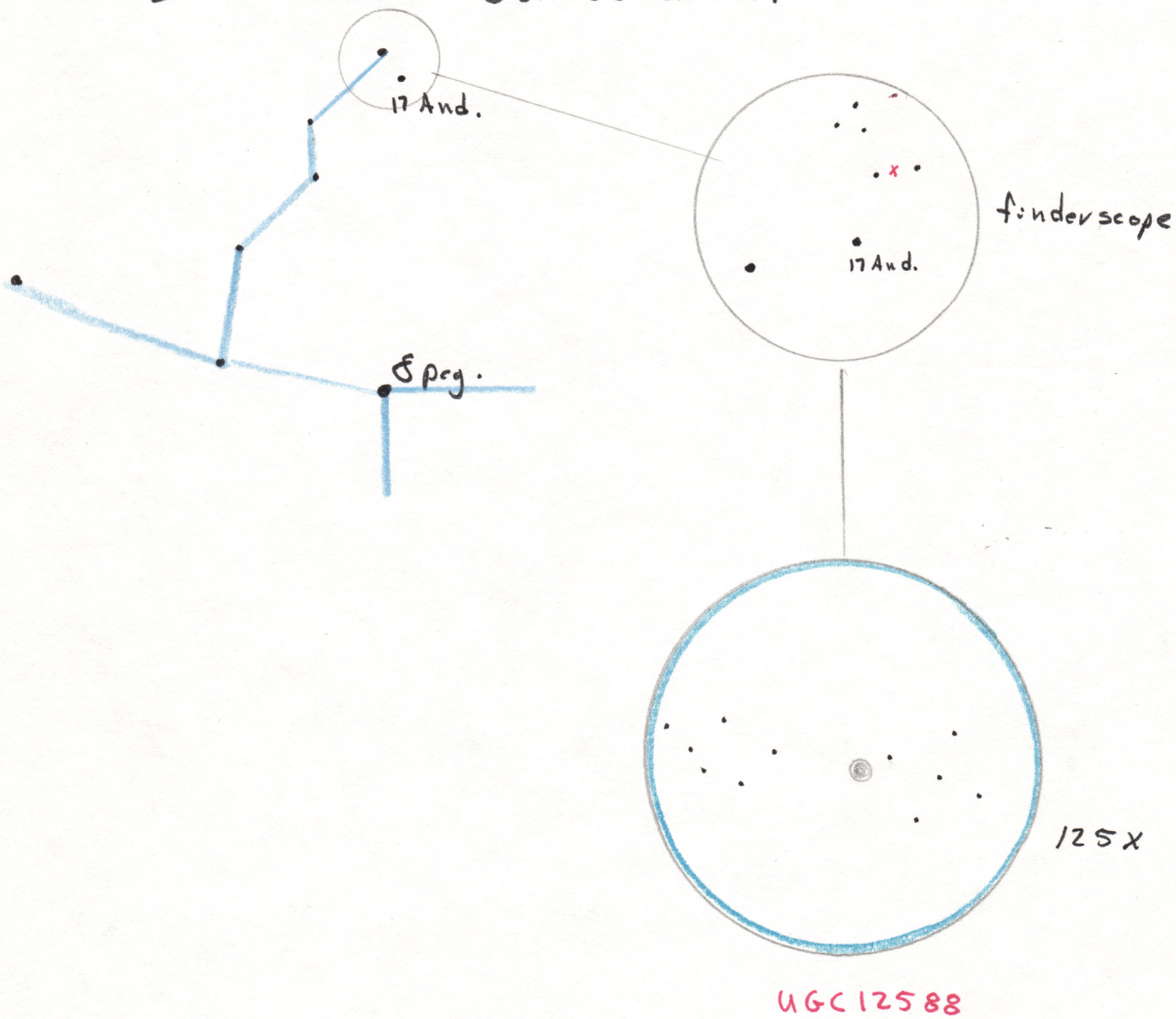
my
Challenge
list

BTurano

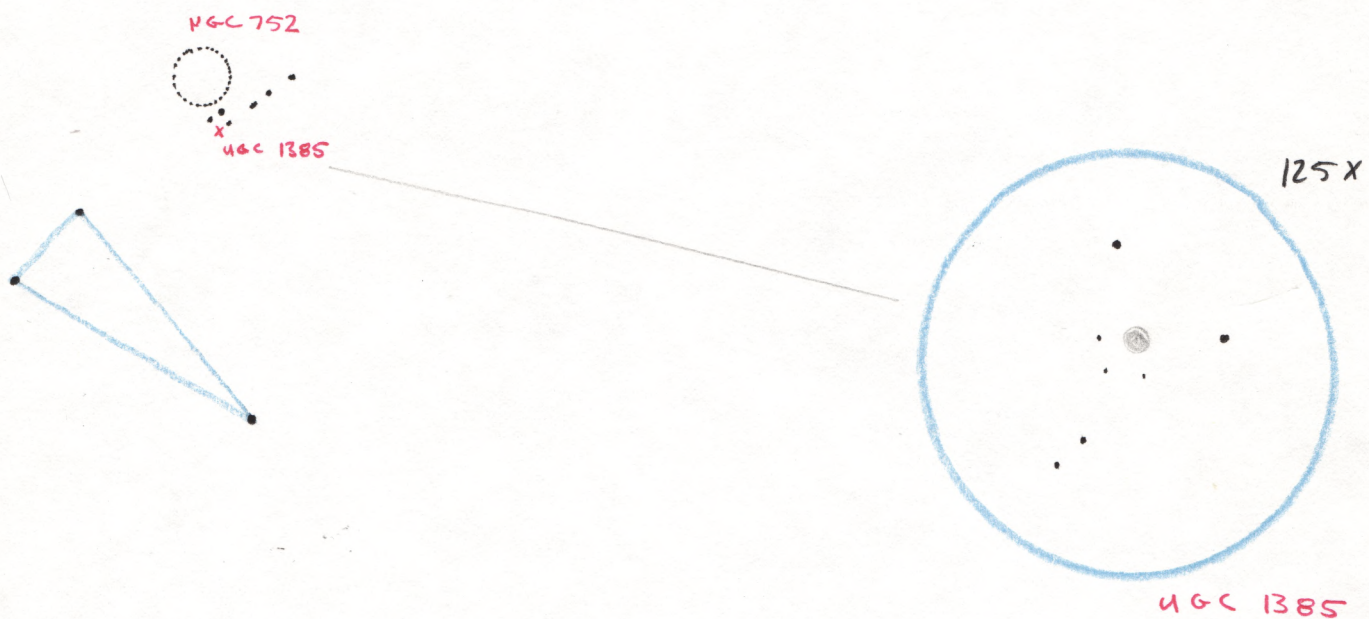
Monday Sept 17

An Excellent night! Paul and I met at Blackfoot. 8:30 → 2:00. We spent the night looking for Uppsala galaxies.

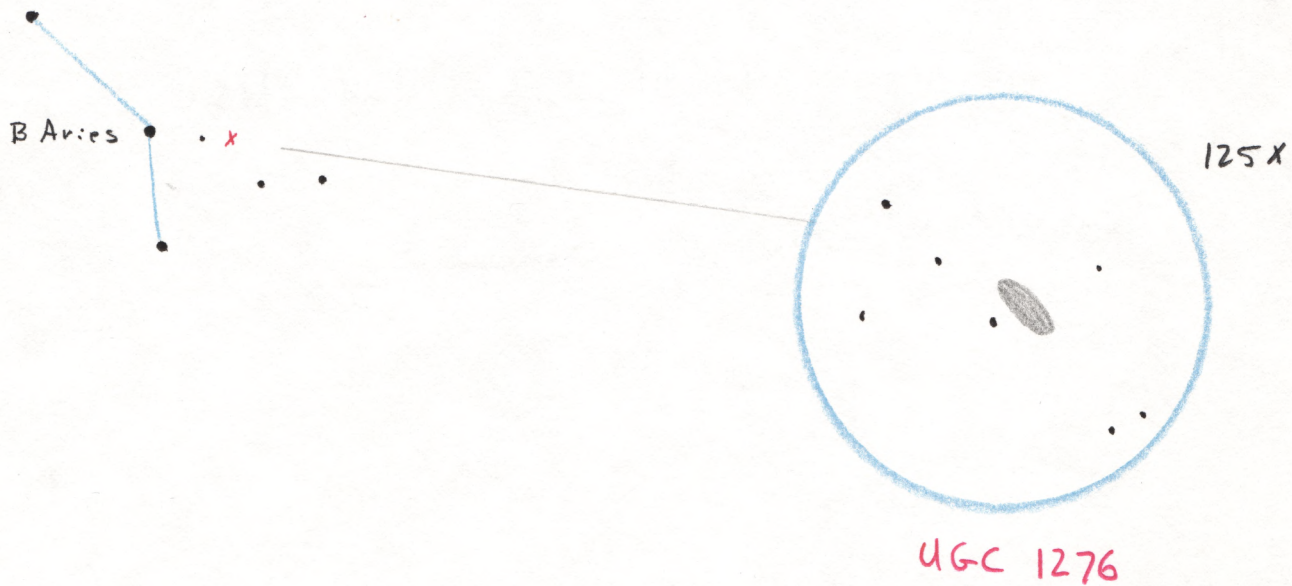
① UGC 12588 And. 14 mag. round face on 2' in dia. clt 88 urano.



