

# Constellation Guide

## Lupus (Lup)

Evening Visibility: **April – June**

Opposition: May

Latitude Visibility: **+35° to -90°**

Online Information: | [In-The-Sky.org](http://In-The-Sky.org) | [Constellation Guide.com](http://Constellation Guide.com) |

### Constellation Targets

[Cerberus](#), [Xi 1 Lupi](#), [NGC-5986](#), Barnard 228, [NGC-5927](#), [Mu Lupi](#), NGC-5882, Kappa 1 Lupi, [NGC-5822](#), [Pi Lupi](#), [NGC-5824](#), Z Lupi, [NGC-5643](#), [IC-4406](#), HR-5362

### Mythology/Back Story

Latin for ‘wolf’, this constellation has ancient Babylonian origins and does not seem to have any surviving mythology tales associated with it. Many times, the creature (before Renaissance times it was an unspecified wild animal) depicted as being impaled on a long pole held by Centaurus the centaur.

### Scorpius-Centaurus association

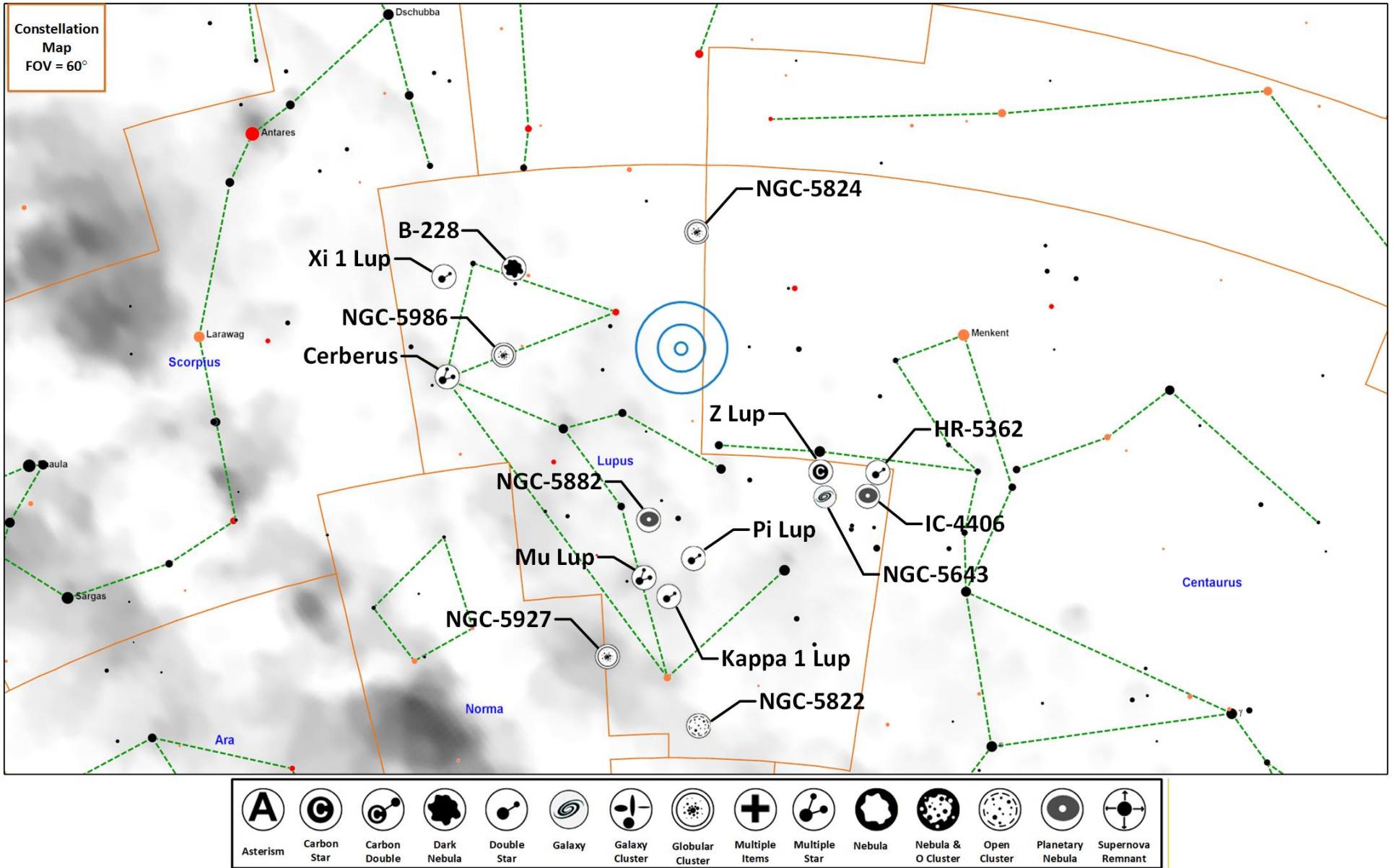
Also known as Sco-Cen or Sco OB2, this is the closest [OB association](#) (A loosely organized, gravitationally unbound group of stars usually sharing common motion vectors, ages and chemical compositions, indicating a shared origin) to Earth and is composed of three subgroups: Upper Scorpius, Upper Centaurus-Lupus, and Lower Centaurus-Crux) located about 420 light years away. It is estimated that there are about 435 stellar objects in this group.

### Constellation Highlights

A number of dimmer objects in this constellation, along with some interesting multiple star systems.

- **Xi 1 Lupi** (DS) – Claimed as most attractive double in Lupus
- **Pi Lupis** (DS) – Attractive double with evenly matched stars
- **IC-4406** (PN) – Retina Nebula is a planetary with a unique shape
- **Barnard 228** (DN) – Binocular target, large dark nebula.
- **NGC-5824** (GC) – Very dense globular

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## Constellation Objects Summary

