

WHAT 'S UP? November 2016



Temecula Valley Astronomers

<http://www.temeculavalleyastronomers.com>

METEOR SHOWERS

- South Taurids

 - Occurs September 25 – November 25, Peak 11/4-5

- North Taurids

 - Occurs from October 12 – December 2, Peak 11/11-12

- Leonids

 - Occurs from Nov 6 – Nov 23, Peak on 11/16-17

 - zenith hourly rate 15/hr

 - Moon phase almost (81%) full (moonrise 20:16)

- Geminids

 - Occurs from Dec 7 – Dec 17, Peak on 12/13 -14

 - zenith hourly rate 120/hr

 - Moon phase full (moon rise @16:56)

"SUPER MOONS"

Two more this year!

-November 14 – "Beaver" moon

- 6am EST, the centers of the Earth and Moon will be just 221,275 miles apart. Closest since 1976, and won't be as close again until 2020.

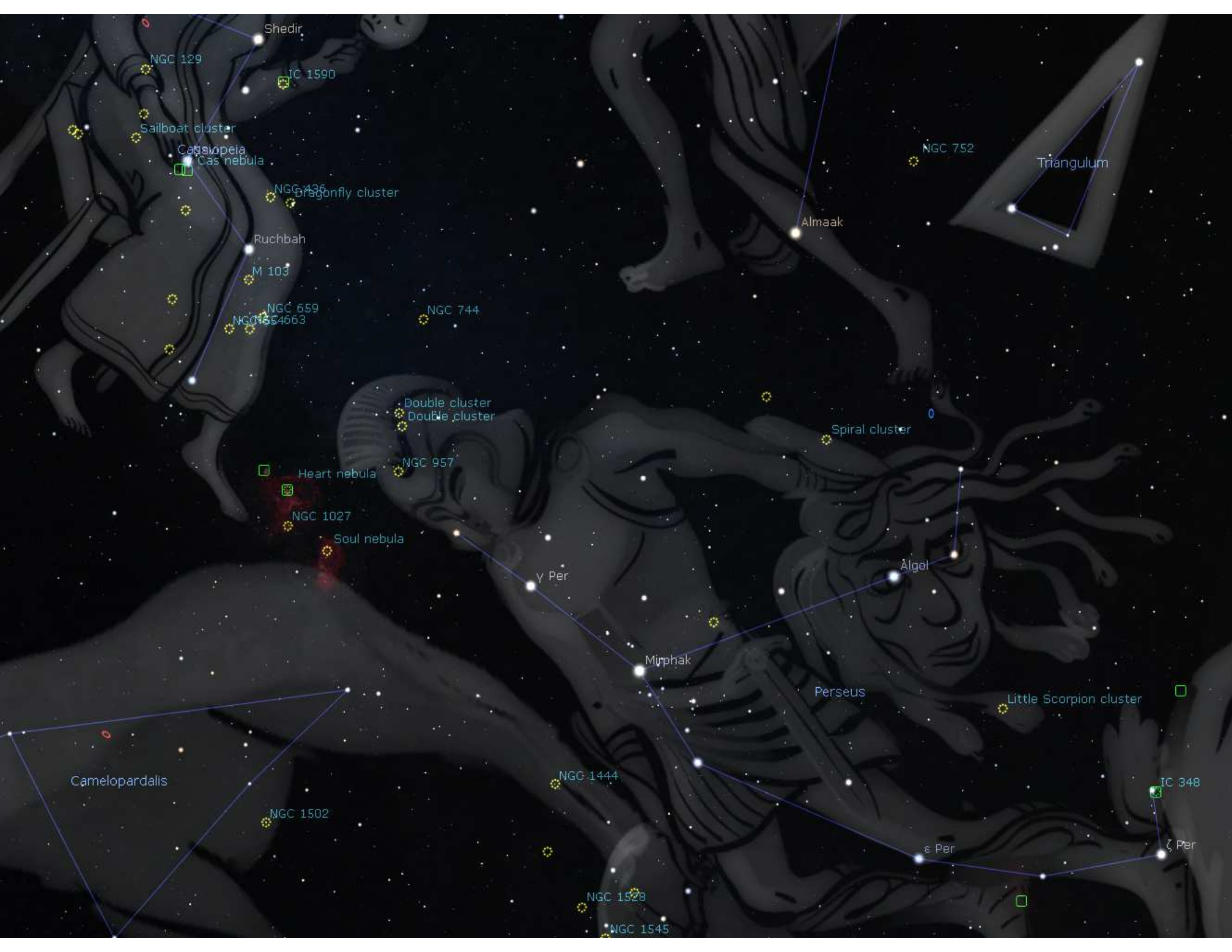
-December 14 – "Full Cold Moon"