② UGC 1385 in And. mag H.2 1° S.W of 752 o.c.
clt 92 urano



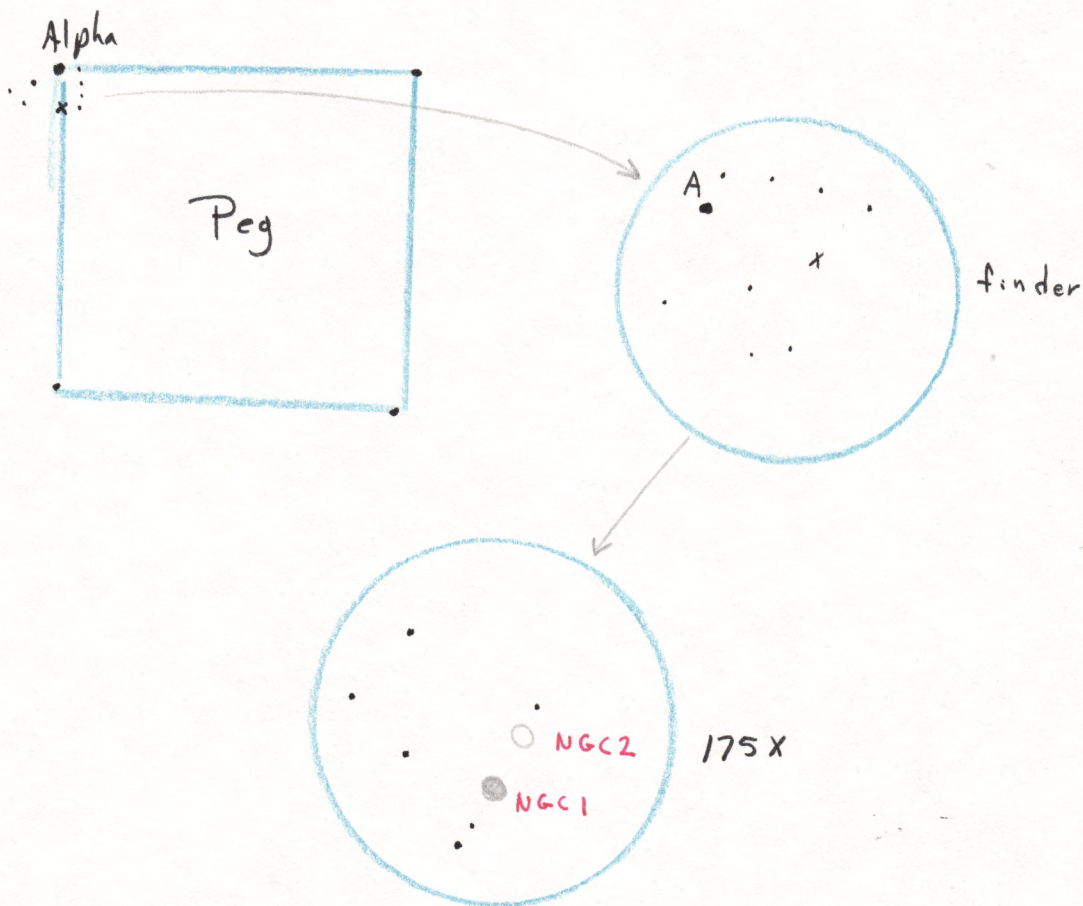
③ UGC 1276 in Aries 1.5° E of B Aries $2' \times 9'$
14 mag.



