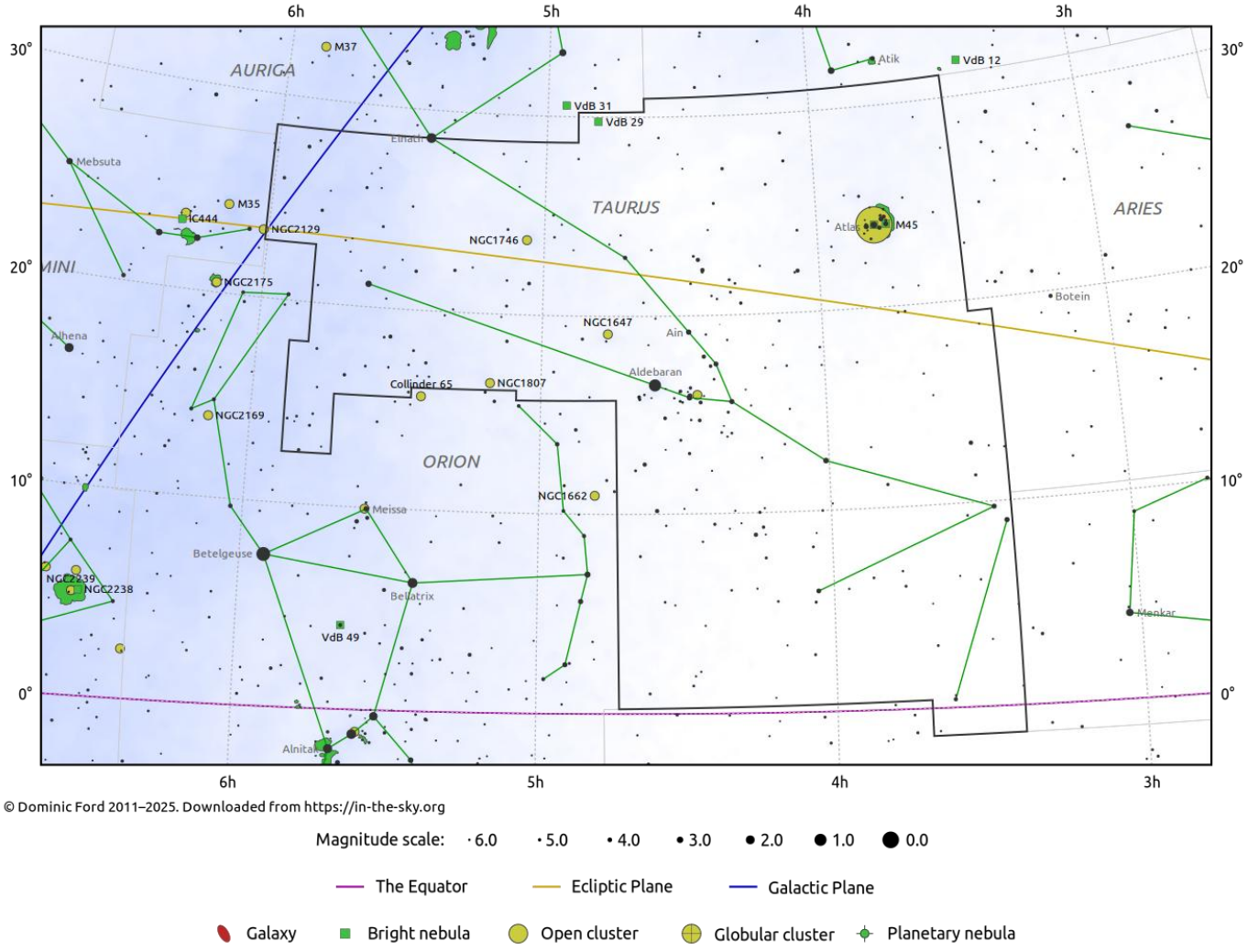
Constellation Guide

Taurus (Tau)

Evening Visibility: **November - January**
Online Information: **Taurus**
More Online Information: Aldebaran, Caldwell 41, 119 Tau, Messier 1, 118 Tau, NGC-1746, NGC-1647, STAR 16, Chi Tau, Messier 45, NGC-1435