Apparent size difference between the Full Moon at Perigee and Apogee



November 7





Shedir

NGC 129

IC 1590

Sailboat cluster

Cassiopeia
Cas nebula

NGC 136
Dragonfly cluster

Ruchbah

M 103

NGC 659
NGC 1854663

NGC 744

Double cluster
Double cluster

NGC 957

Heart nebula

NGC 1027

Soul nebula

γ Per

Mirphak

Algal

Spiral cluster

Perseus

Little Scorpion cluster

Camelopardalis

NGC 1502

NGC 1444

NGC 1528

NGC 1545

NGC 752

Triangulum

Alkaak

IC 348

ϵ Per

ζ Per

CASSIOPEIA

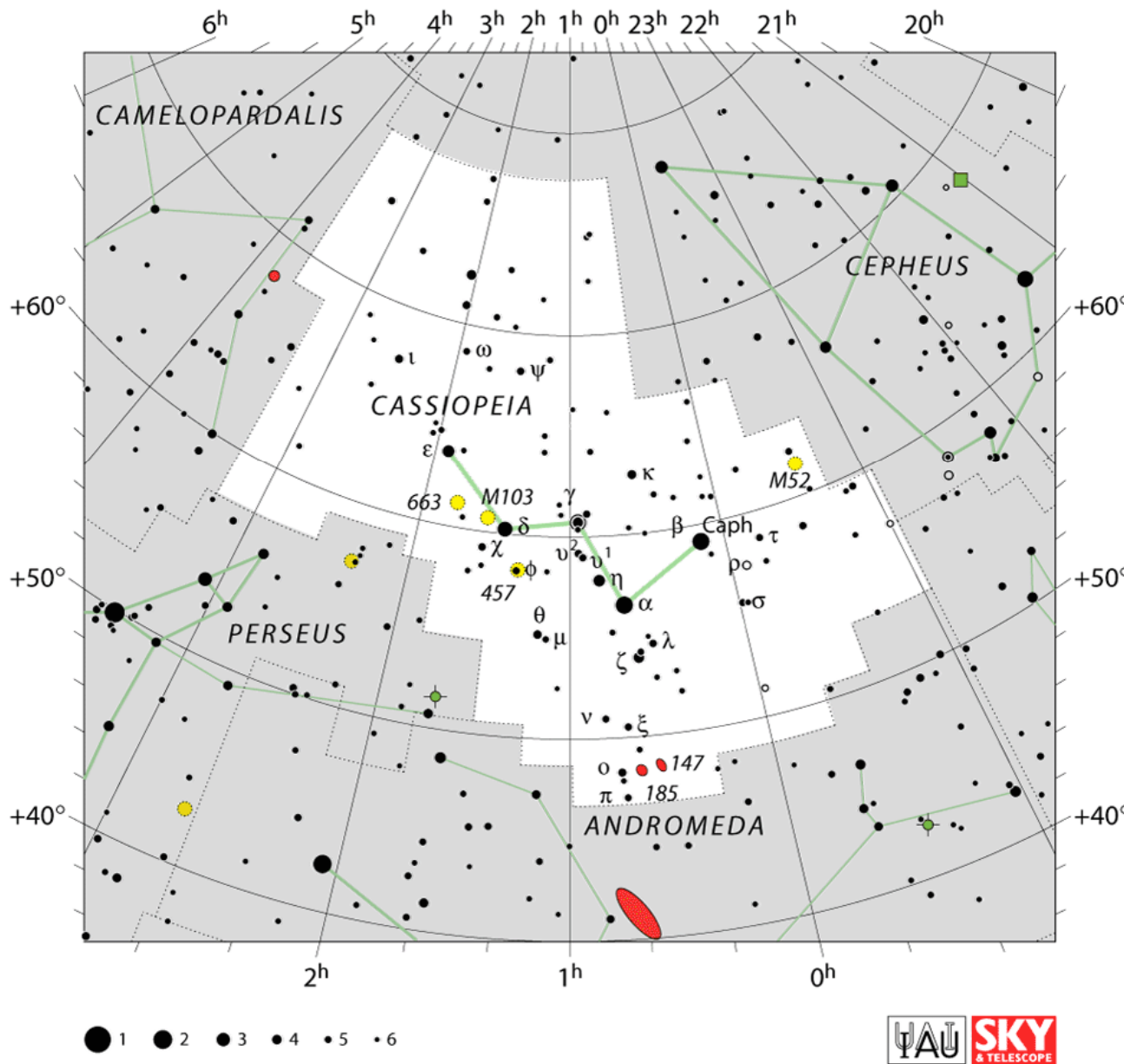
Prominent northern constellation, named after Queen Cassiopeia

One of the original 48 constellations plotted by Ptolemy, and remains one of the 88 today

