Centaurus (Cen)

Evening Visibility: **March – May**
Opposition: April
Latitude Visibility: **+25° to -90°**
Online Information: | In-The-Sky.org | Constellation Guide.com |

Constellation Targets

Alpha Centauri, Proxima Centauri, TR-22, NGC-5617, NGC-5460, NGC-5367, 3 Centauri, NGC-5281, NGC-5286, NGC-5253, TR-21, NGC-5102, Omega Centauri, Centaurus A, UY Centauri, NGC-4945, NGC-4696, Muhlifain, Blue Planetary Nebula, Pearl Cluster, IC-2944, NGC-3699, NGC-3680

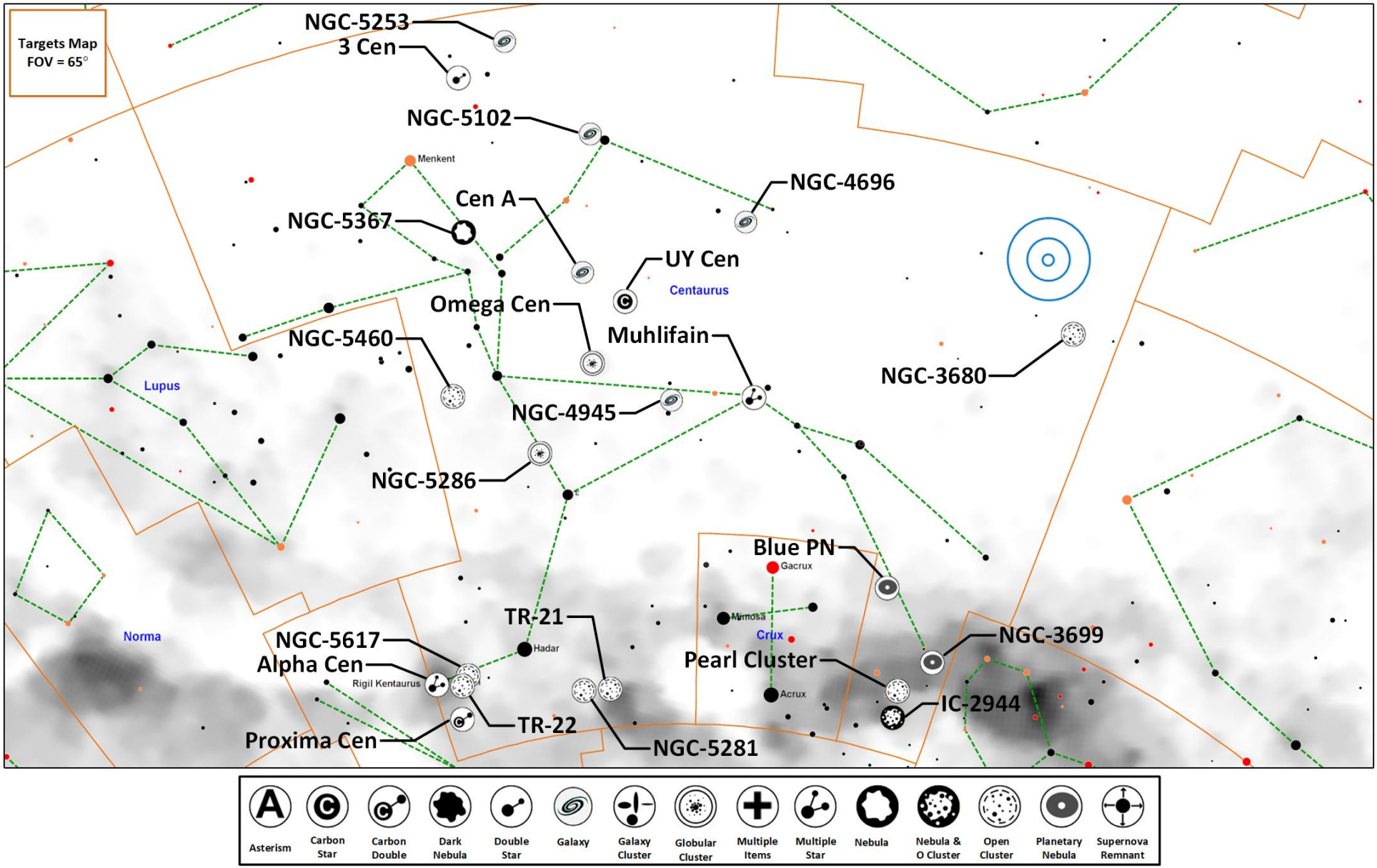
Mythology/Back Story

This constellation is known as the Centaur. This is an ancient constellation known by the Babylonians as a Bison-man MUL.GUD.ALIM, a four-legged bison with the head of a man. The creature was associated with the Sun god Utu. In Greek and Roman times Centaurus was associated with a centaur, half man and half horse.

Constellation Highlights

This is a southern sky constellation; However, parts of this constellation are visible in the lower Northern hemisphere at latitudes of 35° North or less. Even though most objects are too low for viewing, two best objects in this constellation (and among the best object in the entire sky) are the globular cluster Omega Centauri and galaxy Centaurus A accessible at latitudes of 35° North or less. The window of opportunity for viewing these objects is small; In April for about an hour each night. One should make an effort to view these two objects, while they may not appear anywhere near as impressive as they do in the southern sky, they are still well worth checking out.

- **Alpha Centauri** (DS) – Yellow Pair
- **NGC-5460** (OC) – A nice open cluster
- **NGC-5286** (GC) – One of the oldest Globulars in our galaxy
- **Omega Centauri** (GC) – Unbelievable globular. Amazing!
- **Centaurus A** (G) – Aptly named Hamburger Galaxy
- **NGC-4945** (G) – Very nice Edge-on Galaxy
- **Pearl Cluster** (OC) – Dense open cluster


Targets Map
FOV = 65°
NGC-5253
3 Cen
NGC-5102
Menkent
NGC-4696
Cen A
NGC-5367
UY Cen
Centaurus
Omega Cen
Muhlifain
NGC-5460
NGC-3680
Lupus
NGC-4945
NGC-5286
Blue PN
Gacrux
TR-21
Mimosa
Crux
Norma
NGC-5617
Hadar
NGC-3699
Alpha Cen
Rigil Kentaurus
Pearl Cluster
Acrux
IC-2944
TR-22
Proxima Cen
NGC-5281
Asterism
Carbon Star
Carbon Double
Dark Nebula
Double Star
Galaxy
Galaxy Cluster
Globular Cluster
Multiple Items
Multiple Star
Nebula
Nebula & O Cluster
Open Cluster
Planetary Nebula
Supernova Remnant

Constellation Guide

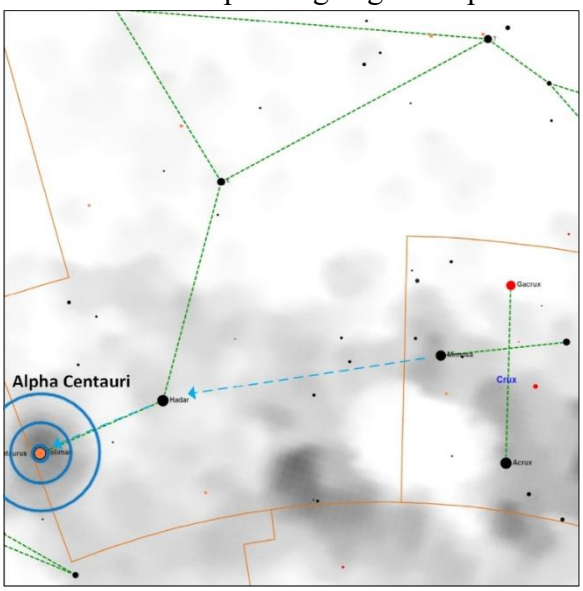
Constellation Objects Summary

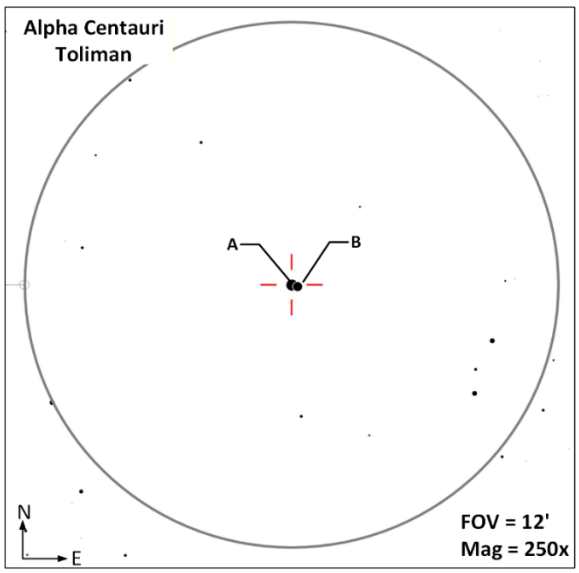
Object (Type)	Links	Gear	Aliases	Stats
Alpha Centauri (MS-3)	1, 2	B, T	α1 Cen: SAO-252838, HIP 71683, Alpha1 Cen, HR 5459, HD 128620, WDS 14396-6050, Rigil Kentaurus α2 Cen: HIP 71681, Alpha2 Cen, HR 5460, HD 128621, WDS 14396-6050, Toliman	**AB** | 0.01, 1.33 | Sep=9.3" | PA=12.1° | color= yellow, yellow-orange | Spec= G2V, K1V | **AB, C** | 0.14, 12.7 | Sep=7,960" | Period= Several hundred thousand years | Spec=M5 Ve |
Proxima Centauri (CS-MS-3)	1, 2	B, T	HIP 70890, V645 Centauri, LHS 49, GJ 551, TYC 9010-4949-1, GJ 551, CCDM J14396-6050C, LFT 1110, LPM 526, LTT 5721, NLTT 37460, Alpha Centauri C	| Mag Range =10.4 – 11.1 | Period= unknown | PA=212° | Spec= M5 Ve | **AB, C** | 0.14, 12.7 | Sep=7,960" | Period= Several hundred thousand years | Spec=M5 Ve |
Trumpler 22 (OC)		B, T	Collinder 283, Cr 283, OCL 920, Lund 660, C 1427-609, vdB-Ha 151, C1427-609	| M=7.90 | Size=10' | SB=21.5 | Stars=25 | MC=III2m |
NGC-5617 (OC)	1	B, T	Collinder 282, Cr-282, Lund 658, Melotte 125, Mel-125, OCl 919, Raab 101, vdB-H1 159, C1426-605	| M=6.3 | Size=10' | SB=19.9 | Stars=272 | MC=I3r |
NGC-5460 (OC)	1	B, T	Collinder 280, Cr-280, Melotte 123, Mel-123, Lund 653, OCl 925, Raab 100, C1404-480	| M=5.6 | Size=23' | SB=21.0 | MC=I3m |
NGC-5367 (RN)		T	IC 4347	| M=unknown | Size= 4.0'x3.0' |
3 Centauri (DS)	1, 2	T	SAO-204917, HIP 67669, HR 5211, HD 120710, 3 Cen, CoD -32 9676, H 3, WDS 13518-3300, H3101, k Centauri	AB| Mag=4.5, 6.0 | Sep=7.8" | PA=105° | color= blue-white, blue-white | Spec=B5III, B8V |
NGC-5281 (OC)	1	T	Collinder 276, Cr-276, Melotte 120, Mel 120, vdBH 152, Lund 545, Ocl 911, Raab 98	| M=5.9 | Size=7' | SB=18.8 | Stars=371 | MC=I3m |
NGC-5286 (GC)	1	B, T	Caldwell 84, C-84, ESO 220-SC38	| M=7.6 | Size=9.1' | SB=21.0 | MC=V |
NGC-5253 (G)	1	T	UGCA 369, PGC 48334, MCG-5-32-60, ESO 445-4, IRAS 13370-3123, Haro 10	| M=10.9 | Size=5.0'x1.9' | SB=22.0 | MC=S/P |
Trumpler 21 (OC)		T	Tr-21, Cr-274, Lund 642, OCl 903, C 1328-625	| M=7.7 | Size=5' | SB=19.8 | Stars=25+ |MC=I2p |
NGC-5102 (G)	1	T	PGC 46674, MCG-6-29-31, ESO 382-50, IRAS 13191-3622, Iota's Ghost	| M=10.4 | Size=8.7'x2.8' | SB=22.5 | MC=E-S0 |
Omega Centauri (GC)	1	B, T	NGC-5139, Caldwell 80, C-80, ESO 270-SC11, GCl 24, ω Centauri, Mel 118	| M=3.9 | Size=36.3' | SB=20.3 |

