

Exploring the Universe Using Binoculars

Midcoast Senior College

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Unit 03

Constellations and Stars

Images by Akira Fujii, davidmalin.com

Asterisms you should be able to recognize:

Ursa Major (Big Dipper)

Boötes

Lyra

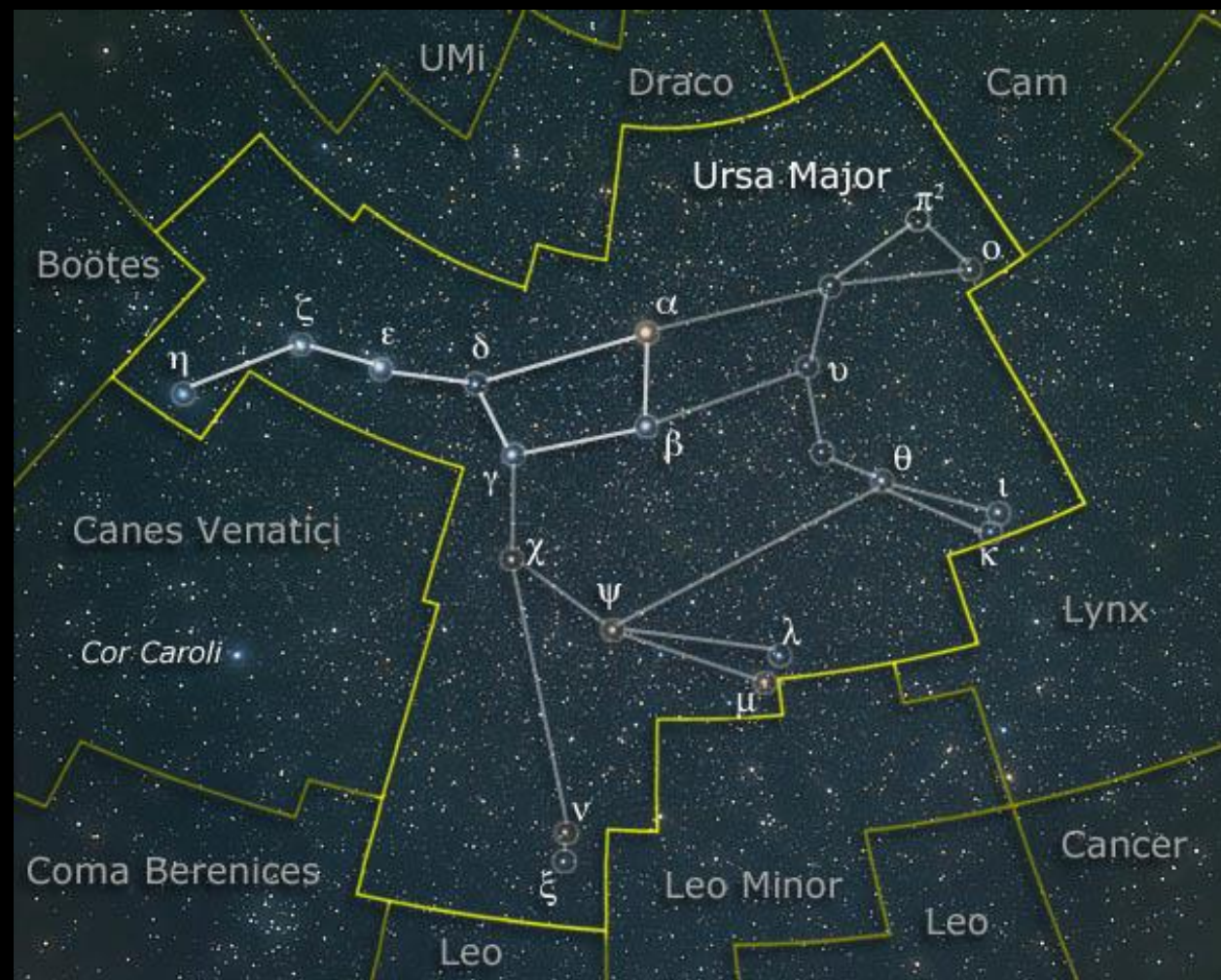
Pegasus

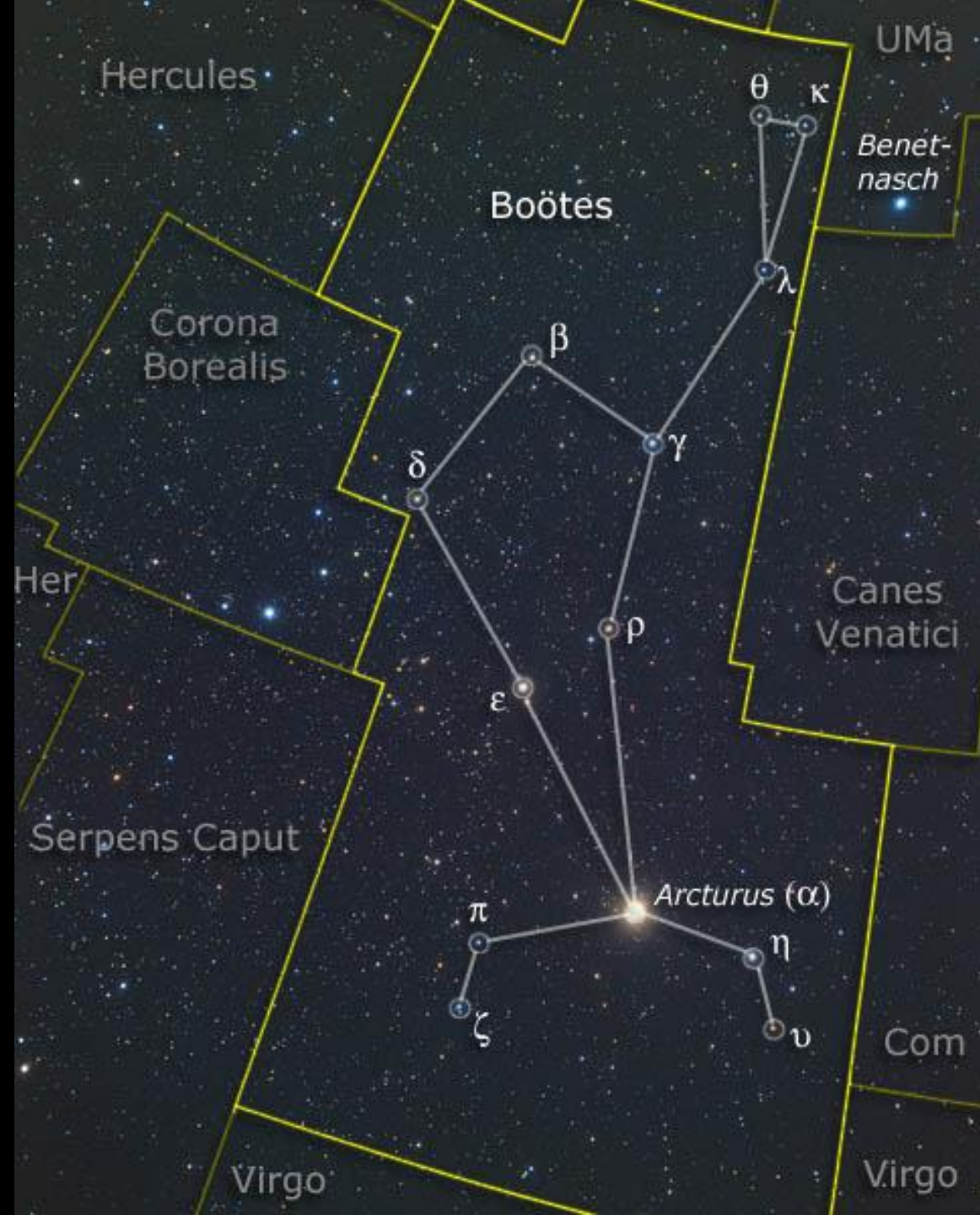
Orion

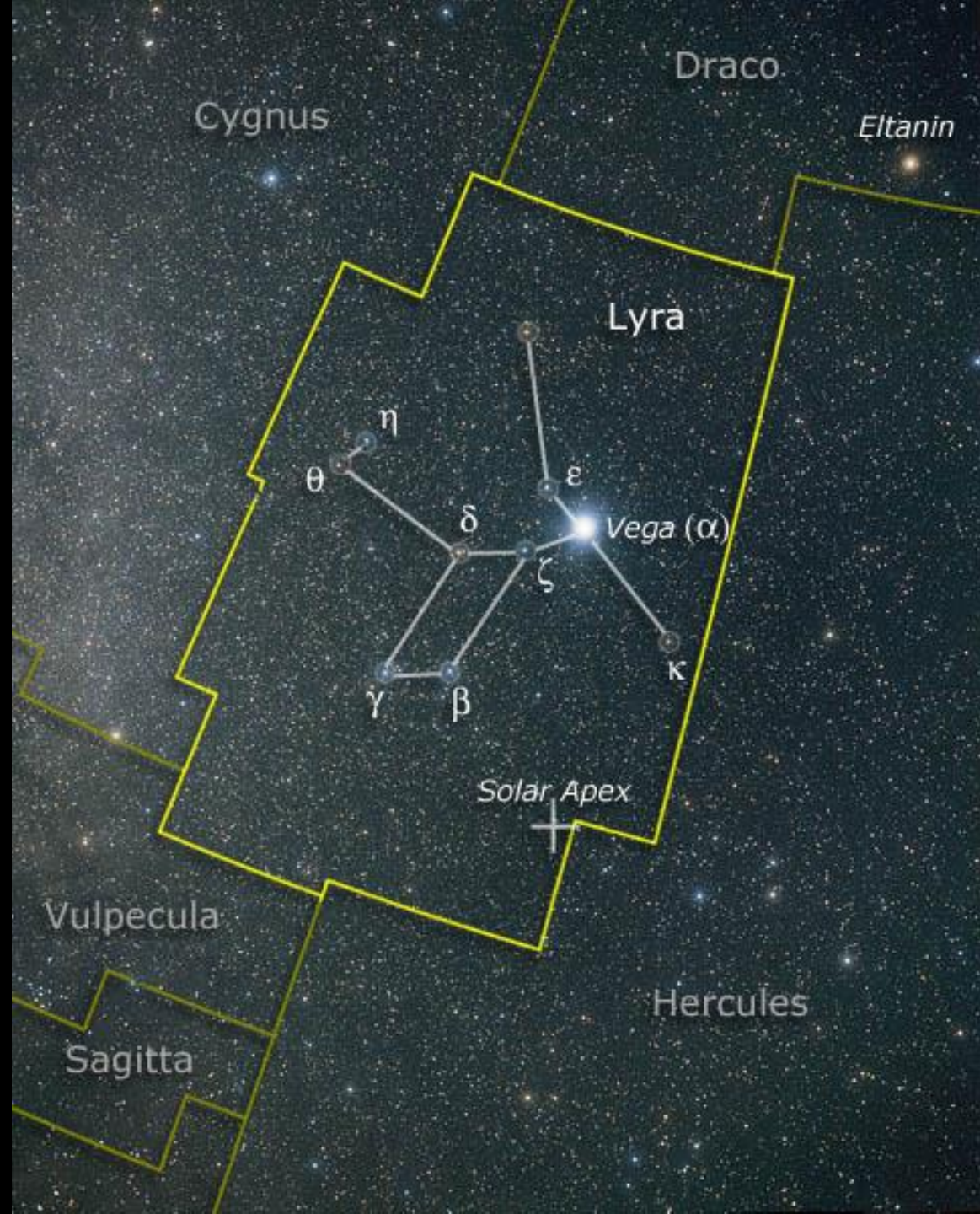
Leo

