

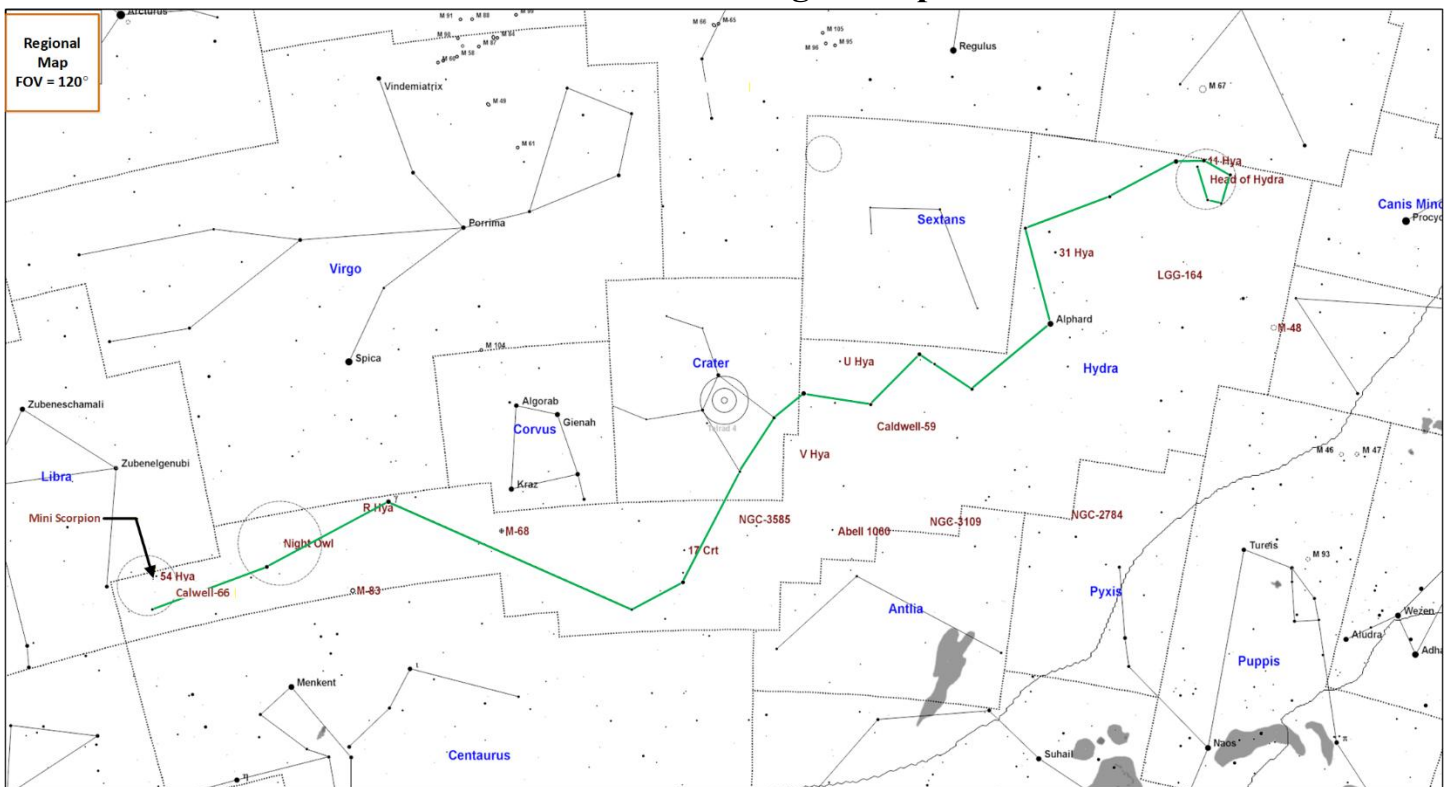


# Constellation Guide

## Constellation Highlights

- **54 Hydrae (MS)** – A colorful multiple star system.
- **Caldwell 66 (GC)** – An intergalactic globular cluster passing through our galaxy.
- **Messier 83 (G)** – Face on spiral galaxy known as the Southern Pinwheel Galaxy.
- **Messier 68 (GC)** – Bright globular should be a good view in telescopes.
- **Abell 1060 (GCI)** – The Hydra Cluster, approximately 6 galaxies in a 30' view, most will be dim and pretty small.
- **Caldwell 59 (PN)** – Ghost of Jupiter has shape similar to Jupiter appearing blue-green in color.
- **Messier 48 (OC)** – A great binocular open cluster and interesting target for telescopes.

## Constellation Targets Map



# Constellation Guide

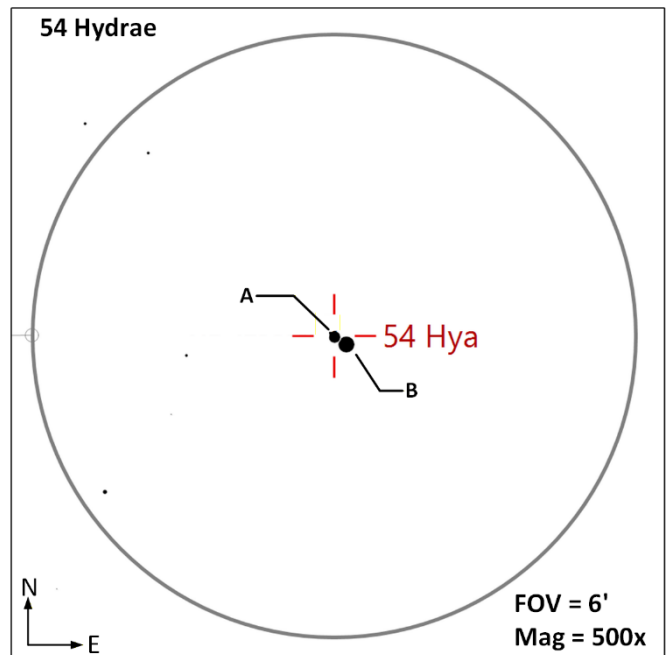
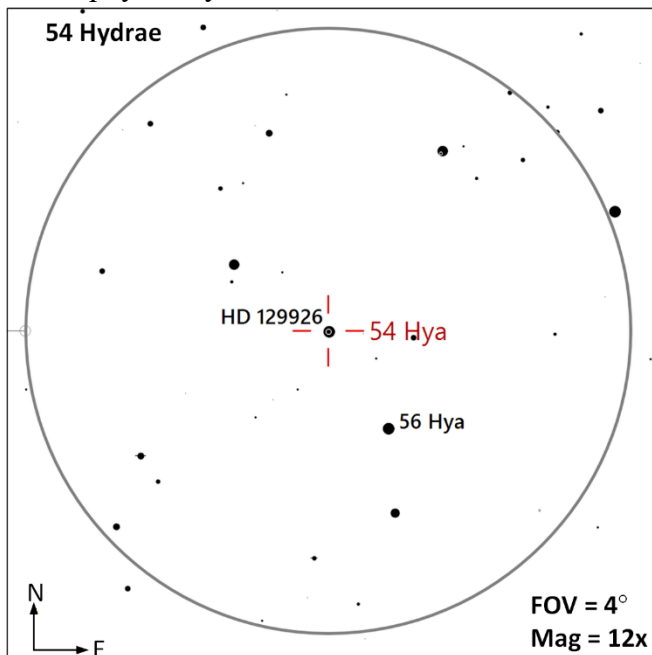
## Region Objects Summary

Object (Type)	Ref	Aliases	Stats
54 Hydrae (MS-4)	<a href="#">1</a> , <a href="#">2</a>	SAO-182856, HIP 72197, HD 129926, HR 5497, m Hydrae, M Hya, 54 Hya, H 3, ADS 9375, GC 19864	<b>AB</b>   M=5.1, 7.2   Sep=8.1" PA=122°   MC=G1V F2V   <b>AC</b>   M=5.1, 17.5   Sep=531"   PA=72°   MC=F0VSr, G1   <b>AD</b>   M=5.1, 10.9   26.5"   PA=151°   MC=F0IV, M4   <b>BC</b>   M=7.1, 15.6   Sep=526"   PA=71°   MC=F0VSr, G1   <b>BD</b>   M=7.1, 14.1   Sep=19.3"   PA=163°   MC=F0VSr, M4   <b>DC</b>   M=14.1, 15.6   Sep=527" PA=69°   MC=M4, G1
Mini Scorpion (AS)			Stars = ??   Size = 5° x 2°   Ref Star: 54 Hya (SAO-182856, HIP 72197)
Caldwell 66 (GC)	<a href="#">1</a>	NGC-5694, ESO 512-SC10, C 66	M=10.2   Size=3.6'   SB=21.6   MC=VII
Night Owl (AS)			Stars =??   Size= 1.0° x 0.7°   Ref Star: 47 Hya (SAO-182134, HIP 68269)
Messier 83 (G)	<a href="#">1</a>	NGC-5236, UGCA 366, PGC 4802, MCG -5-32-50, ESO 444-81, Southern Pinwheel Galaxy	M=7.6   Size=12.9' x 11.5'   SB=21.7   MC=SAB(s)c
R Hydrae (CS)	<a href="#">1</a>	SAO-181695, HIP 65835, HR 5080, HD 117287, ADS 8920	Mag Range: 3.2 to 9.5   Period=380 days   MC=M7IIIe
Messier 68 (GC)	<a href="#">1</a>	NGC-4590, ESO 506-SC30, GC1 20	M=7.8   Size=11.0'   SB=21.6   MC=X
17 Crateris (DS)	<a href="#">1</a> , <a href="#">2</a>	SAO-179967, HIP 56280, HR 4443, HD 100286, H 3, ADS 8202, 17 Cr <sup>t</sup> , N Hya	<b>AB</b>   M=5.6, 5.7   Sep=9.6"   PA=210°   MC=F8V, F8V
NGC-3585 (G)	<a href="#">1</a>	PGC 34160, MCG -4-27-4, AM 1110-262	M=9.9   Size=4.7' x 2.6'   SB=21.2   MC=E6
V Hydrae (CS)	<a href="#">1</a>	SAO-179278, HIP 53085, BC -20 3283, BU 1428	Mag Range: 6.0 – 12.3   Period=530d, 17.5yrs   MC=SRa
Abell 1060 (GCl)	<a href="#">1</a>	PGC 31478, MCG -4-25-36, Hydra Cluster	Hydra Galaxy Cluster
U Hydrae (CS)	<a href="#">1</a>	SAO-156110, HIP 52009, HR 4163, HD 92055, BD -12 3218	Mag Range: 4.7 to 5.2   Period=450d   MC=C-N5
Caldwell 59 (PN)	<a href="#">1</a>	NGC-3242, Ghost of Jupiter Nebula, CBS Eye, Eye Nebula, ARO 4, PK 261+32.1, VV 57	Mag=8.6   Size=25"   SB=24.2
NGC-3109 (G)	<a href="#">1</a>	UGCA 194, PGC 29128, MCG -4-24-13	M=10.4   Size=19.1' x 3.7'   SB=23.7   MC=SB(s)m
NGC-2784 (G)		UGCA 152, PGC 25950, MCG -4-22-5, ESO 497-23	M=10.2   Size=5.5' x 2.2'   SB=21.5   MC=S0
31 Hydrae (DS)	<a href="#">1</a> , <a href="#">2</a>	SAO-136895, HIP 46509, HR 3759, HD 81997, HJ 1167, Tau <sup>1</sup> Hya, τ <sup>1</sup> Hya	<b>AB</b>   M=4.6, 7.3   Sep=66"   PA= 4.2°   MC=F6V, K0
LGG 164 (GCl)	<a href="#">1</a>	NGC-2708 Group	NGC 2708   M= NGC 2695   NGC 2 NGC 2697, 2705, 2707, 2706, 2698, 2709, 2703, 2708, 2695, 2727/2708