Sept 23

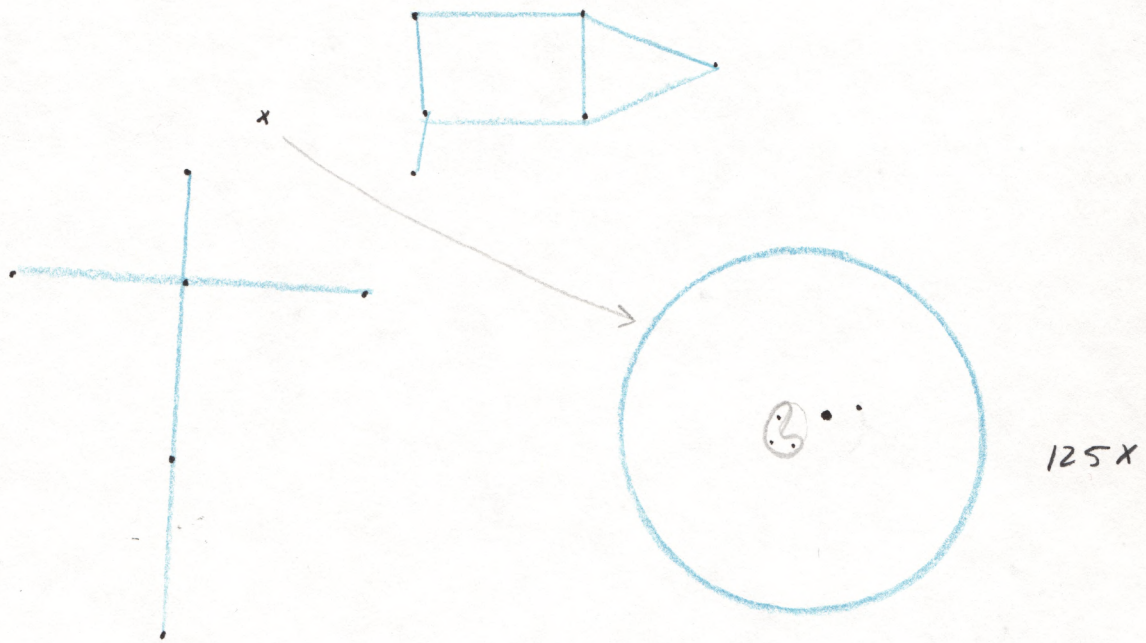
Another excellent night at Blackfoot 2

① NGC 1 in Peg 1 is 13.4
NGC 2 2 is 4.8

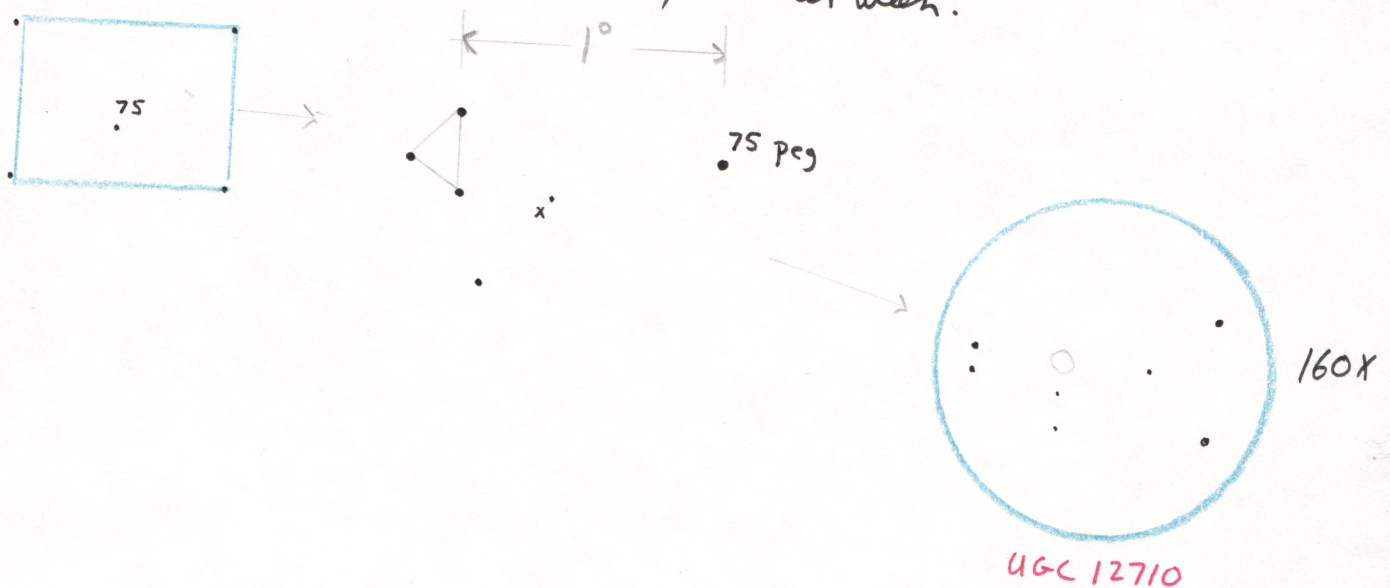


NGC 1 was easy in the 12½ but NGC 2 was hard even in the 17. It could be seen in the 12 after knowing exactly where to look.

② NGC 7008 a large odd P.N. in cygnus. An oval with the west $\frac{1}{2}$ brighter in a C shape. 3 embedded stars.



③ UGC 12710 At 14.7 mag this is the hardest object I've found yet. Confirmed in the 17. A very small soft glow near 75 peg. find a triangle of stars south of 75 peg. 12710 is $\frac{1}{2}$ way in between.



④ IC by M13

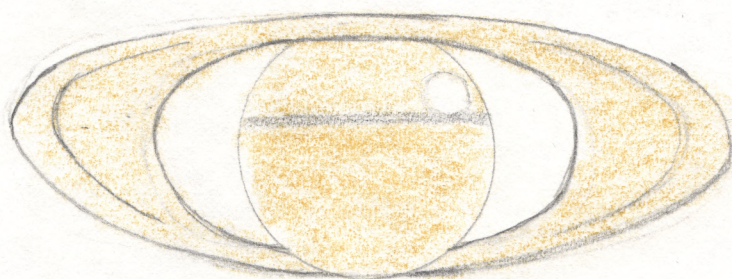
The IC is half way between M13 and
NGC 6207 by a Bright pair & a very faint
triangle. Very hard! 12' 240x. Photo in winter Deep
sky
89.



Oct 14.

3 excellent planets in one night!

- ① Saturn with white spot 8:25 a large bright white area on Saturn south of the Belt. seeing was fair, Cassinies was usually visible on the ends.

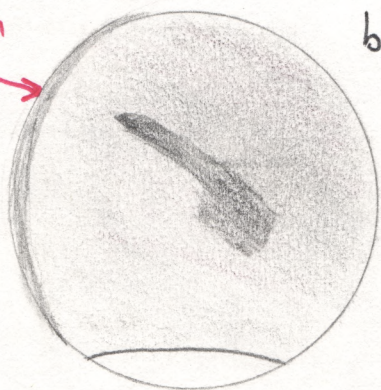


160X

Oct 15 (same night)

- ② Mars a very prominent dark arc in think is Meridini sinus. The N polar cloud Hood was large and bright.

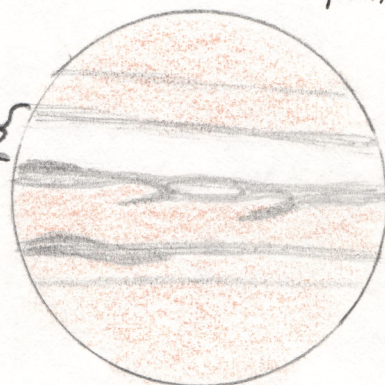
Mars in phase →



300X 350° C.M.
Sabeus sinus/
Meridiani sinus

- ③ Jupiter lots of knots festoons & white areas on the SEB. The white zone brings out the pink of the Disc.

Brilliant white {



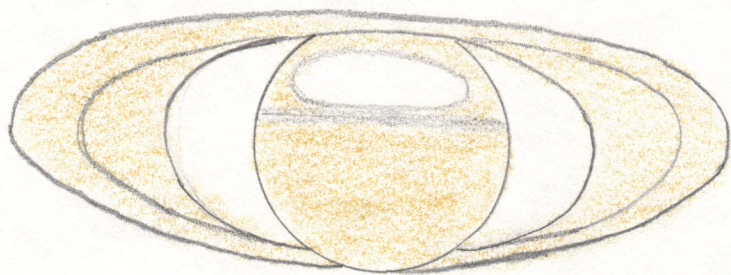
250X

6:05 A.M.
Oct 15

The South Belt is Back!

Oct 15 (that next evening)

On the following night, Oct 15 7:00 p.m.,
the white spot was across the entire width
of the disc south of the belt. Very bright
white.

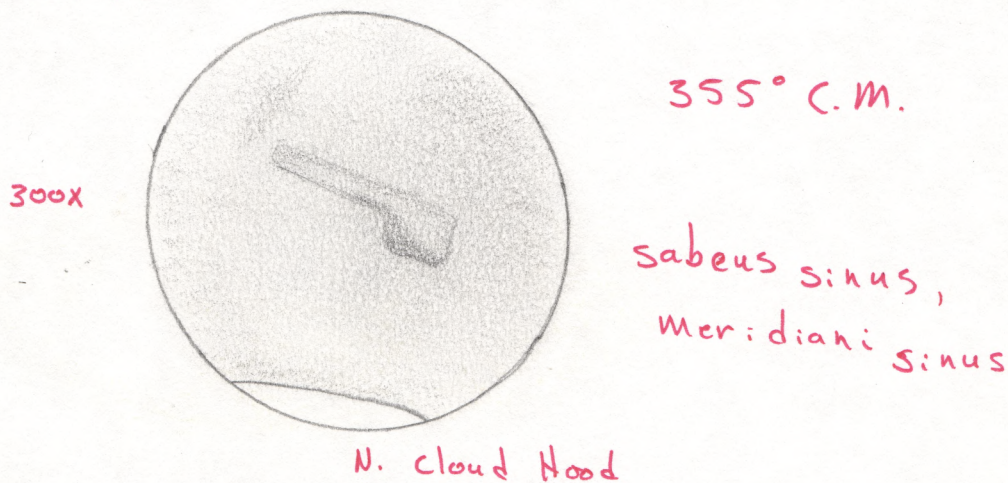


Cassini's was pretty much right around the ring.

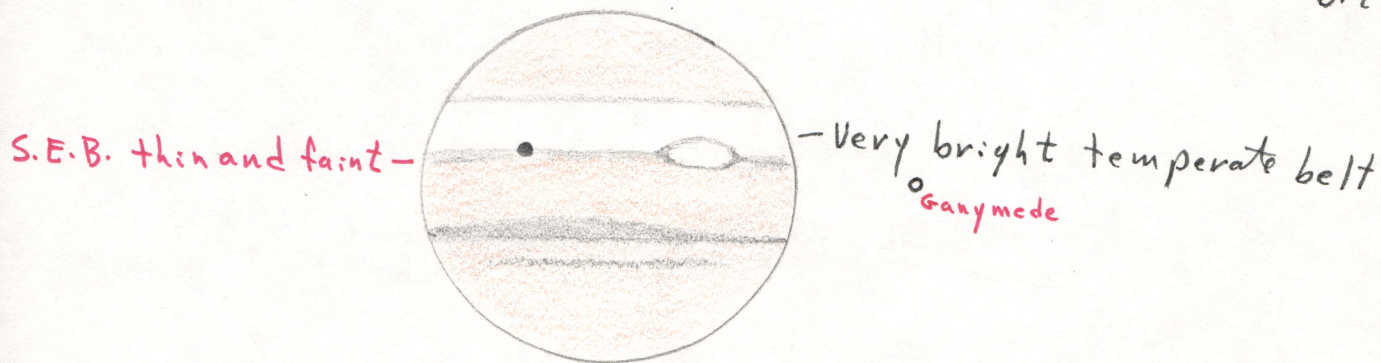
with Dawes 10" from the Space Sciences Centre
before our RASC meeting. The spot glowed
like a piece of a back lit stained glass
panel.