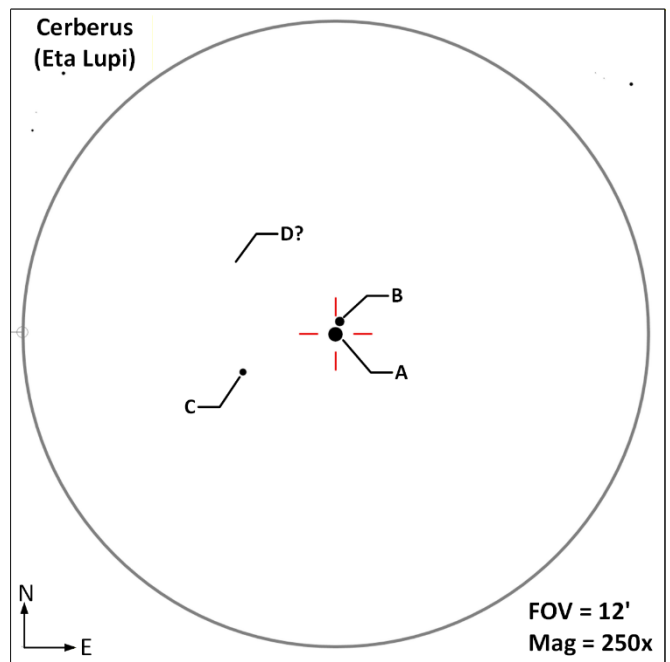
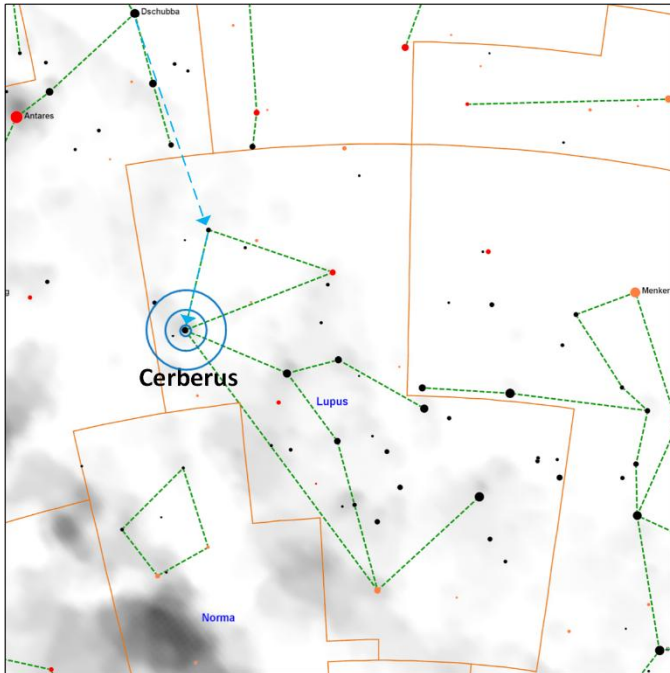
Object (Type)	Links	Gear	Aliases	Stats
Cerberus (MS-4)	<a href="#">1</a> , <a href="#">2</a>	B, T	SAO-207208, HIP 78384, Eta Lupi, HR 5948, HD 143118, RMK 21, $\eta$ Lup	<b>AB</b>   M=3.4, 7.5   Sep=14.8"   PA=19°   Period=27,000y   Color= Bluish-White, Deep Blue   Spec=B2.5IV   <b>AC</b>   M=3.4, 9.4   Sep=115"   PA=248°   Period=500,000y   <b>AD</b>   M=3.4, 10.8   Sep=135"   PA=293°
Xi1 Lupi (DS)	<a href="#">1</a> , <a href="#">2</a>	T	SAO-207144, HIP 78105, HR 5925, HD 142629, PZ 4, $\xi$ Lup	<b>AB</b>   M=5.1, 5.6   Sep=10.1"   PA=50°   Color=White, Blue-White   Spec=A3V, B9V
NGC-5986 (GC)	<a href="#">1</a>	T	ESO 329-SC18	M=8.0   Size=5'   SB=20.1   MC=VII
Barnard 228 (DN)		B	HMSTG 338+16, B 228	Size=4°
NGC-5927 (GC)	<a href="#">1</a>	T	ESO 224-SC4, GCl 35, CGRV 5278, E, VDBH 173	M=8.9   Size=12'   SB=22.9   MC=VIII
Mu Lupi (MS-3)	<a href="#">1</a> , <a href="#">2</a>	T	SAO-225638, HIP 74911, HR 5683, HD 135734, HJ 4753, Mu Lupi, $\mu$ Lup	<b>AB</b>   M=4.9, 5.0   Sep=0.72"   PA=296°   Period=772y   Color=Blue-White   Spec=B8V   <b>AC</b>   M=4.9, 6.3   Sep=23"   PA=128°
NGC-5882 (PN)	<a href="#">1</a>	T	IC 1108, Wray 6-171, ARO 505, He 2-122, Sa 2-118, StWr 4-13, PN G327.8+10.0, VV 71	M=9.5   Size=0.3'x0.2'   SB= 15.1
Kappa 1 Lupi (DS)	<a href="#">1</a> , <a href="#">2</a>	B, T	SAO-225525, HIP 7634376, HR 5646, HD 134481, DUN 177, WDS 15119-4844, $\kappa$ Lupi	<b>AB</b>   M=3.8, 5.5   Sep=26"   PA=143°   Color= Blue-White, White   Spec= B9.5V, A5V
NGC-5822 (OC)	<a href="#">1</a>	B, T	Collinder 289, Cr 289, ESO 176-SC 009	M=6.5   Size=35'   SB=22.8   Sars=25   MC=II2r
Pi Lupi (DS)	<a href="#">1</a> , <a href="#">2</a>	T	SAO-225426, HIP 73807, HR 5606, HD 133243, HJ 4728, WDS 15051-4703, $\pi$ Lupis	<b>AB</b>   M=4.6, 4.6   Sep=1.6"   PA=64°   Color=Blue-White, Blue-White   Spec=B5V, B5IV
NGC-5824 (GC)	<a href="#">1</a>	T	NGC-5834, ESO 387-SC 001	M=9.1   Size=6.2'   SB=21.7   MC=I
Z Lupi (CS)		T	HIP 71386, HD 128033, CoD -42 9465, GCVS500009	Mag Range: 10.5 – 12.6   Period: Unknown   BV=+3.1   Spec=C4
NGC 5643 (G)	<a href="#">1</a>	T	PGC 51969, MCG -7-30-3, ESO 272-16, IRAS 14294-4357	M=10.7   Size=4.6'x4.0'   SB=22.5   MC=SBc
IC-4406 (PN)	<a href="#">1</a>	T	Wray 16-153, ARO 517, He 2-110, Sa 2-105, StWr 4-12, PK 319+15.1, PN G319.6+15.7, ESO 272-6, VV 69, Retina Nebula	M=10.2   Size=1.7'x0.6'   SB=18.8
HR 5362 (DS)	<a href="#">1</a>	T	SAO-224838 HIP 70054, HD 125383, CPD -42 5525, HJ 4672, WDS 14202-4304, TYC 7813-3604-1, Herschel 4672	<b>AB</b>   M=5.8, 7.9   Sep=3.5"   PA=301°   Color=Yellow   Spec=G8III

## Constellation Guide

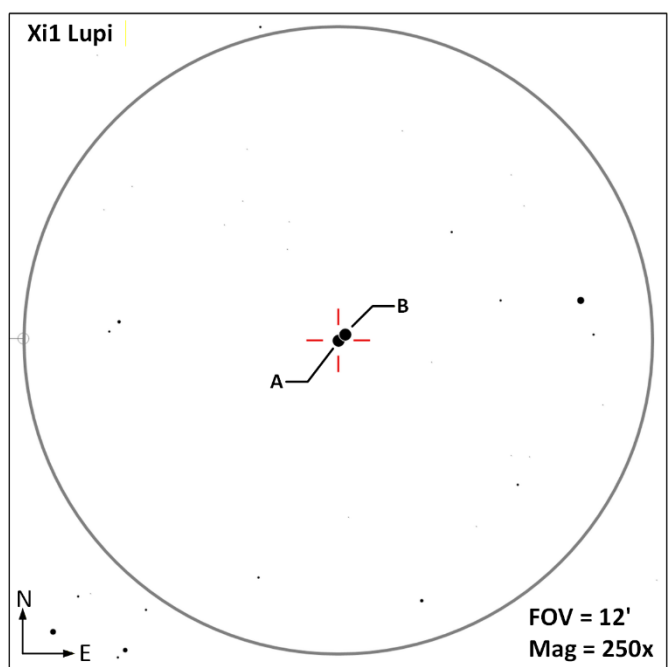
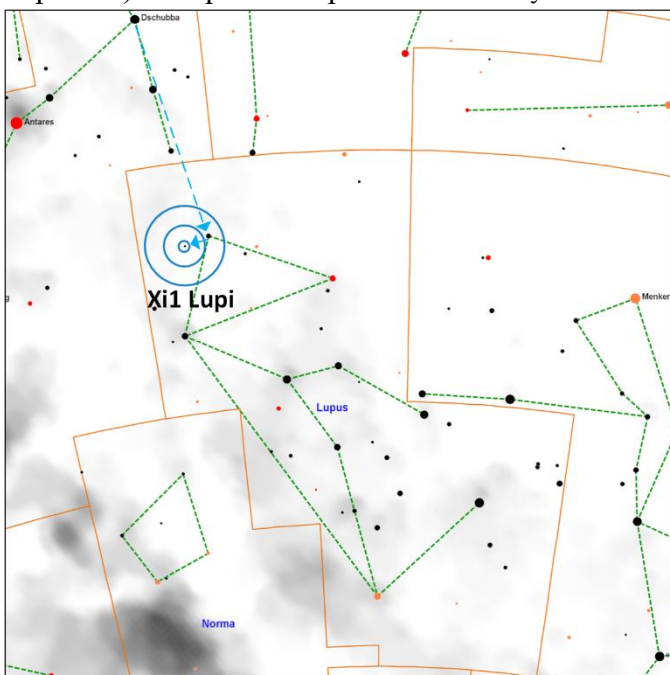
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# Constellation Guide