In-The-Sky.org Constellation Map



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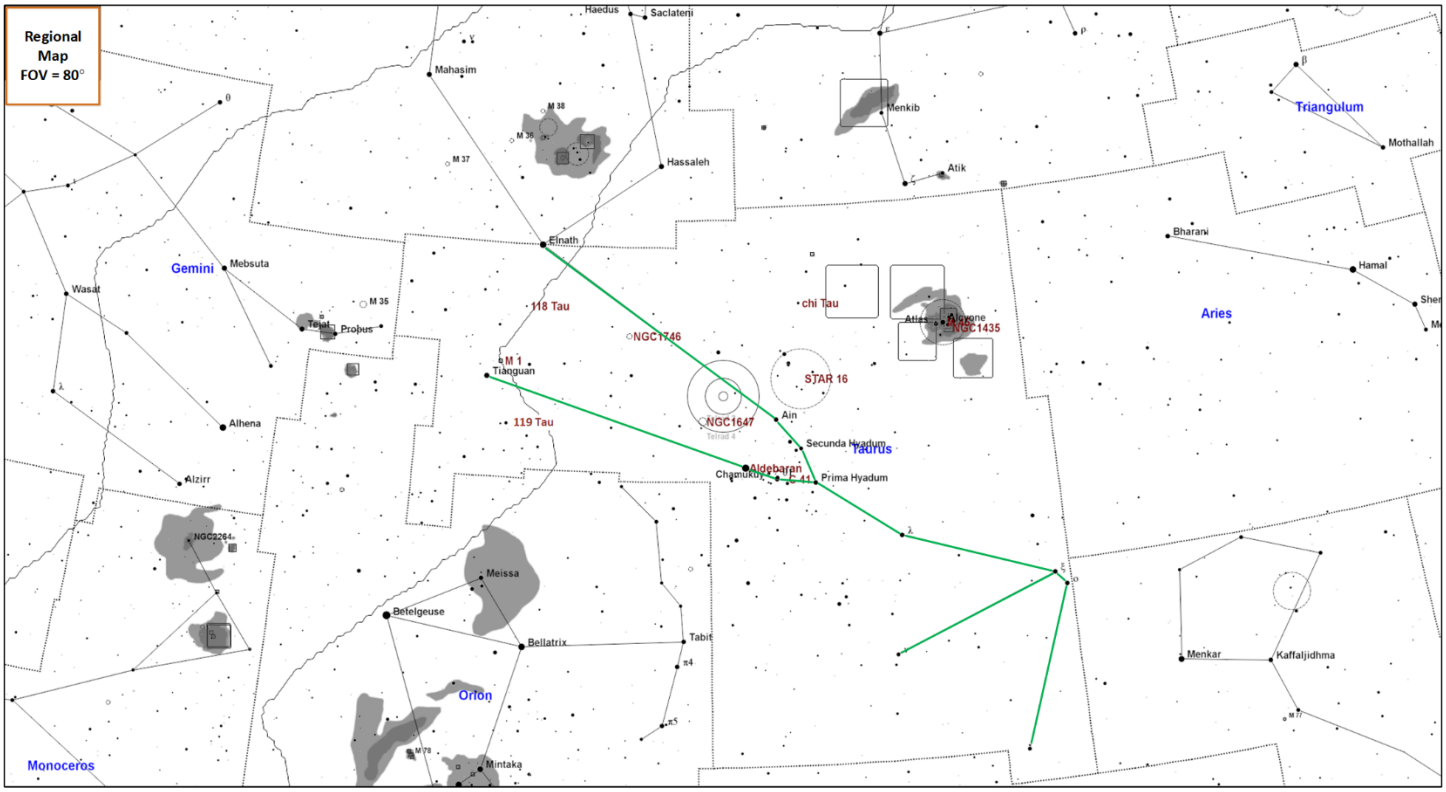
Eridanus is the sixth largest constellation. It represents a mythical river that Phaethon fell while trying to drive the chariot of his father's Helios the sun god. Although the constellation is long and meanders from Taurus in the north to Hydrus in the south, it is often overlooked because is quite faint and has few bright stars. The constellation contains no Messier objects.

Constellation Highlights

- **Caldwell 41** (OC): The Hyades, a large open cluster best viewed with binoculars.
- **Messier 45** (OC, RN): The Pleiades; The seven sisters. Best known open cluster visible to the naked eye.
- **Messier 1** (SNR): The Crab Nebula. Supernova remnant.

Constellation Targets Map



Objects Summary

Object (Type)	Ref	Aliases	Stats
Aldebaran (CS)	1, 2	SAO-094027, HIP 21421, HR 1457, HD 29139, Alpha Tauri, α Tau, 87 Tau, ADS 3321	| Mag Range=0.75 – 0.95 | |M=0.85, 13.6 | Sep=31.4" | PA=115º |
Caldwell 41 (OC)	1	C41, The Hyades, Mel 25	| M=0.5 | Size =5.5º | SB=21.7 |
119 Tau (CS)	1	SAO-094628, HIP 25945, HR 1845, HD 36389, CE Tau, 119 Tauri	Mag Range=4.2 - 4.5 | Period = 165d |
Messier 1 (SNR)	1	Crab Nebula, Taurus A, NGC 1952, Sh2-244, LBN 833, CM Tauri, Crab Pulsar	| M=8.4 | Size=7' x 4.8' | SB=20.7 |

