What's Up?

April 1–30, 2021

made with the RASC Observer's Handbook and SkySafari®

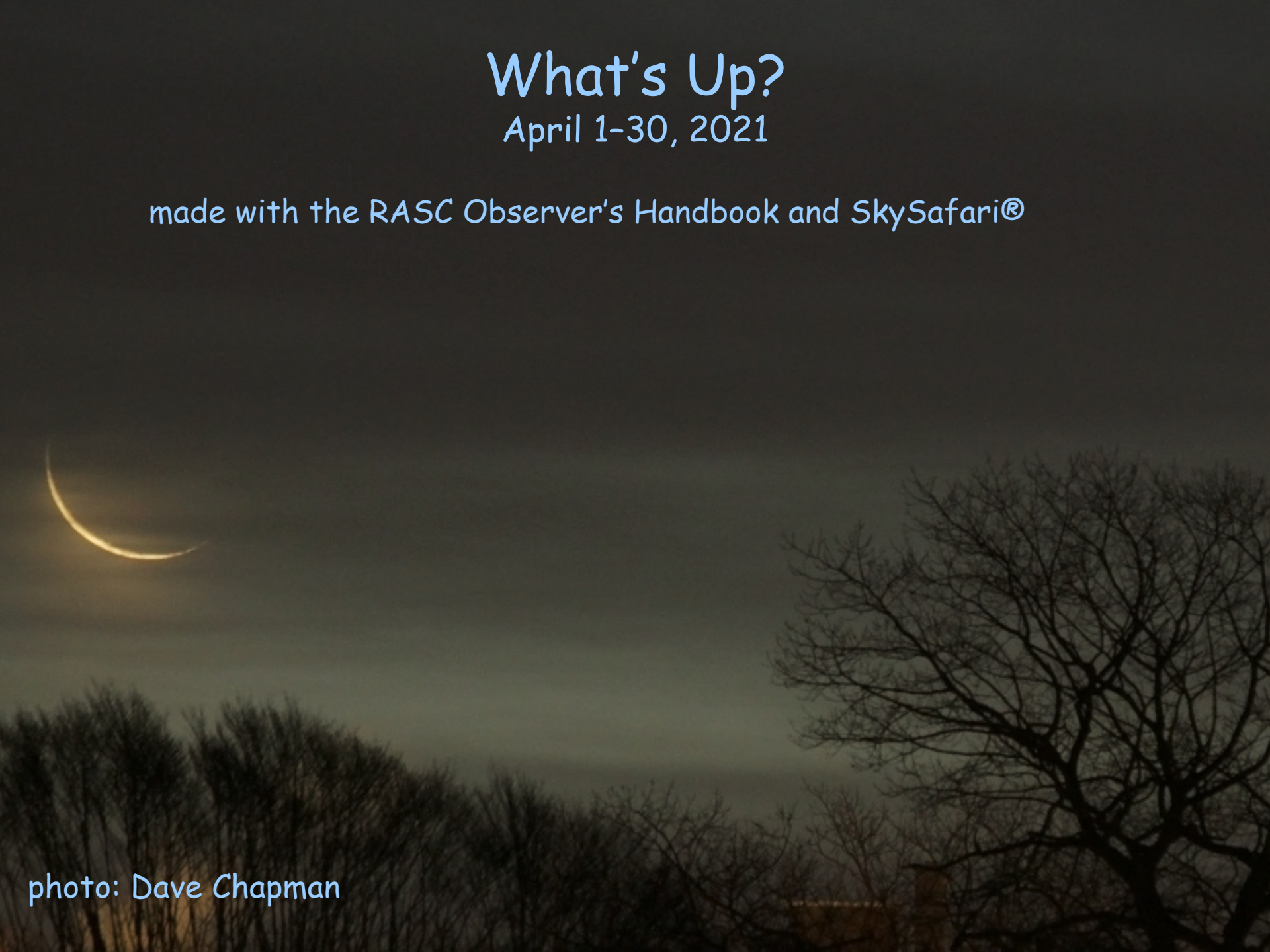


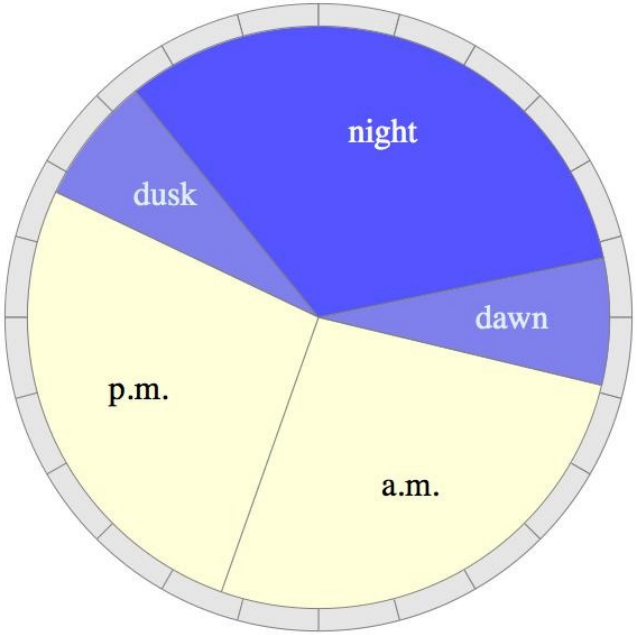
photo: Dave Chapman

The Sun This Month

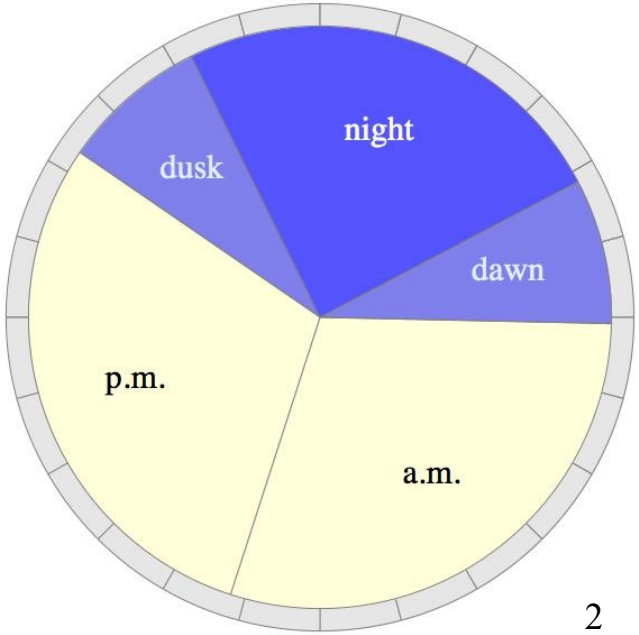
Today's Solar Activity

Date	Sunset	Dusk End	Darkness	Dawn Start	Sunrise	"Noon"	Sunlight	Max Altitude
Apr 1	7:42 p.m.	9:24 p.m.	7.8 h	5:13 a.m.	6:54 a.m.	1:18 p.m.	12.8 h	50º
Apr 30	8:18 p.m.	10:14 p.m.	5.9 h	4:10 a.m.	6:05 a.m.	1:11 p.m.	14.2 h	60º