Oct 19 6:05 a.m. the morning air is so much better than the evening. Also to get Mars and Jupiter at the meridian you have to catch them between 4:00 a.m. & 6.

♂ Mars 5:45



♃ Jupiter The red spot is very faint, the ends show a bit.

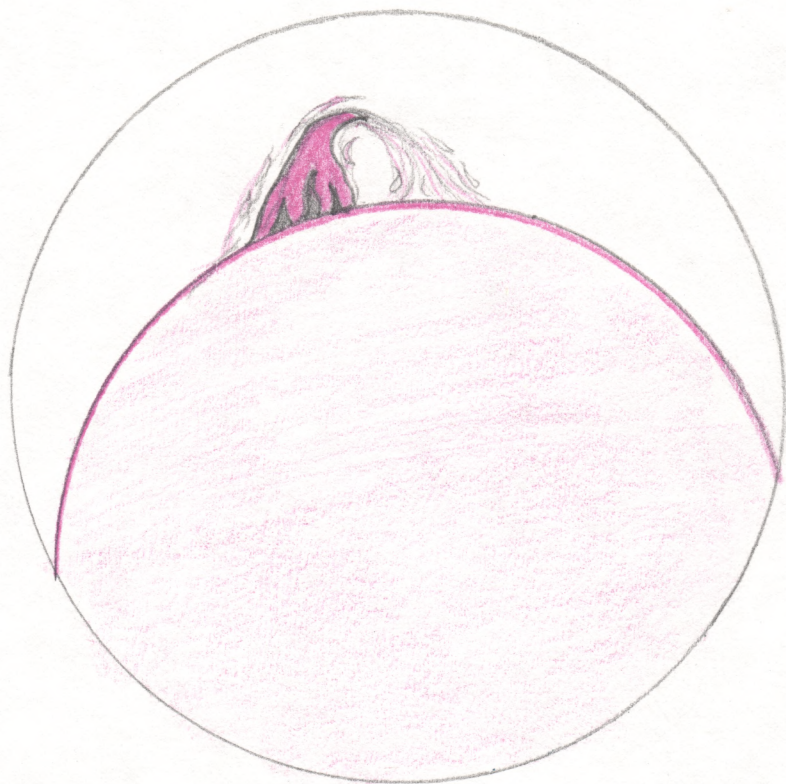


III Ganymede shadow + transit.

The white zone really brings out the salmon color of the disc.

Oct 20

Incredible solar prominence seen from the deck of the space sciences center.



Oct 26

Nov 13

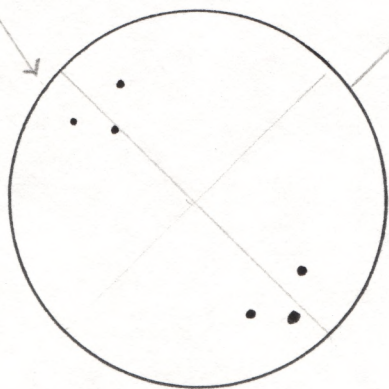
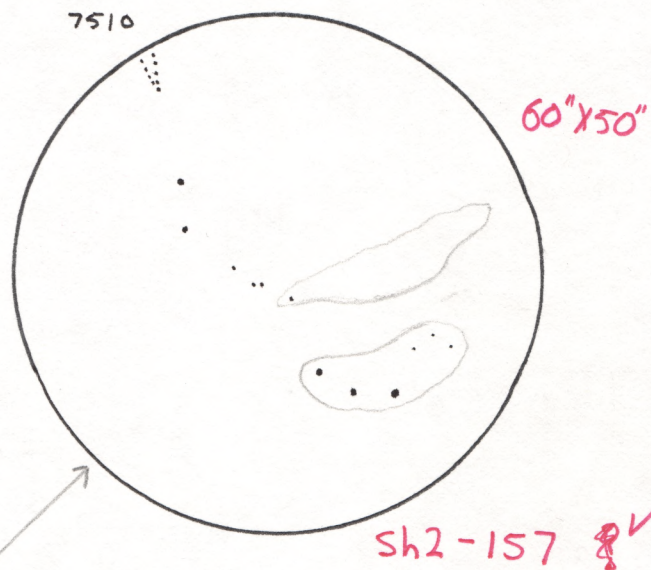
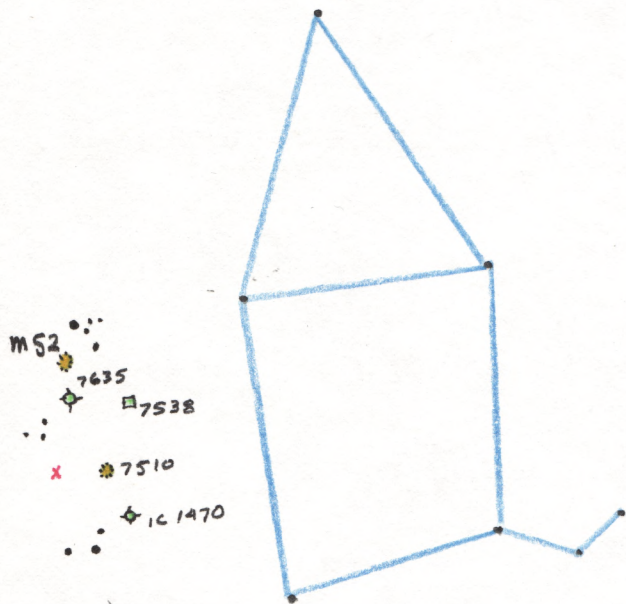
Nov 15

} Skunked 3 times, very frustrating. No Aurora but just enough clouds to ruin

the night. Very frustrating when it's clear all afternoon, cloudy at night, then clear the next morning when you wake up!

Nov 18 Finally a fairly good night.

Not good seeing, but pretty clear, NO Aurora. The planets & galaxies were bad but nebulas were very nice. One particular unusual object was very intriguing. we think is Sh2-157 a ^{Bright} ~~dark~~ neb.



12 1/2" 20 mag 75x OIII
seeing Fair to poor.

- M52 open cluster
- 7635 Bubble neb.
- 7538 Bright neb
- 7510 comet cluster
- IC 1470 P.N.
- Sh2-157 DK neb surrounded by nebulosity?

Sh2-157
stands for Sharpless cat #2 of bright neb. obj #157.

over

according to the photo in Hans Varenburg
this is only one small part of the object
and it extends Eastwards a couple more
degrees! the odd thing is that in the photo
the bubble nebula is far brighter than
sh2-157 yet in the sky it's the opposite.

Likely many people have confused this
object for the bubble as it appears
in the eyepiece very similar to the
bubble in photos.

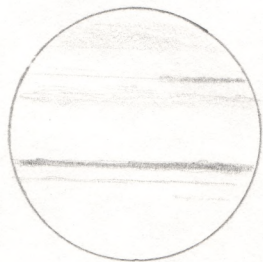
This was the last observation I
did with the 12 $\frac{1}{2}$ "! Berry asked me
for a deposit for the mirror for the 16"
and I had to sell the 12. As it turned
out we had 2 months of cloudy/cold
weather and althou I did miss out on
some Mars & Jupiter observing it was

always near -30°C so I likely would not have gone out anyway. This seems to be a good ending for Volume I so Volume II will start with the first light with the 16"!

Dec 31 1990.

Jan 10

I went to Daws to test my new poncet and while looking at Jupiter I noticed that all four moons were lined up according to size!



Europa



Io



Callisto



Ganymede

A very rare treat happened right after our RASC meeting on Jan 15 '91. There has been mutual Jupiter events happening all month but Europe eclipsing Io in front of Jupiter happens only once every 6 years and it happened tonight. Eclipses & occultations are happening often this month but because this one is in front of the disc you could see Io in Europas shadow. This is the only event I have seen because I don't have a scope, but at least it was the most rare event. Dave lent me my old 12½ and about 30 of us gathered after our meeting at the space science center.