**Cerberus (MS-4 AB | M=3.4, 7.5 | Sep=14.8'' | PA=19° | Period=27,000y | Color= Bluish-White, Deep Blue | Spec=B2.5IV || AC | M=3.4, 9.4 | Sep=115'' | PA=248° | Period=500,000y || AD | M=3.4, 10.8 | Sep=135'' | PA=293° )** This is an expected triple star system, it is not certain the C component is part of this system. The system is located 140 ly away and a member of the [Scorpius-Centaurus association](#) (Sco OB2).

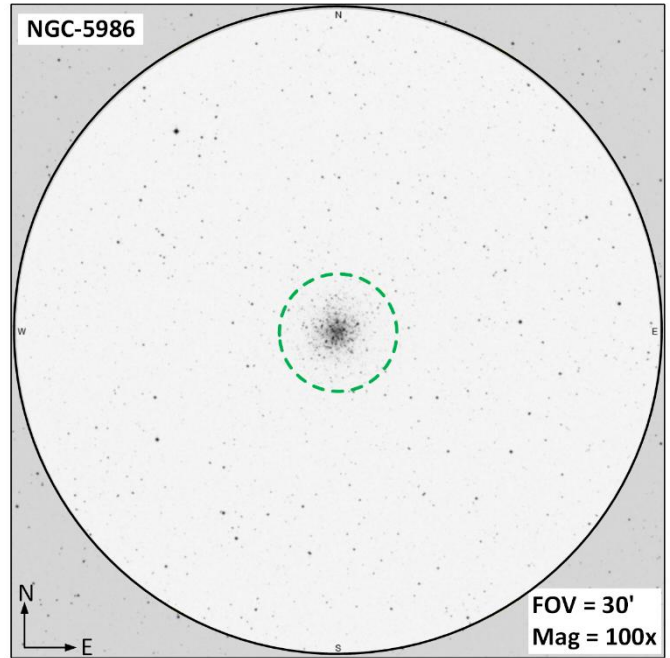
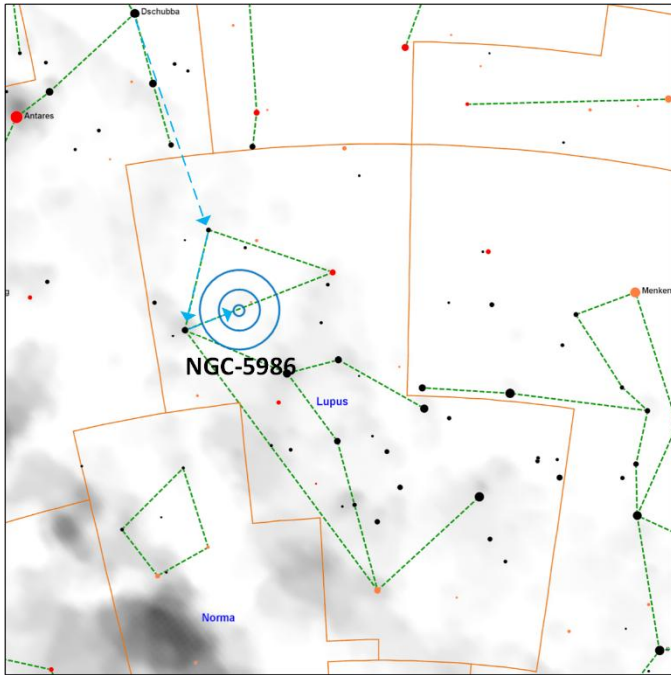


**Xi1 Lupi (DS AB | M=5.1, 5.6 | Sep=10.1'' | PA=50° | Color=White, Blue-White | Spec=A3V, B9V )** A blue-white pair that some think is the most attractive binary in Lupus, this system is located 210 light years away and a member of the [Scorpius-Centaurus association](#) (Sco OB2). This is actually a triple system where  $\xi^1$  (A component) is a spectroscopic double and  $\xi^2$  is the B component.

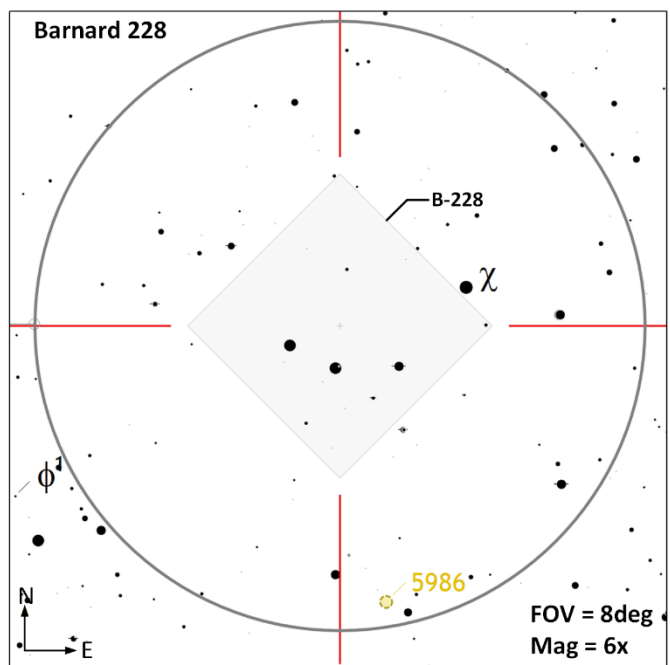
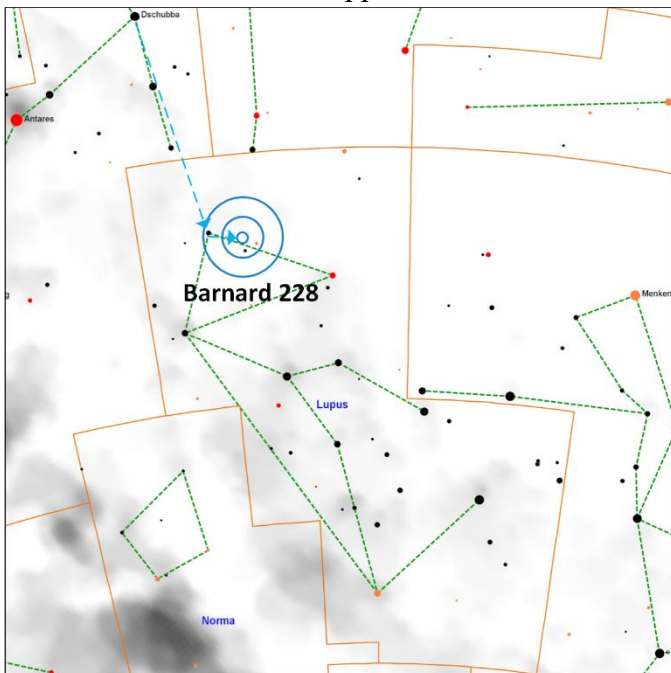


# Constellation Guide

**NGC-5986** (GC | M=8.0 | Size=5' | SB=20.1 | MC=VII ) Located 34,000 away, this object is visible in telescopes with an aperture of 6" or larger. It is suspected that it may be composed of four or five different stellar populations.