Halifax Apr 01



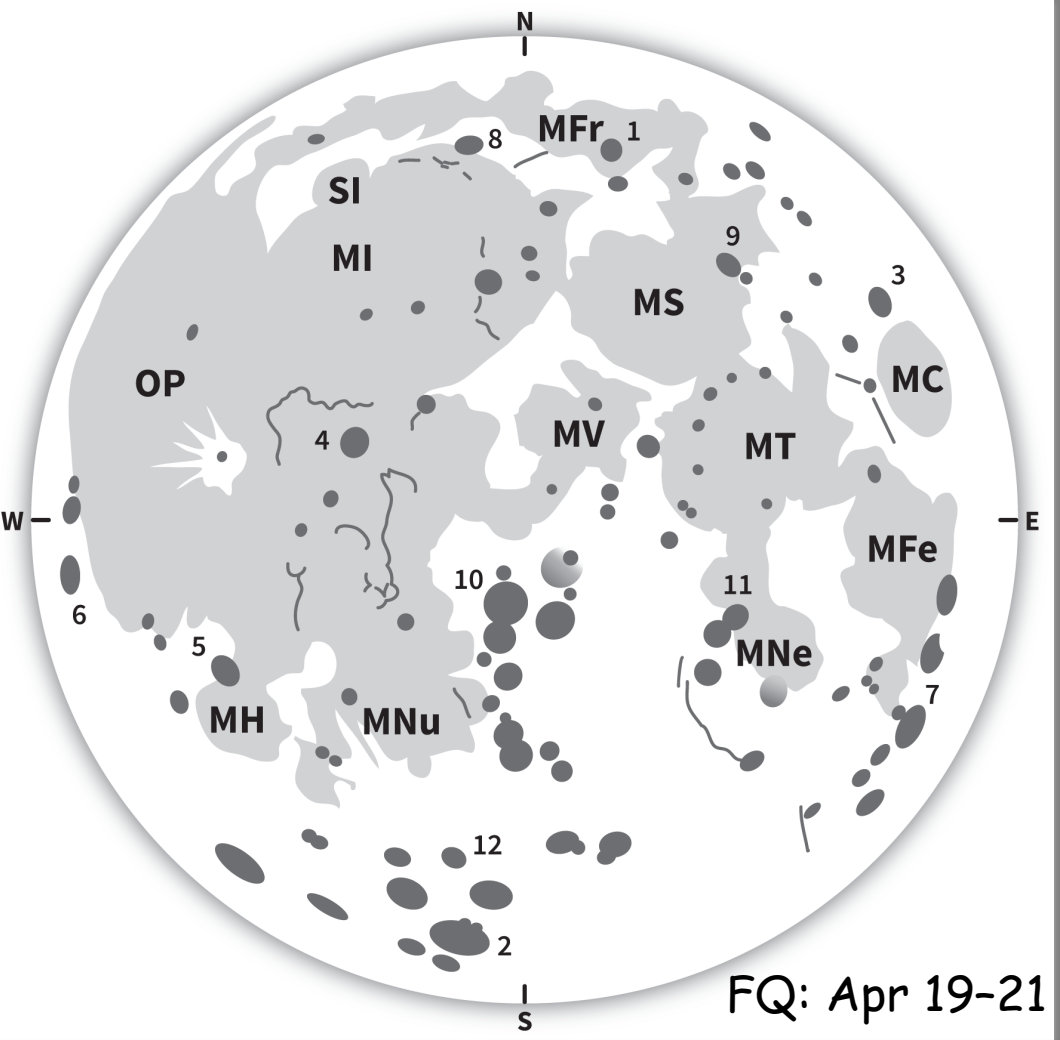
Halifax Apr 30



YouTube: RASC Halifax

The Moon This Month

Date	Phase	English	Mi'kmaq
April 4	Last Quarter		
April 6	Saturn 4º N of Moon		
April 7	Jupiter 4º N of Moon		
April 11	New Moon	Birds Laying Eggs	Penatmuiku's
April 17	Mars 0.1º N of Moon (occultation in Asia, etc.)		
April 19/20	First Quarter		
April 27	Full Moon (large tides)	Birds Laying Eggs	Penatmuiku's



FQ: Apr 19–21

MARE

MC: Mare Crisium

MFe: Mare Fecunditatis

MFr: Mare Frigoris

MH: Mare Humorum

SI: Sinus Iridum

MI: Mare Imbrium

MNe: Mare Nectaris

MNu: Mare Nubium

MS: Mare Serenitatis

MT: Mare Tranquillitatis

MV: Mare Vaporum

OP: Oceanus Procellarum

CRATERS

1. Aristoteles
2. Clavius
3. Cleomedes
4. Copernicus
5. Gassendi
6. Grimaldi
7. Petavius
8. Plato
9. Posidonius
10. Ptolomaeus
11. Theophilus
12. Tycho

challenge Moon at Noon

The Moon in *Explore the Universe*

observe 3 of each in binos

The Planets This Month

Mercury – superior conjunction April 19
- very low in evening sky starting about April 23
- difficult, but mag. -2.2 in twilight (use binos)
- headed for Greatest Elongation East May 17 (best apparition)

challenge

Venus - moving into evening sky following March 26 superior conjunction
- very low in evening sky starting about April 19
- difficult, but mag. -3.9 in twilight (use binos)