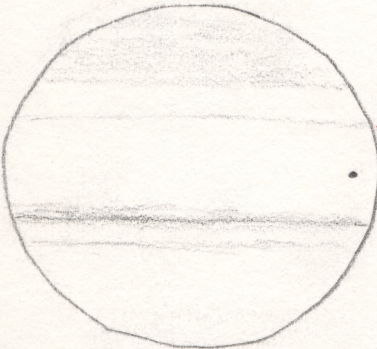
Jan 15

10 → 12:30 after the RASC.

meeting.

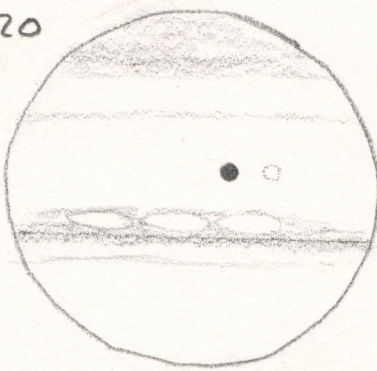
Europa occulting & eclipsing Io

10:18



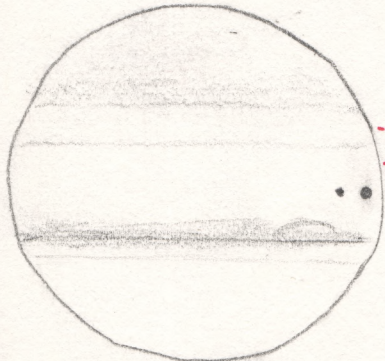
- 2 moons
- 1 shadow

11:20



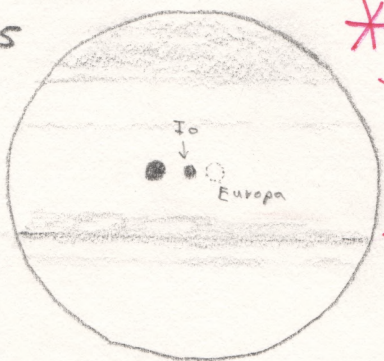
- shadow much darker as the 2 shadows merge
- moons not seen

10:28



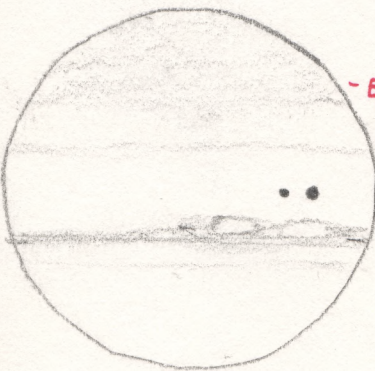
- 2 shadows
- moons merge

11:35



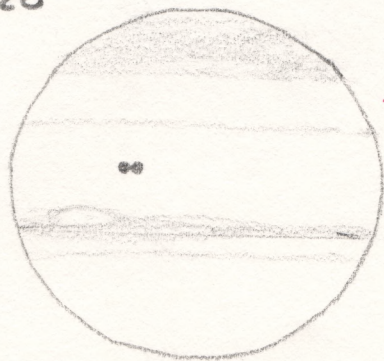
*
- 2 shadows merged and Io in the shadow of Europa!
- moons not seen

10:40



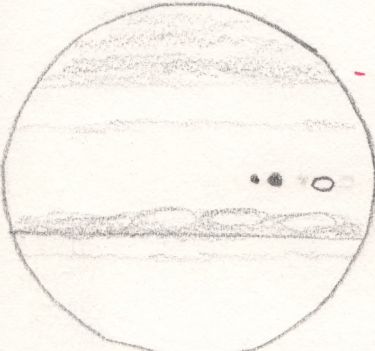
- Europa eclipses Io as they enter disc

12:20



- shadows split

10:55



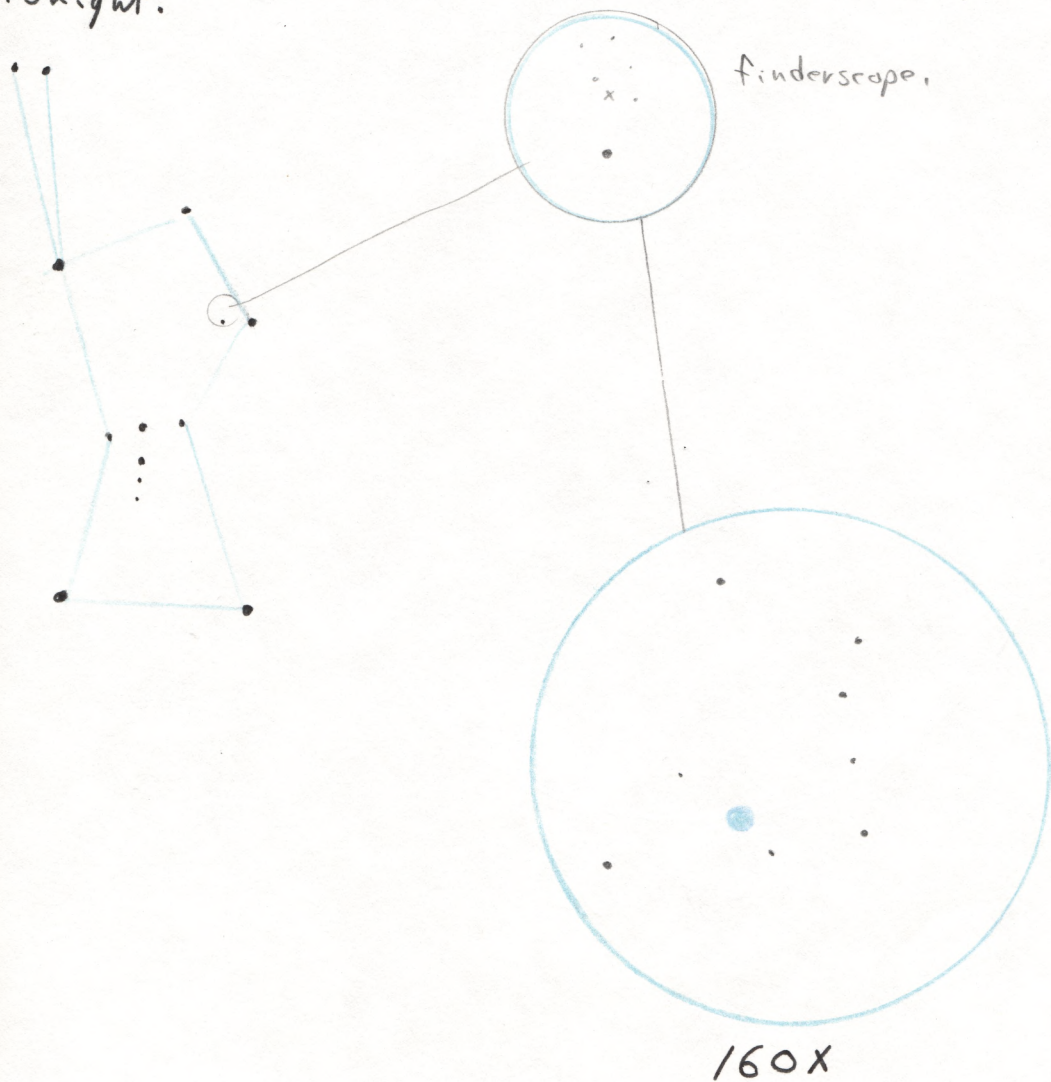
- moons glimpsed as a white oval briefly.
- shadow on the right much larger than the left.

clouds

Jan 16

Black foot +1° the month long cold snap has ended and this is the first night out for us since Nov 18. 2 months without any deep sky observing! we were going nuts! I took the club 17 out and it was a nice night.

① **Kahutec 1-7** a $\frac{1}{2}'$ in dia P.N. in orion. I've looked for this many times and finally found it tonight.



14.2 mag.

$\frac{1}{2}'$ Dia.