# Constellation Guide

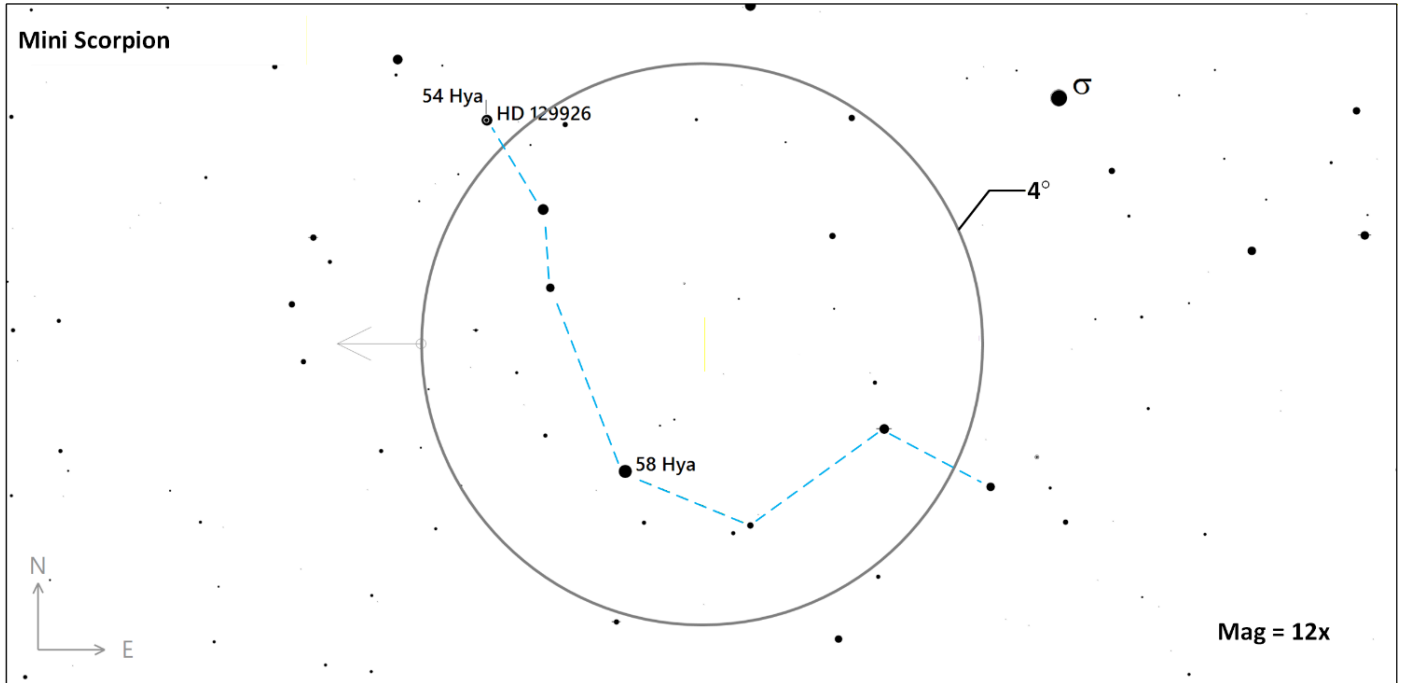
Object (Type)	Ref	Aliases	Stats
11 Hydrae (MS-4)	<a href="#">1</a> , <a href="#">2</a>	SAO-117112, HIP 43109, HR 3482, HD 74874, SP 1, ADS 5993, Epsilon Hydrae, eps Hya, ε Hya	AB   M=3.5, 5.6   Sep=0.27"   PA=162°   MC = G1III, A8V   AB, C   M=3.5, 6.7   Sep=2.7"   PA=313°   MC C=F7V   AB, D   M=3.5, 12.5   Sep=18.1"   PA=201°   MC D=?
Head of Hydra (AS)		Radio Antenna	Stars= 5   Size = 5° x 2°   Ref Star: 11 Hya (SAO-117112, HIP 43109)
Messier 48 (OC, AS)	<a href="#">1</a>	NGC-2548, Collinder 179, Cr 179, H IV-22, The Moth	M=5.8   Size=30'   SB=21.8   MC=I3r

**54 Hydrae** (MS-4 **AB** | M=5.1, 7.2 | Sep=8.1" PA=122° | MC=F2V || **AC** | M=5.1, 17.5 | Sep=531" | PA=72° | MC=F0VSr, G1 || **AD** | M=5.1, 10.9 | 26.5" | PA=151° | MC=F0IV, M4 || **BC** | M=7.2, 15.6 | Sep=526" | PA=71° | MC=F0VSr, G1 || **BD** | M=6.9, 14.1 | Sep=19.3" | PA=163° | MC=F0VSr, M4 || **DC** | M=14.1, 15.6 | Sep=527" PA=69° | MC=M4, G1 ) – Most descriptions list this as a double star system. Descriptions of color range from a yellow/purple pair to red/blue pair. Stelle Doppie website indicates this has 4 visually detectable stars, all physically associated with each other.

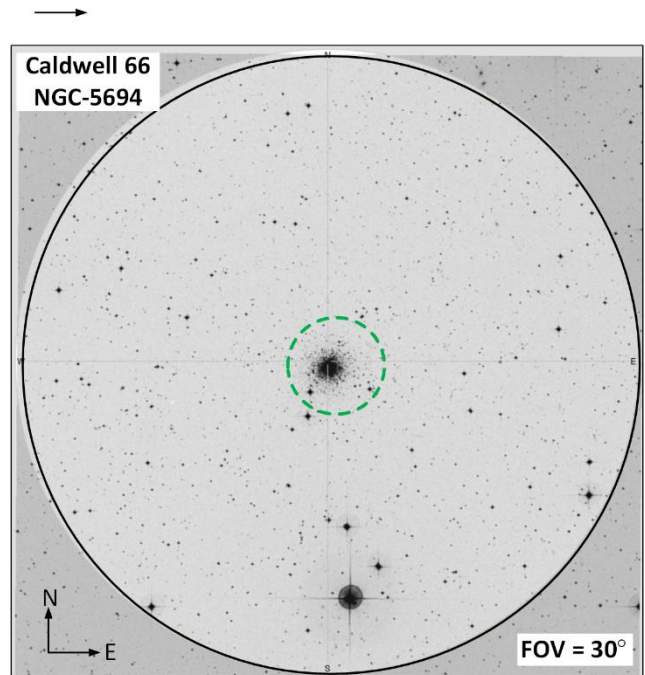
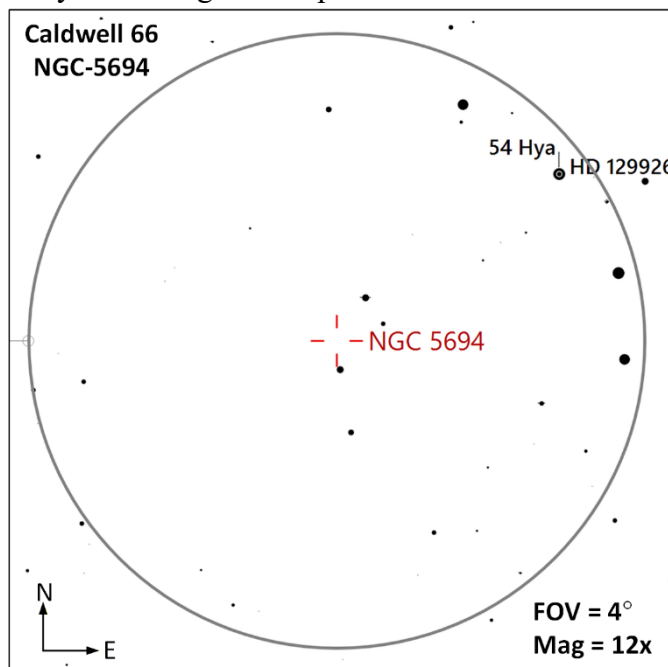


# Constellation Guide

**Mini Scorpion** (AS | Stars =?? | Size= 5° x 2° | Ref Star: 54 Hya (SAO-182856, HIP 72197)) – The reference star is a previously highlighted multiple star system and along with stars 55 through 60 Hya form the curved back of this asterism that is shaped similar to the Scorpius constellation.