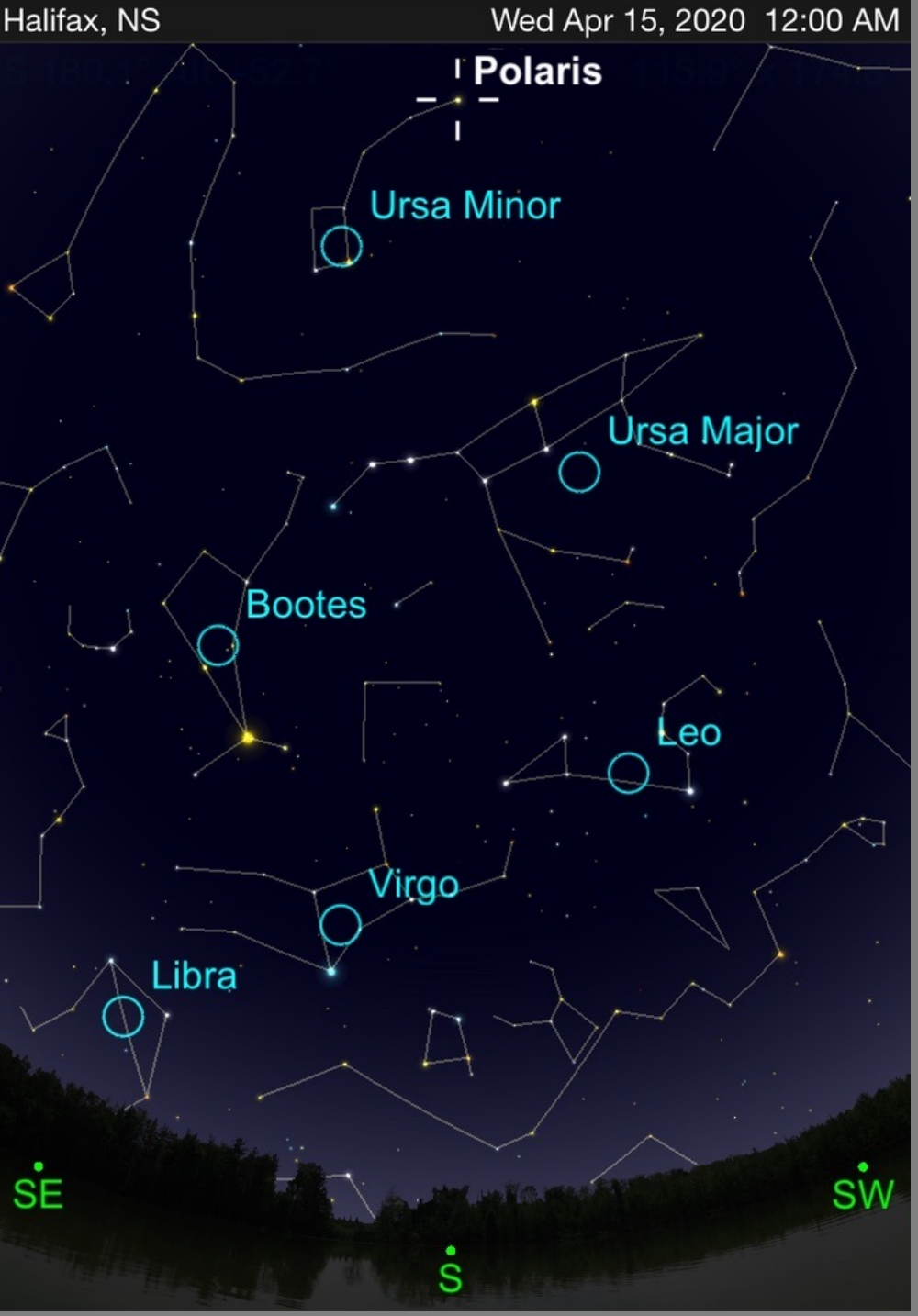
challenge

Mars - mag. 1.4 object in Gemini
- high in the west at the end of evening twilight

Jupiter & Saturn-low in dawn sky (with Moon April 6 & 7)