18000000

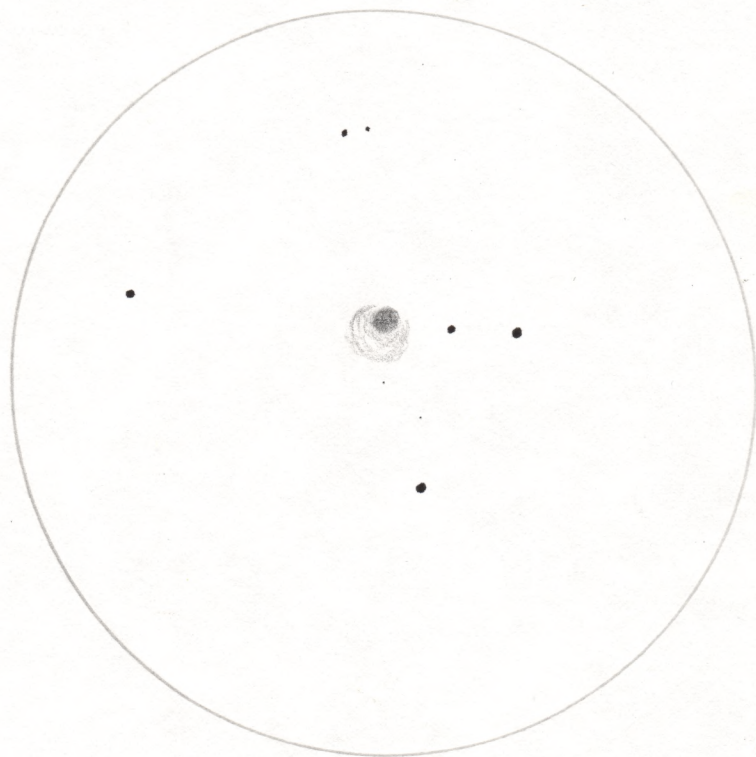
160X

Feb. 4 Blackfoot + 4° Beautiful, clear, calm.

using the 17 I pretty much looked at old objects but one new different object was NGC 1579 in Perseus.

clt 5 sky
96 urano

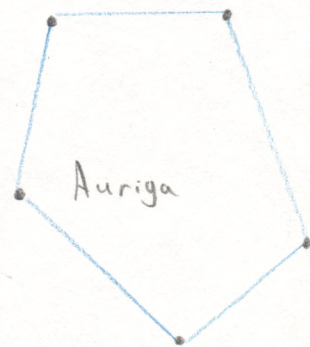
a small bright nebula with a soft flare off to the bottom & to the left.



NGC 1579

220 X

17"



1579
x

Feb 10

An Excellent night, ***** 5 star!

Transparent, good seeing, +4°, Black sky.

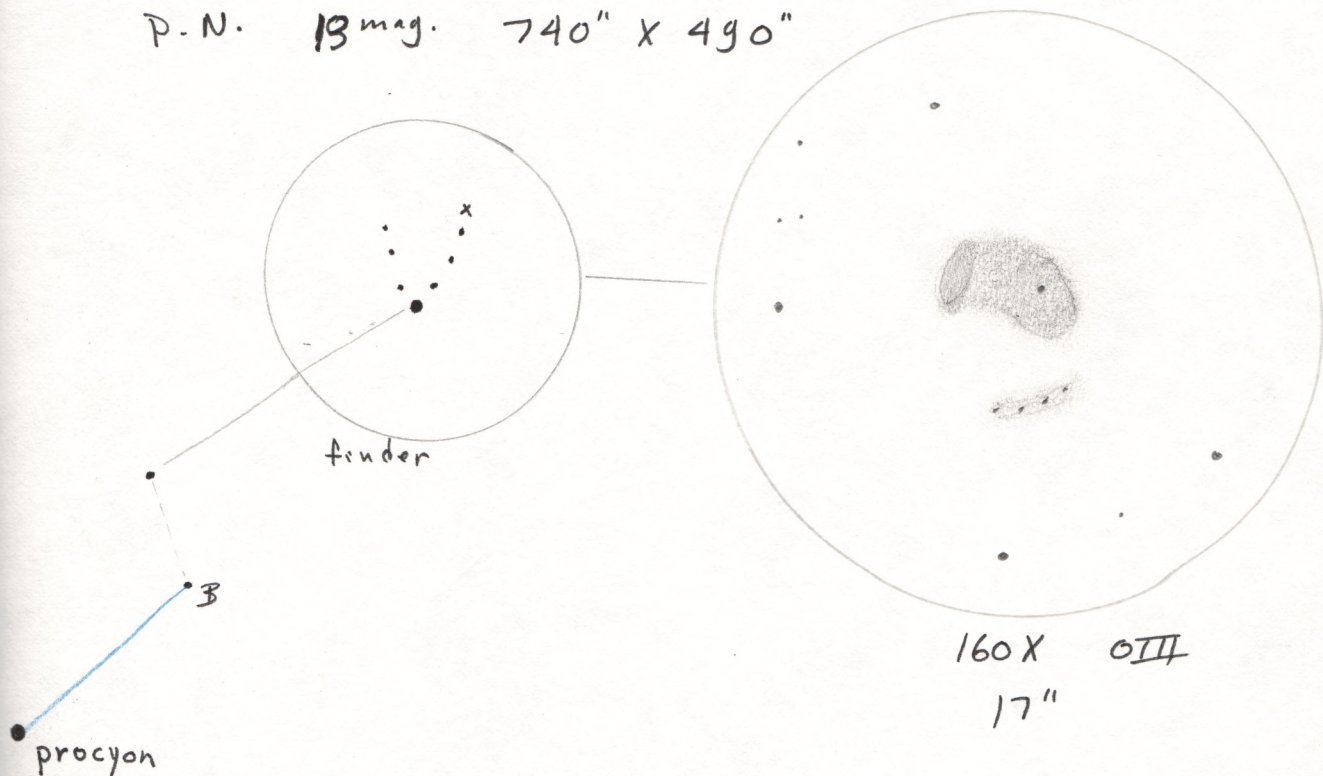
my 16" is finished but I'm waiting for the mirror.

①

Abell 21

or PK 205 in Gem. clt 12, urano 184

P.N. 13 mag. 740" x 490"



A verticicle bright bar on the left side, kidney shaped with a bright star in right side, 4 stars in an arc beneath with nebulosity around them.

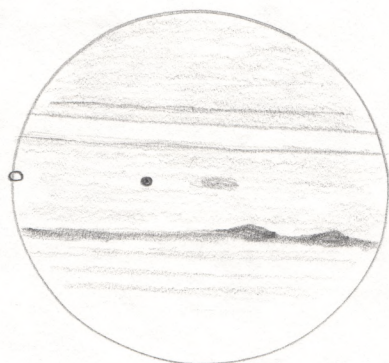
② 2174/75 Large diffuse neb with an open cluster. below m35 in Gem. Very bright center star clt 5 Bot center.



17" OIII 220X

Feb 10 10:00 Io sh tr.

Jupiter right next to M44, the Beehive in Cancer.