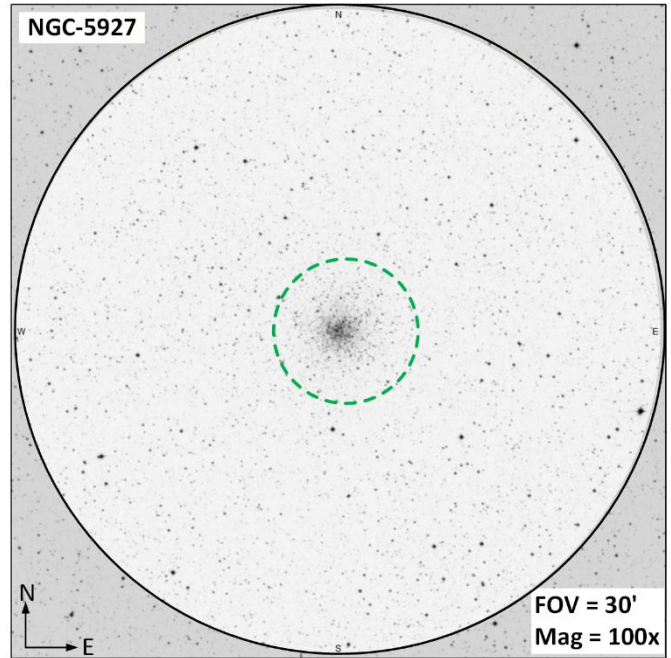
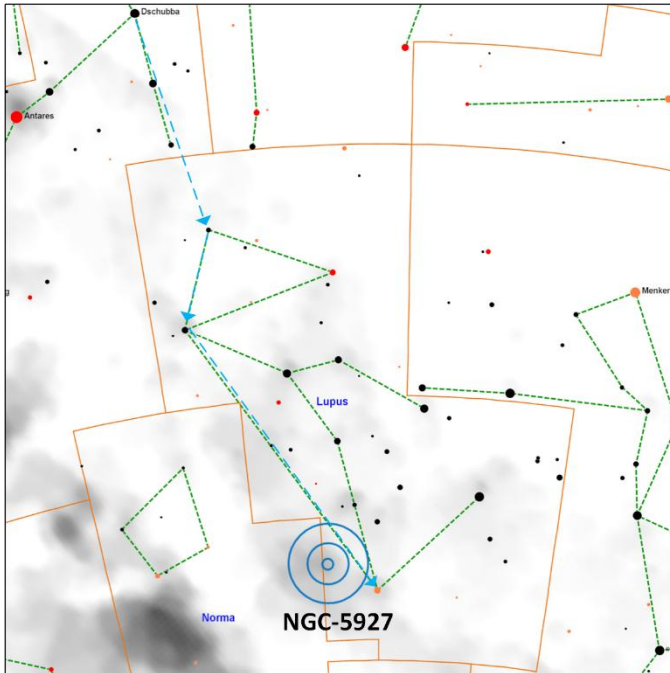


**Barnard 228** (DN | Size= 4°) This is a binocular target, and appears as a thin dust lane 4 degrees running northwest to southeast that appears as a narrow dark channel in the star field.

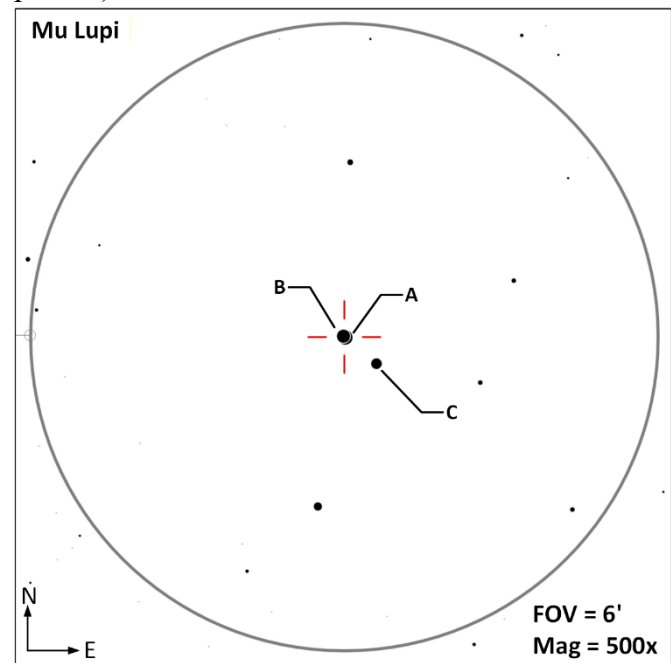
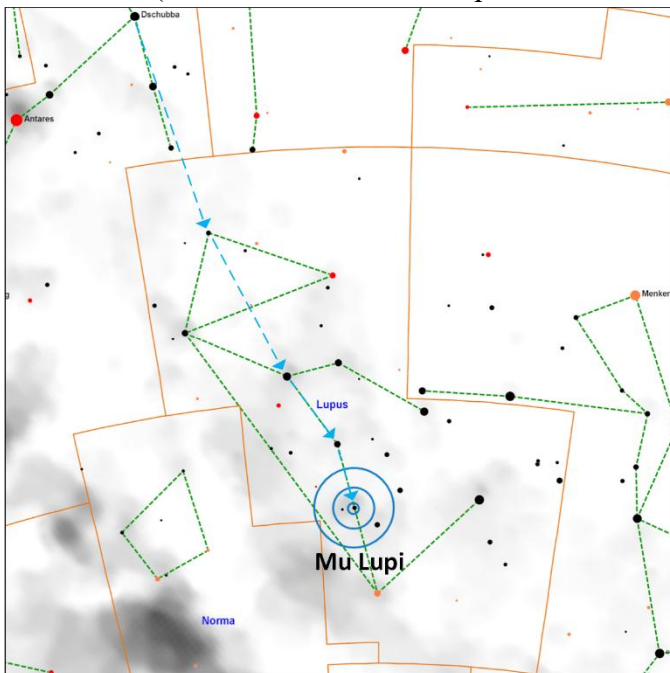


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**NGC-5927** (GC | M=8.9 | Size=12' | SB=22.9 | MC=VIII |) Located 25,000 light years away, this is a faint globular cluster that contains stars of magnitude 15 and dimmer.