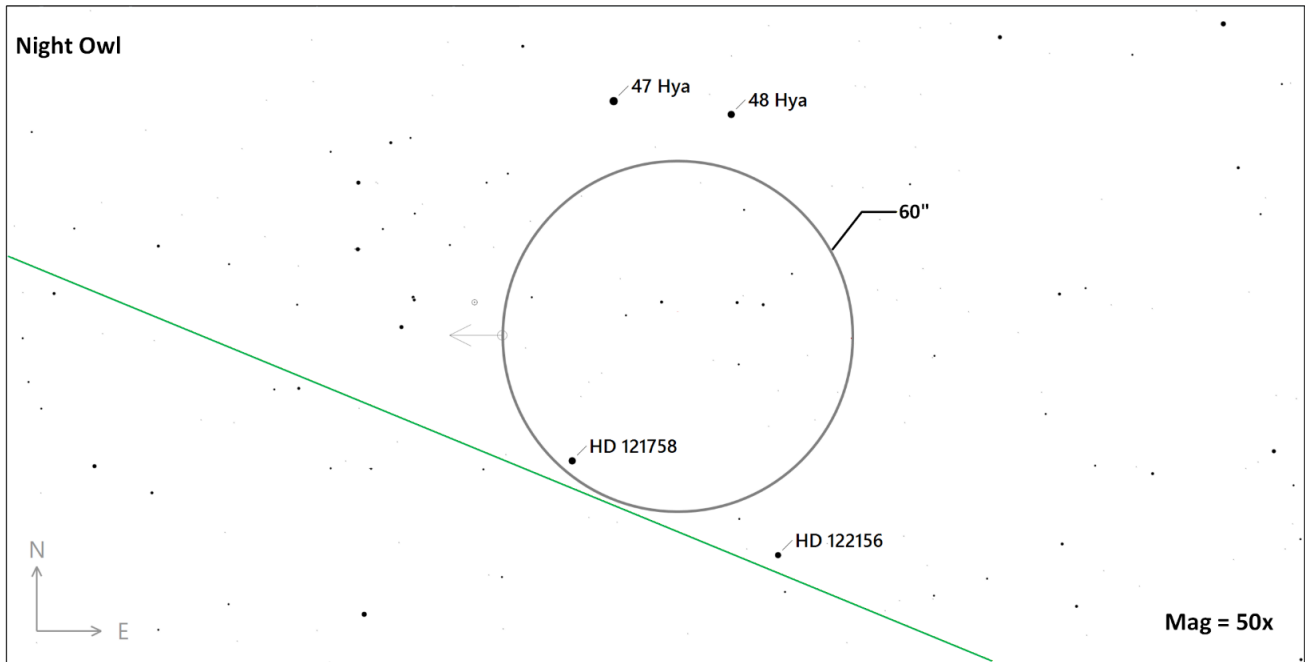


**Caldwell 66** (GC | M=10.2 | Size=3.6' | SB=21.6 | MC=VII |) – NGC-5694 is located 114,000 ly away and is estimated to be 12 billion years old and is one of the most remote Globulars know. The chemical composition of this globular suggest it has extragalactic origins; it appears to be moving so fact that it will escape from our Galaxy into intergalactic space.

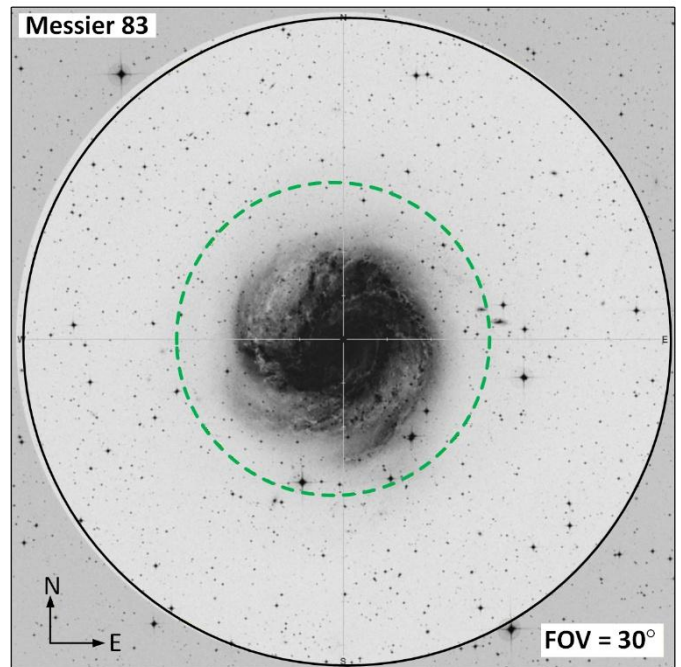
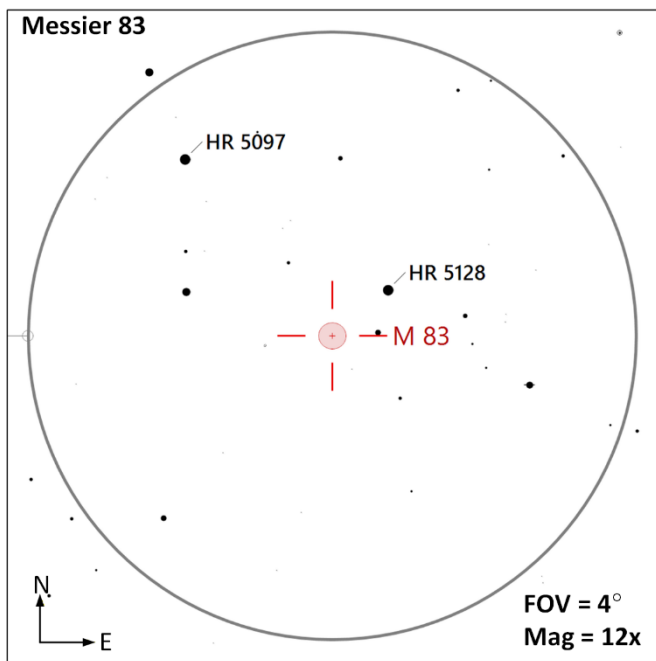


# Constellation Guide

**Night Owl** (AS | Stars = ?? | Size= 1.0° x 0.7° |) Ref Star: 47 Hya (SAO-182134, HIP 68269) – The stars 47 Hya and 48 Hya make up the eyes of this dim owl that is perched on the tail of Hydra. Use binoculars to view this asterism.

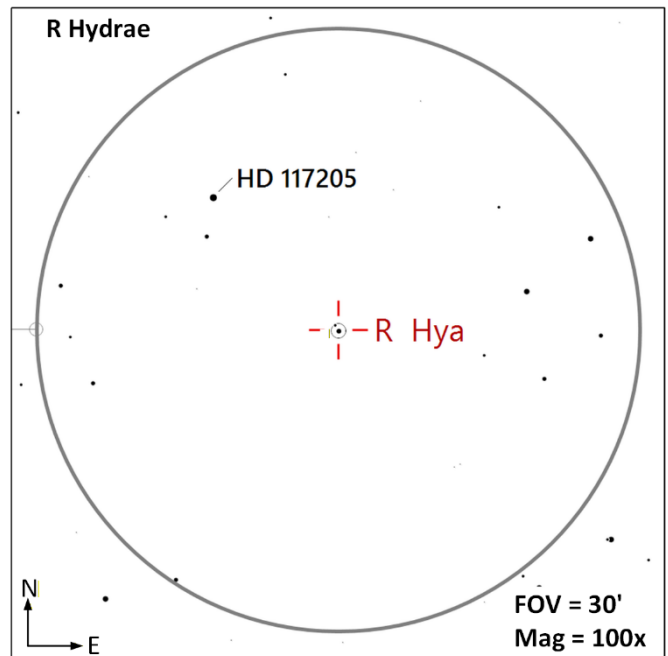
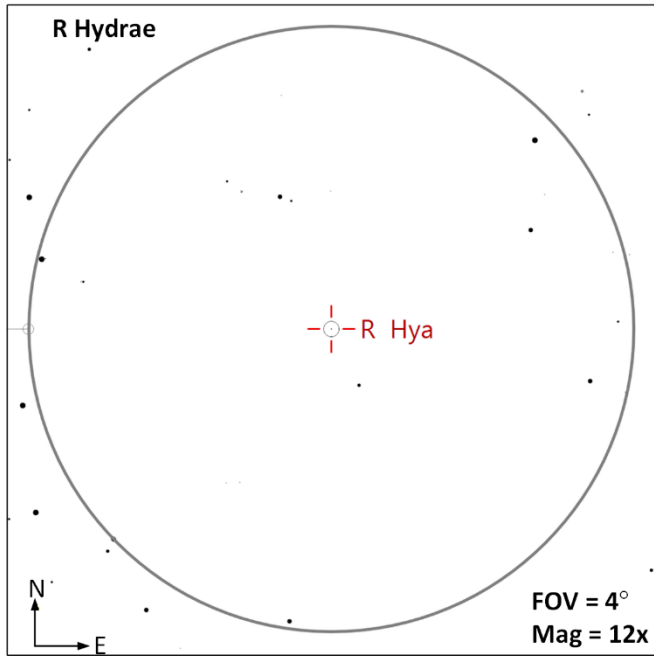


**Messier 83** (G | M=7.6 | Size=12.9' x 11.5' | SB=21.7 | MC=SAB(s)c |) – The Southern Pinwheel Galaxy (NGC-5236) is a face-on galaxy visible in small telescopes, larger apertures of 150mm (6") may be able to identify its spiral arms. This galaxy is located 150 million light years away and is one of the closest and brightest barred spiral galaxies in the sky, even visible in binoculars.