Constellation Guide

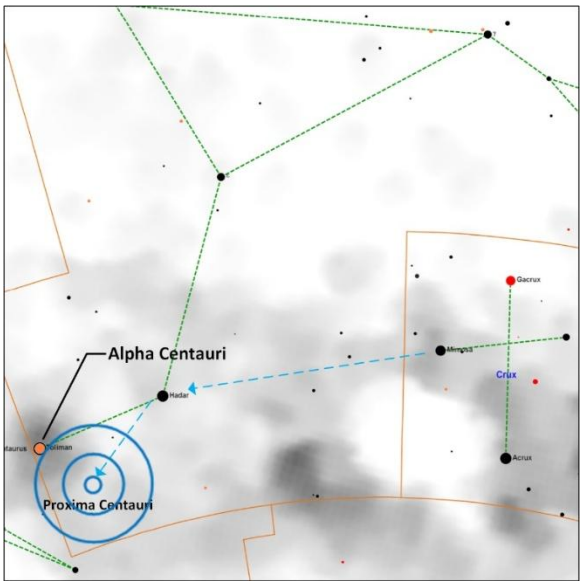
Object (Type)	Links	Gear	Aliases	Stats
Centaurus A (G)	1	B, T	NGC-5128, Caldwell 77, C-77, PGC 46957, MCG-7-28-1, ESO 270-9, Arp 153, IRAS 13225-4245, Hamburger Galaxy	| M=6.8 | Size=25.7' x 20.0' | SB=22.2 | MC=S0/P |
UY Centauri (CS)	1	T	SAO-224021, HIP 64778, HD 115236, GC 17957, PPM 318310, UY Centauri	| Mag Range: 6.9 – 9.5 | Period=178 d | BV=2.9 | Spec=S6/8 |
NGC-4945 (G)	1	B, T	Caldwell 83, C-83, PGC 45279, ESO 219-24, ESO 219-G 024, IRAS 13025-4911, LEDA 45279	| M=9.3 | Size=20'x3.8' | SB=22.6 | MC=SBc |
NGC-4696 (G)	1	T	PGC 43296, MGC -7-26-51, ESO 322-91	| M=11.4 | Size=4.5'x3.2' | SB=22.9 | MC=E1/P |
Muhlifain (MS-3)	1, 2	T	SAO-223603, HIP 61932, Gamma Centauri, HR 4819, HD 110304, HJ 4539, WDS 12415-4858, γ Cen	AB | M=2.8, 2.9 | Sep=0.8" | PA=14° | MC= A1IV, A0IV | **AB, C** | M=2.8, 14.4 | Sep=59" | PA=113° |
Blue Planetary Nebula (PN)	1	T	NGC-3918, Wray 16-101, ARO 514, He 2-74, Sa 2-81, PK 294+04.1, PN G294.6+04.7, ESO 170-13, VV 61, The Southerner	| M=8.5 | Size=9" | SB= 21.9 |
Pearl Cluster (OC)	1	B, T	NGC-3766, Caldwell 97, C-97, Collinder 248, Cr 248, Melotte 107, Mel-107, Dunlop 289, Lacaille III.7, C1133-613	| M = 5.3 | Size=12.0' | SB=19.3 | Stars=36+ | MC=I3r |
IC-2944 (EN, OC)	1	B, T	Nebula: Caldwell 100, C-100, RCW 62, Lambda Centauri Cluster, Running Chicken Nebula, λ Centauri Nebula Open Cluster: Collinder 249, Cr-249, LamCen cl; OCl 862, vdB-Ha 121, C1135-630, Lund 592, Lund 1088	| M=4.5 | Size=75' | SB= 22.5 | Stars=25 |MC= III3m n |
NGC-3699 (PN)		T	Wray 16-90, He 2-65, Hf 62, Sa 2-74, PN G292.6+01.2, ESO 129-2, PK 292+0.1.1	| M=11.0 | Size=1.2' | SB= 20.0 |
NGC-3680 (OC)			Collinder 247, Cr-247, Lund 588, Melotte 106, Mel-106, OCl 823, Raab 91, C1123-429	| M=7.6 | Size=5' | SB=19.7 | Stars=20 | MC=I2m |

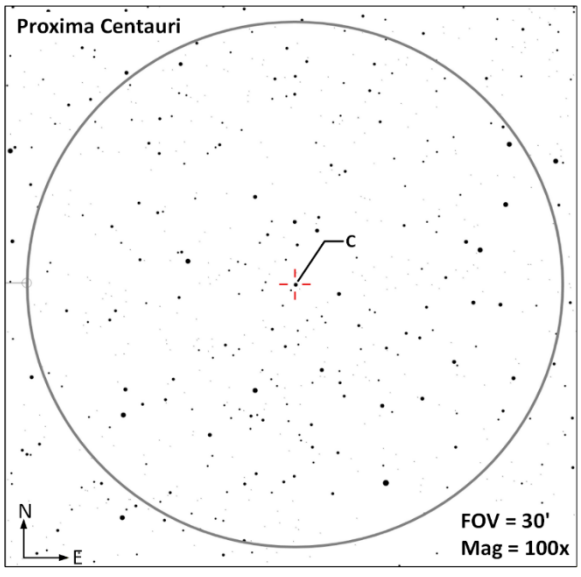
Alpha Centauri (**AB** | 0.01, 1.33 | Sep=9.3” | PA=12.1° | color= yellow, yellow-orange | Spec= G2V, K1V || **AB, C** | 0.14, 12.7 | Sep=7,960” | Period= Several hundred thousand years | Spec=M5 Ve |) – Alpha Centauri along with Proxima Centauri form a very wide triple star system. The AB components make up Alpha1 and Alpha2 Centauri while the C component is Proxima Centauri the angular distance between α Cen and Proxima Cen is close to two degrees, so Proxima Centauri is treated separately in this document. This star system is the closest star to our Sun, with Proxima currently the closest of the three stars. The orbital period of the AB components is 79 years with an eccentric orbit giving a distance between the components ranging from 36 AU to 11 AU with a corresponding angular separation ranging from 2” to 22”.



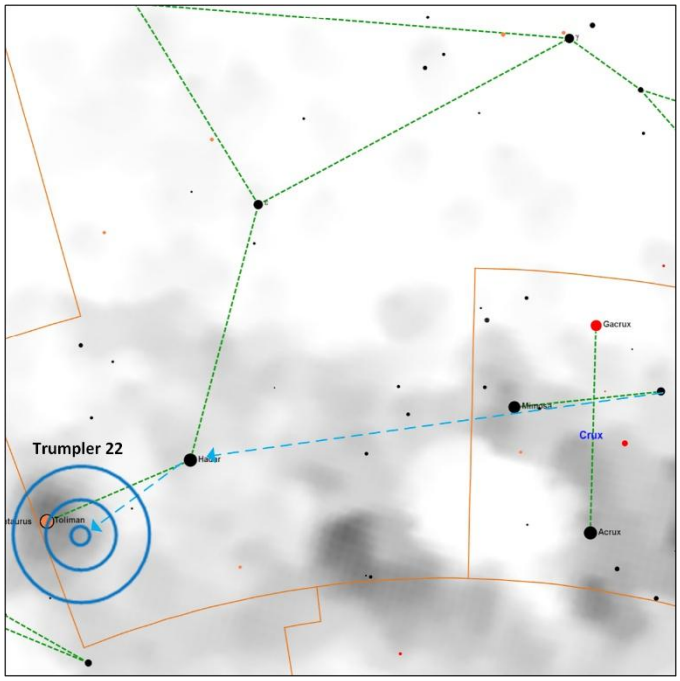


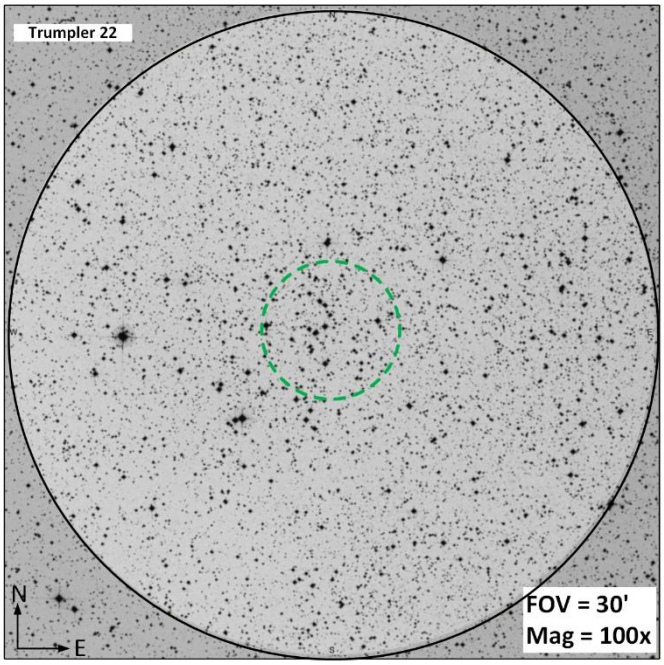
Proxima Centauri (CS, MS-3 | Mag Range =10.4 – 11.1 | Period= unknown | PA=212°| Spec= M5 Ve || AB, C | 0.14, 12.7 | Sep=7,960” | Period= Several hundred thousand years) – Proxima Centauri is the closes star to our sun and an extremely faint red dwarf with a mass of about 1/10 of our sun and smaller in size than Saturn. It is 15,000 AU from the brighter A & B components (Alpha Centauri) and appears about 2° away from the A&B components. Proxima Centauri and is suspected to be gravitationally bound to Alpha Centauri (A&B components) but with a period of several hundred thousand years.