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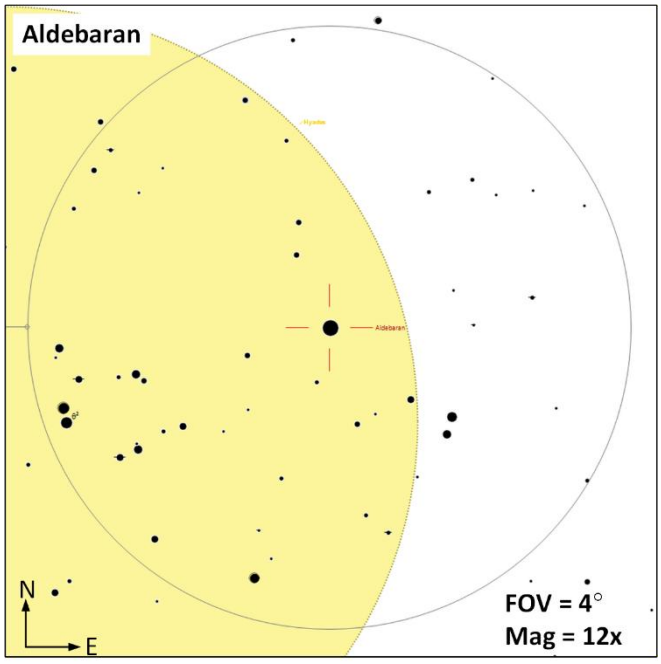
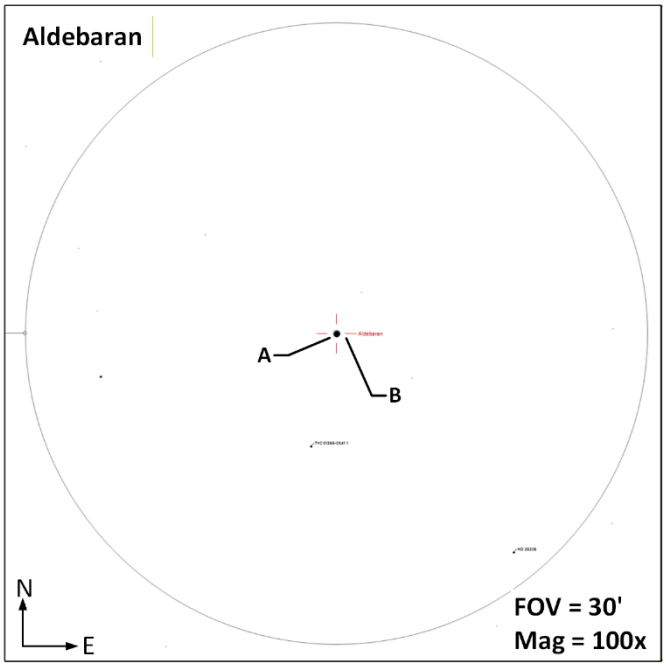
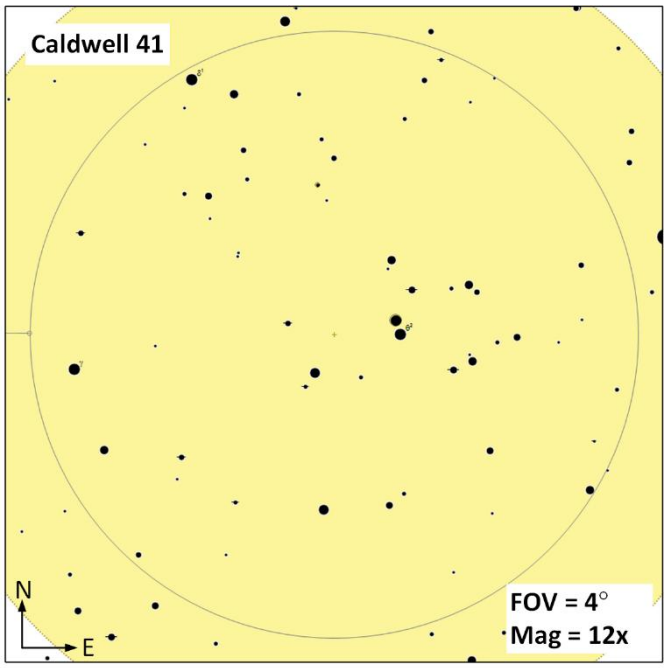
Object (Type)	Ref	Aliases	Stats
118 Tau (DS)	1	SAO-077201, HIP 25695, HR 1821, HD 35943, STF 716, ADS 4068, 118 Tauri	| M=5.8, 6.7 | Sep=4.7" | PA=209º |
NGC 1746 (AS)	1	Cluster of Clusters, Taurus Triplet	| M=6.4 | Size=45' | SB=23.3 |
NGC 1647 (OC)	1	Cr 54	| M=6.4 | Size=45' | SB=23.3 | Stars=90 |
STAR 16		Davis' Dog	| Size=3.3ºx1.5º | Stars=16 | Ref Star: Canis Major shaped? Includes 50, 51, 53, 65, 67, 69, 72 Tauri
Chi Tau (DS)	1, 2	SAO-077516, HIP 27181, HR 1977, HD 38307, Chi Tauri, χ Tau, ALDS15	| M=5.4, 8.5 | Sep=19.4" | PA=25º |
Messier 45 (OC, RN)	1	The Pleiades, Seven Sisters, Subaru Cluster, Mel 22	| M=1.6 | Size=2º | SB=20.6 | Stars=500 |
NGC 1435 (RN)	1	Merope Nebula, Temple's Nebula	| M=13 | Size=30' | SB=29.0 | Reflection nebula surrounding a star in M-45

Aldebaran (CS, DS | Mag Range = 0.75 – 0.95 | DS | M=0.85, 13.6 |Sep=31" | PA=115º |) – The brightest star in Taurus and 76 ly from earth, Aldebaran appears at the edge of the Hyades Open cluster (Caldwell 41) but is not a member of the cluster. Aldebaran has a very faint dwarf companion that is quite dim, and probably will not be visible due to the large difference in brightness between these components.