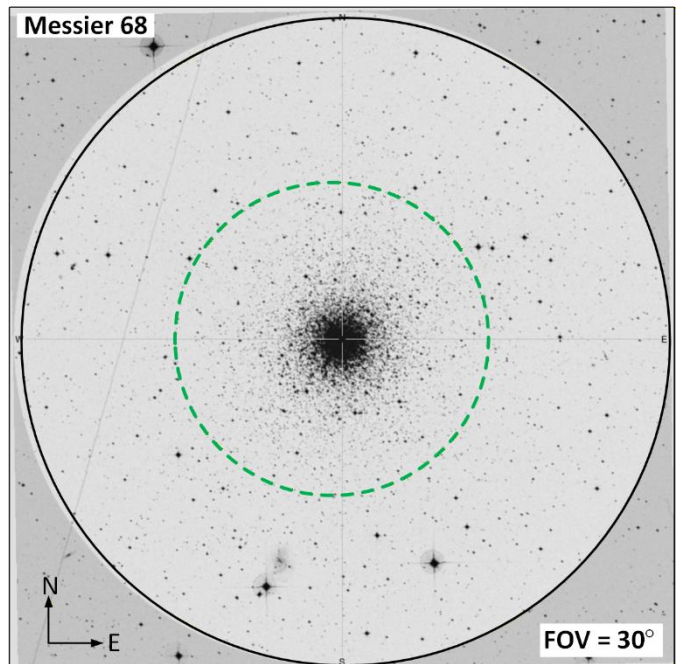
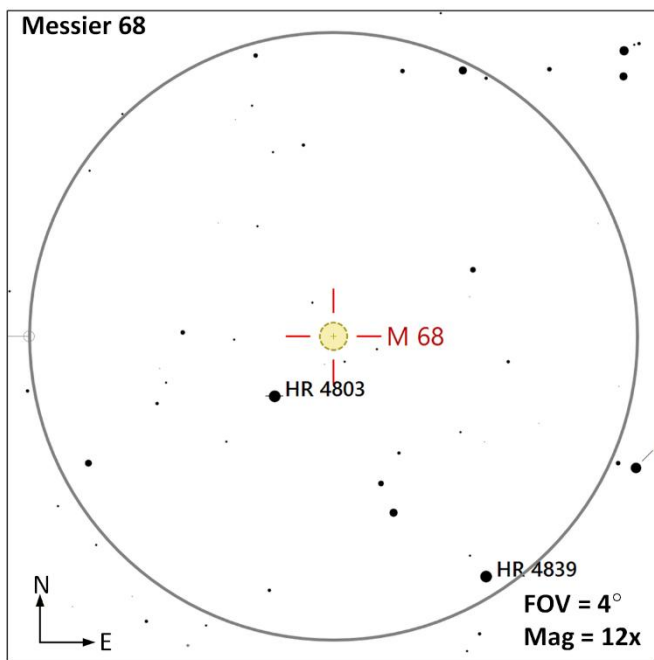


# Constellation Guide

**R Hydrae** (CS | Mag Range: 3.2 to 10.9 | Period=380 days | MC=M7IIIe ) – A [Mira-type variable](#) that has a large magnitude range of 3.5 to 10.9 over a period of 380 days. Located 389 light years from Earth this star is estimated to be 500 million to one billion years old.

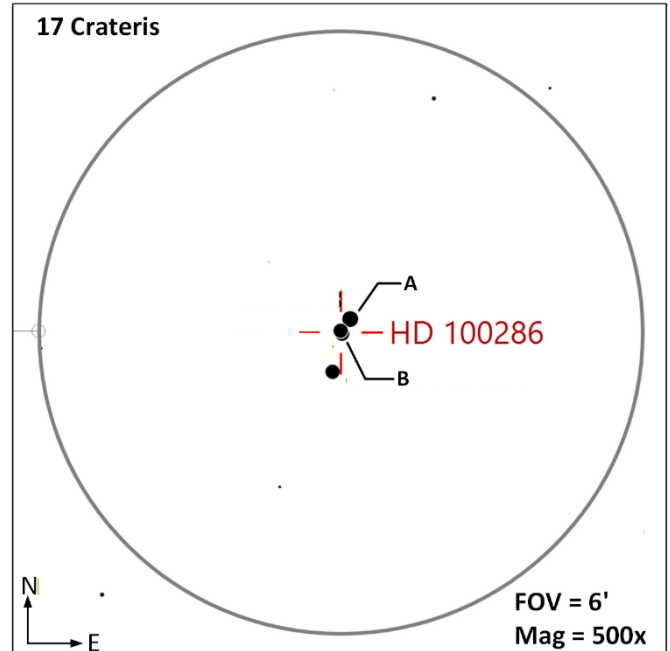
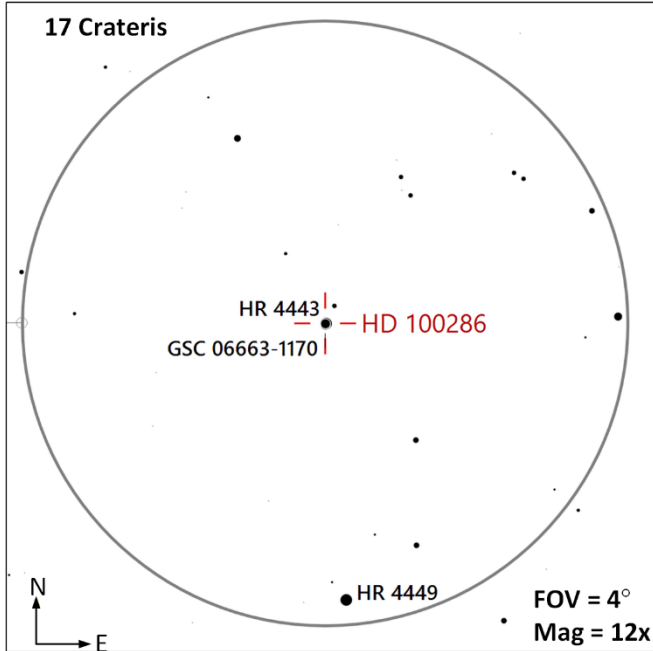


**Messier 68** (GC | M=7.8 | Size=11.0' | SB=21.6 | MC=X ) – This globular cluster is located about 33,600 light years away and has a very eccentric orbit around our galaxy's galactic bulge taking it 100,000 light years from the center, this is one of the most metal-poor globular clusters known and is estimated to be 11.2 billion years old.

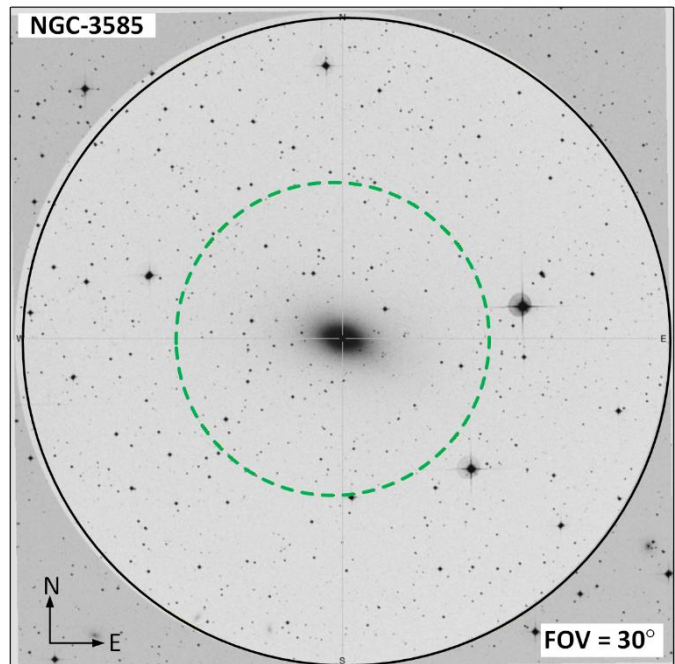
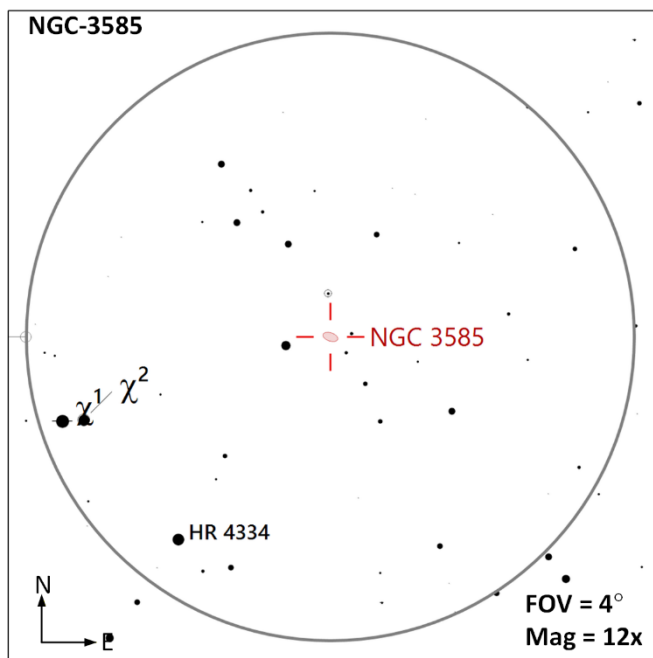


# Constellation Guide

**17 Crateris** (DS AB | M=5.6, 5.7 | Sep=9.6" | PA=210° | MC=F8V, F8V ) – Odd identifier, a note located in Stelle Doppie states “*Bayer or Flamsteed identifiers not always match the correct constellation because of procession and proper motion of the star. (Crt vs Hya)*”. This binary system has stars of identical morphological classification indicating they both should appear yellow-white in color.