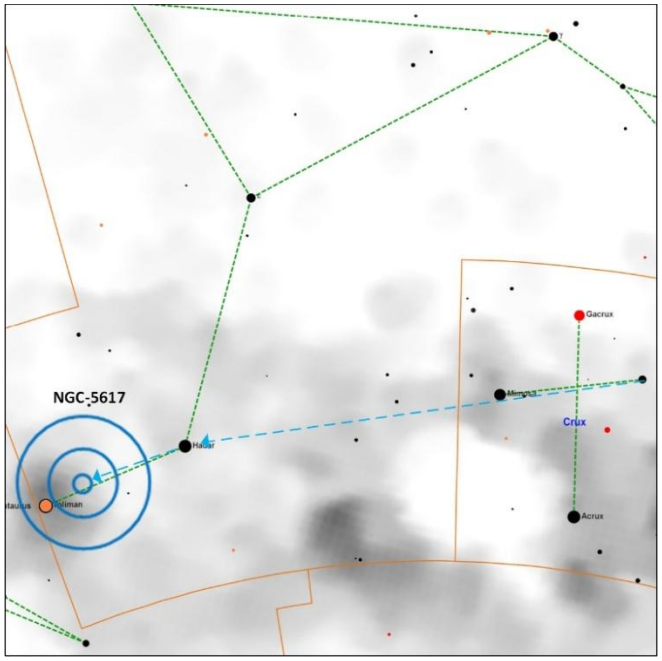


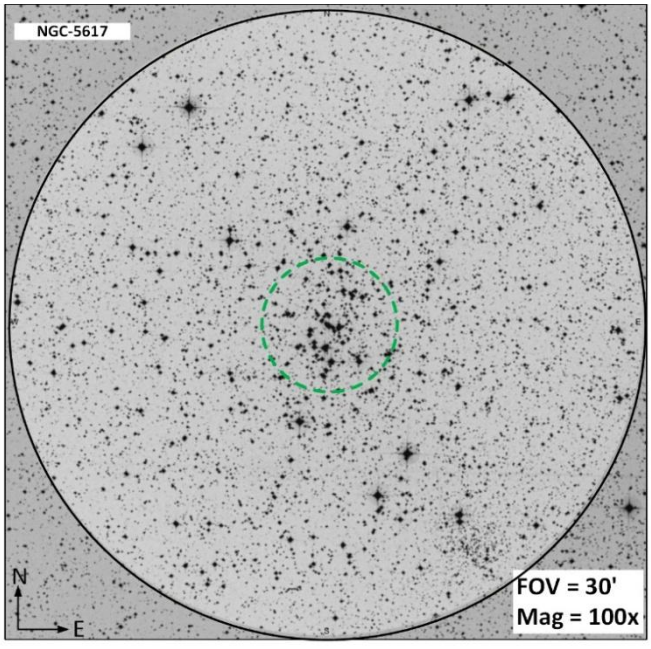
Trumpler 22 (OC | M=7.90 | Size=10’ | SB=21.5 | Stars=25 | MC=III2m |– It is expected that this is not actually an open cluster. In documents indicating it is an open cluster it is estimated to be 4,945 light years away with a physical diameter of 14 light years.



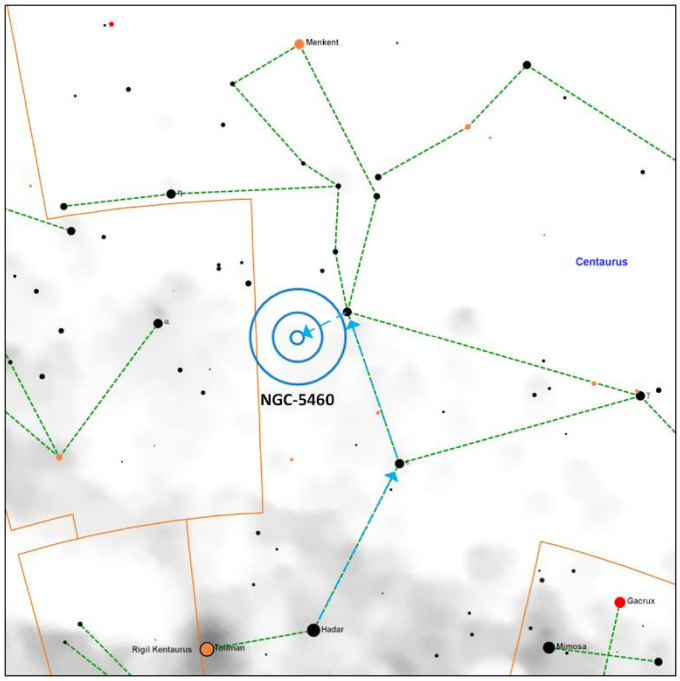


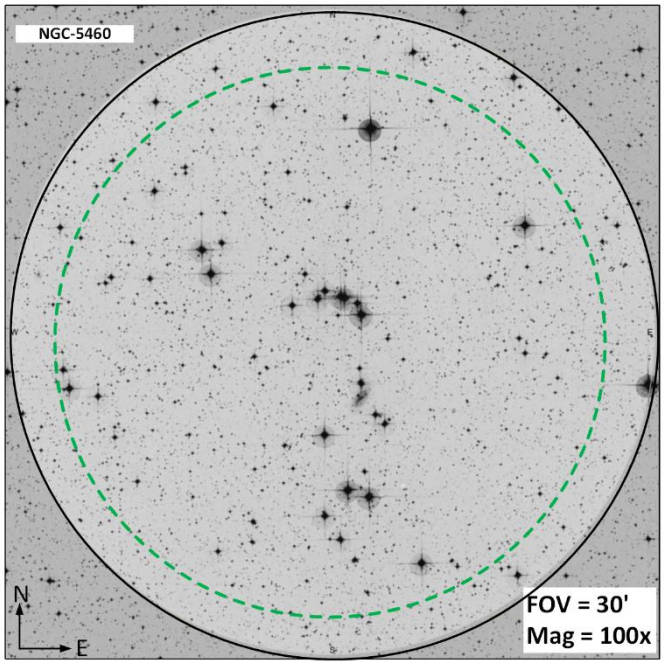
NGC-5617 (OC | M=6.3 | Size=10’ | SB=19.9 | Stars=175 | MC=I3r |) – Located 6,523 light years away, this cluster has a physical diameter of 19 light years with approximately 175 members. This is one member of a binary open cluster with Trumpler 22 being the second member. The separation between these two gravitationally bound clusters origins indicate they initially had an almost circular orbit with a separation of less than 6.5 light years.



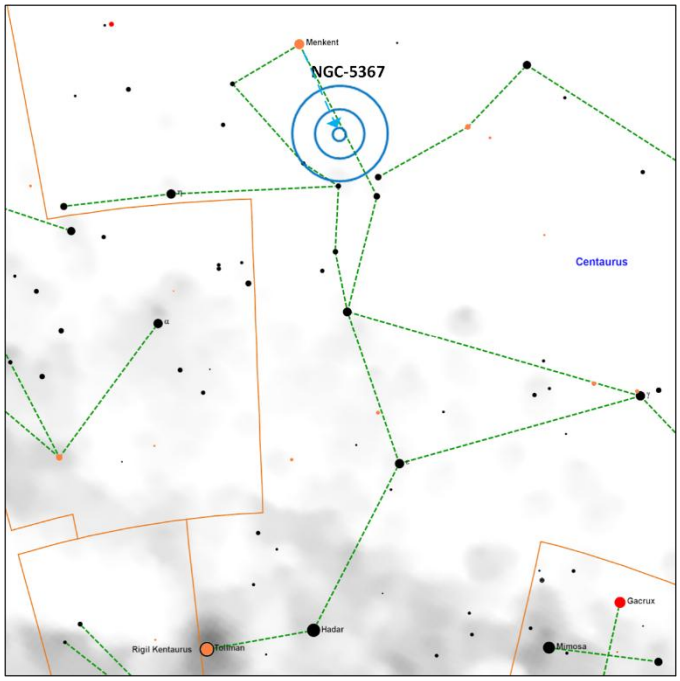


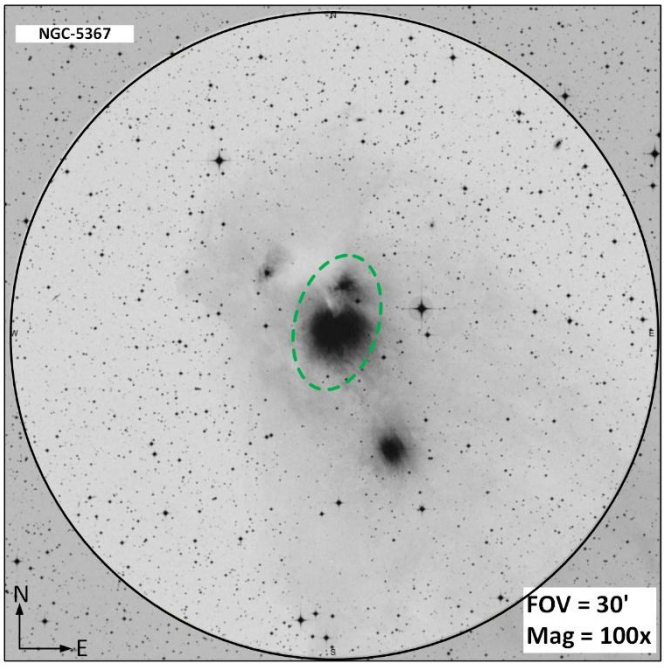
NGC-5460 (OC | M=5.6 | Size=23’ | SB=21.0 | Stars=272 | MC=I3m) – A loose open cluster located 2,300 light years away. 272 stars are estimated to make up this cluster, of course most of these are not visible in moderate size telescopes.