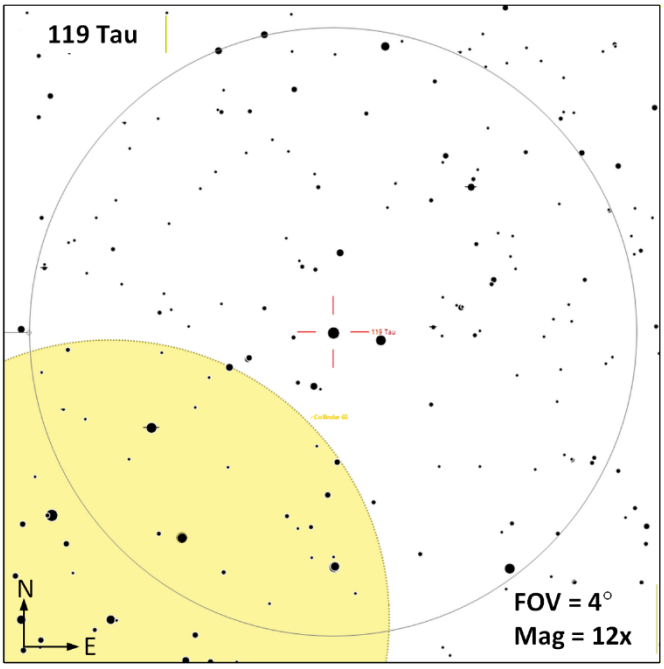


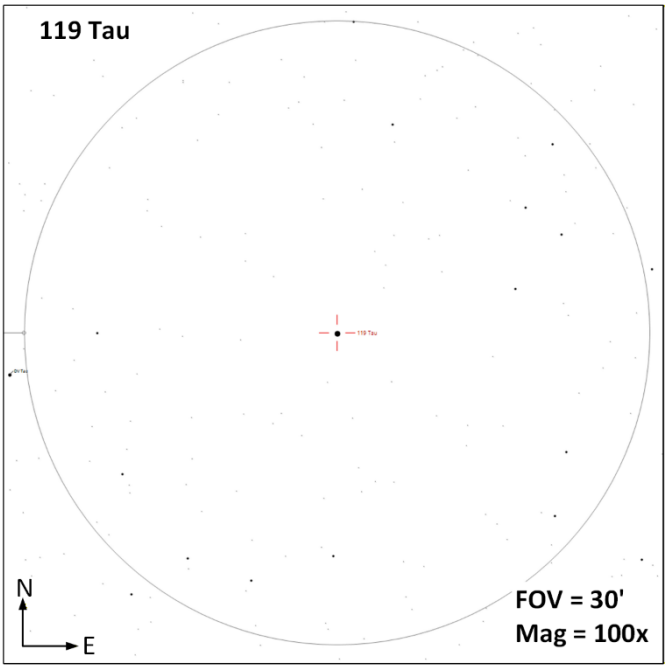


Caldwell 41 (OC | M=0.5 | Size=5.5º | SB=21.7 |) – The Hyades is a large open cluster of several hundred stars at a distance of about 152 ly and covers an area of 5.5º in the sky making up the head of Taures. Binoculars will be required to view the full cluster. This is a loose cluster of stars.

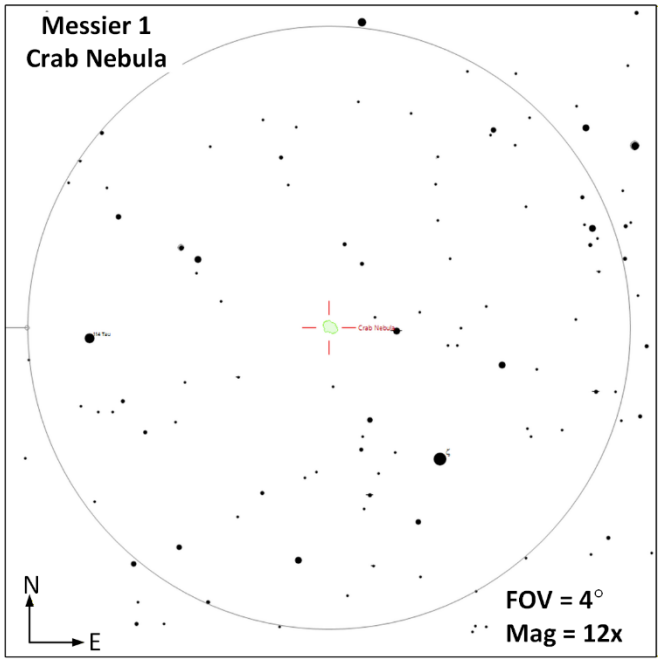


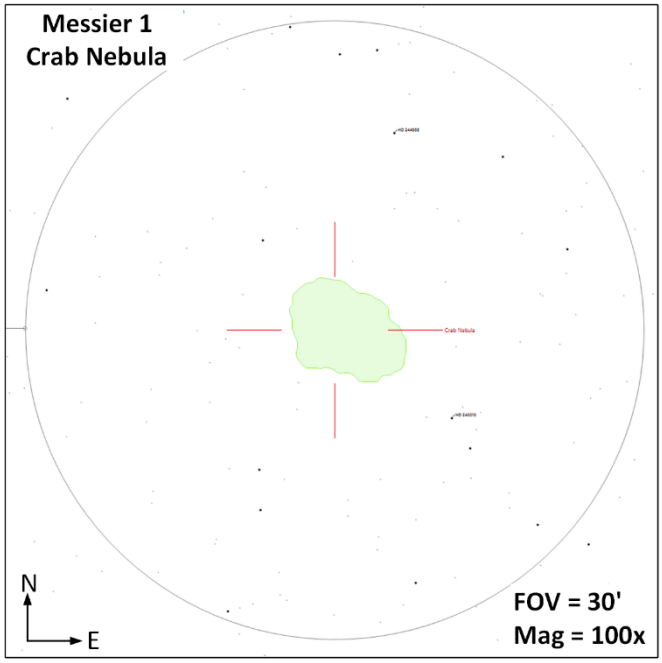
119 Tau (CS | Mag Range = 4.2-4.5 | Period = 165 days |) – Also known as CE Taruri this red supergiant is 1,800 ly from earth and is 406 time the sun's diameter in size and ha 19 time the mass of our sun.