12½ 250x very transparent

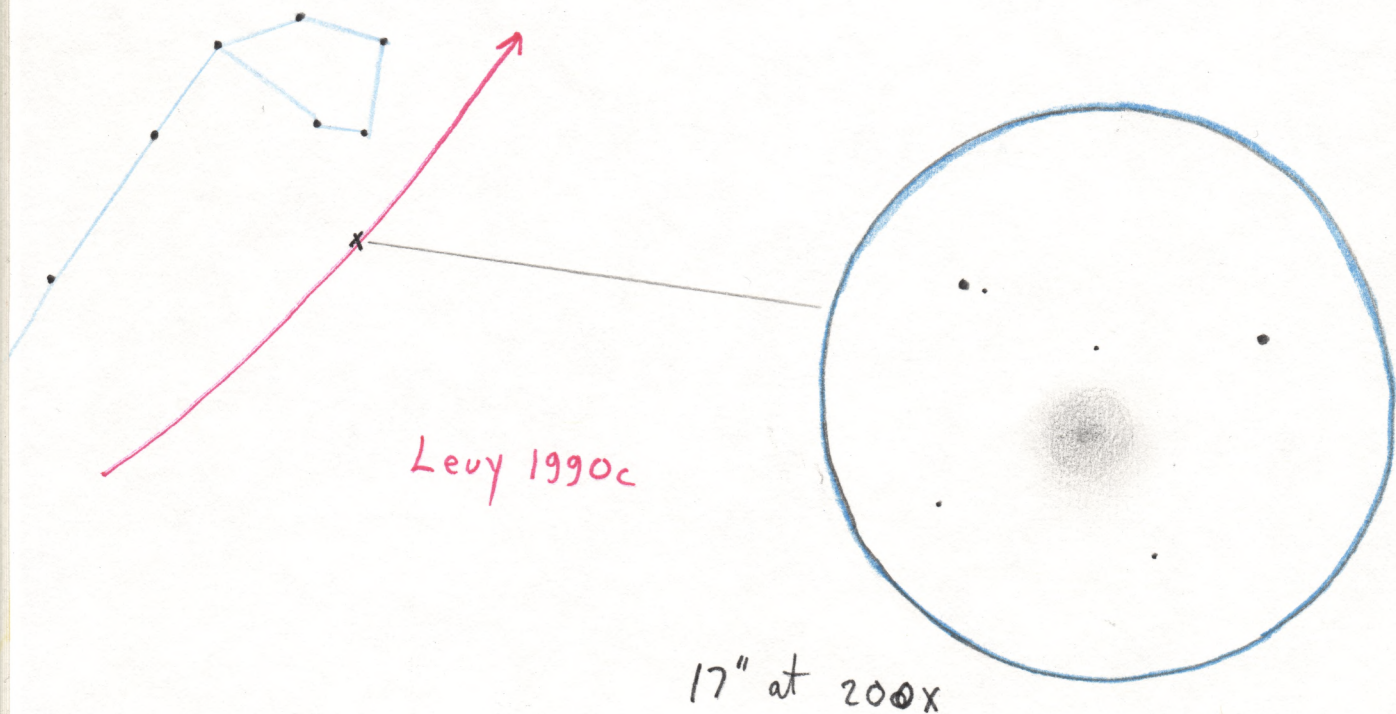
- Two dark knots in the N.E.B.
- at times several bands could be seen in the North.
- the white & south temperate zone is a lot thinner now.
- a dark spot following the shadow must be part of the S.E.B. returning.

March. 14 & 15.

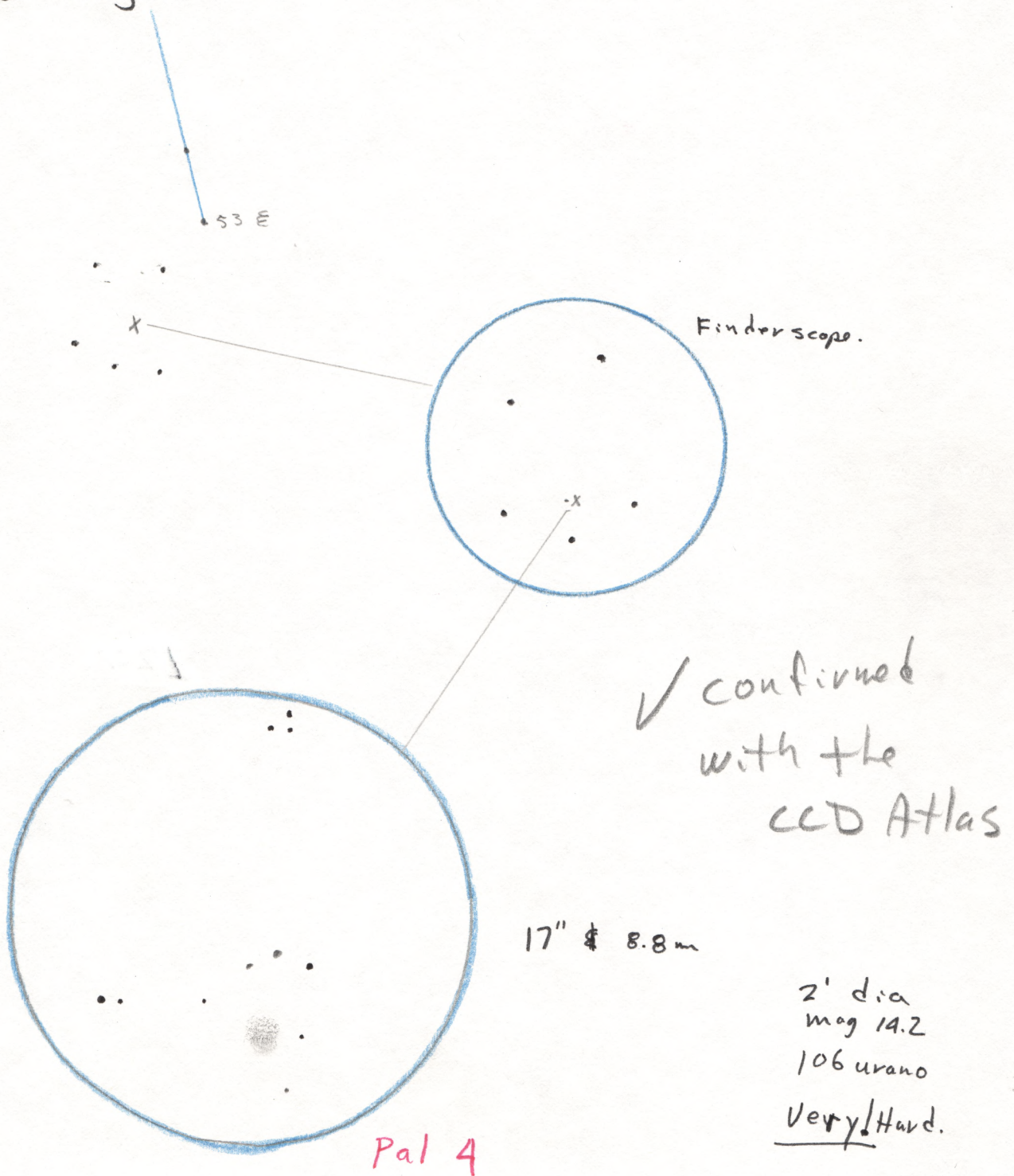
The 14th was great! about -10°
very Black sky at Blackfoot. I spent
most of the time looking at old favorites.

The 15 was the club night and the sky
at Was Kahogan was the pits, Bright.