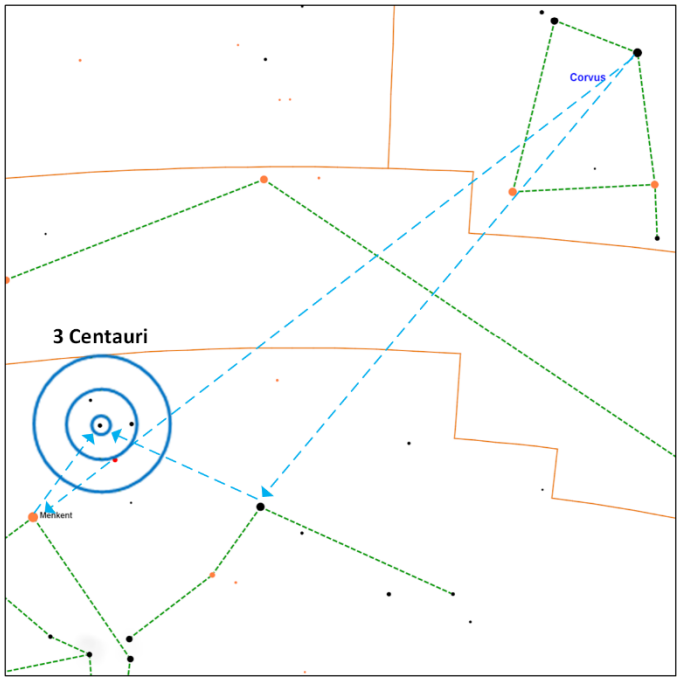


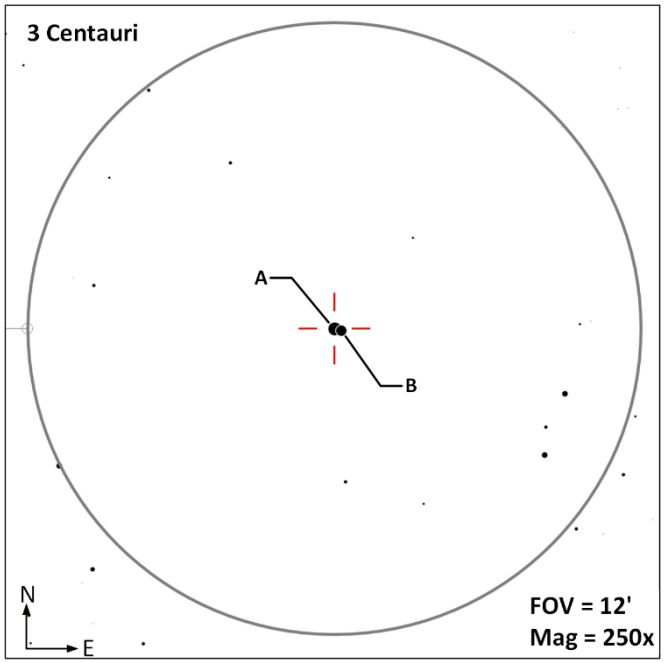
NGC-5367 (RN | M=unknown | Size= 4.0’x3.0’ |) – In a 10’ telescope an evenly illuminated haze 3’ across surrounds an associated 9th magnitude star. To the northeast is a detached 2’ x 1’ region. Deep images show structure reminiscent of the Pleiades nebulosity – Tom Polakis.



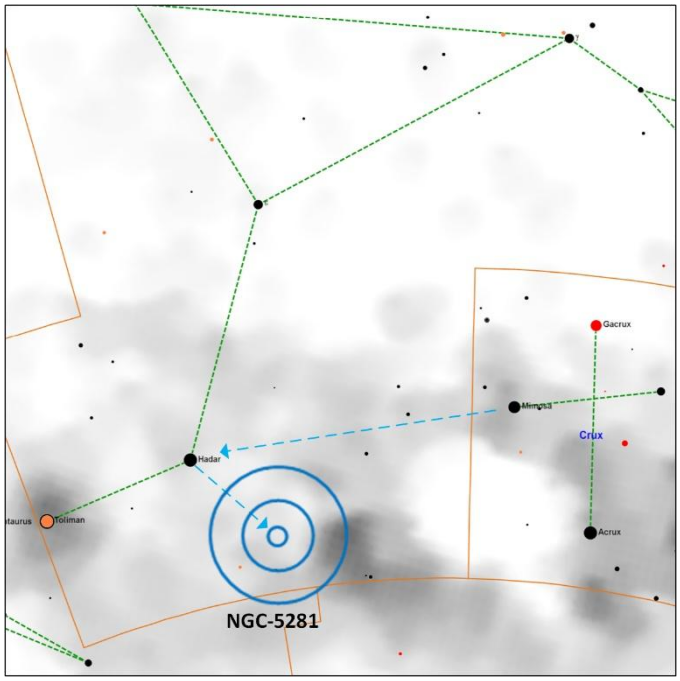


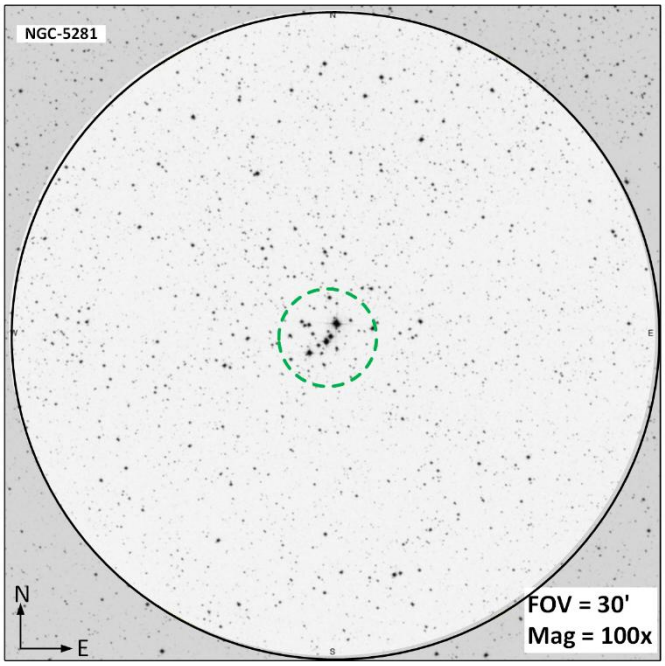
3 Centauri (DS | MN=4.5, 6.0 | Sep=7.8” | PA=105° | color= blue-white, blue-white | Spec=B5III, B8V |) – Located 300 light years from the sun, this system is suspected of being an optical double, where the two components are not gravitationally bound to each other. This double star should be easily separated in most telescopes.



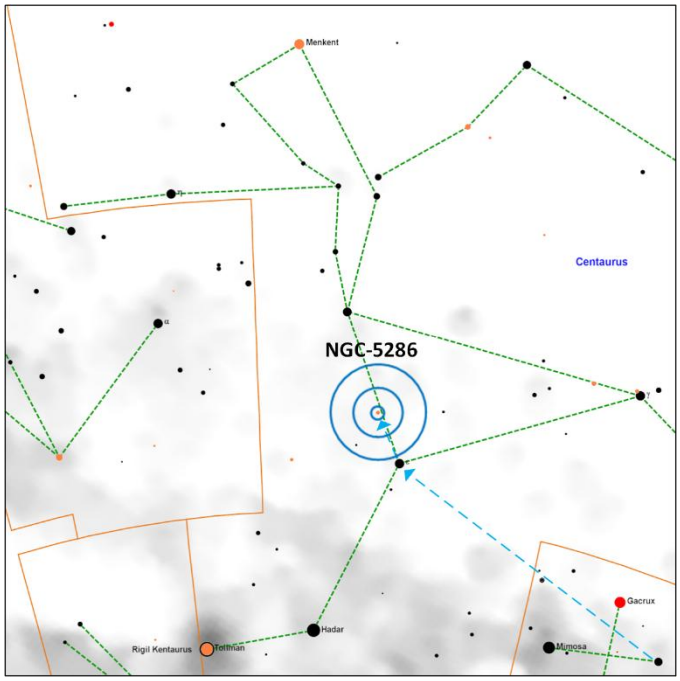


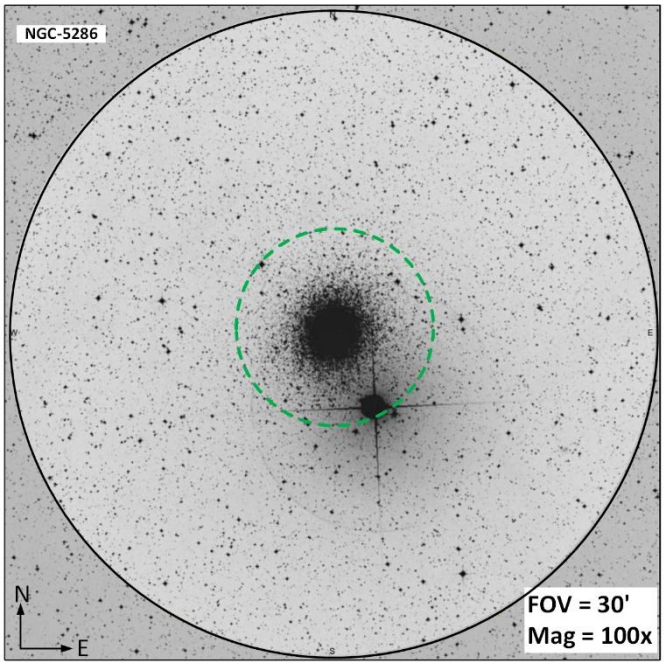
NGC-5281 (OC | M=5.9 | Size=7’ | SB=18.8 | Stars=371 | MC=I3m | |) – Located 3,614 light years away this is a sparsely populate open cluster with a physical diameter of 7 light years. Four bright stars of the cluster form a striking line when viewed in a telescope. It is estimated the cluster has 371 members (most not visible in the telescope).