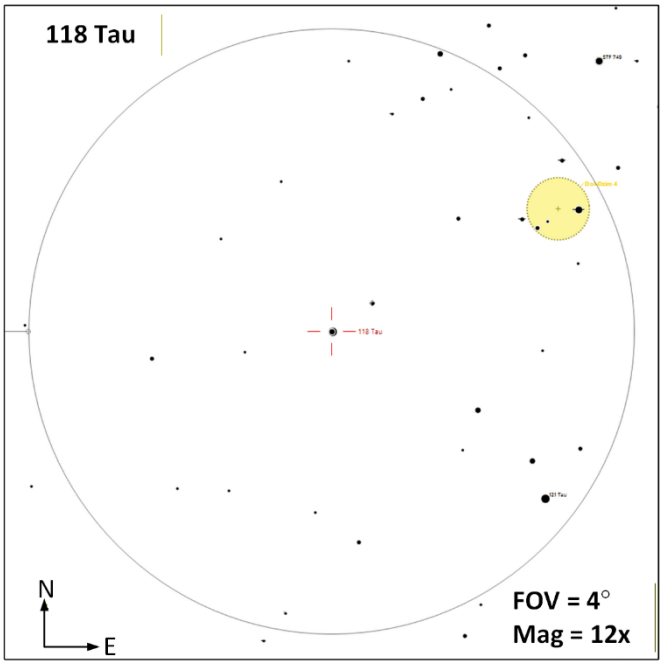


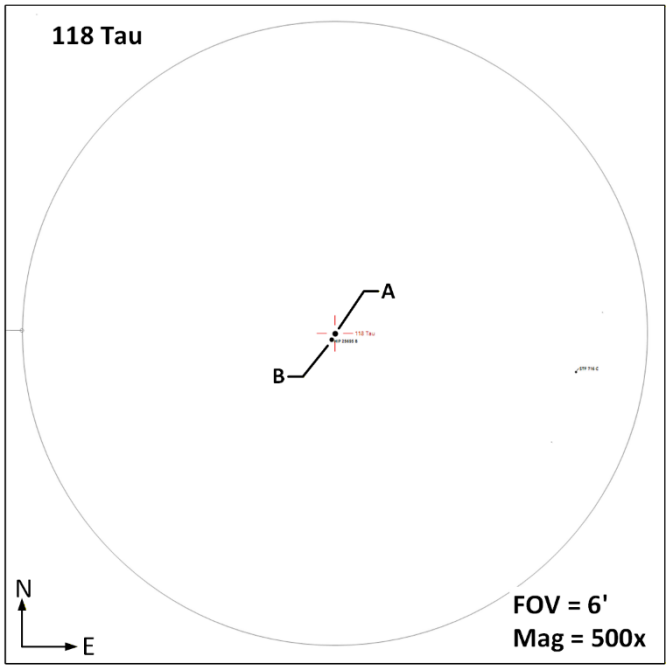
Messier 1 (SNR | M=8.4 | Size=7’ x 4.8’ | SB=20.7 |) – The Crab Nebula is a Supernova remnant 6,500 ly from earth. This is a result of a supernova observed in 1054 and documented by Japanese, Chinese and Arab stargazers. Currently it is 11 ly in diameter and is expanding at 0.5% the speed of light.