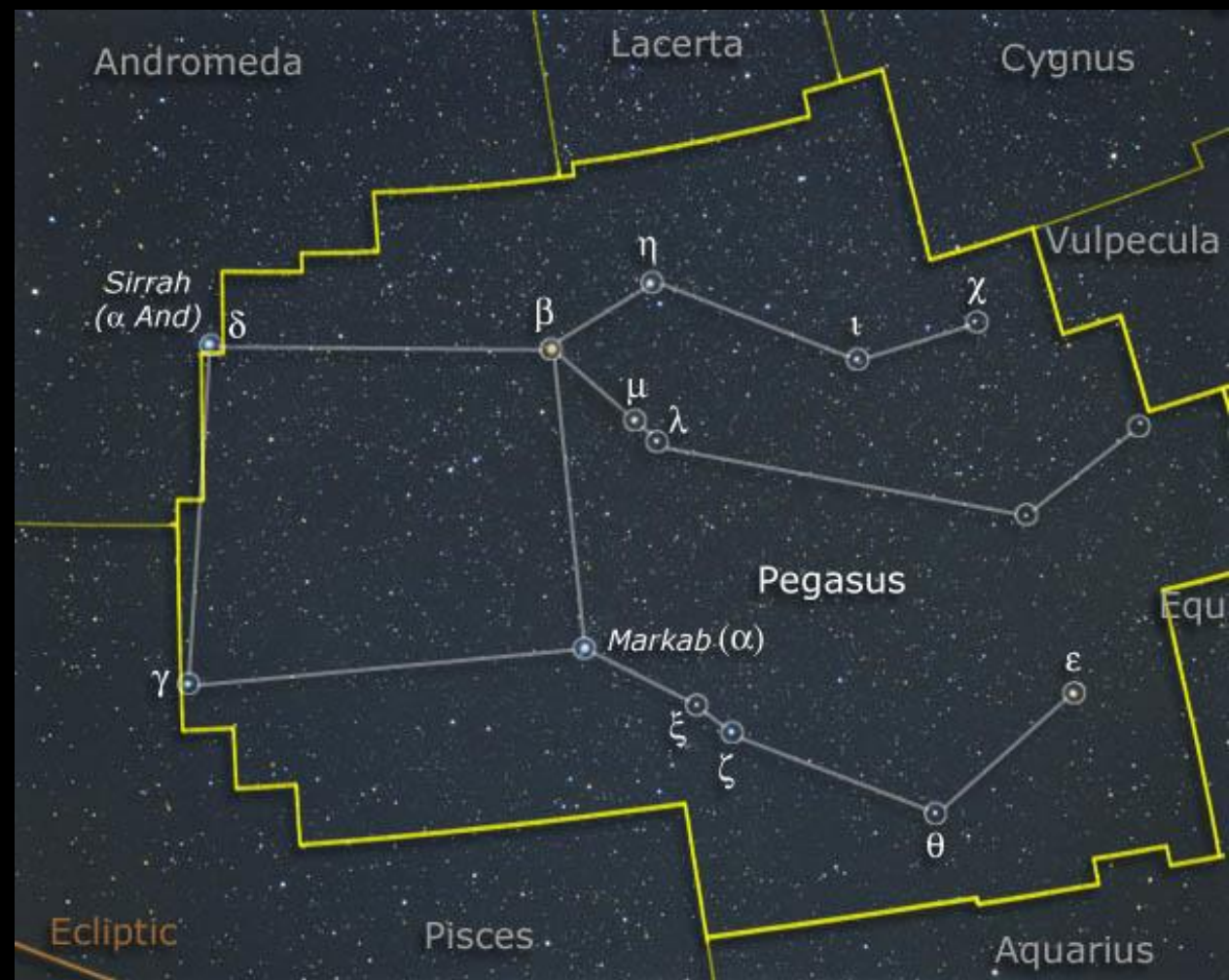
Stars you should be able to find:

Name	Location
Polaris and the Pointers	Ursa Minor and Ursa Major
Arcturus	Boötes
Vega	Lyra
Alpheratz	Andromeda (Pegasus)
Rigel	Orion
Betelgeuse	Orion
Regulus	Leo