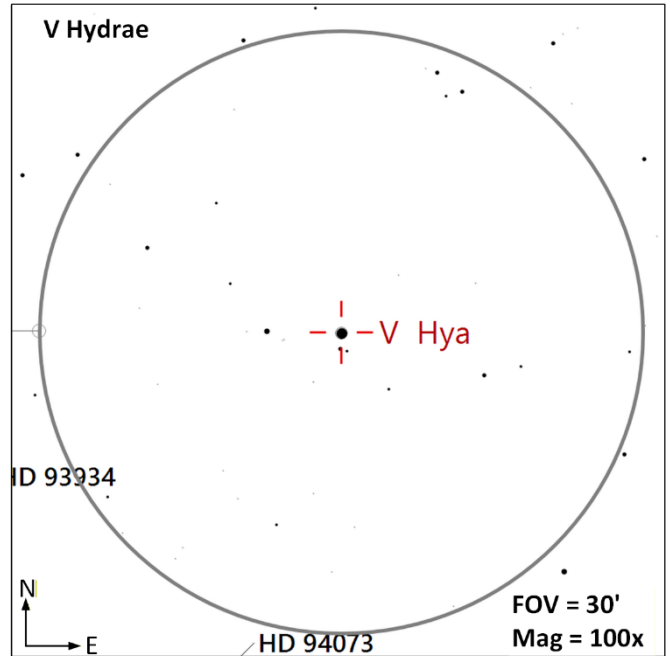
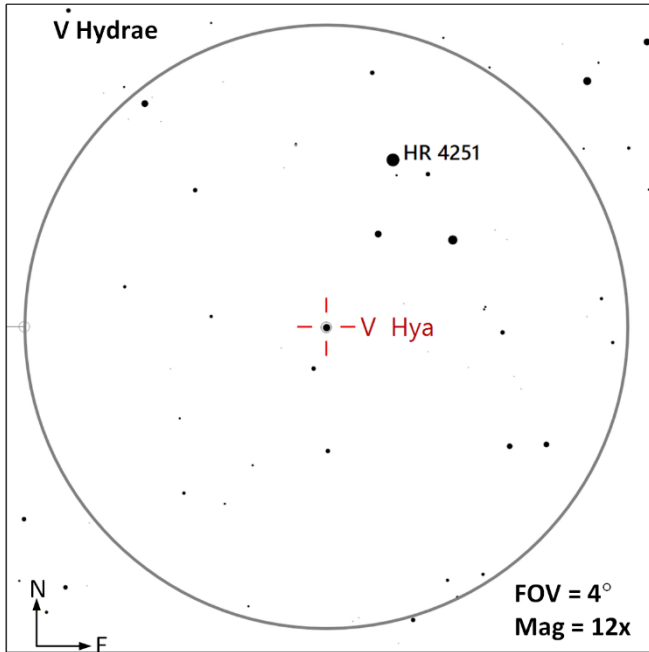


**NGC-3585** (G | M=9.9 | Size=4.7' x 2.6' | SB=21.2 | MC=E6 ) – This galaxy is located 60 million light years away with a diameter of 80,000 ly. It is estimated this galaxy has approximately 550 globular clusters associated with it, considered low for a field elliptical galaxy.

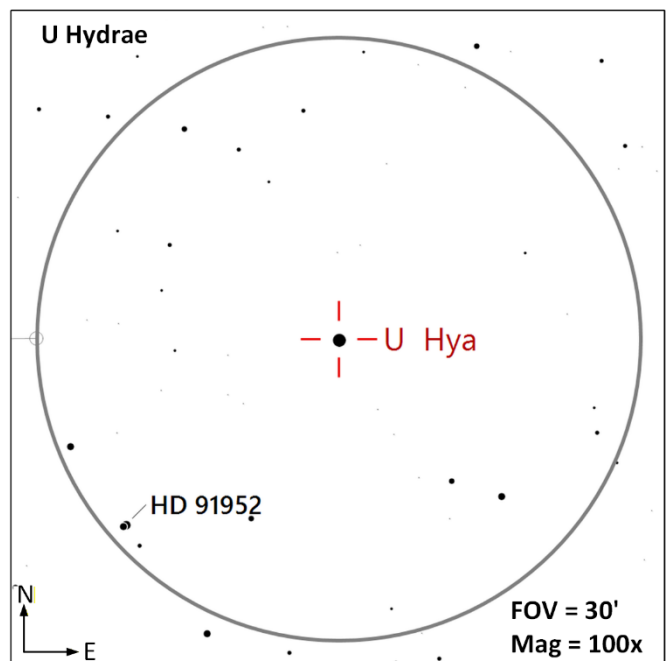
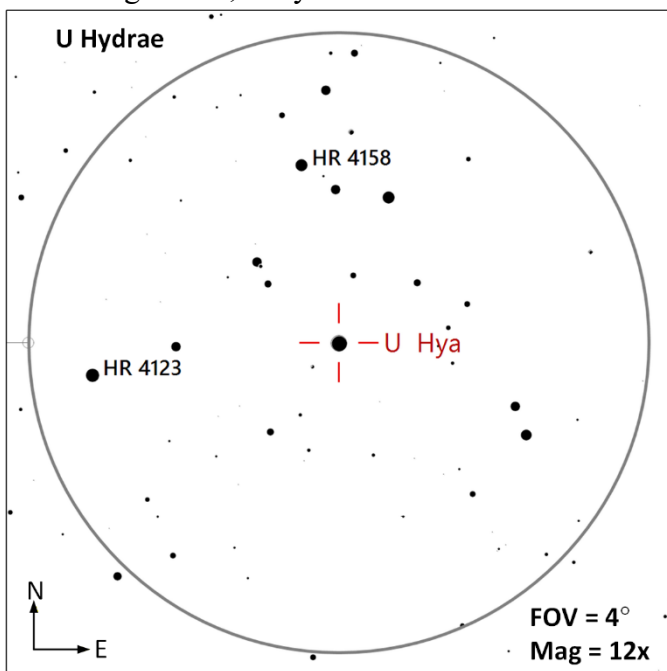


# Constellation Guide

**V Hydrae** (CS | Mag Range: 6.0 – 12.3 | Period=530d, 17.5yrs | MC=SRa )– A late carbon star that is nearing the phase in its life cycle to become a planetary nebula. This variable star has both a short period (530 days) and long period (17.5 years) cycle. The short period has a magnitude range of 1 to 2 magnitudes.



**U Hydrae** (CS | Mag Range: 4.7 to 5.2 | Period=450d | MC= C-N5 ) – This carbon star is located 680 light years away and is reported as “a remarkable red”. This star is reported to have a “fossil shell” of dust with an estimated age of 12,000 years.

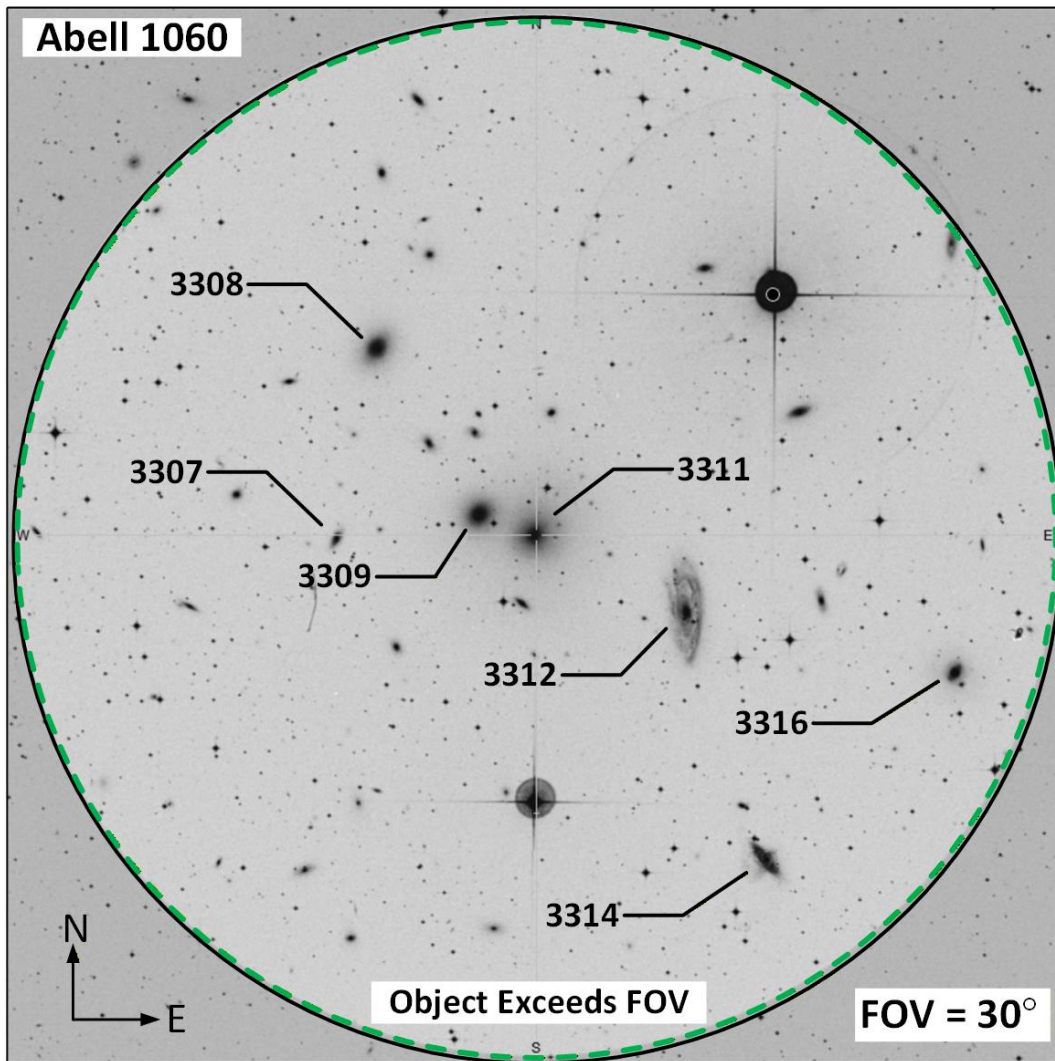


# Constellation Guide

**Abell 1060** – The [Hydra Cluster](#) of galaxies is a collection of 157 bright galaxies, spans about 10 million light years and has an unusually high proportion of [dark matter](#). This cluster is part of the [Hydra-Centaurus Supercluster](#) located 158 million light years from away. The largest galaxies in this cluster includes elliptical galaxies NGC-3309 and NGC-3311 all having a diameter of about 150,000 light years.