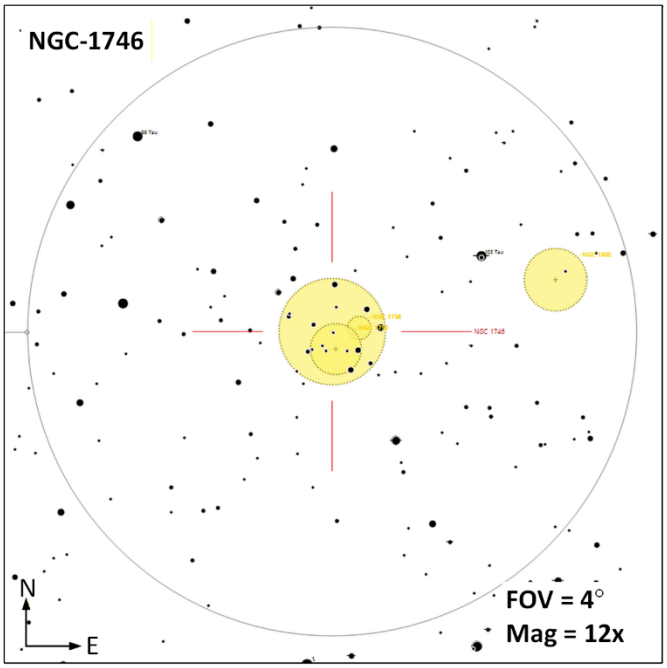


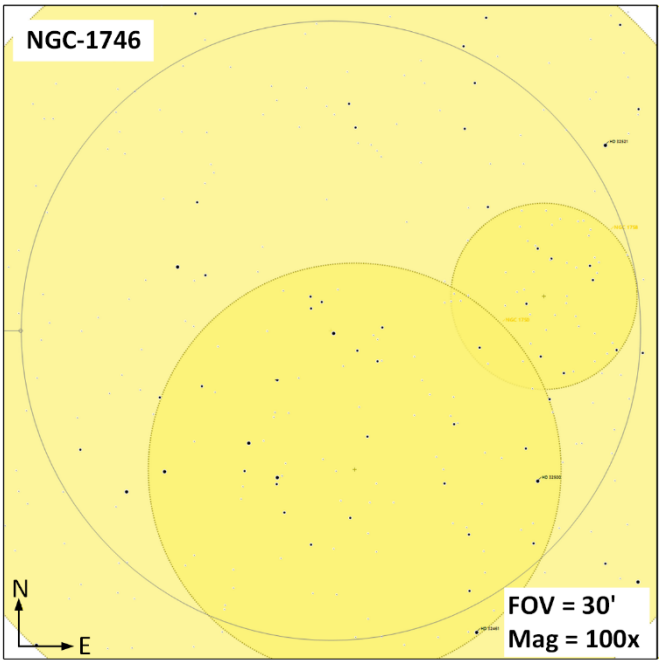
118 Tau (DS | M=5.8, 6.7 | Sep=4.7” | PA=209º |) – This star system is listed as a quintuple system with 3 estimated visually detectable stars. However, the AC components are not actually physically associated. The Aa and Ab components have a large magnitude difference (5.8 vs 12.1) with a separation of 1.8” so most likely not visible in earth-based telescopes.



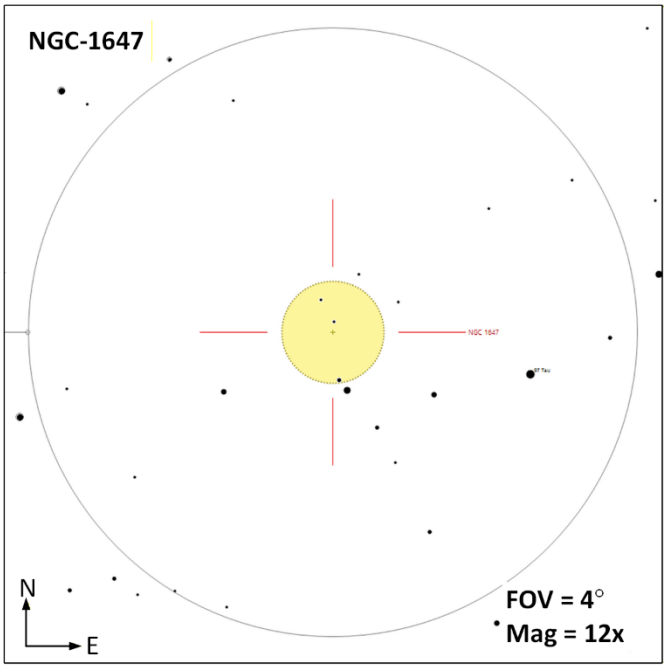


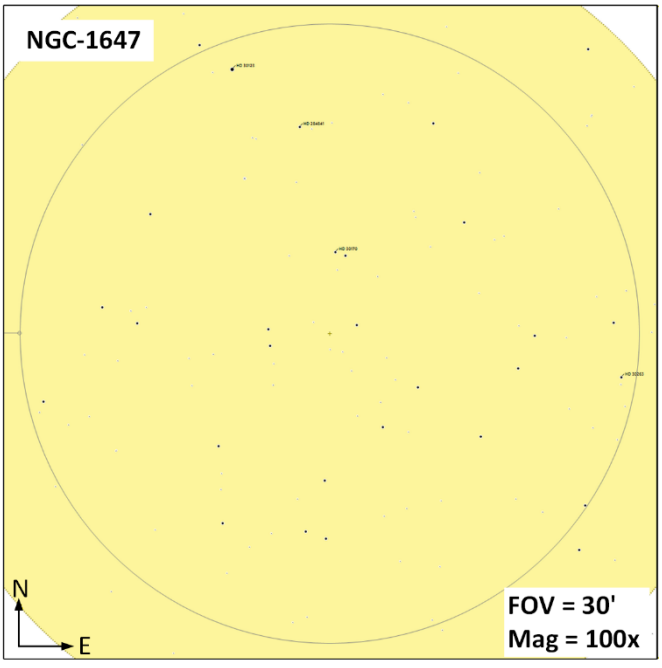
NGC-1746 (AS | M=6.4 | Size=45’ | SB=23.3 |) – Known as the Cluster of Clusters, this was originally thought to be an open cluster but further observations showed that this area of sky is a collection smaller open clusters NGC 1750, and NGC 1758 with a random grouping of stars rather than a true cluster.