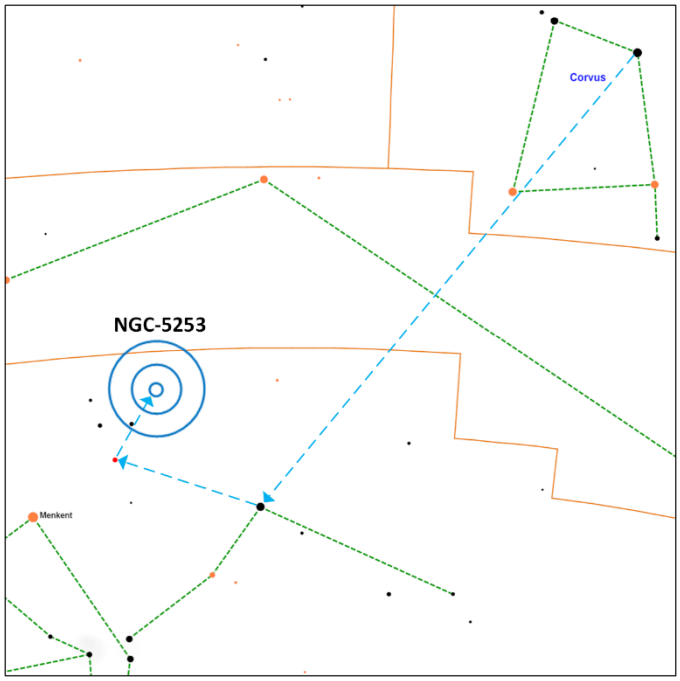


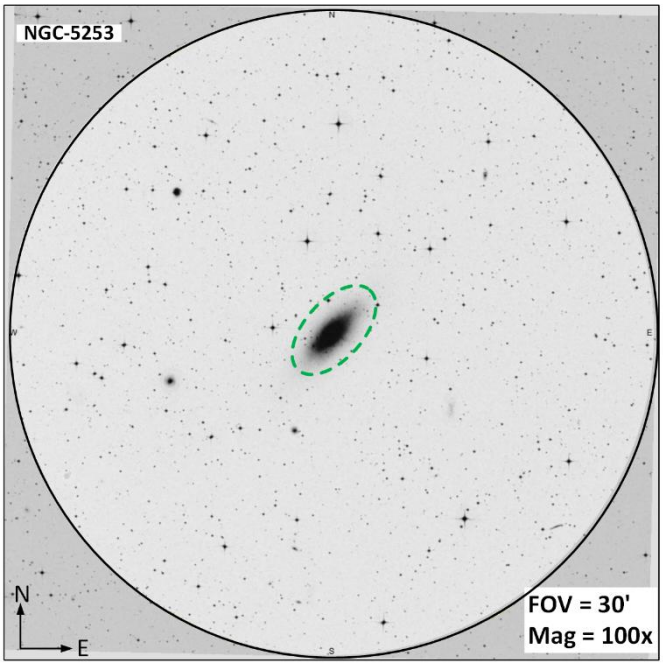
NGC-5286 (GC | M=7.6 | Size=9.1’ | SB=21.0 | MC=V |) – Caldwell 84 is a globular cluster located 35,900 light years away and is one of the oldest globulars in the galaxy with an estimated age of 12.54 billion years. NGC 5286 is part of the Gaia Sausage, the hypothesized remains of a merged dwarf galaxy with the Milky Way that is estimated to have occurred 8 to 11 billion years ago.



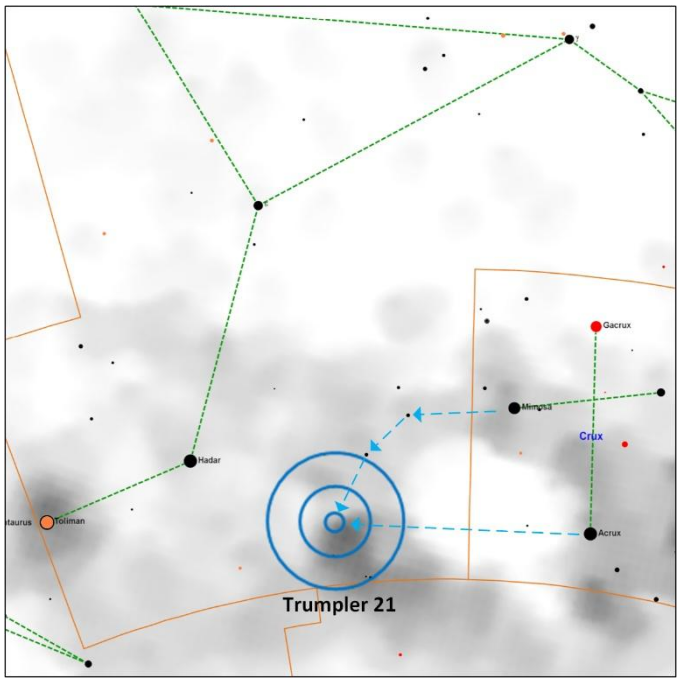


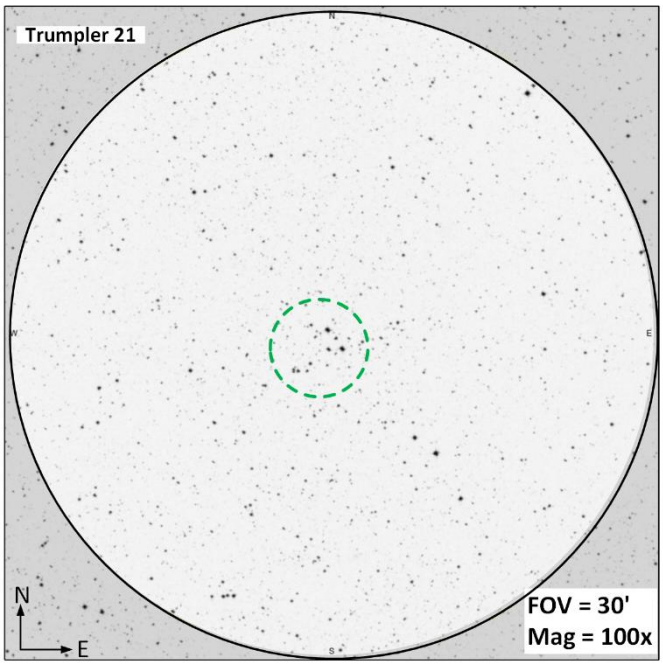
NGC-5253 (G | M=10.9 | Size=5.0’x1.9’ | SB=22.0 | MC=S/P |) – A member of the Centaurus A/M83 Group of galaxies, this galaxy contains a giant dust cloud hiding a super star cluster of more than one million stars that is 3 million years old and has a total luminosity of more than one billion suns giving a birth rate at least 10 times that in a typical open cluster during its formation phase.



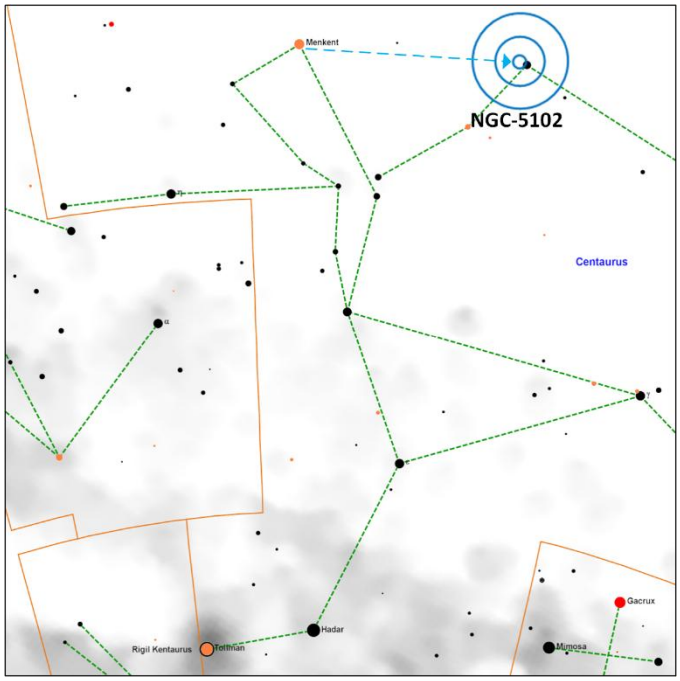


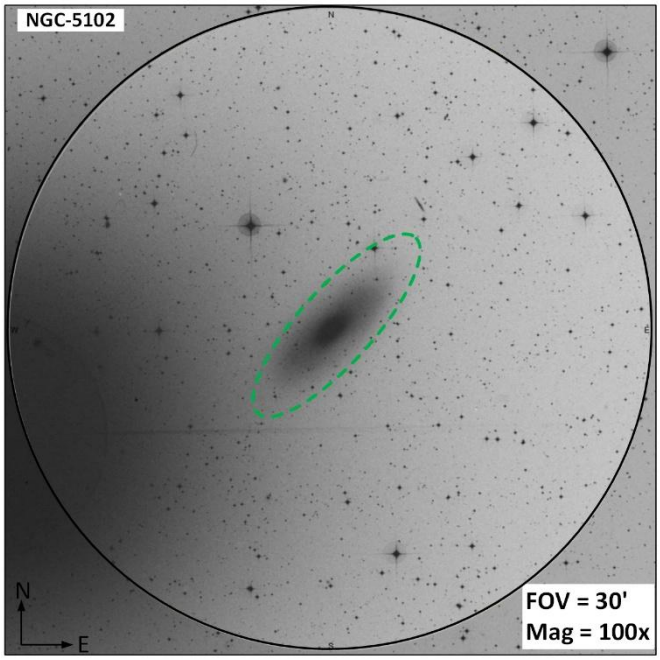
Trumpler 21 (G | M=7.7 | Size=5’ | SB=19.8 | Stars=25+ | MC=I2p |) – Located 4,119 light years away with a physical diameter of 6 light years.





NGC-5102 (G | M=10.4 | Size=8.7’x2.8’ | SB=22.5 | MC=E-S0 |) – Also known as Iota’s Ghost due to it’s close proximity to Iota Centauri, this galaxy resides near the glow of this star. This galaxy is estimated to have a physical diameter of 27,660 light years and is estimated to reside 12.1 million light years away.