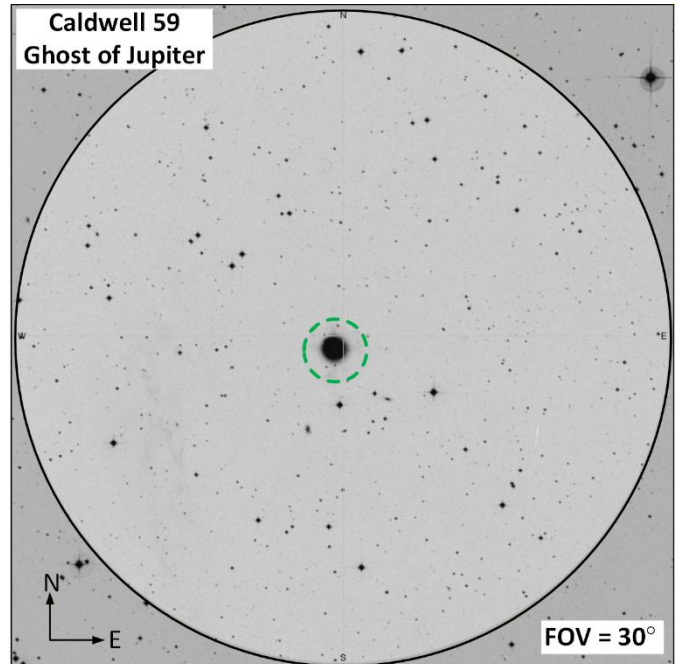
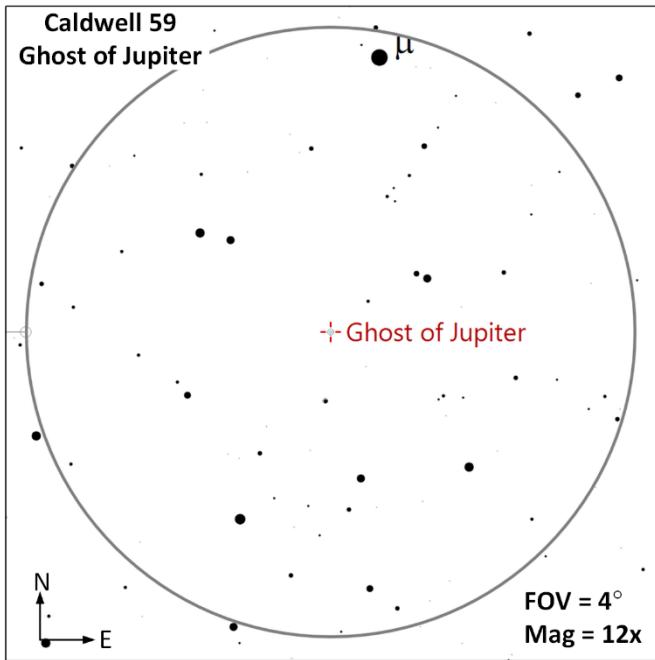
Galaxies in this view include:

- **NGC-3311** | M=11.7 | Size=2.3' x 2.1' | SB=22.0 | MC=E-S0 |
- **NGC-3308** | M=11.9 | Size=1.7' x 1.3' | SB=21.4 | MC=E/SB0 |
- **NGC-3307** | M=13.5 | Size=0.9' x 0.3' | SB=20.7 | MC=SB0-a |
- **NGC-3309** | M=11.6 | Size=1.9' x 1.6' | SB=21.4 | MC=E3 |
- **NGC-3312** | M=11.9 | Size=3.3' x 1.2' | SB=22.0 | MC=Sb |
- **NGC-3314** | M=13.1 | Size=1.5' x 0.5' | SB=21.4 | MC=SBa/P |
- **NGC-3316** | M=12.7 | Size=1.4' x 1.2' | SB=21.9 | MC=SB0 |

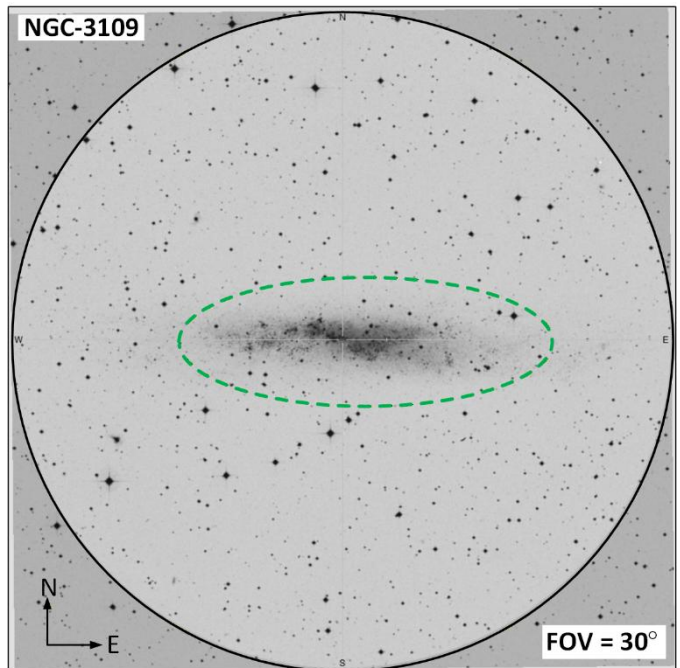
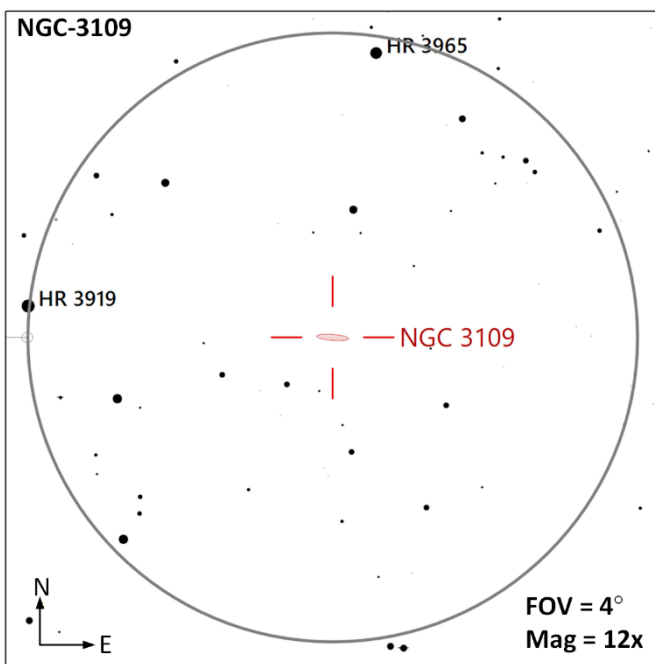


# Constellation Guide

**Caldwell 59** (PN | Mag=8.6 | Size=25'' | SB=24.2 |) – The Ghost of Jupiter Nebula (NGC-3242) has a similar shape and size to the planet Jupiter and has a bluish-green color. Located 4,800 ly away and measuring 2 ly from end to end with a 11<sup>th</sup> magnitude central star (white dwarf).

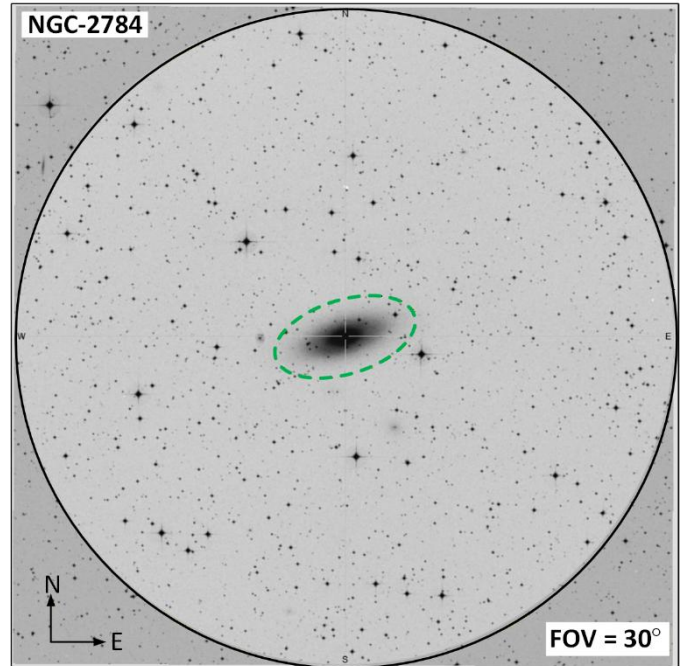
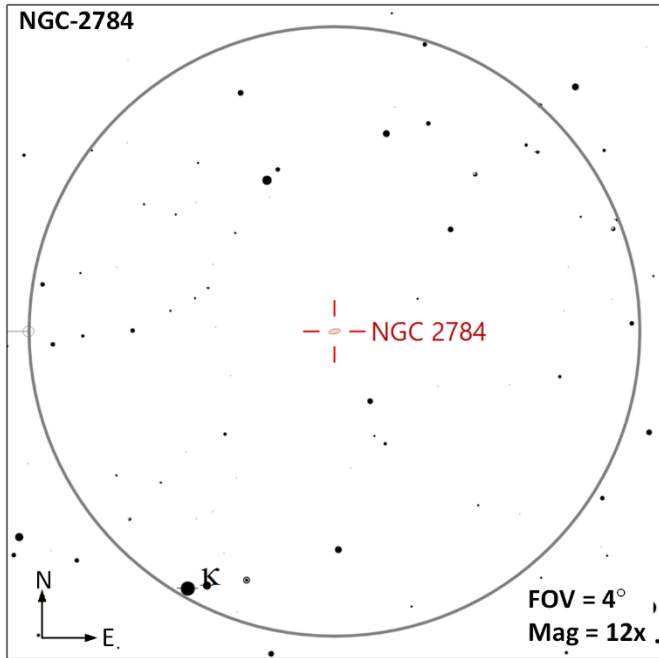


**NGC-3109** (G | M=10.4 | Size=19.1' x 3.7' | SB= | MC=SB(s)m |) – This is a small barred spiral galaxy with a physical diameter of 23,920 ly; slightly larger than the [Large Magellanic Cloud](#). NGC-3109 is located 4.3 million light years away, has a mass of 2.3 billion solar masses and doesn't appear to have a galactic nucleus.