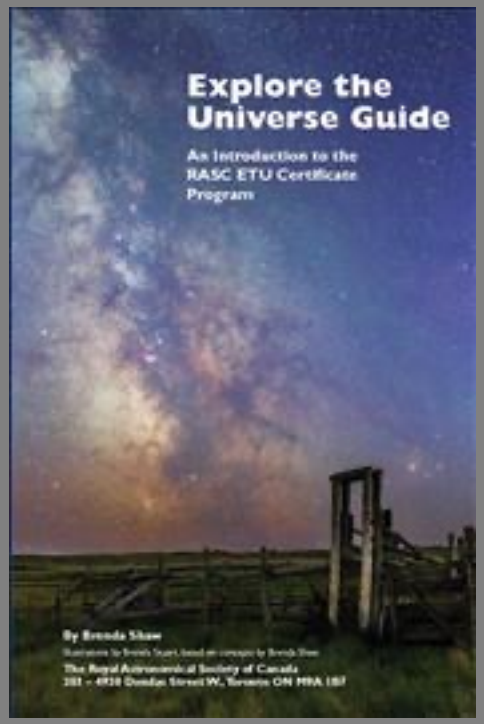
~~Uranus~~ ~~Neptune~~

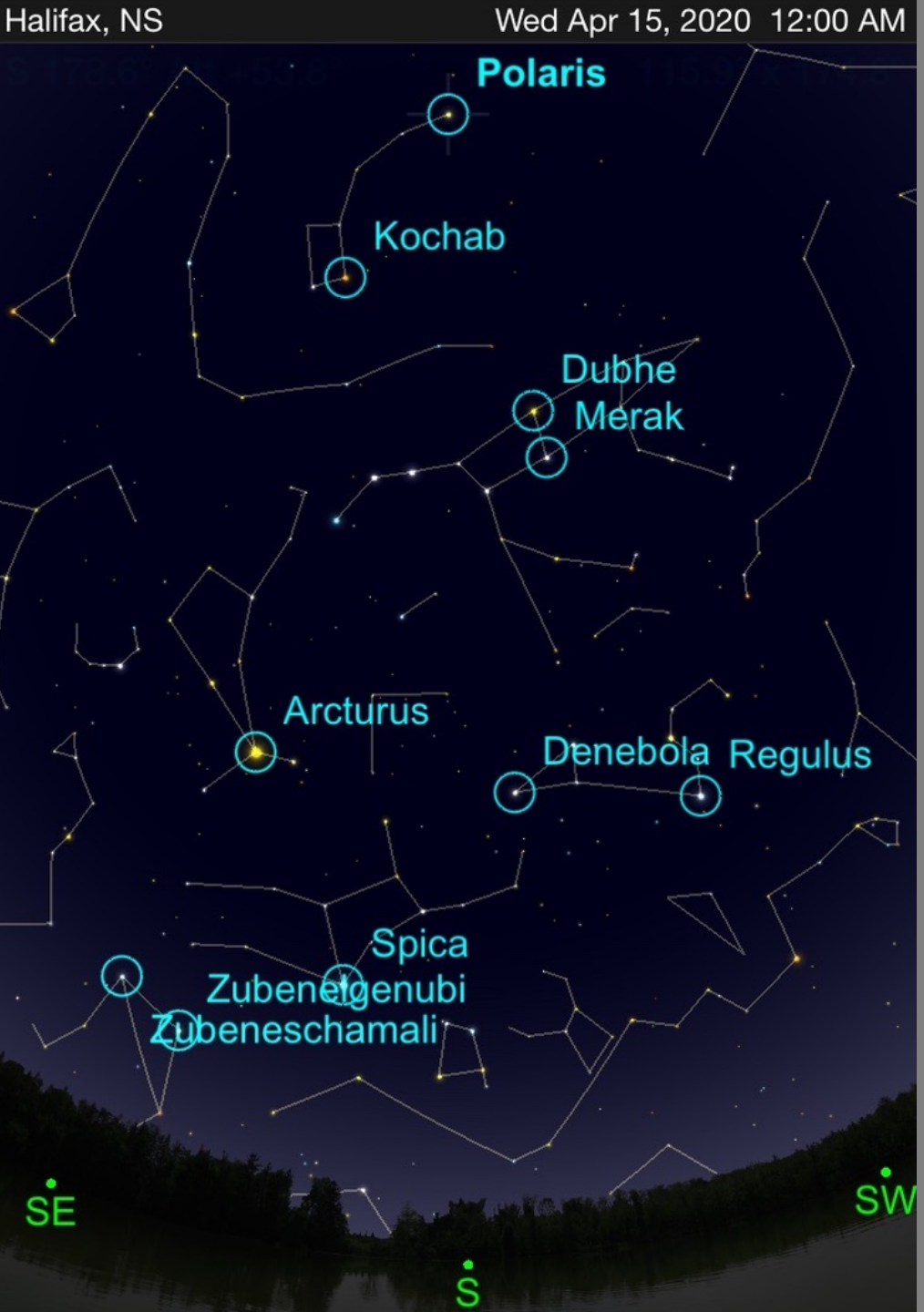
Zodiacal Light in western evening sky
-Mar 30-Apr 13 (2 weeks)—needs dark sky