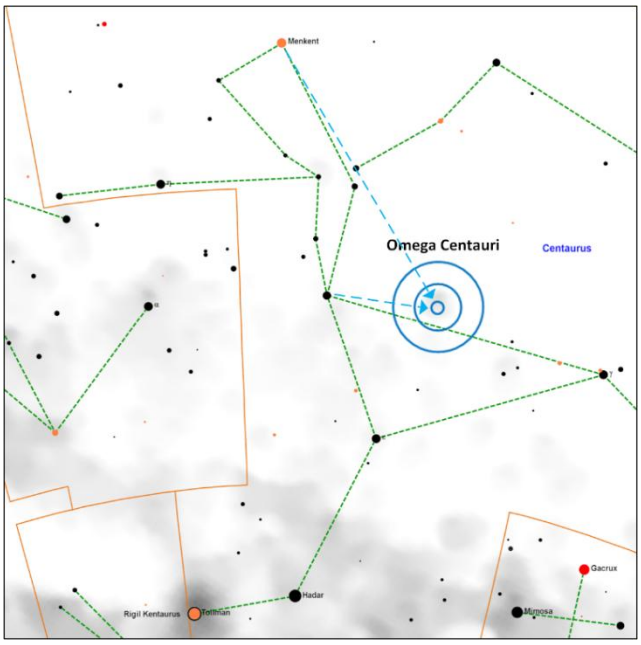
Don’t Forget to Breath

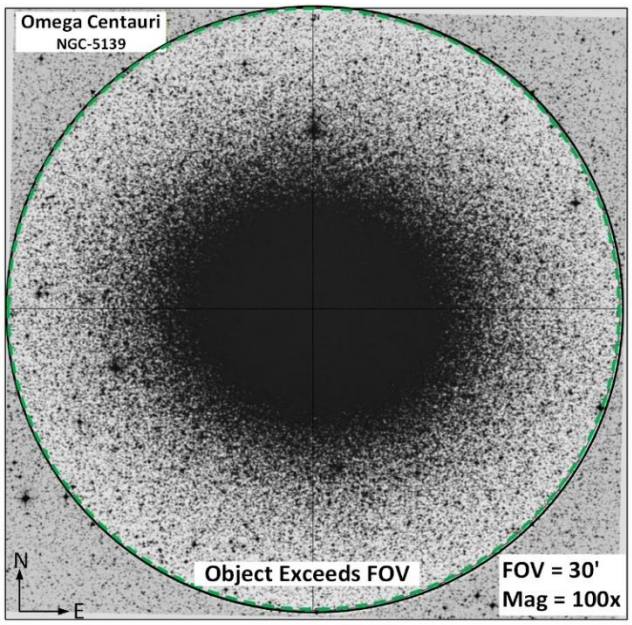
Never in my life have I ever witnessed anything nearly as breathtaking as viewing Omega Centauri through a 20” telescope in the Atacama Desert in Chile (March, 2024). This is the only object I have ever viewed that actually looks better through the telescope than in photographs (the image above was taken by me using a C-6 SCT).

This cluster has a larger angular diameter than that of the moon! Viewing it through the 20” telescope, I felt like I was falling into this ball of stars, it was amazing. I kept finding myself gasping for breath, because I would keep forgetting to breath.

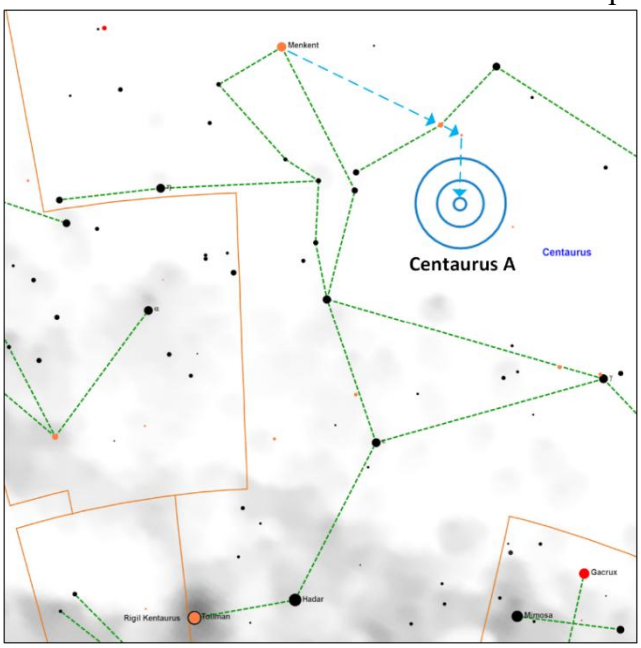
The origin of the Omega Centauri globular cluster is not conclusive, but it is suspect that it may originated as the core remnant of a dwarf galaxy consumed by our Milky Way galaxy. This object is located 17,100 light years away with a diameter of 150 light years and is estimated to contain approximately 10 million stars with a combined mass of approximately 4 million solar masses making this the most massive globular cluster in the Milky Way.

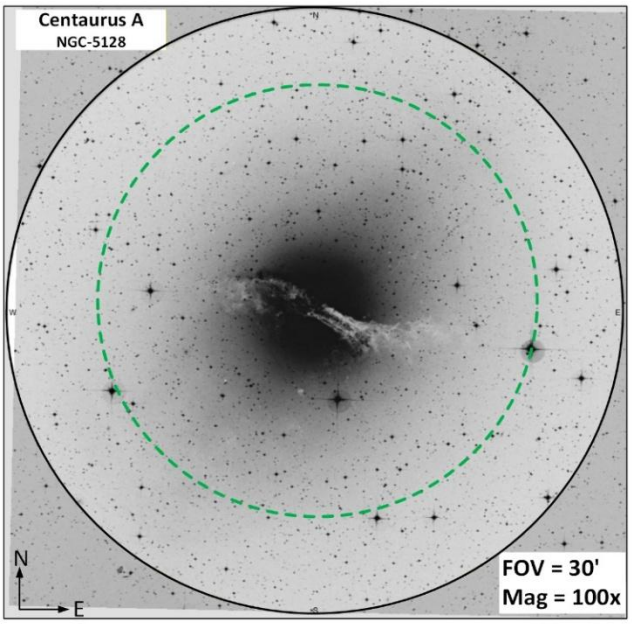
Omega Centauri (GC | M=3.9 | Size=36.3’ | SB=20.3 |) – NGC-5139 is the brightest globular cluster in the sky and the largest and most luminous orbiting the Milky Way. It is located 17,100 ly away with a physical diameter of 150 light years. It is estimated to contain approximately 10 million stars with a combined mass of 4 million solar masses. It is suspected that is the core remnant of a disrupted dwarf galaxy consumed by our galaxy. Omega Centauri is estimated to be 12 billion years old, and the stars located around the core region are estimated to average only 0.1 light years away from each other.



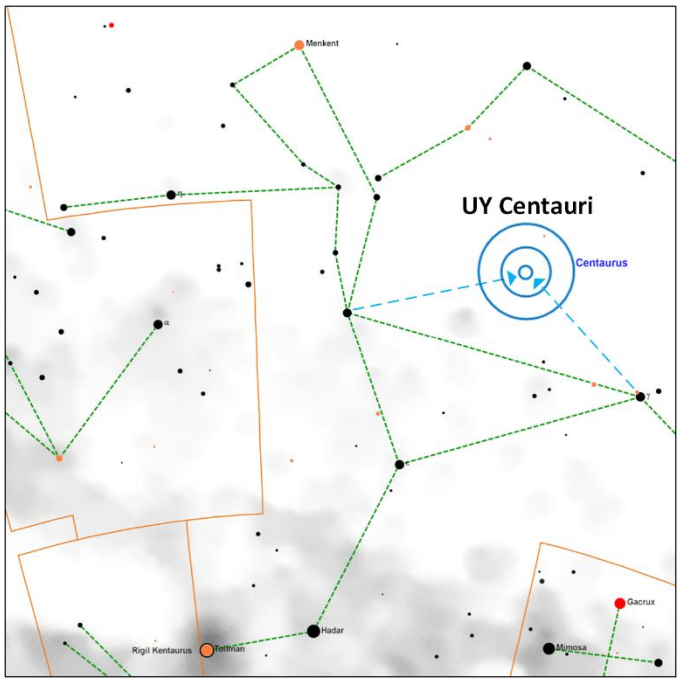


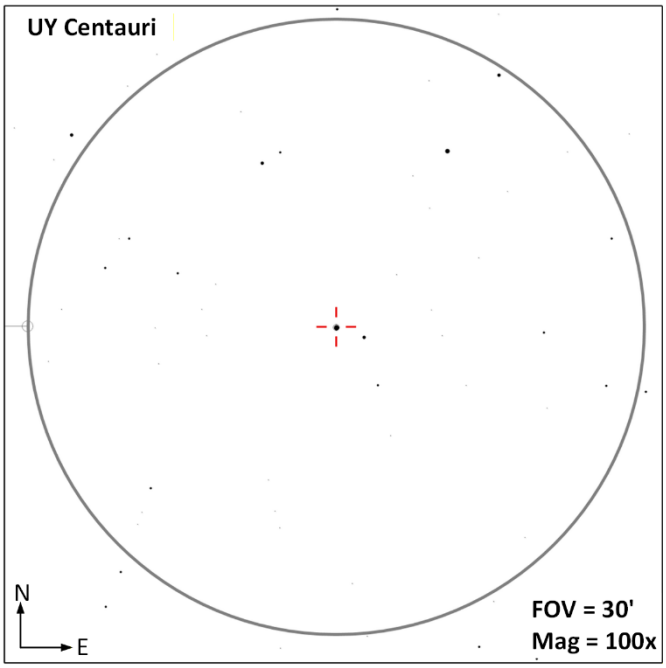
Centaurus A (G | M=6.8 | Size=25.7’ x 20.0’ | SB=22.2 | MC=S0/P |) –The Hamburger Galaxy is the fifth brightest galaxy in the sky but only visible in the southern hemisphere. This galaxy contains a supermassive black hole estimated to be 55 million solar masses. This is the nearest large starburst galaxy and it is suspected that this is due to a recent collision of the main elliptical galaxy with a spiral galaxy.