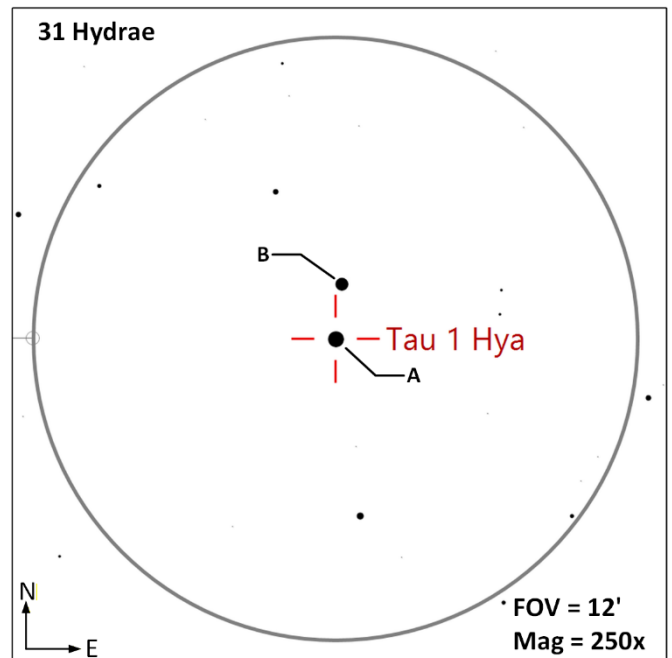
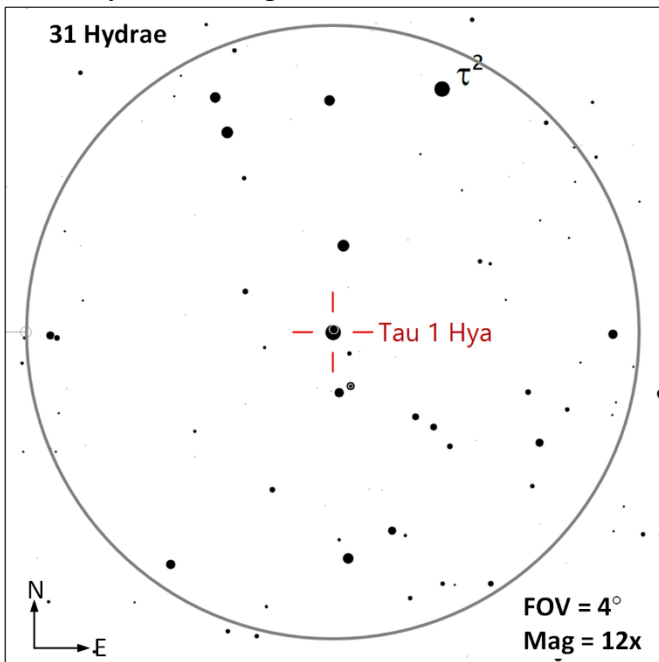


# Constellation Guide

**NGC-2784** (G | M=10.2 | Size=5.5' x 2.2' | SB=21.5 | MC=S0 |) – Located 28 million light years away with a physical diameter of 44,093 light years.



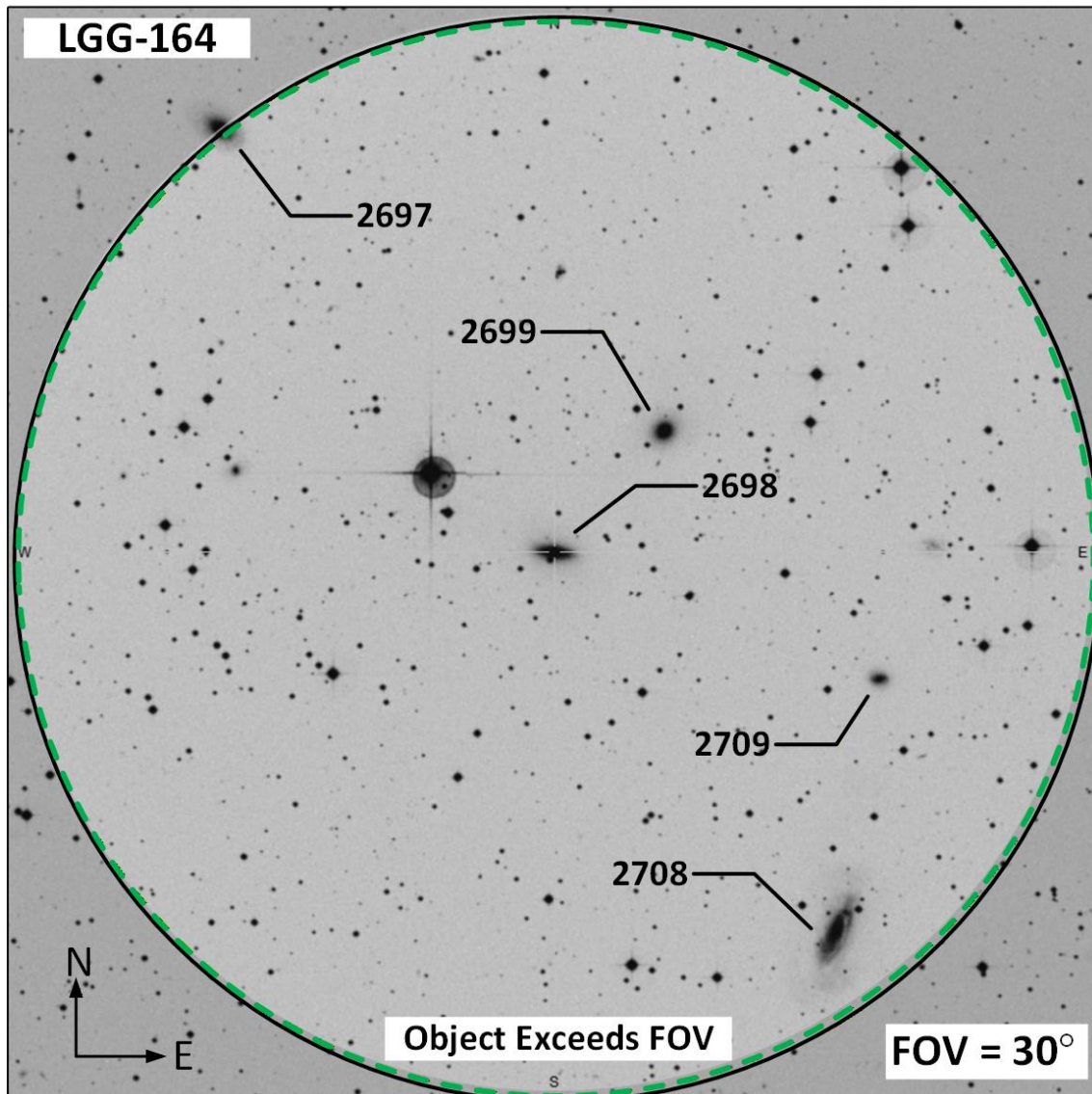
**31 Hydrae** (DS AB | M=4.6, 7.3 | Sep=66" | PA= 4.2° | MC= F6V, K0 |) – Tau 1 is a double star system located 59 light years away. The pair orbit each other at an average of 1,120 AU. Color of the pair may be yellow-white and yellow-orange.



# Constellation Guide

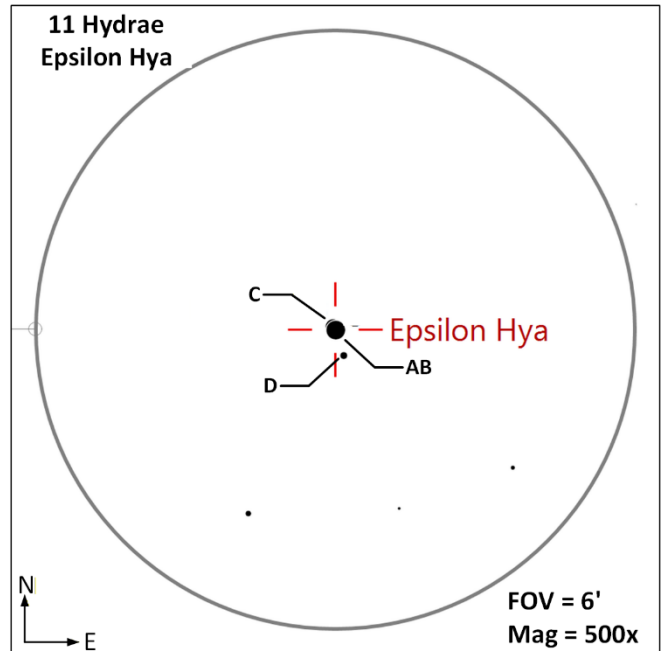
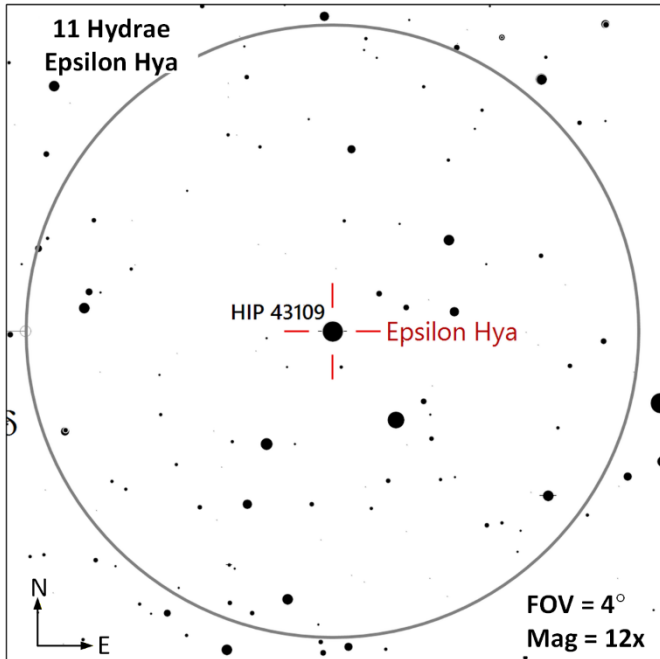
**LGG 164** (GCl) Also known as the NGC 2708 group, this group of galaxies include four objects but there are a number of other galaxies in the immediate proximity. I have not been able to determine if these are physically associated.