Explore the Universe:

Spring Constellations





Explore the Universe:

Spring Stars

N = Navigation

SS = SynScan alignment

C = Celestron alignment

Ranking:

#3 Arcturus (N, SS, C)

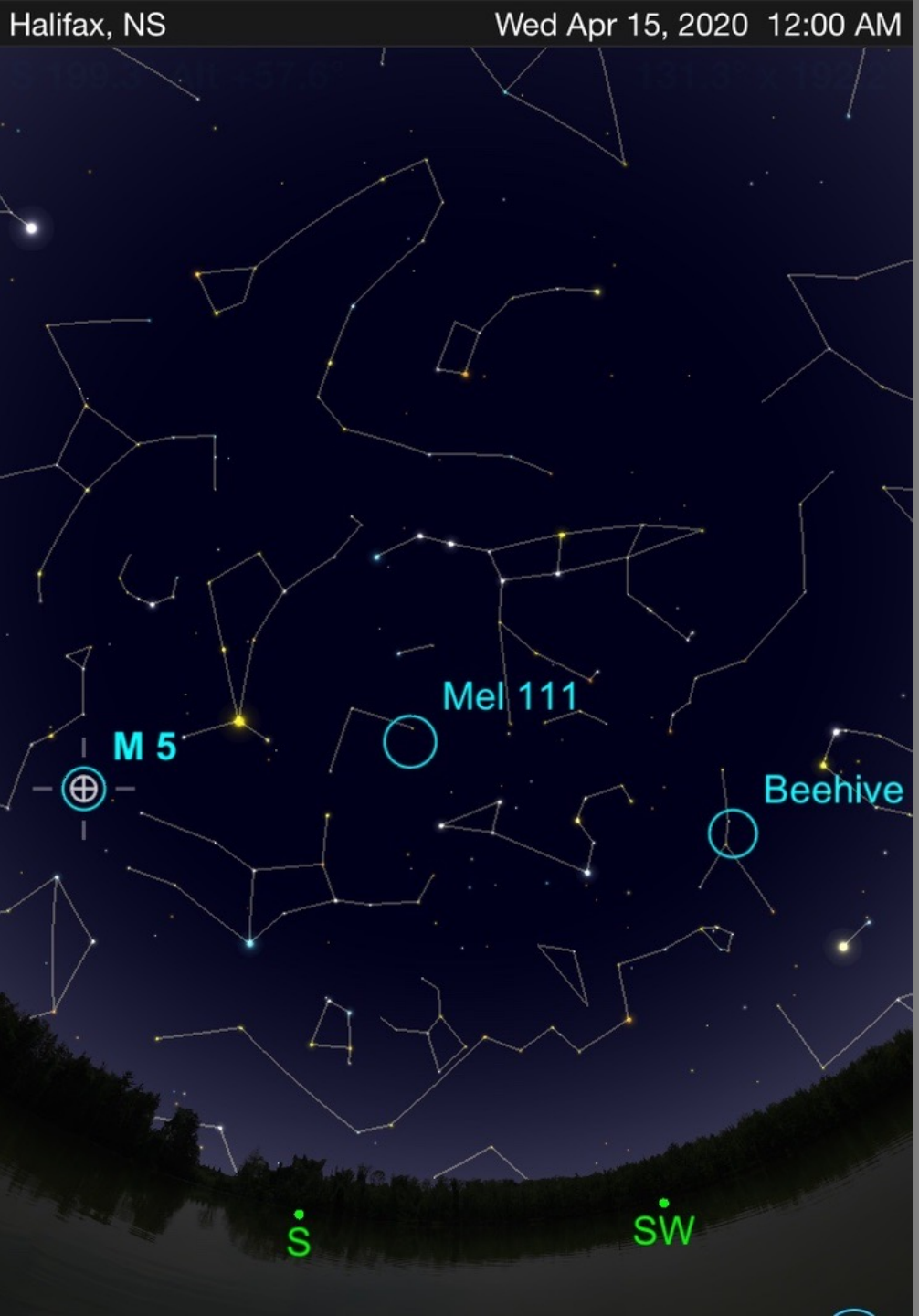
#14 Spica (N, SS, C)