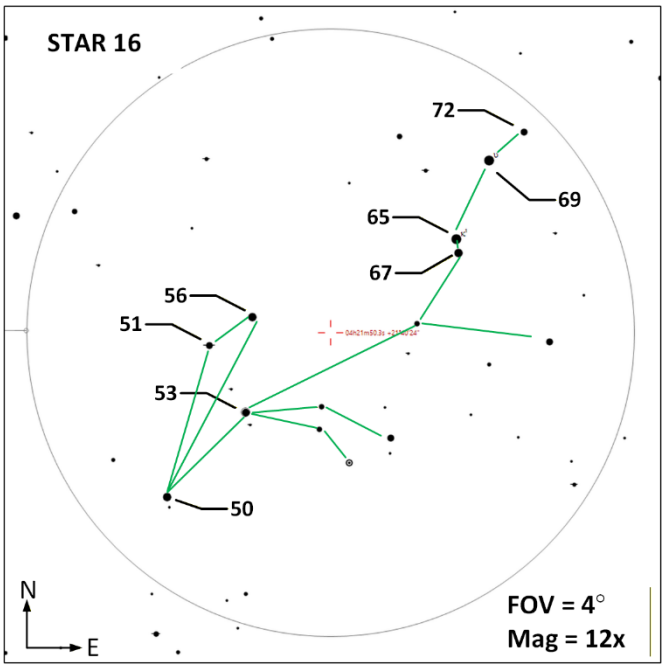


NGC-1647 (OC | M=6.4 Size=45’ | SB=23.3 | Stars=90 |) – This loose collection of about 90 stars lies 1,800 ly from earth and is estimated to be about 150 million years old.

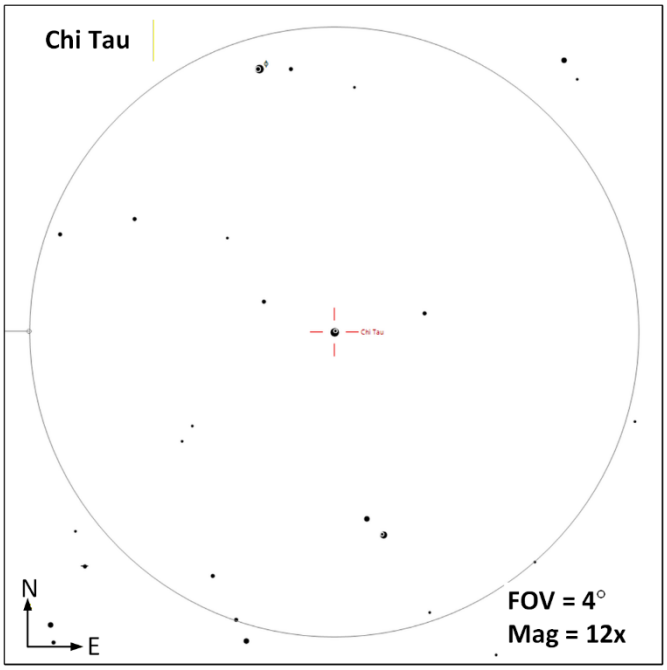


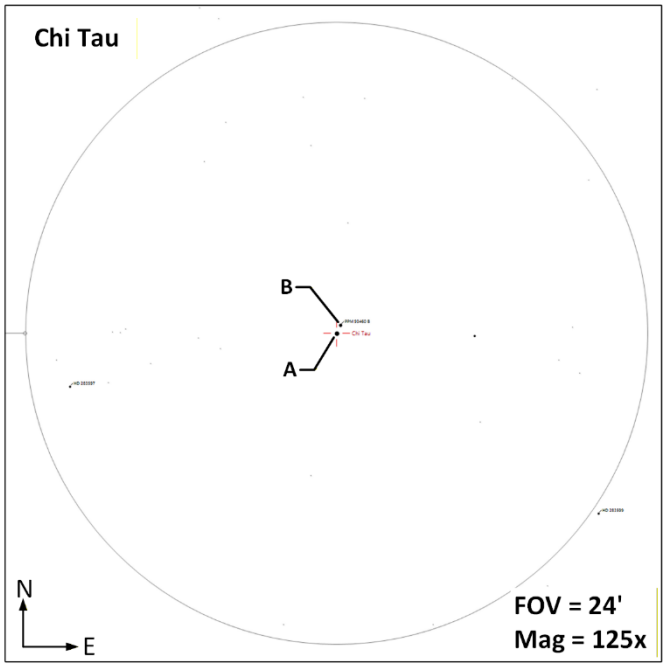


STAR 16 (AS | Size = 3º x 1.5º | Stars = 16 | Ref Star=53 Tau) – Davis' Dog. A bit of a stretch to see the dog here, but this is what I came up with.

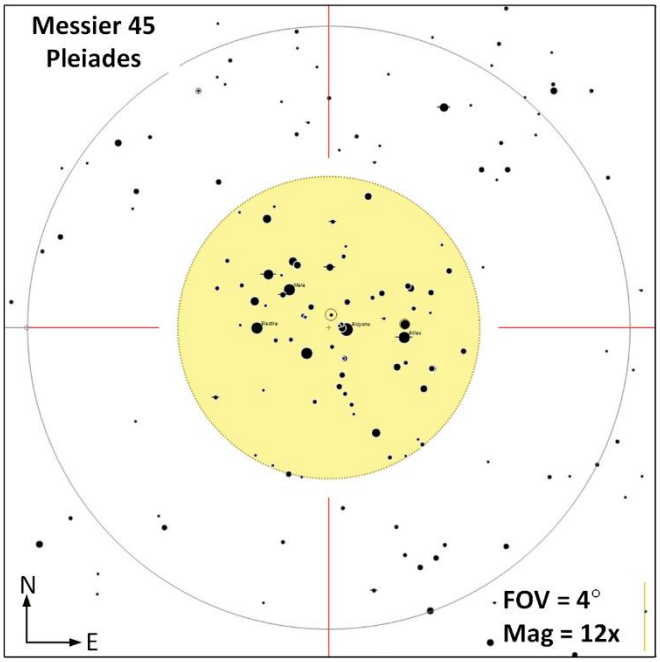


Chi Tau (DS | M=5.4, 8.5 | Sep=19.4" | PA=25º |) – This star system is about 291 ly from Earth with an estimate 5 companion stars, all of the "companion" stars are not verified physical companions. The AB pair are the brightest pair while the C,D, & E companions come in at visual magnitudes of 12.5, 13.3, 15.0 respectivly with separations of about 11" from the A component. The C,D,E components are not indicated below.