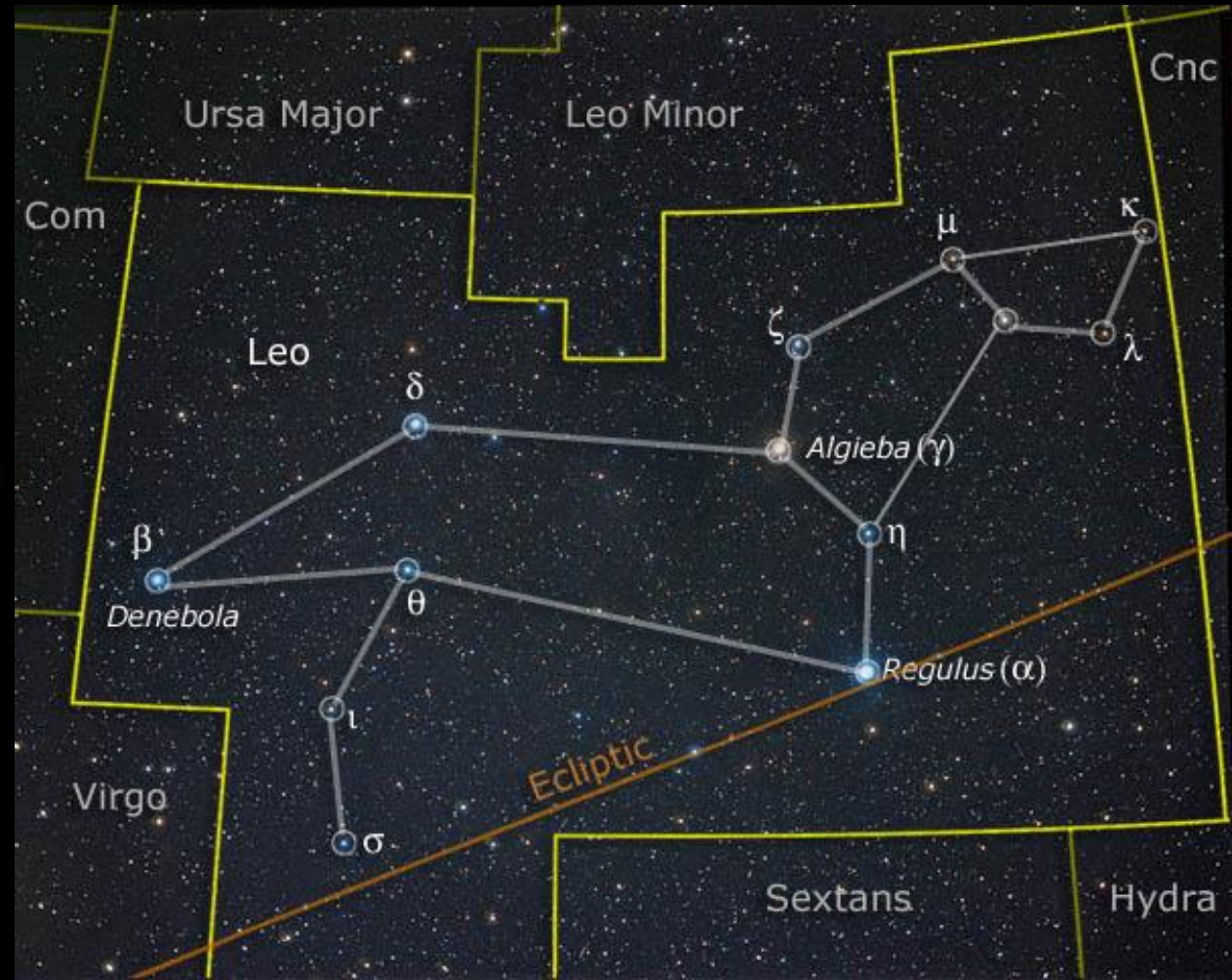














25 Brightest Stars in the Night Sky

Sirius

Canopus

Rigel Kentaurus

Arcturus

Vega

Capella

Rigel

Procyon

Achernar

Betelgeuse

Hadar

Altair

Acrux

Aldebaran

Antares

Spica

Pollux

Fomalhaut

Deneb

Mimosa

Regulus

Adhara

Shaula

Castor

Gacrux

T. Jittasaiyapan

Star Colors



O

B

A

Temp (°F)