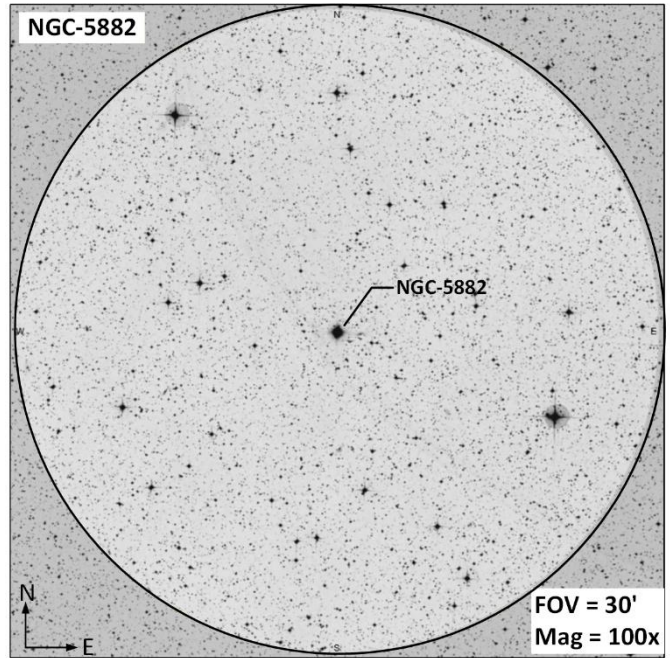
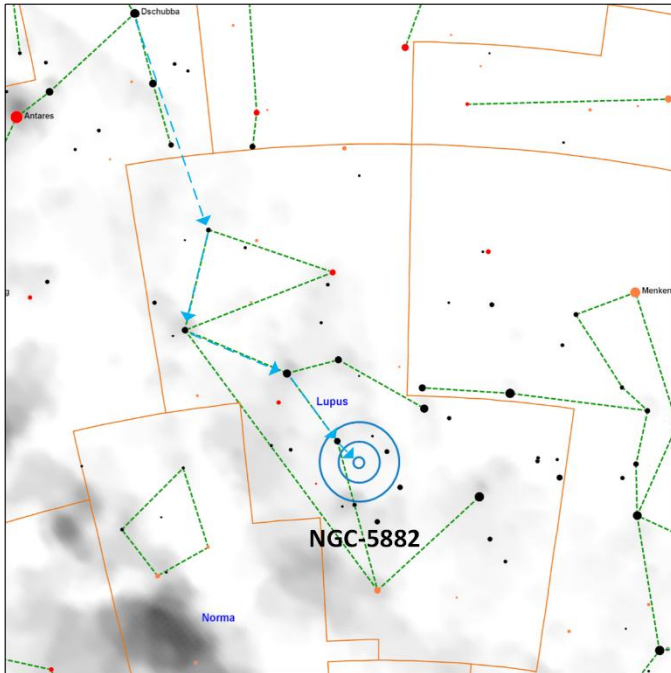


**Mu Lupi** (MS-3 AB | M=4.9, 5.0 | Sep=0.72" | PA=296° | Period=772y | Color=Blue-White | Spec=B8V || AC | M=4.9, 6.3 | Sep=23" | PA=128° |) This system is located 340 light years away with three stars and one brown dwarf (not visible, and is a companion to the C component).

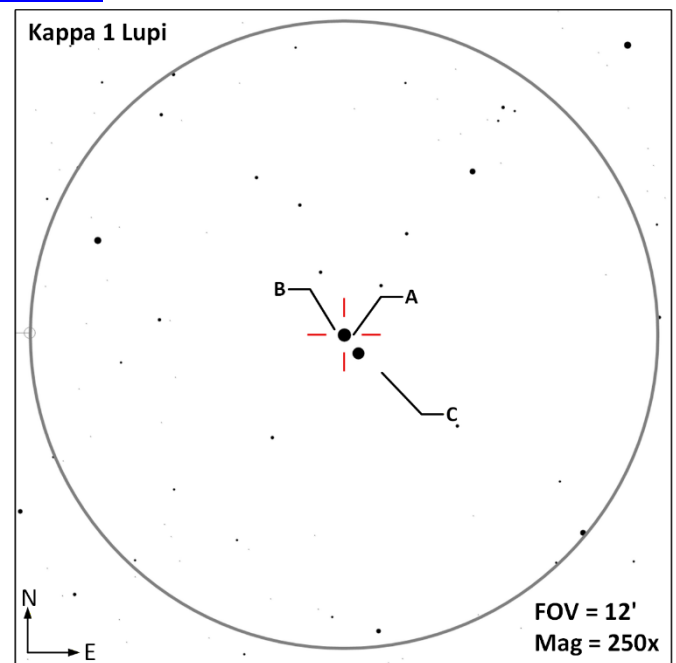
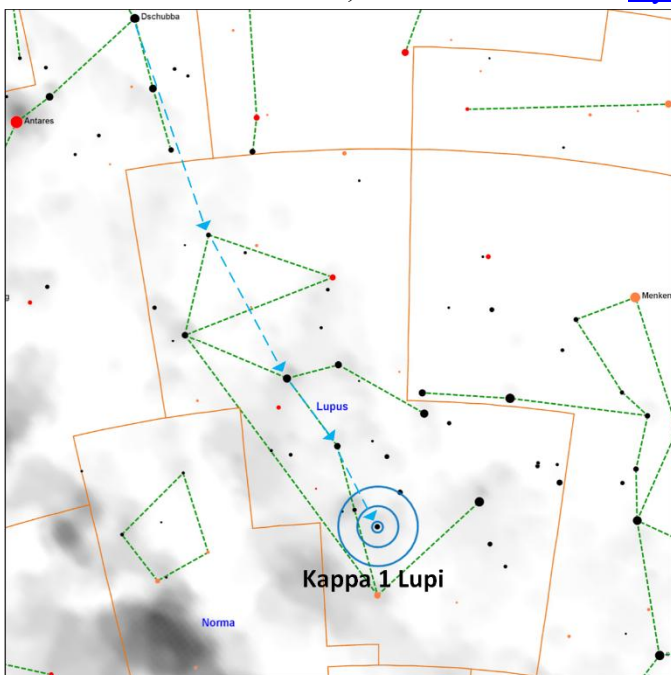


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**NGC-5882** (PN | M=9.5 | Size=0.3'x0.2' | SB= 15.1 |) Located 3,800 light years away this small PN may be best identified using an O3 filter, as most Planetary Nebulas are.