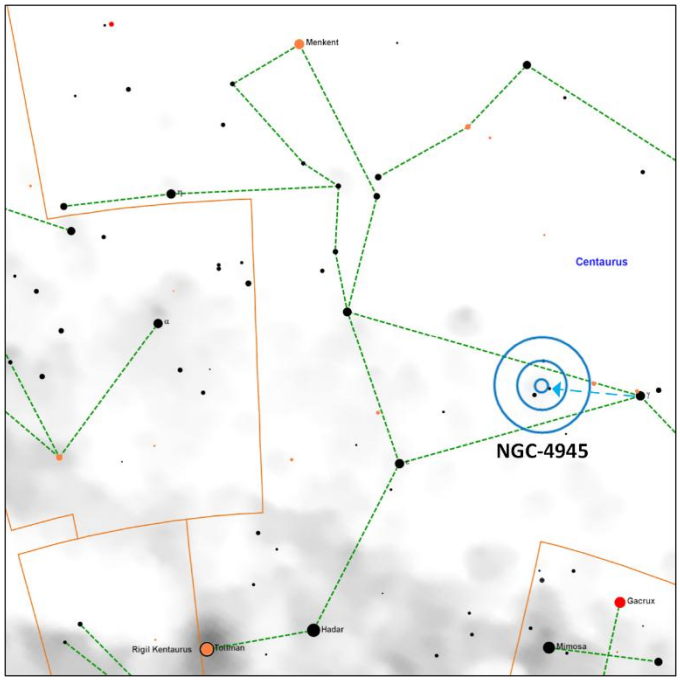


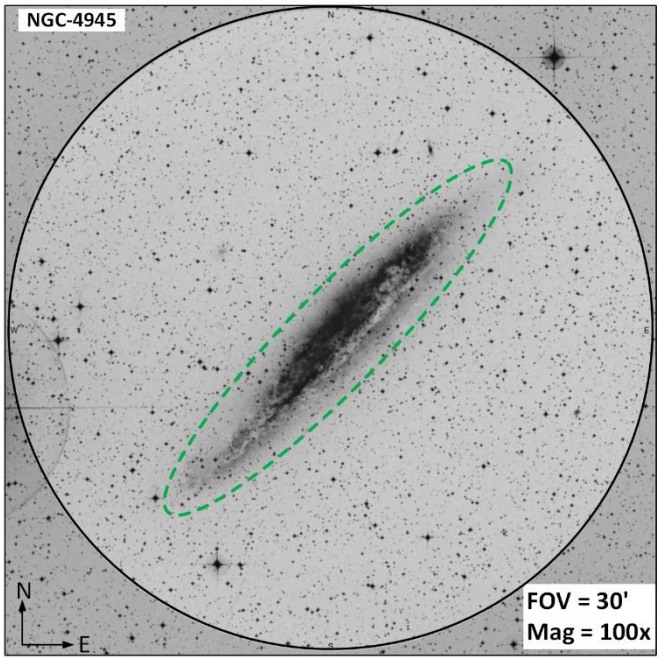
UY Centauri (CS | Mag Range: 6.9 – 9.5 | Period=178 d | BV=2.9 | Spec=S6/8 |) – Located 2,160 light years away. It is estimated that this star is shedding mass at an estimated rate of 1.7 x 10^{-7} solar mass per year.



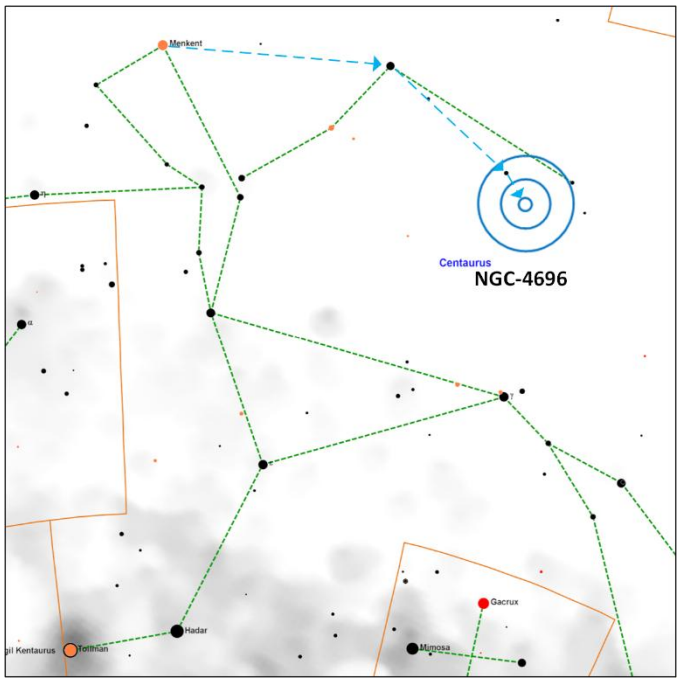


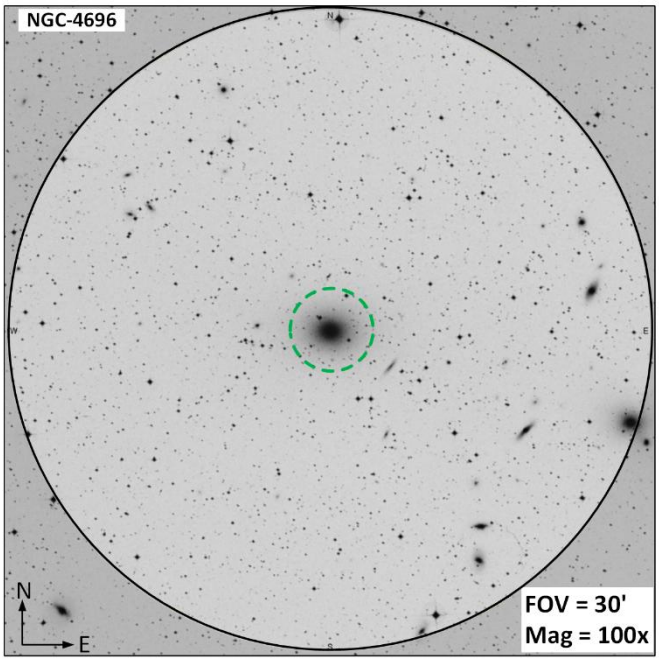
NGC-4945 (G | M=9.3 | Size=20'x3.8' | SB=22.6 | MC=SBc |) – Caldwell 83 is an edge on spiral galaxy located 11 million light years away and is one of the brightest member of the Centaurus A/M83 Group, a complex group of galaxies in the constellations Hydra, Centaurus, and Virgo and a member of the Virgo Supercluster.



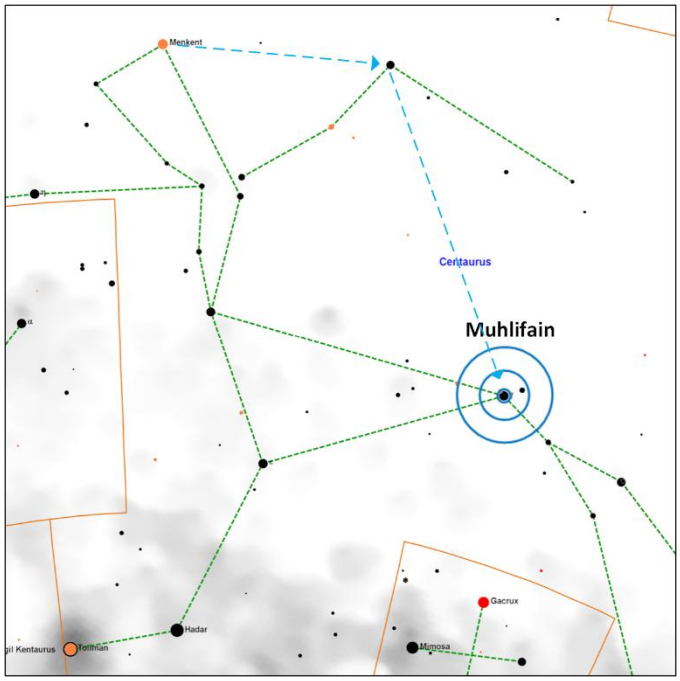


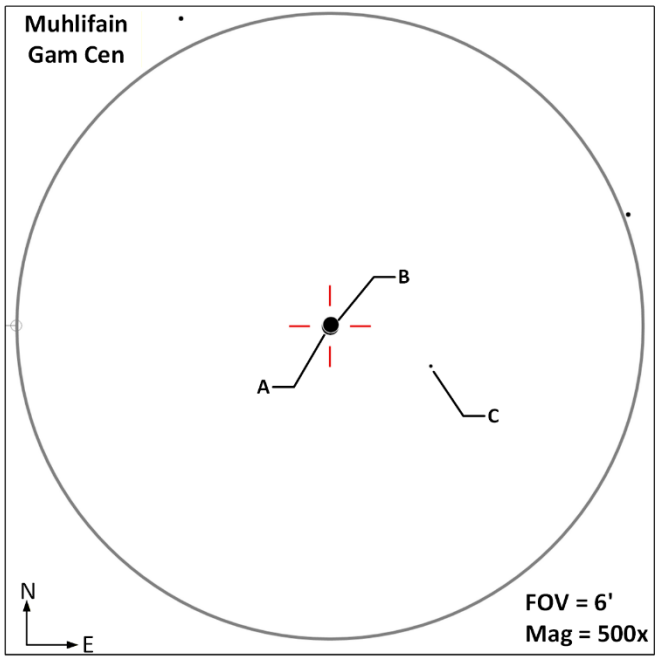
NGC-4696 (G | M=11.4 | Size=4.5'x3.2' | SB=22.9 | MC=E1/P |) – Located 145 million light years away. This is the brightest galaxy in the Centaurus Cluster (A3526) a rich cluster of galaxies consisting of hundreds of galaxies.