50,000 - 100,000

17,500 - 50,000

13,000 - 17,500



F

G

K

M

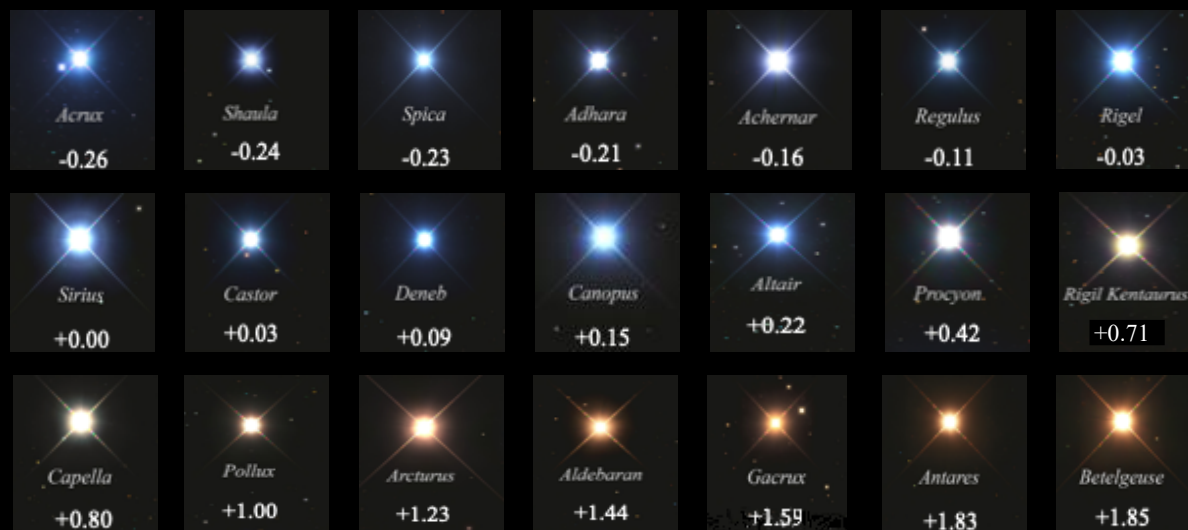
10,500 - 13,000

8,500 - 10,500

6,000 - 8,500

3,000 - 6,000

25 Brightest Stars Sorted by B-V (without duplicates)

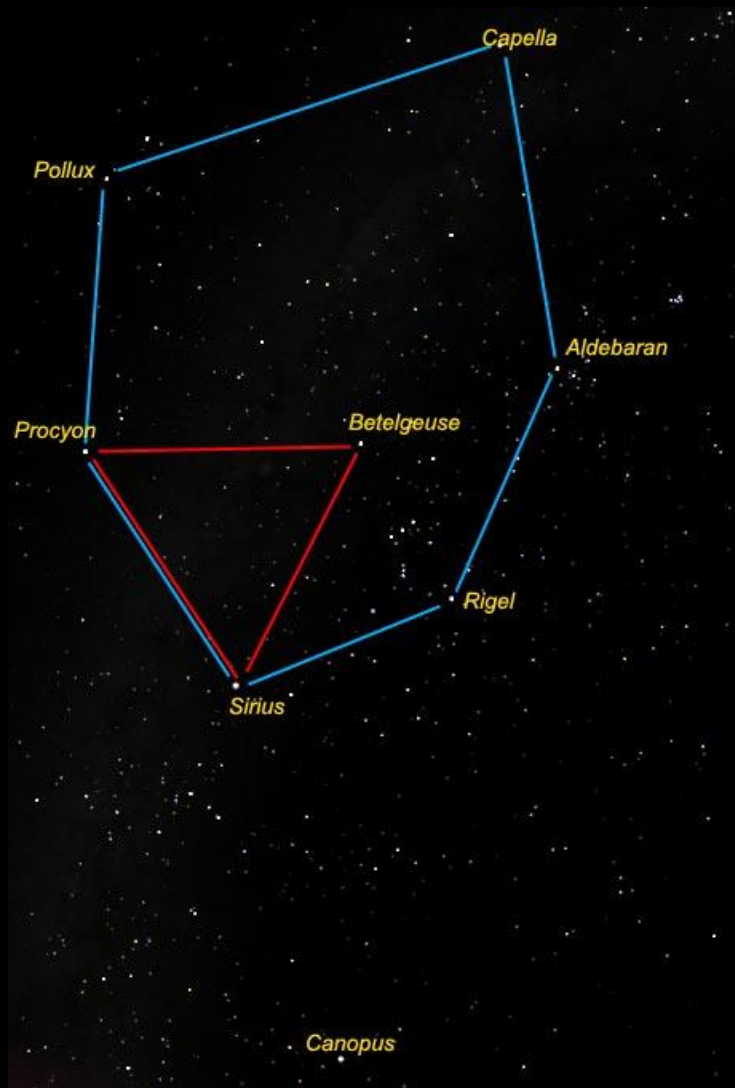


Sun +0.66

**Winter
Hexagon**

and