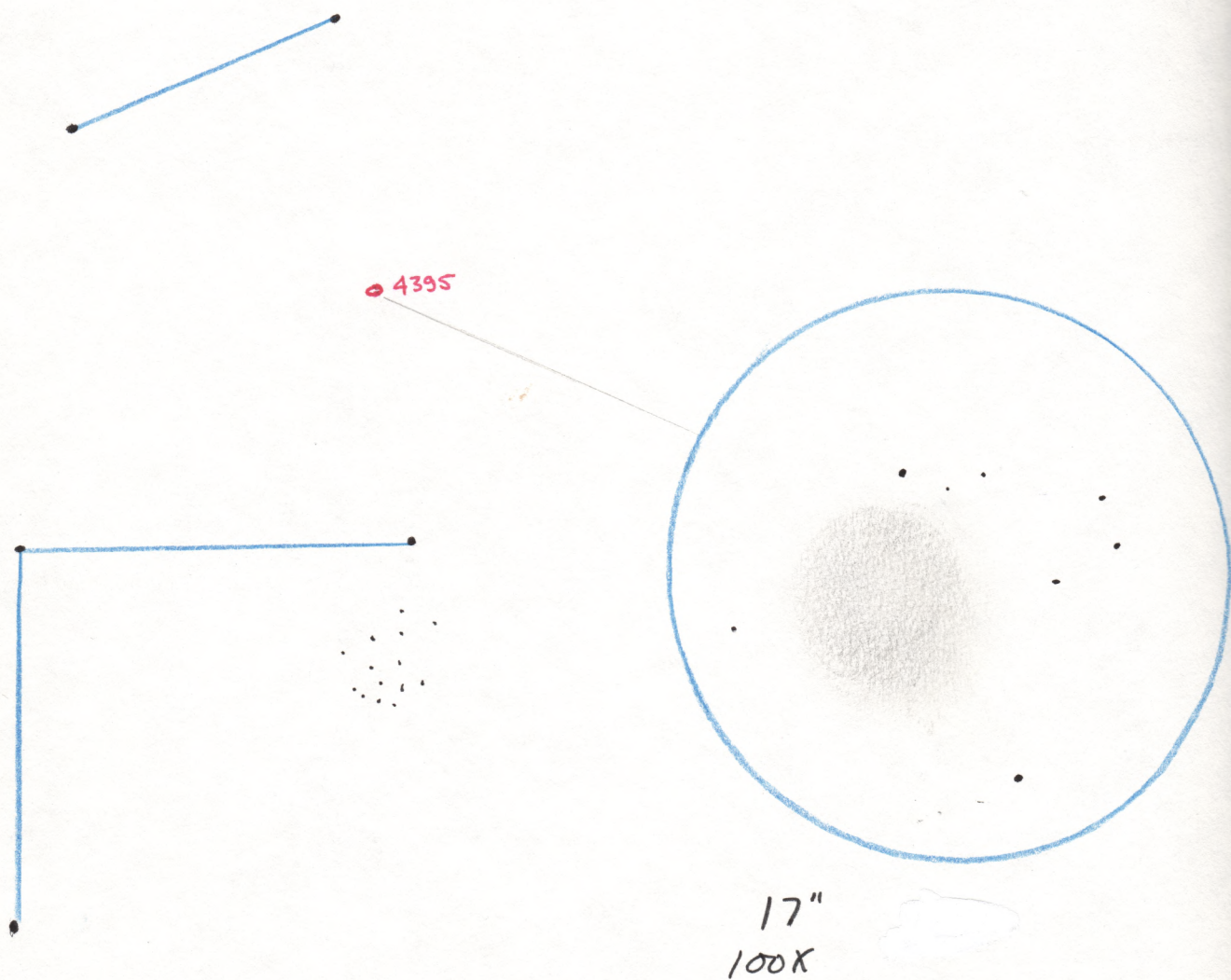
- ① Comet Levy 1990c the last look at
comet Levy. At about mag 9.5 it was large
& round with a condensed core. Just below
the Head of Hydra.



② **Palomar 4** I gave this as homework for the R.A.S.C. and what an assignment it was. Everyone had a different drawing! But Murray showed me where he could see it and I definitely agree!
Ursa Major



③ 4395 an incredibly large galaxy in
canes venatici, page 108 urano.



March 17.

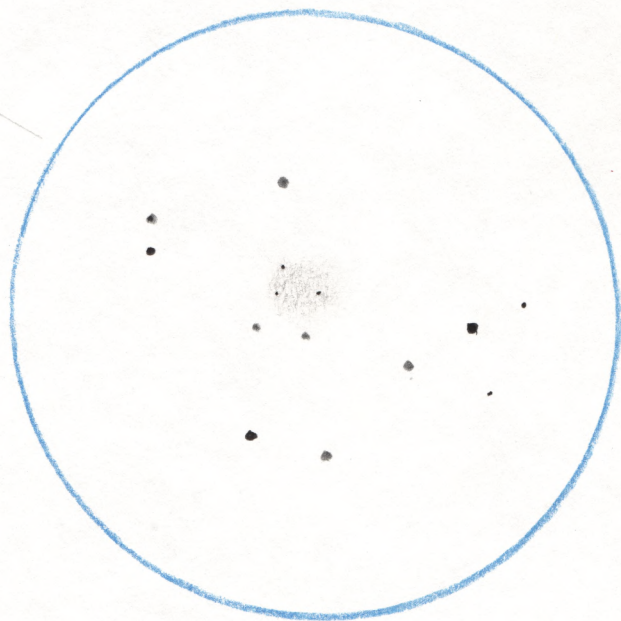
Dave & I took the 12½ out to Blackfoot. It was only 46% humidity, what a treat! No condensation on anything! Also it was nice not having an entire gang around.

① **Palomar 3** in Sextans, another hard one. very similar to Pal 4. We think we found it but there were some faint stars in the area and it is hard to tell if the light was from them or Pal 3.



234 urano.

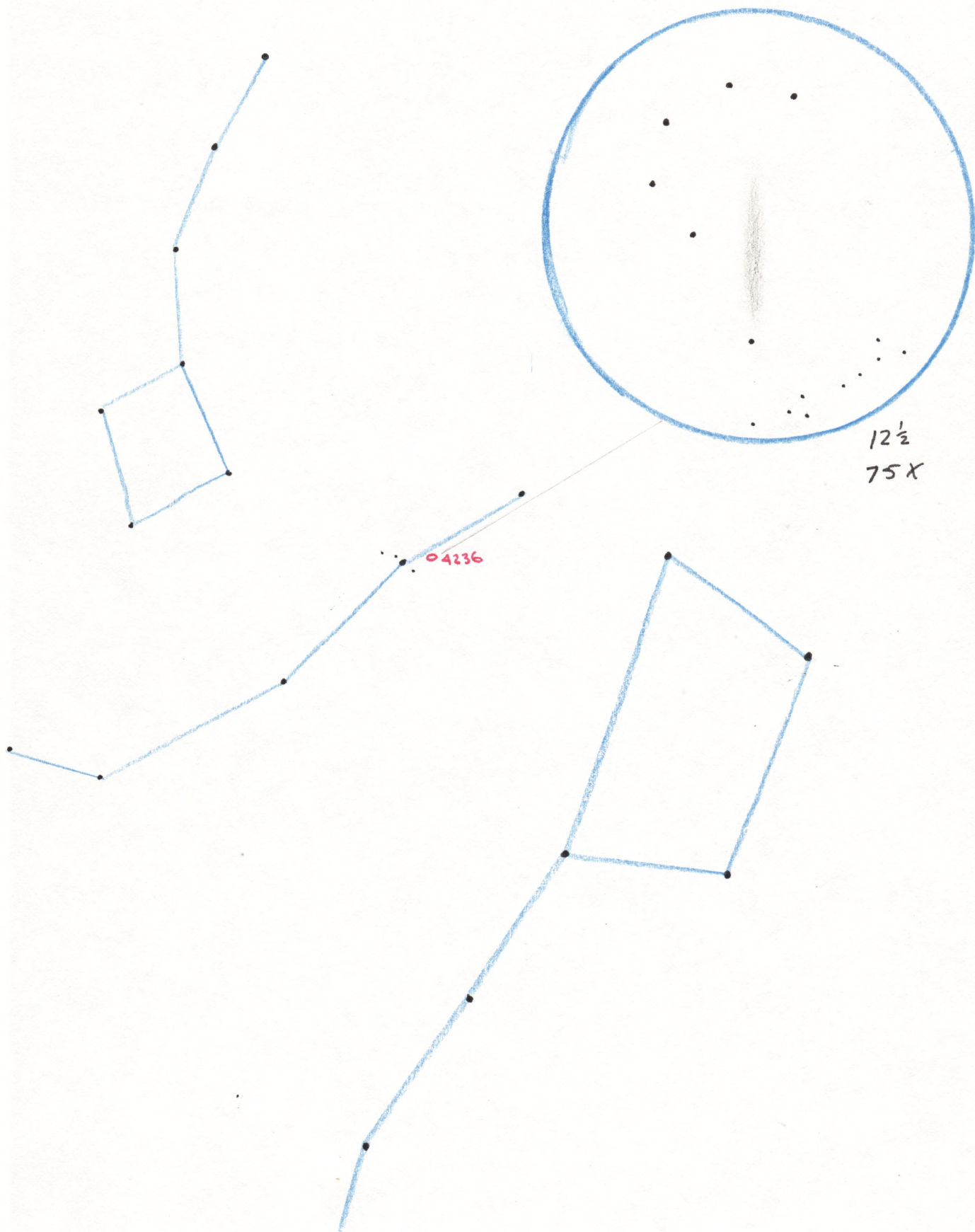
SKY 13



A very easy field but hard object!

✓ confirmed
with the CCD Atlas.

② 4236 a massive gal in Draco. A large flat edge on. Very faint. urano 25



April 5 1991.

my 16 is finished! I had
a 1st light in the back yard
but it was a full moon & bad
air, we drank champagne &
took pictures. See book II
for the real 1st light for
the 16"

The END.

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Non-yellowing · Archival Quality
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