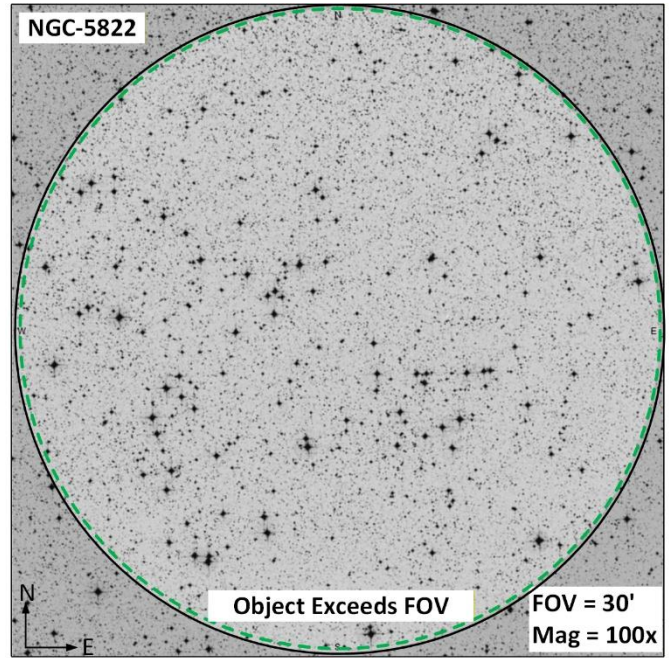
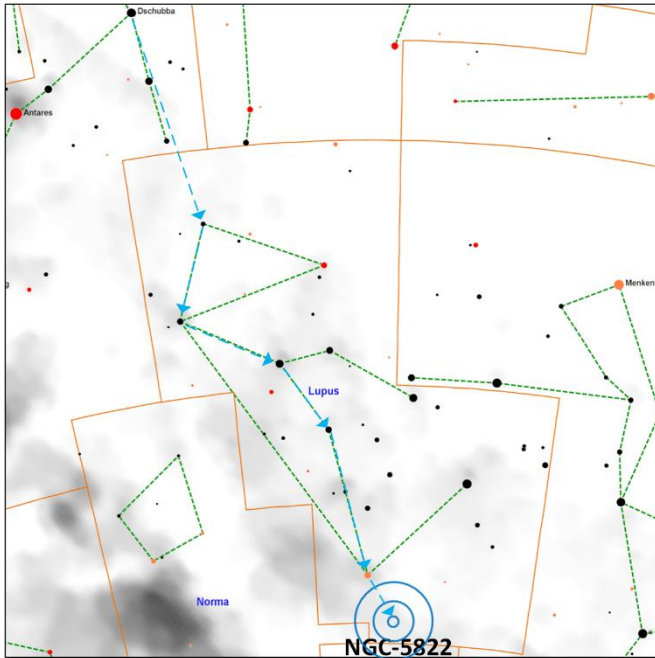


**Kappa 1 Lupi** (DS AB | M=3.8, 5.5 | Sep=26'' | PA=143° | Color= Blue-White, White | Spec= B9.5V, A5V |) Located 180 light years away, unlike most other stars in Lupus, this pair is not a member of the Scorpius Centaurus stellar association, but a member of the [Hyades Stream](#).

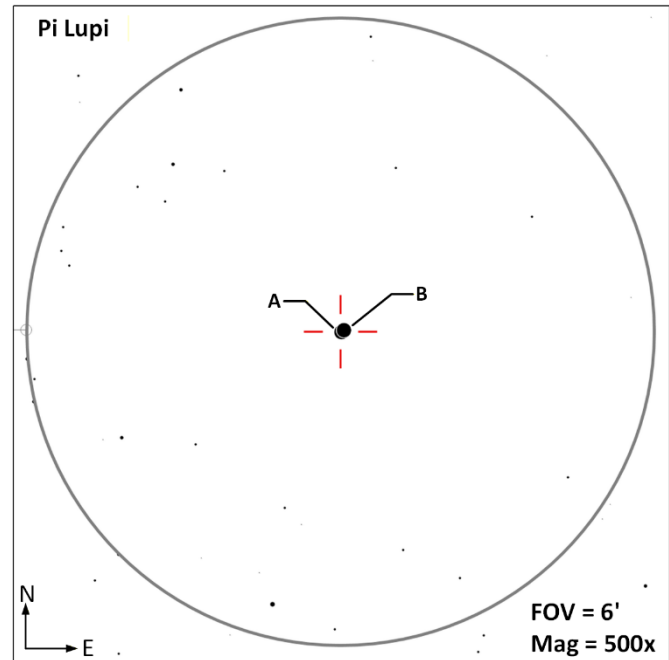
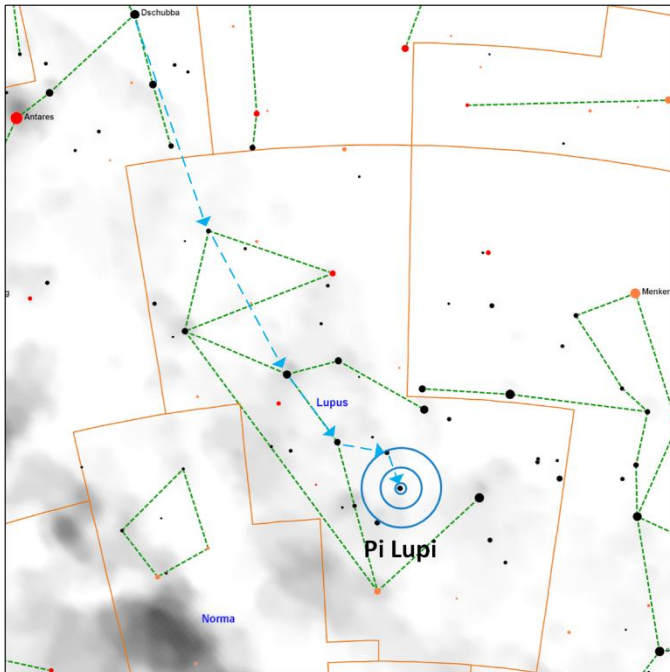


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**NGC-5822** (OC | M=6.5 | Size=35' | SB=22.8 | Sars=25 | MC=II2r ) This large open cluster spans two constellations, Circinus and Lupus and is close to the open cluster NGC-5823 in Circinus, indicating the two may have a shared origin.

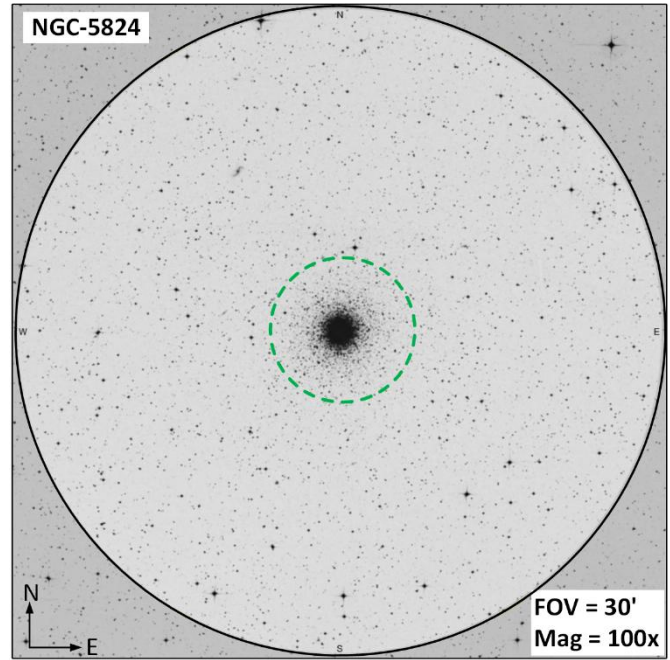
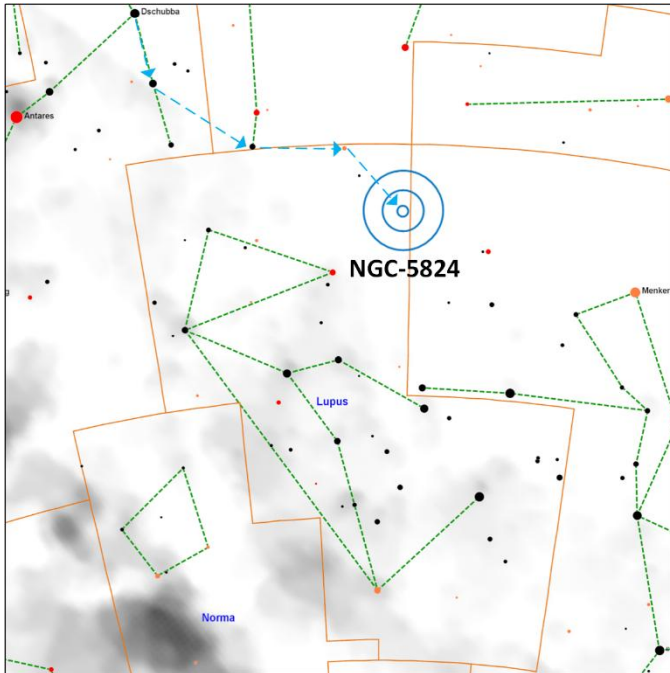