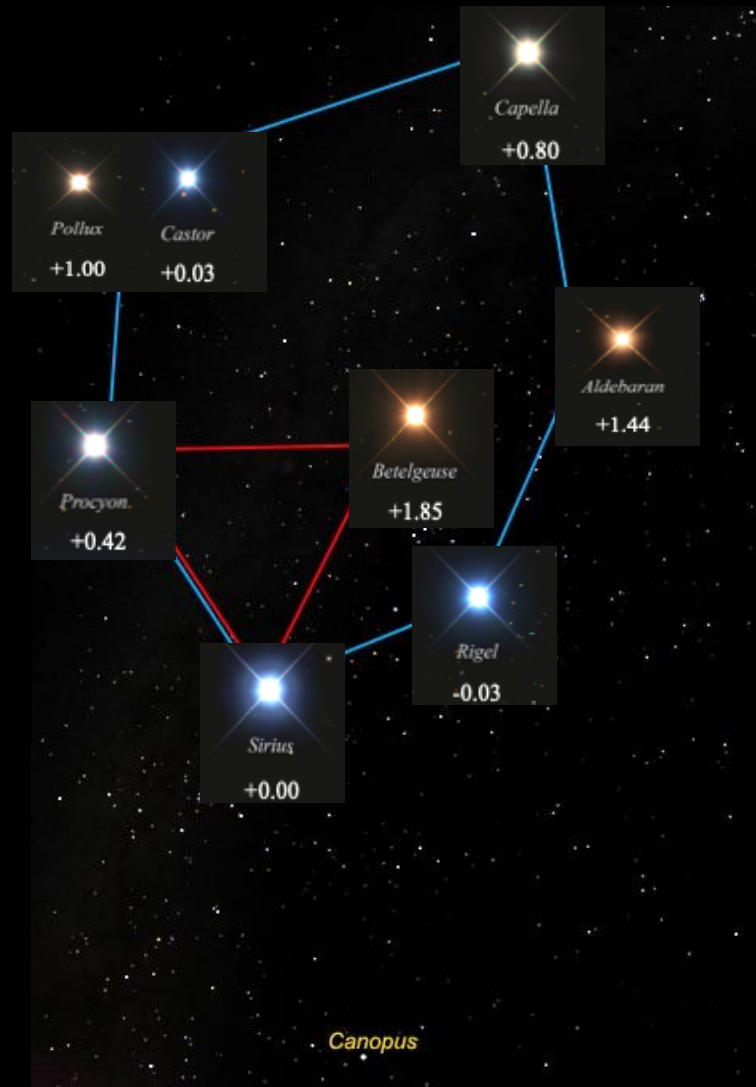
**Winter
Triangle**



Winter
Hexagon

and

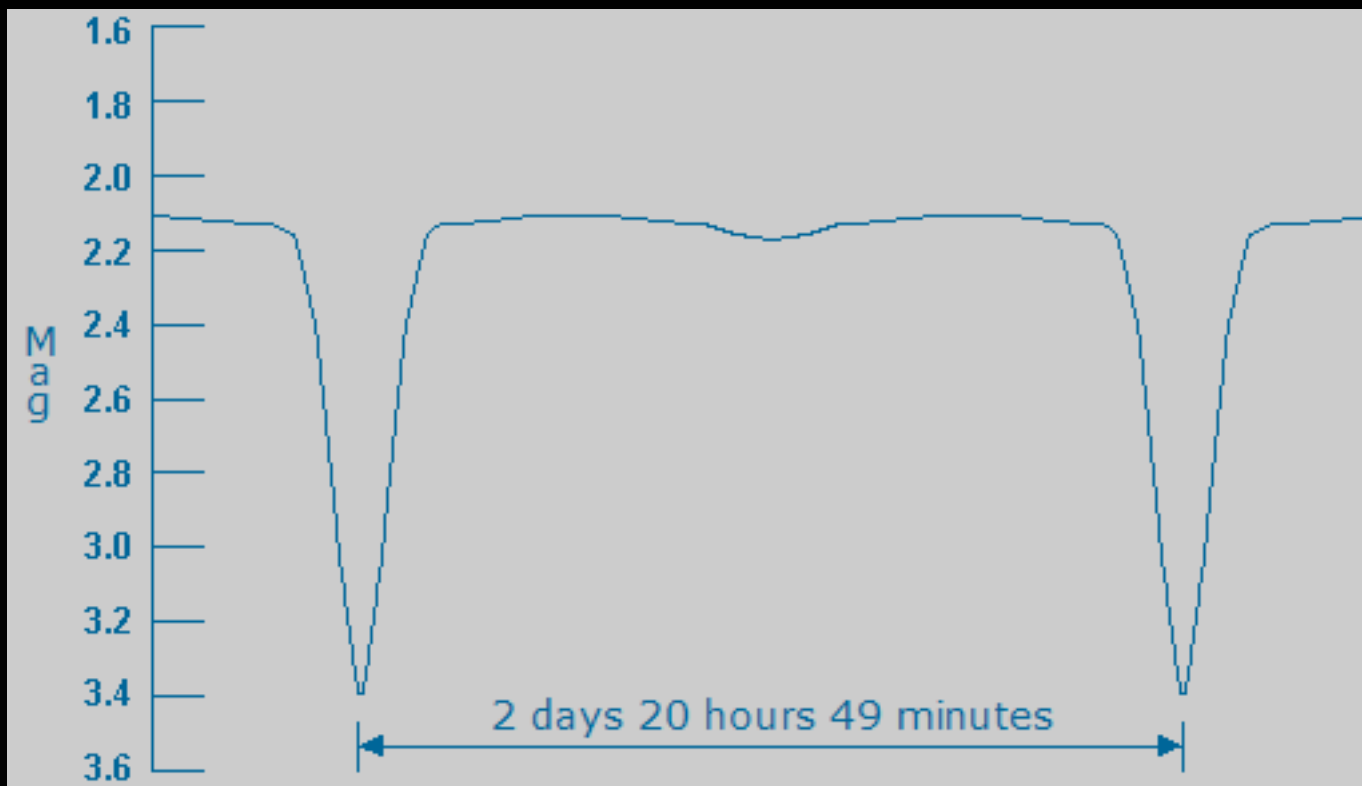
Winter
Triangle



Spectral
Classes

O
B
A
F
G
K
M

Algol – Eclipsing Binary Star System



Algol Minima

11/22/2025 @ 03:06 am

11/24/2025 @ 11:55 pm

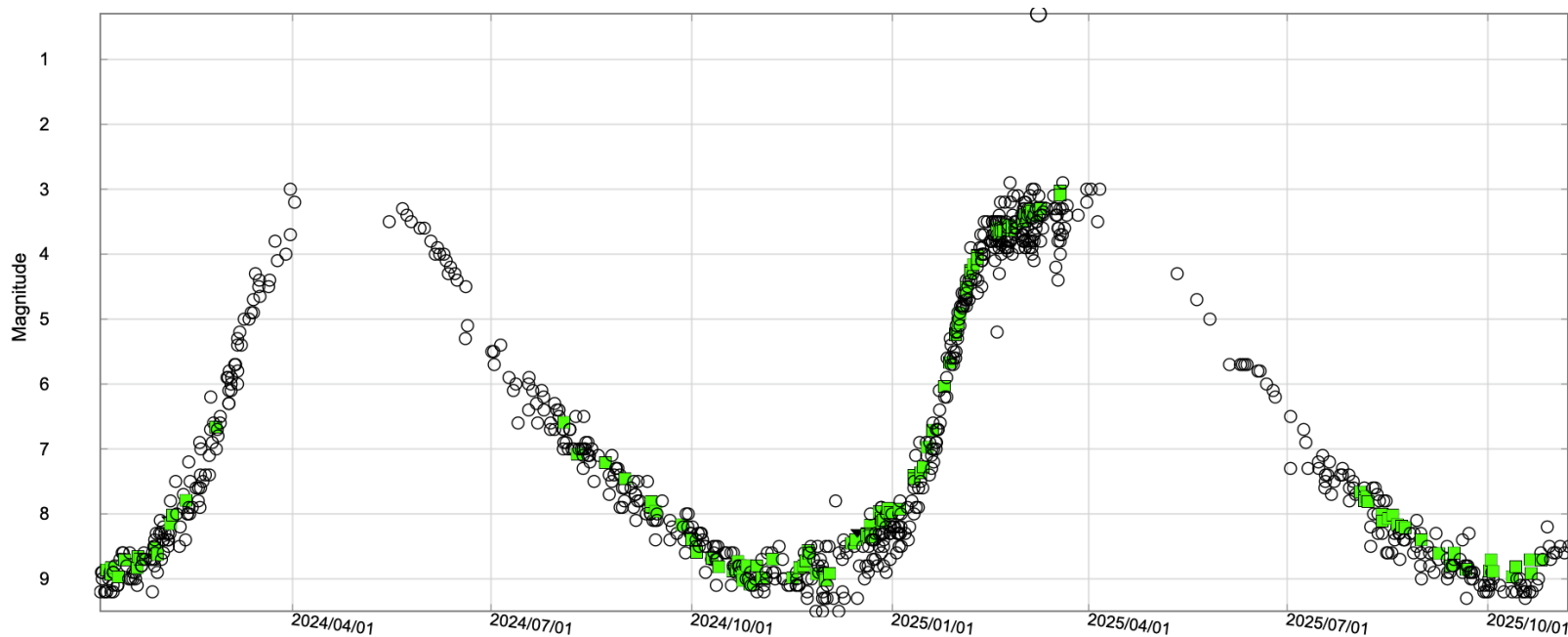