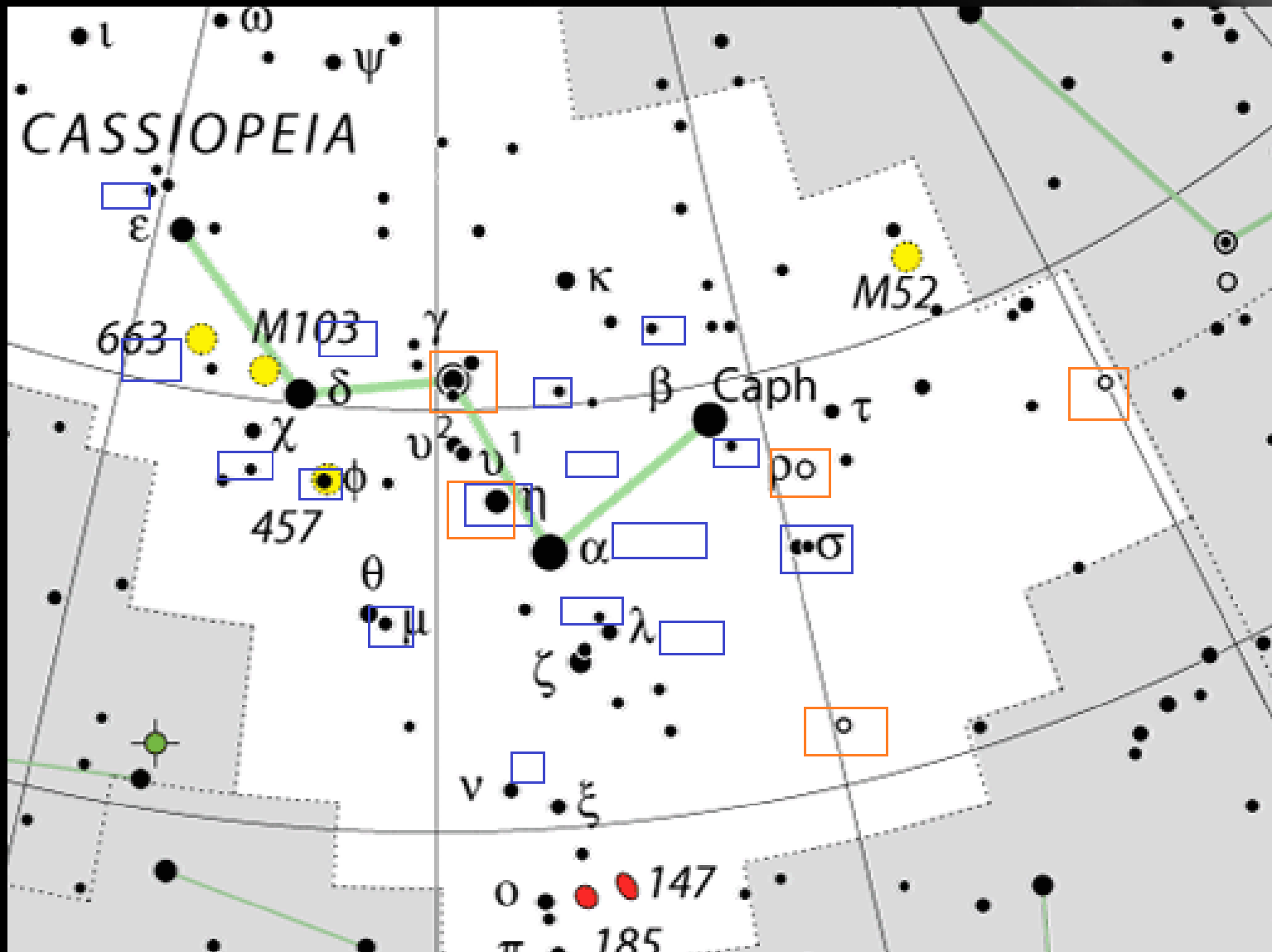
One of the most recognizable due to the "W" shape of the 5 brightest stars

Located right in the center of the Milky Way, featuring over a dozen bright open clusters, double and variable stars, 4 nebula, and 3 galaxies