**Pi Lupis** (DS AB | M=4.6, 4.6 | Sep=1.6'' | PA=64° | Color=Blue-White, Blue-White | Spec=B5V, B5IV ) A close perfectly match double star system with two Blue-White components. It is uncertain if these two stars are physically associated with each other.

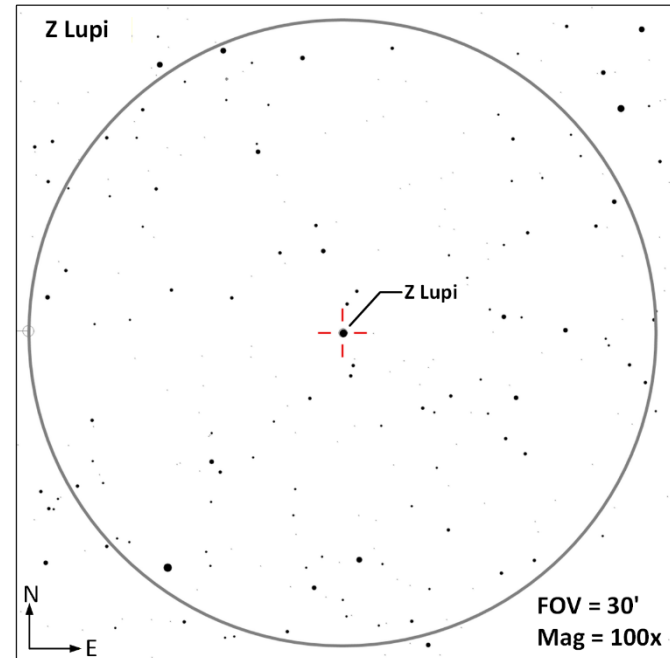
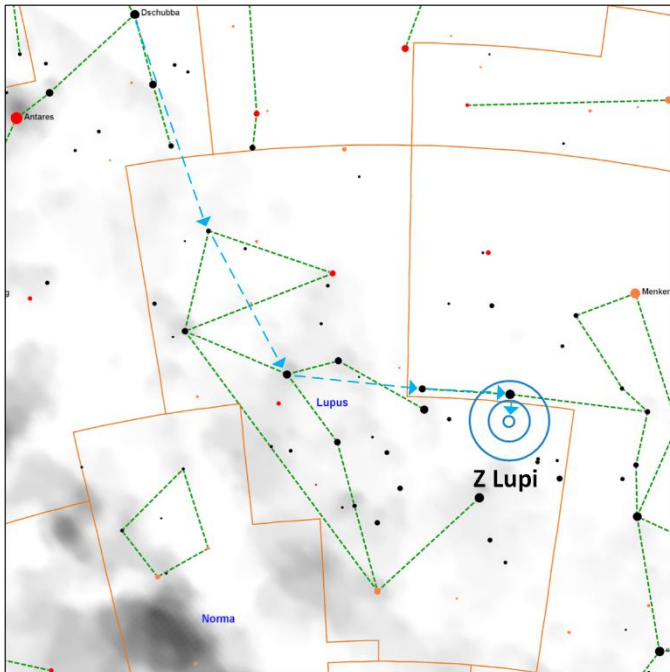


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**NGC-5824** (GC | M=9.1 | Size=6.2' | SB=21.7 | MC=I ) Located 100,000 light years away. This is a very dense cluster requiring larger apertures to begin resolving stars. It is suspected the Triangulum stellar stream, spanning 50 degrees through the sky originating from this cluster. See [Stellar Kinematics](#) for more details on Stellar Streams.

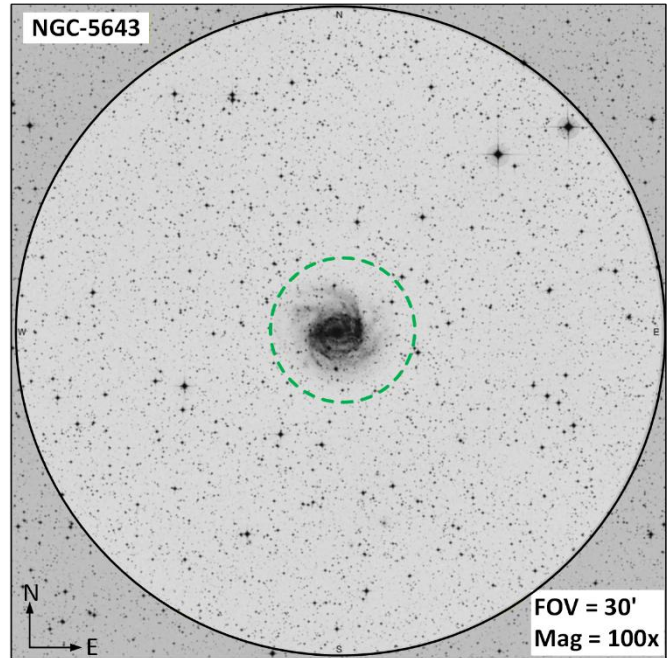
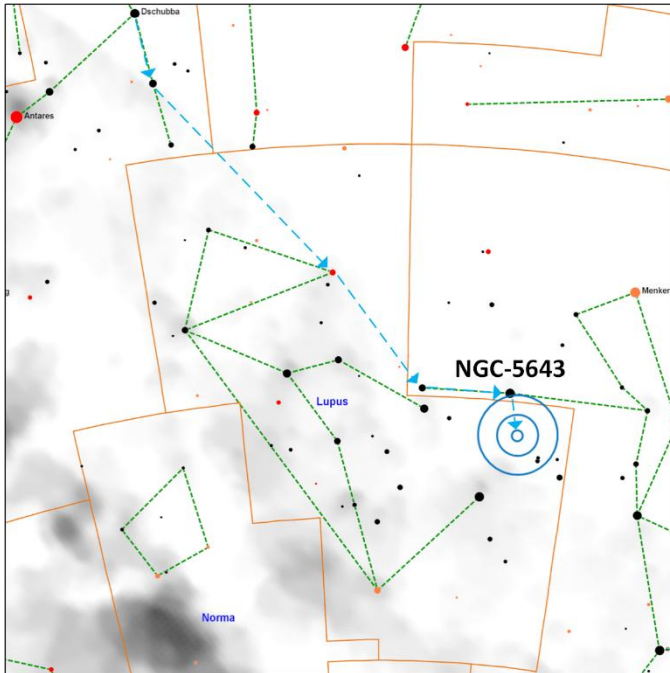


**Z Lupi** (CS | Mag Range: 10.5 – 12.6 | Period: Unknown | BV=+3.1 | Spec=C4 ) Located 1,600 light years away, this dim carbon star has an energy output that is 91 times the sun's luminosity.