- NGC 2708 group of galaxies (LGG 164)
  - **NGC 2708/2727** | M=12.0 | Size= 2.7' x 1.4' | SB=22.1 | MC=SAB(s) b |
  - **NGC 2706** | M=13.0 | Size=1.8' x 0.6' | SB=21.7 | MC=Sbc | (Not in FOV)
  - **NGC 2695** | M=11.9 | Size= 1.7' x 1.2' | SB= 21.3 | MC=S0 | (Not in FOV)
  - **NGC 2699** | M=12.6 | Size=1.1' x 1.0' | SB=21.3 | MC= E1 |
- Other Galaxies in Field of View
  - **NGC 2698** | M=12.6 | Size=1.5' x 0.5' | SB=20.9 | MC=S0-a | (Center FOV)
  - **NGC 2697** | M=12.3 | Size=1.8' x 1.1' | SB=21.7 | MC=S0-a |
  - **NGC 2709** | M=13.7 | Size=0.8' x 0.6' | SB=21.5 | MC=S0 |

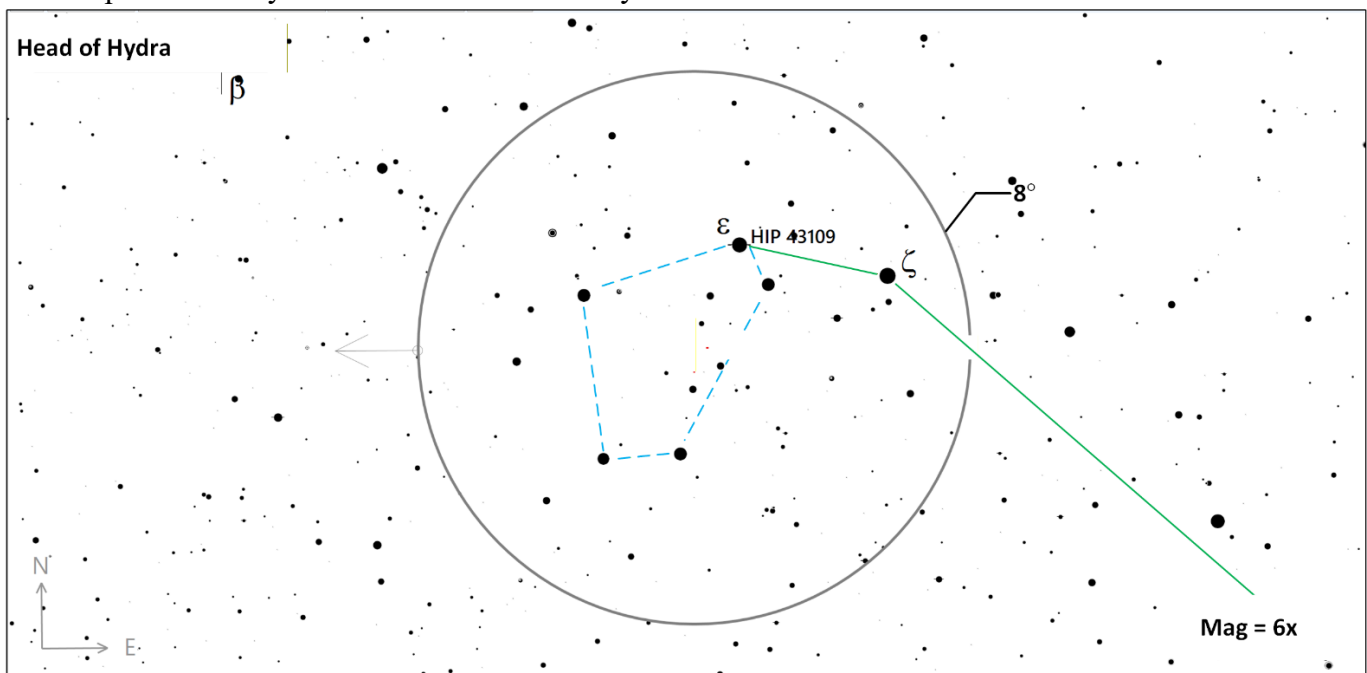


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**11 Hydrae** (MS-4 AB | M=3.5, 5.6 | Sep=0.27" | PA=162° | MC = G1III, A8V || AB, C | M=3.5, 6.7 | Sep=2.7" | PA=313° | MC C=F7V || AB, D | M=3.5, 12.5 | Sep=18.1" | PA=201° | MC D=? ) – A triple star system located about 129 ly from earth. AB component forms a tight pair with only 0.27" separation with the C component located 2.7" from the AB components. Descriptions of this multiple star system describe AB & C components as a yellow (AB) /blue(C) pair. The AB & C components complete an orbit every 990 years.

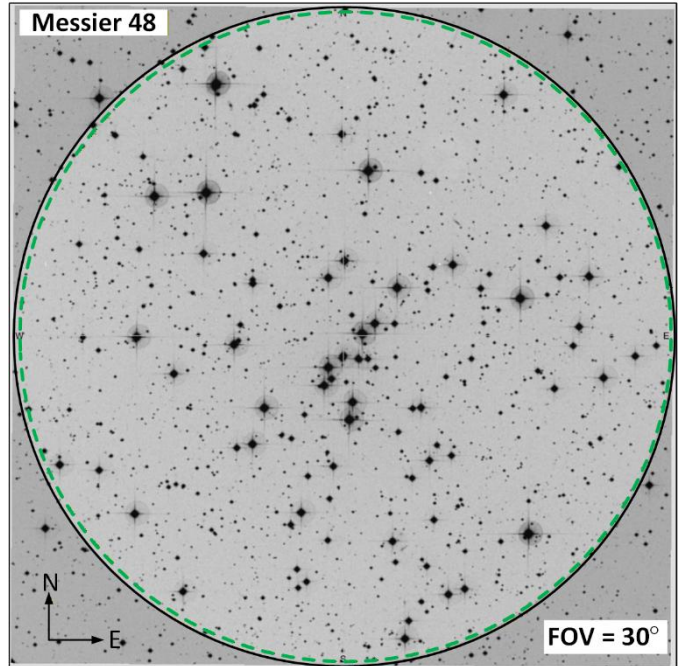
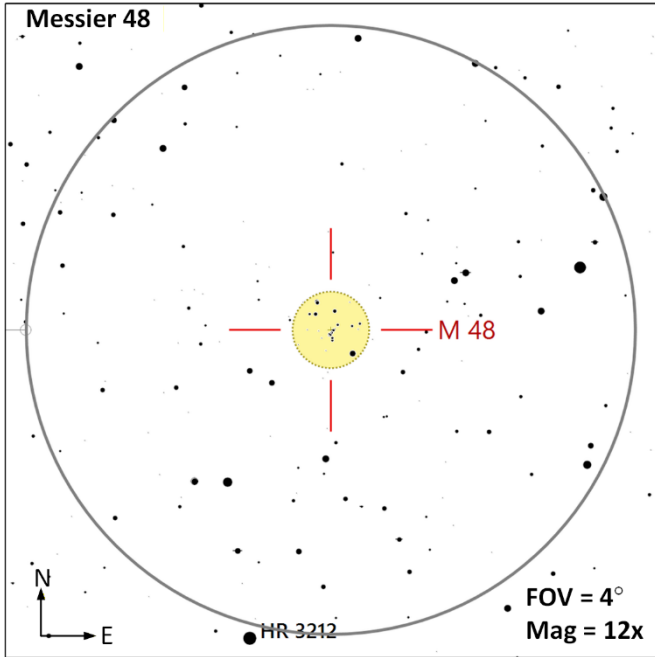


**Head of Hydra** (AS | Stars= 5 | Size = 5° x 2° | Ref Star: 11 Hya (SAO-117112, HIP 43109)) – Previously highlighted 11 Hydaea (Epsilon Hya) along with Delta, Eta, Rho and Zeta form an irregular circlet. This is also the easiest part of the Hydra constellation to identify.



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**Messier 48** (OC, AS | M=5.8 | Size=30' | SB=21.8 | MC=I3r |) –Open cluster “The Moth”, is reported to be visible to the naked eye under ideal conditions and is located 2,500 light years away. The cluster is estimated to be 400-500 million years old and is estimated to contain 438 stars. The cluster is fragmented into three groups, each with its own [proper motion](#) due to interactions with the galactic disk.



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Constellation Guide  
**Observation Log: Hydra (Hya)**

**Equipment Config A:** \_\_\_\_\_ **Config B:** \_\_\_\_\_

**Notes:** \_\_\_\_\_

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide  
**Observation Log: Hydra (Hya)**

**Equipment Config A:** \_\_\_\_\_ **Config B:** \_\_\_\_\_

**Notes:** \_\_\_\_\_

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

# Constellation Guide

## References, Resources and Tools used to create this document

The resources listed below were utilized 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
  - Celestial Portraits: [Tom Polakis](#)
  - [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