#22 Regulus (N, SS, C)

#37 Dubhe (N, SS, C)

#48 Polaris (N, SS, C)

- Denebola (N, SS, C)
- Zubenelgenubi (N)
- Zubeneschamali



Explore the Universe:

Spring Deep-Sky

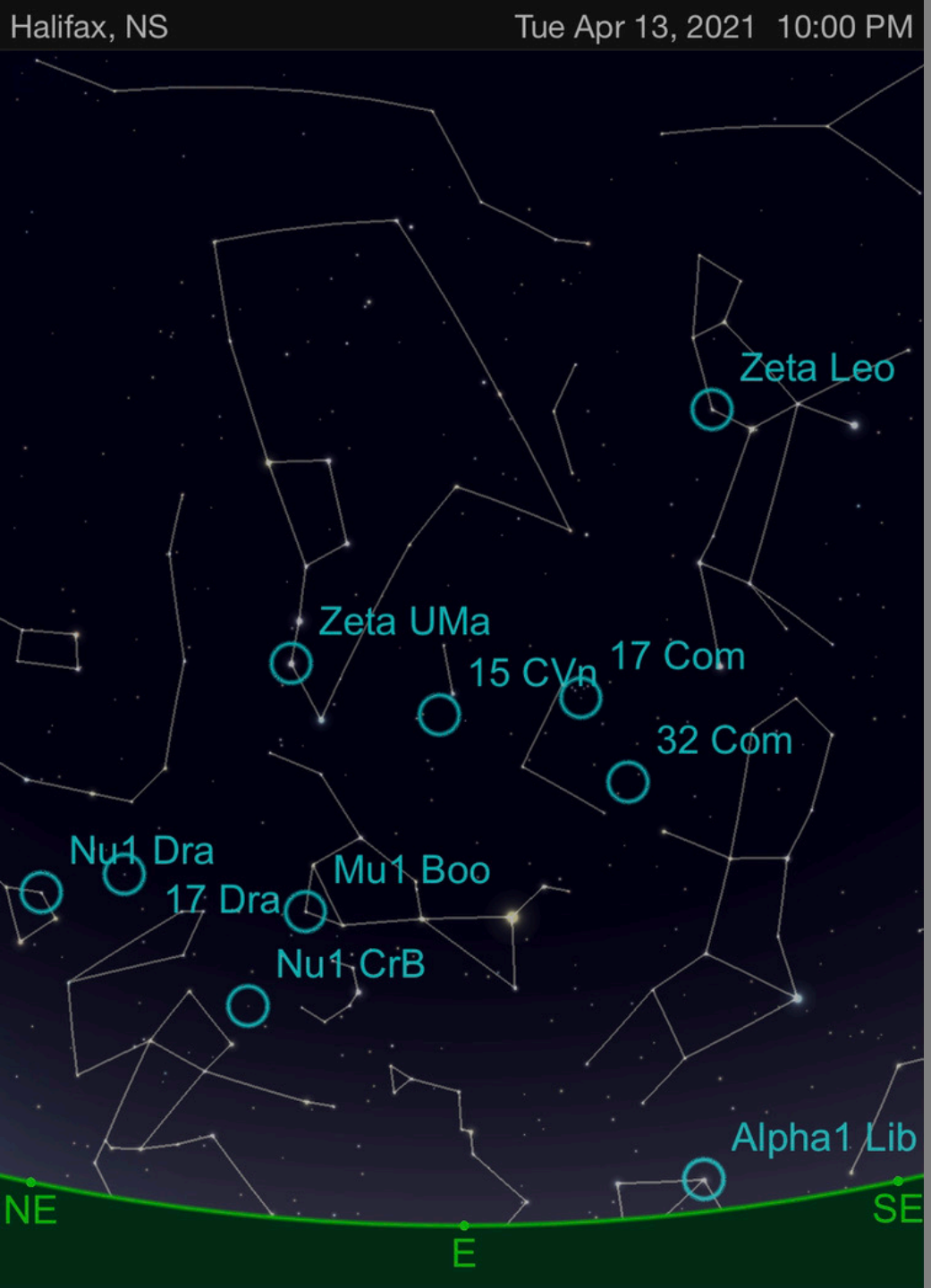
Beehive Cluster (M44)

Look halfway between

Castor&Pollux and Regulus.