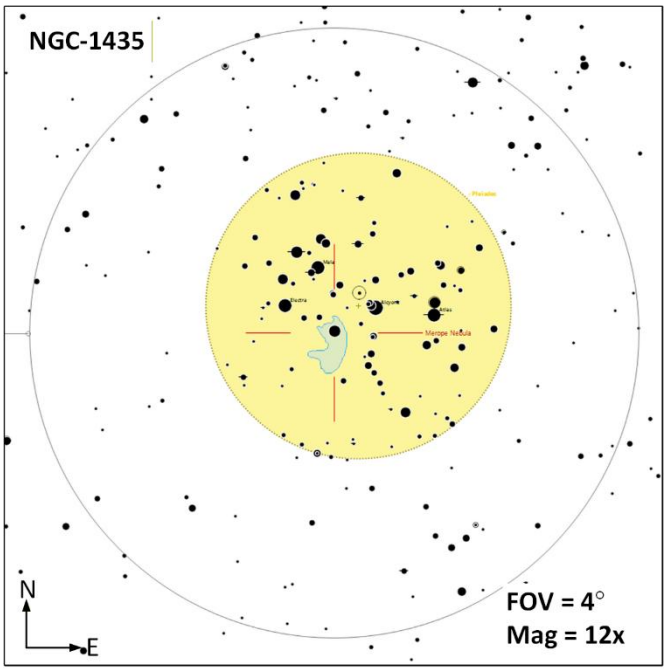


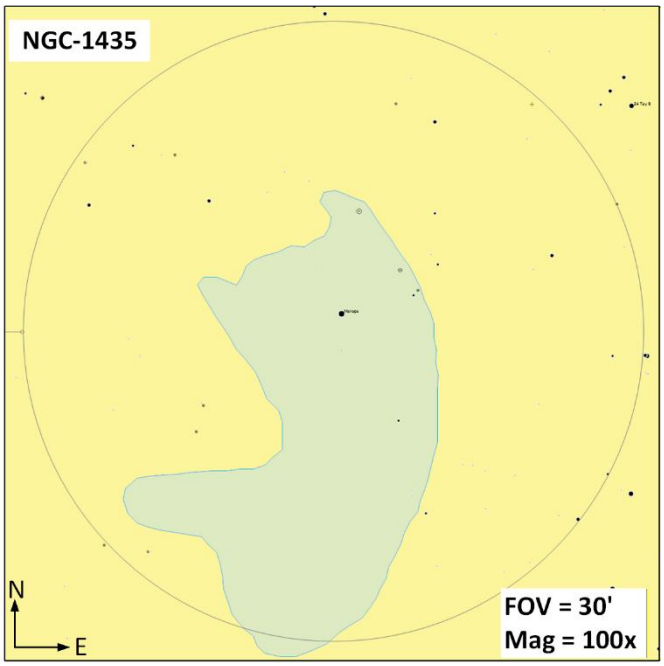


Messer 45 (OC, RN | M=1.6 | Size=30’ |SB=29.0 |) – The Pleiades is perhaps the most famous of the open clusters, also known as the seven sisters. At a distance of 444 ly from earth this is one of the closest open clusters to earth. This cluster also contains a reflection nebula (NGC-1435) noted below. The cluster is estimated to be 100 million years old



NGC 1435 (CS, DS |Mag Range=0.75-0.95 | DS | M=0.85, 13.6 | Sep=31” | PA=15º |) – The Merope Nebula is a reflection nebula in the Pleiades centered around the 4th magnitude star Merope. It is easy to mistake this nebula as a reflection from optics in a telescope view due to the brightness of Merope.





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References, Resources and Tools used to create this document

The resources listed below were utilize to generate this document.

References

- Books
  - Objects in the Heavens: Peter Birren
  - Touring the Universe through Binoculars: Philip Harrington
  - The Deep Sky: Philip Harrington
  - Double and Multiple Stars and How to Observe Them: James Mullaney
  - Sky Spot Books
    - Bright Telescopic Objects: Brent Watson
    - Select Double Stars: Brent Watson
    - Overlooked Objects: Bret Watson
- Asterisms
  - Astronomical League: Asterisms observing program List
  - Asterisms: Demeiza Ramakers
  - Pattern Asterisms: John Chiravalle
  - Milwaukee Astronomical Society: Binocular Asterisms
  - Deep-Sky.co.uk: Observing Asterisms (David Ratlege)
  -
- Saguaro Astronomy Club
  - Asterisms List
  - 110 Best of the NGC
  - Red Stars List
- Online
  - Wikipedia
  - The Garden Astronomer: Double, Multiple, and Special Star Observations List
  - Sky & Telescope: Colored Double Stars, Real and Imagined
  - In-The-Sky.org
  - Constellation-guide.com

Applications

- SkyTools 4.1 Visual Professional
- AstroPlanner Version 2.4
- Cartes du Ciel Version 4.3
- Sky Safari Pro 7
- Microsoft Office Home and business 2021 - Word
- Microsoft Visio Professional 2021
- IrfanView Version 4.72