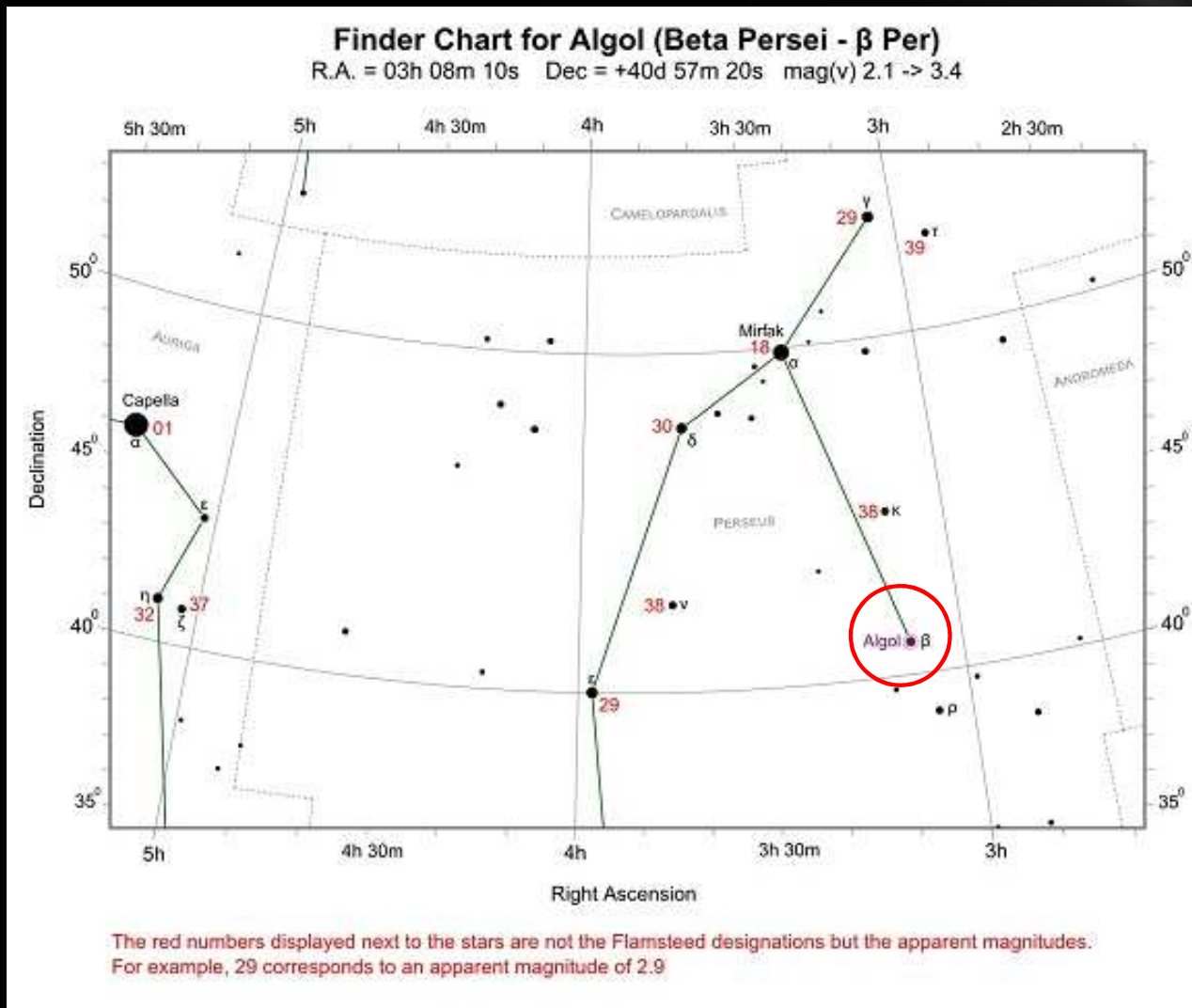
In the most northern latitudes, it is circumpolar, so visible year round.



STARS, STARS, STARS!



ALGOL (β Per) (VARIABLE STAR)



CASSIOPEIA OBJECTS

Clusters

NGC 869 and NGC 884 - The Double Cluster **

M34 - Spiral Cluster

M52 **

M103 - open cluster **

Stock 2 **

NGC 129 **

NGC 225 (Sailboat Cluster) **

NGC 654

NGC 659 **

NGC 663 **

NGC 1027 **

NGC 7789

Nebula

NGC 281 (Pacman Nebula)

NGC 7635 (The Bubble Nebula)

IC 1805 (Heart Nebula)

IC 1848 (Soul Nebula)

IC 59 and IC 63 (challenging)

Galaxies

NGC 147

NGC 185

NGC 278

NGC 457 & M52



M103 & M34



IC 1805 & IC 1848 (Heart & Soul)



Images courtesy of Ray Stann

NGC 281 & NGC 7635



Images courtesy of Ray Stann

Occultation of Aldebaran

Miss this event back in October?

You have one more chance...

December 12

	<u>Disappearance</u>	<u>Reappearance</u>
San Diego, Ca	19:00.37 PST	20:06:46 PST
Palm Springs, Ca	19:02:43	20:09:03
Los Angeles, Ca	19:01:37	20:06:46

RESOURCES FOR TALKS

- 1) *Binocular Certificate Handbook: Irish Federation of Astronomical Societies: At web site*
- 2) *Pocket Sky Atlas: Roger Sinnott: Sky Publishing*
- 3) *Sky & Telescope Magazine*
- 4) *International Astronomical Union*

With special thanks to Ray Stann for the use of his images!