(view in binoculars in dark sky)

challenge



Explore the Universe: Spring Double Stars

Zeta Leo (3.4, 5.9, 330″)

17 Com (5.2, 6.6, 146″)

32 Com (6.5, 7.0, 196″)

15 CVn (6.0, 6.3, 278″)

Zeta UMa (2.4, 4.0, 708″)

Alpha Lib (2.7, 5.2, 231″)

Mu Boo (4.3, 7.0, 107″)

Nu CrB (5.4, 5.6, 361″)

17 Dra (5.4, 5.5, 90″)

Nu Dra (4.9, 4.9, 63″)

Questions?

RASC Double Stars Observing Program

Fall 2020

https://www.rasc.ca/double-stars

JRASC April 2021

- Blake Nancarrow

Nova Notes March 2021

- Melody Hamilton

Basic Facts

- 110 objects (easy to challenging)
- all must be observed and logged
- small-to-medium sized telescopes
- moonlight and light-pollution friendly
- RASC observing certificate
- expect it to take about a year for the average observer

Relevant RASC Double-Star Documents

https://www.rasc.ca/double-stars

Quick Guide—for observers who can't wait!

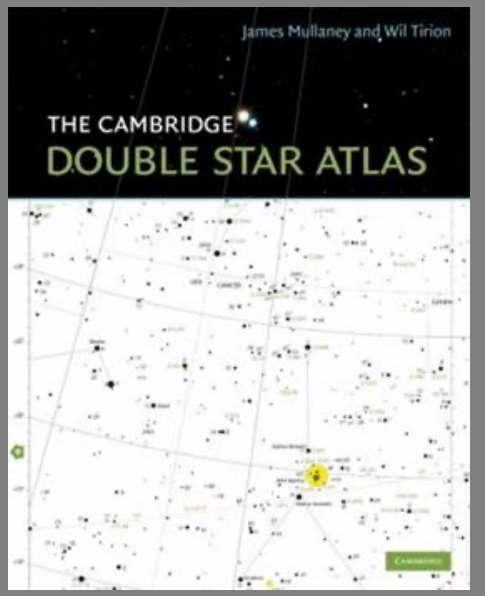
Full Guide—12 pages with everything you'd want to know

Main List of 110 objectives
- —essential
- —name, position, and combined magnitude ONLY

Supplementary List
- —all components, magnitudes, separations, angles
- —for follow-up to first observation

Variety of logbooks and pages

Several observing lists in alternate forms



How to Observe Double Stars

Locate—Examine—Record

Locate

1. Select a target double star from the checklist.
2. Note the “combined” magnitude of the two stars.
3. Note the suggested aperture and magnification.
4. Find target or target field.

Examine

1. View the star field at low power
2. Is the double/multiple star obvious? Am I in the right place?
3. Do I need higher magnification?
4. How many stars? How bright? Colour?
5. Determine celestial west in the eyepiece by letting stars drift.
   - Celestial North is 90º CCW from West (CW in mirror-reversed optics).
   - Position Angle (PA) is measured from N (either CCW or CW, accordingly

Record

1. Recommended: simply draw the star field (the easiest sketch of Life).
2. Alternate: describe star field in words.
3. Stars: ID, brightness, colour, orientation, distance (all qualitative)
4. Circumstances: location, date time, sky conditions, telescope, magnification

Three (*maybe 4*) steps:

1. Observe star field knowing only location and magnitude in advance.

2. Draw everything you see and make notes at telescope. Mark “west.”

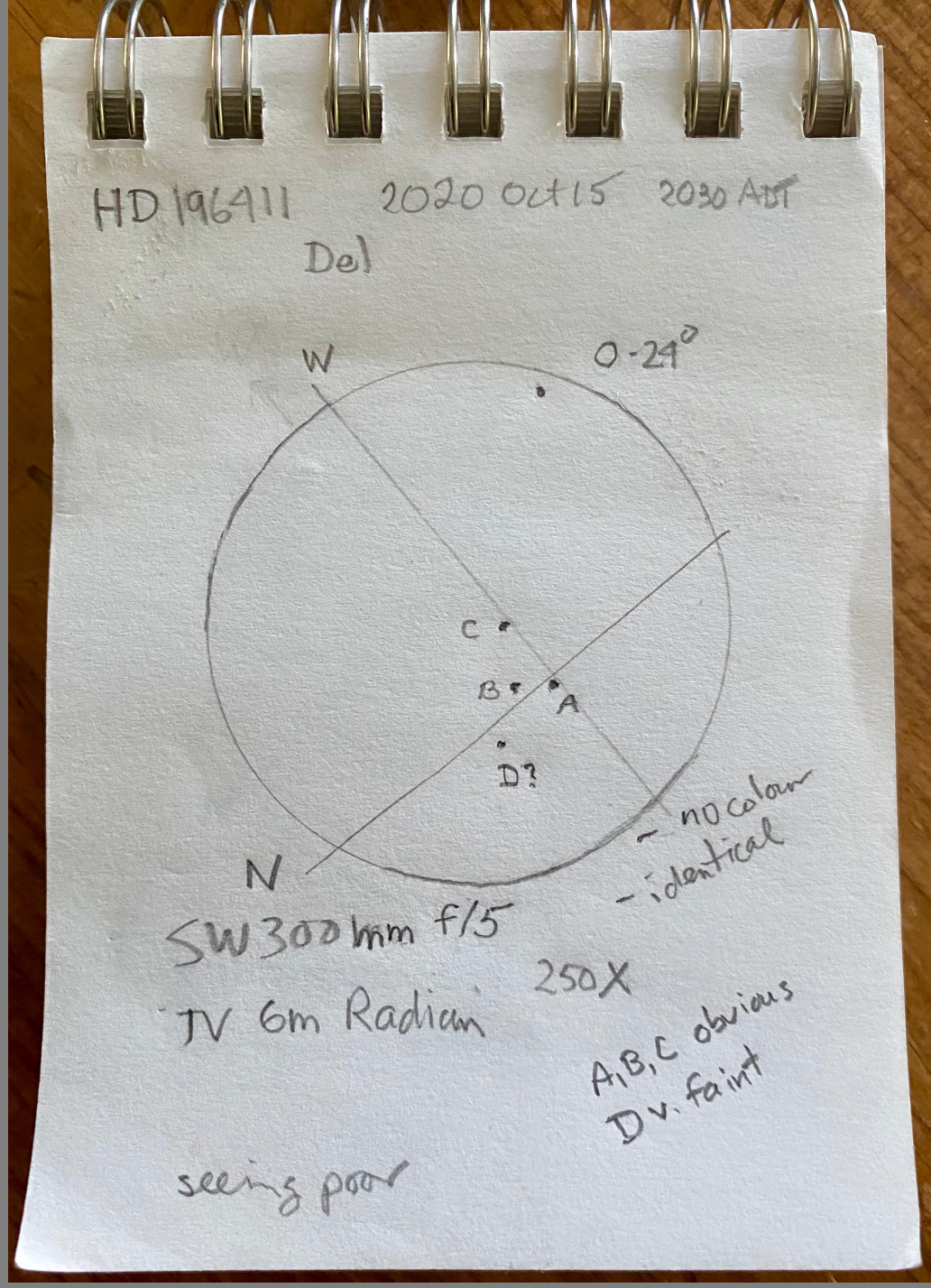
3. Identify components, etc. on supplementary list and finish drawing.

4. *Re-observe if necessary .*

OK to use natural language

e.g., for separation:

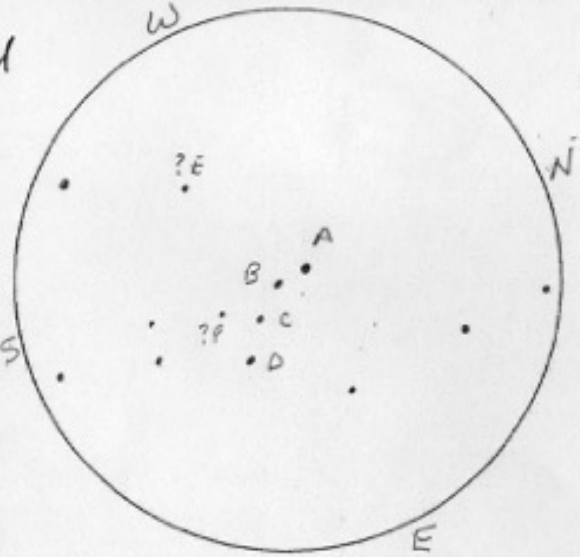
- Extremely wide
- Very wide
- Wide
- Easy
- Pleasingly close
- Close
- Very close
- Tight by a tiny gap
- Touching or kissing
- Figure-8 or peanut
- Rod-shaped



1	target 8 Lac	HR 8603	alternate IDs STF 2922			
2	constellation	Lacerta	combined mag. 5.2	RA (2000)	22 35.9 Dec (2000)	+39 38
3	date	Oct 5/20	time 2005 hr (-3)	Atlantic	M1 5.7	M2 6.3
4	location	WRO	Litchfield, N.S.	44/46	65/36	
5	telescope equipment used	C-11	mirror diagonal			
6	eyepieces, magnifications used		38mm (73X) 26mm (107X) 12mm (233X)			
7	first impression of system		(double) multiple		Waning gibbous moon	
8	general appearance of entire system		pair stands out in moderately populated star field			
9	pair designations	A	AB	AC		AD
10	orientation	-	South	further south		S/E of "B"
11	distance	-	easy	? wide		very wide
12	brightness	brightest FOV	average	faint		very blue intensity! brighter than "C"
13	colour	yellow	yellow	? white		
14	sky conditions, particularly seeing		see 4/5 trans 4/5	sky location, part. altitude	50° above eastern horizon	

Notes: The "D" star is very blue, the colour caught my attention as I searched using the 38mm EP. The 26mm EP used to do brightness comparisons and assess star density. The sketch was done using 12mm EP. It took a fair bit of time at the eyepiece catching the light from very faint stars. After the sketch I checked the supplement and was able to mark in the "C", "D" and possibly "E" stars of this multiple system.

Temp 10°C, 0 wind, very quiet. There is a narrow window of dark sky tonight.



233X

Questions?