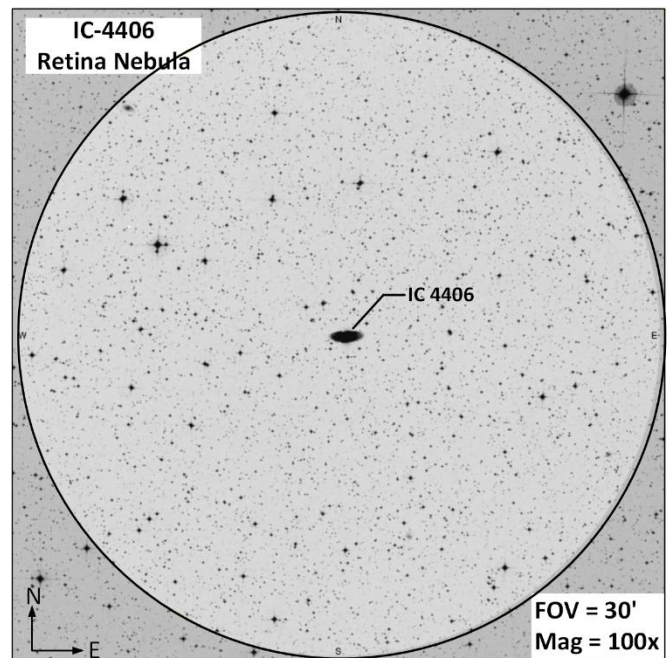
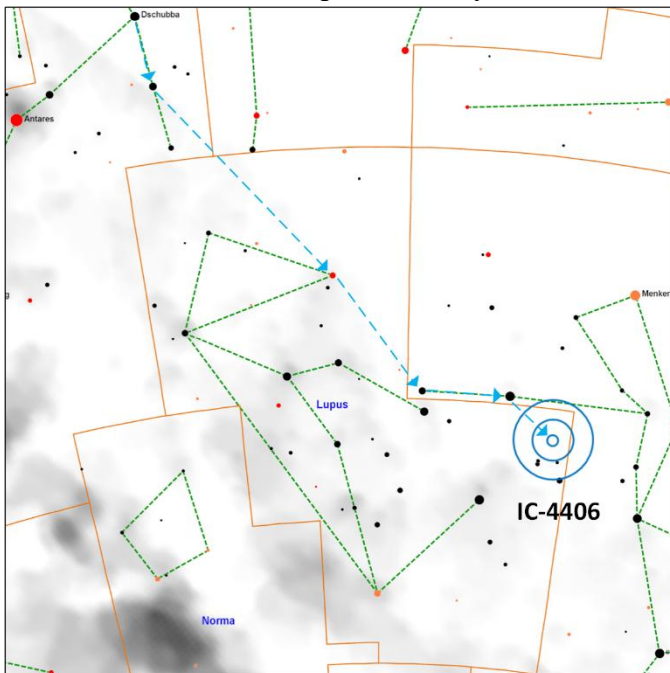


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**NGC 5643** (G | M=10.7 | Size=4.6'x4.0' | SB=22.5 | MC=SBC ) Located 40 million light years away, this is a face-on intermediate spiral galaxy with an [active galactic nucleus](#) and is a type II [Seyfert galaxy](#).

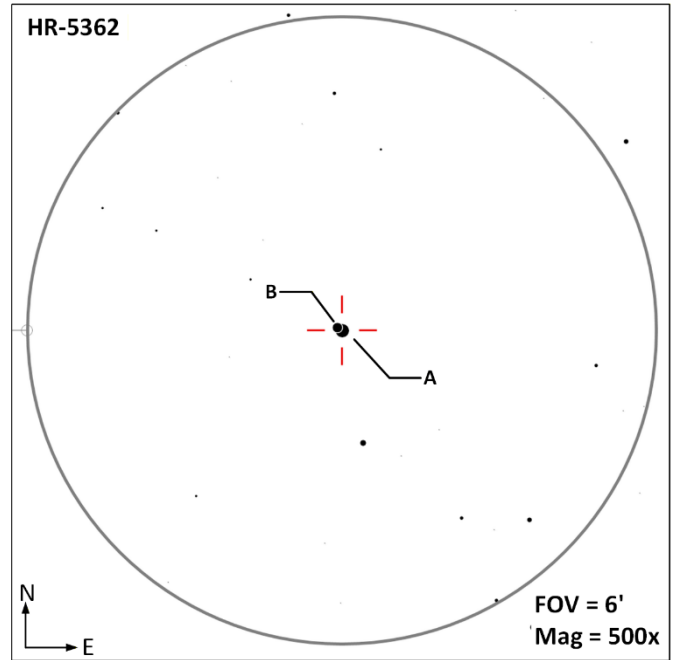
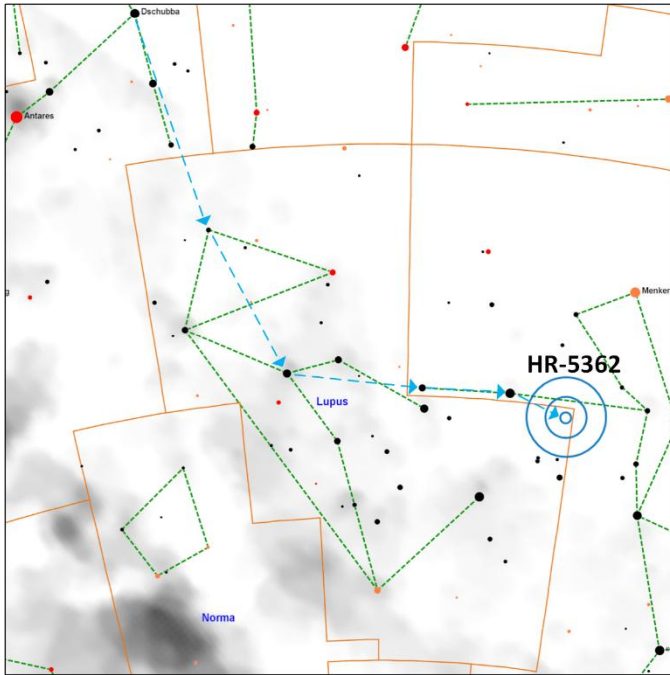


**IC-4406** (PN | M=10.2 | Size=1.7'x0.6' | SB=18.8 ) This nebula appears elongated due to its orientation as viewed from earth, the shape is actually that of a [torus](#).



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**HR 5362 (DS AB | M=5.8, 7.9 | Sep=3.5" | PA=301° | Color=Yellow | Spec=G8III )** Located 370 light years away, it is not certain if this is an optical or physical double.



# Constellation Guide

## Observation Log: Lupus (Lup)

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

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

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide  
**Observation Log: Lupus (Lup)**

**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](#)
  - Star Clusters: Bret Archinal, Steve Hynes
  - [Sky Spot](#) Books
    - Bright Telescopic Objects: Brent Watson
    - Select Double Stars: Brent Watson
    - Overlooked Objects: Brent 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