11/27/2025 @ 08:44 pm

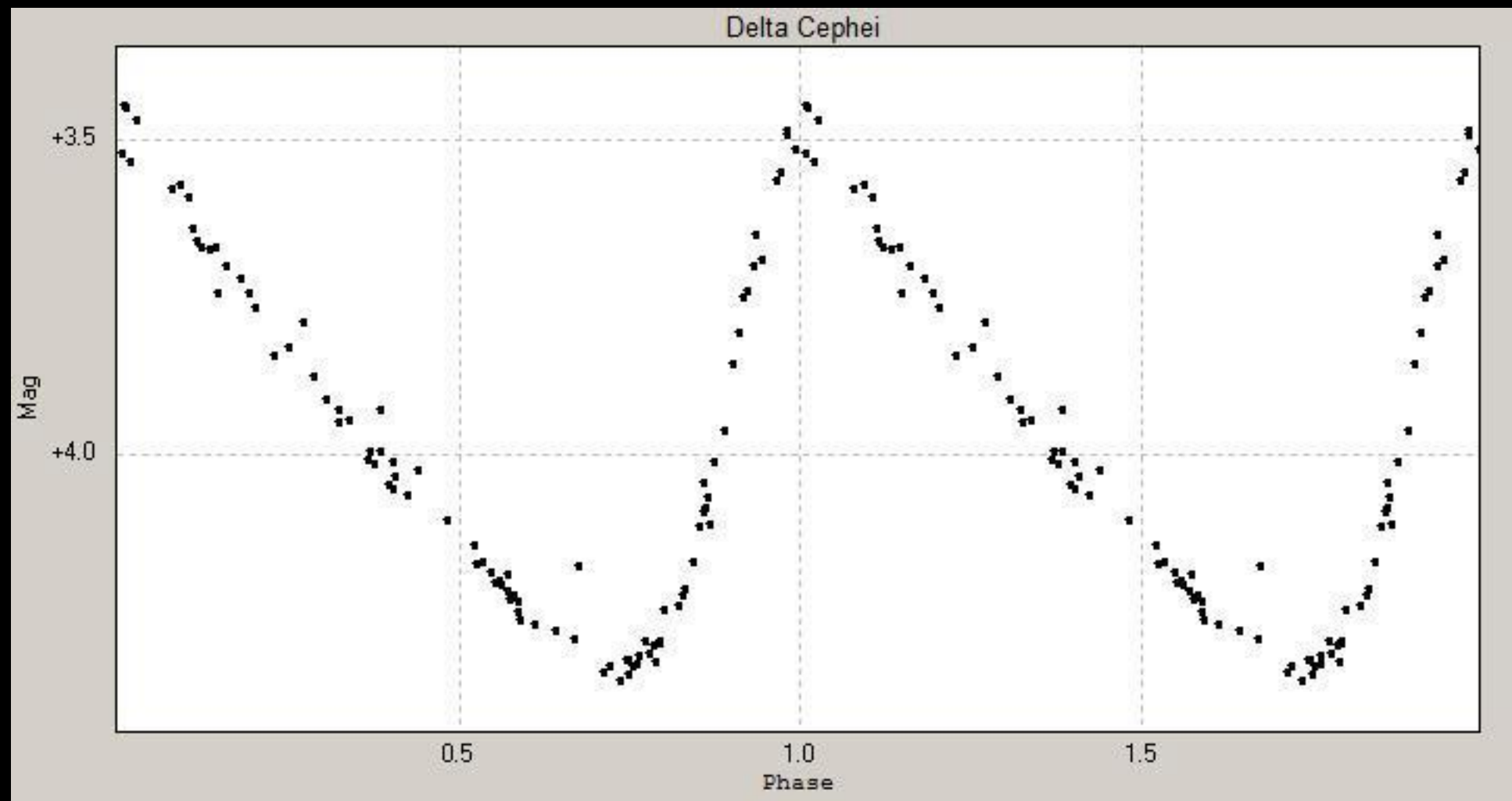
11/30/2025 @ 05:33 pm

<https://skyandtelescope.org/observing/the-minima-of-algol/>

Mira – The Wonderful

Pulsating Variable Star





Henrietta Leavitt studied stars in the Small Magellanic Cloud

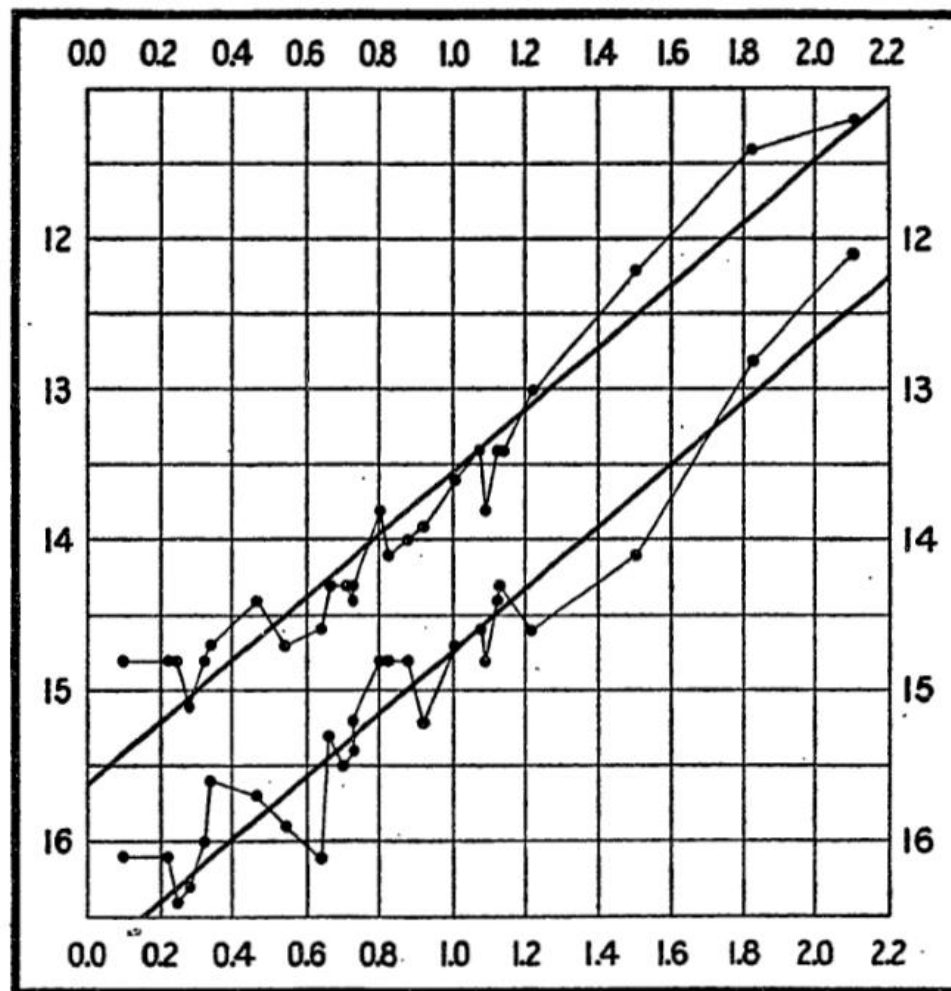


FIG. 2.

Winter's Double Stars

Name	Const	Mags	Sep (")
Kappa + 6	Draco	3.9, 5.0	926
65 + 64	Gemini	5.0, 5.1	818
Zeta + 80	Ursa Major	2.2, 4.0	716
Sigma1	Taurus	4.7, 5.1	439
Omicron1	Cygnus	3.9, 7.0, 4.8	109, 337
Phi	Cassiopeia	5.1, 7.0	133
Theta	Orion	5.0, 6.6	75
Beta	Cygnus	3.2, 4.7	35