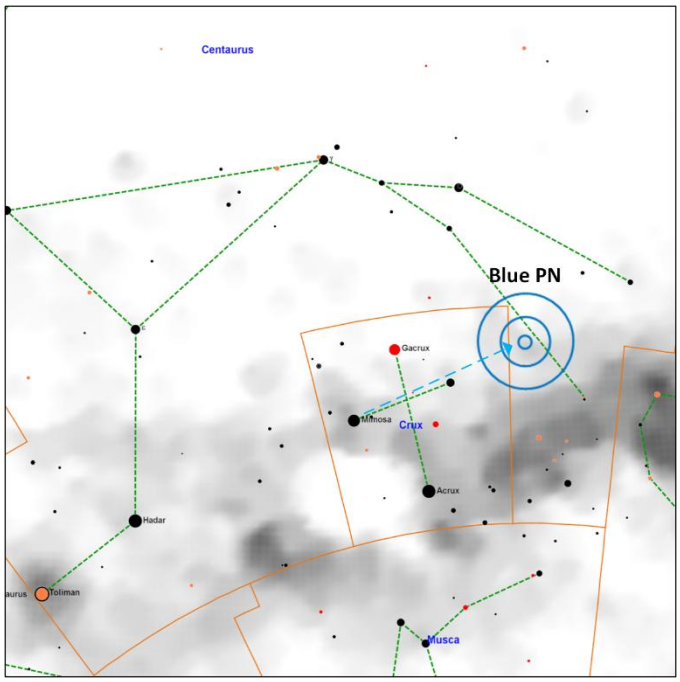


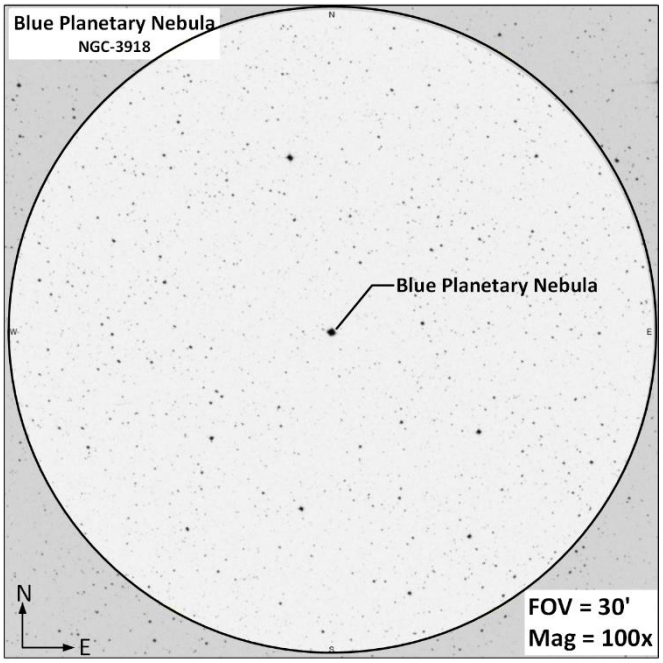
Muhlifain (MS-3 **AB** | M=2.8, 2.9 | Sep=0.8" | PA=14° | MC= A1IV, A0IV || **AB,C** | M=2.8, 14.4 | Sep=59" | PA=113° |) – Located 130 ly away, this tight double star system will require a telescope aperture of at least 200mm to separate the primary and secondary components that orbit each other every 85 years at an average distance of 37 AU.



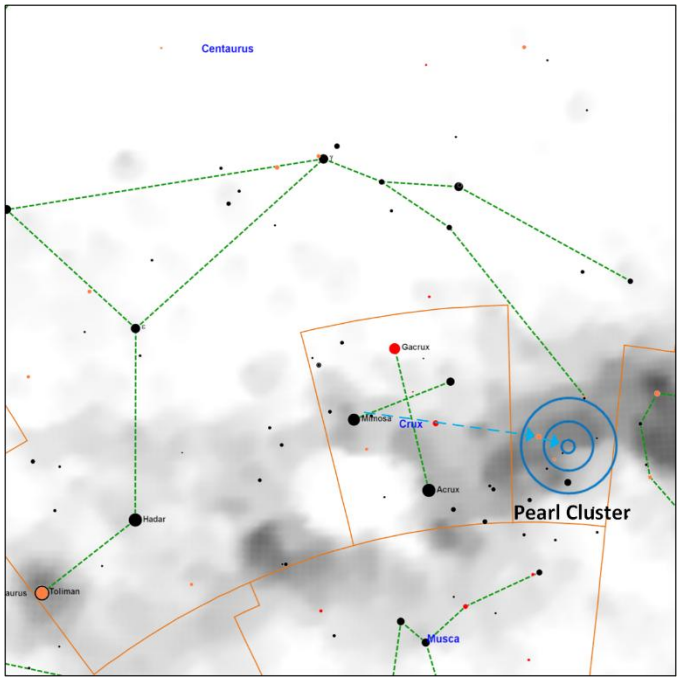


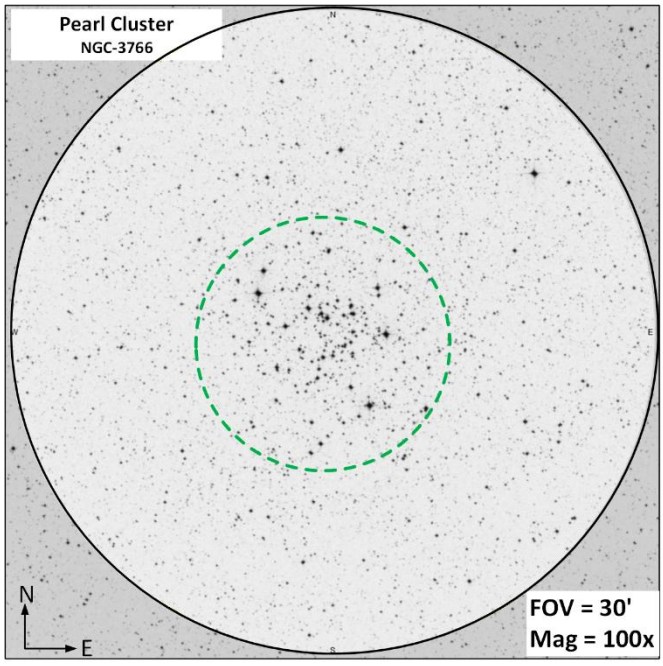
Blue Planetary Nebula (PN | M=8.5 | Size=10’ | SB= 21.9 |) – One of the brightest southern planetary nebulae, this is easily visible in small telescopes. The core of this planetary nebula is about 10”, but long exposure photographs reveal it covers and area about 20”



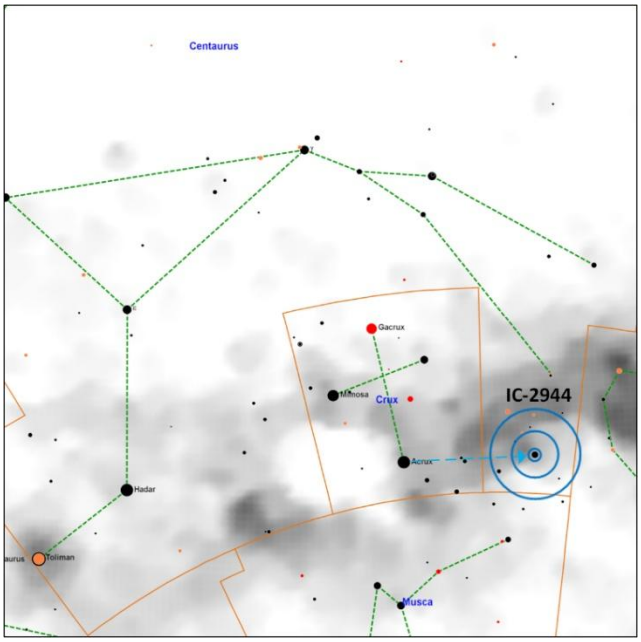


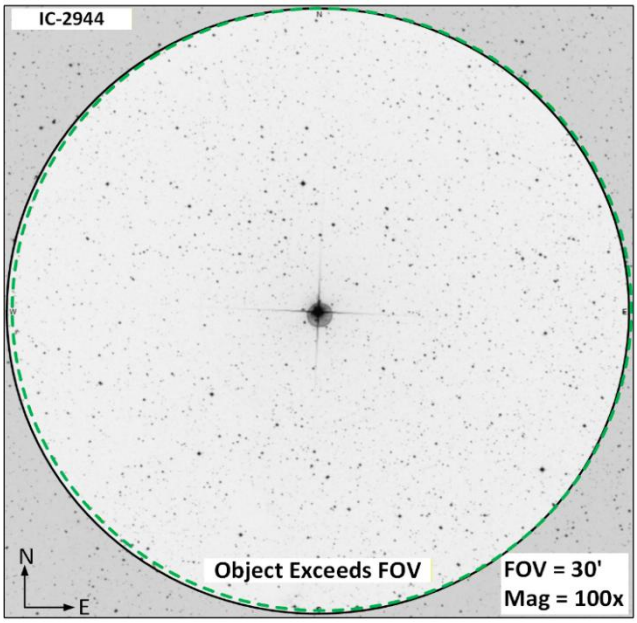
Pearl Cluster (OC | M = 5.3 | Size=12.0’ | SB=19.3 | Stars=36+ | MC=I3r |– A open cluster located in the Carina molecular cloud, a vast star forming region. This is a very dense open cluster reported to shimmer like a pearl and is visible with the naked eye at dark sites. Located 5,500 ly from Earth.



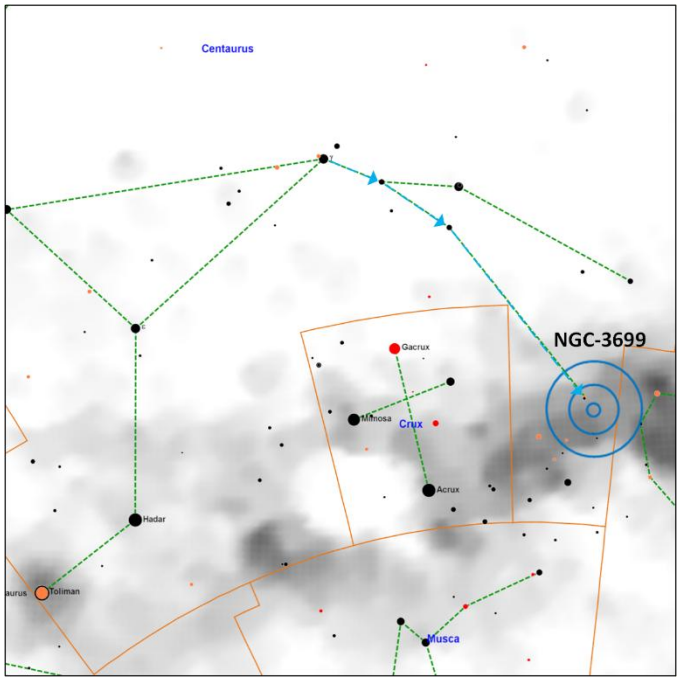


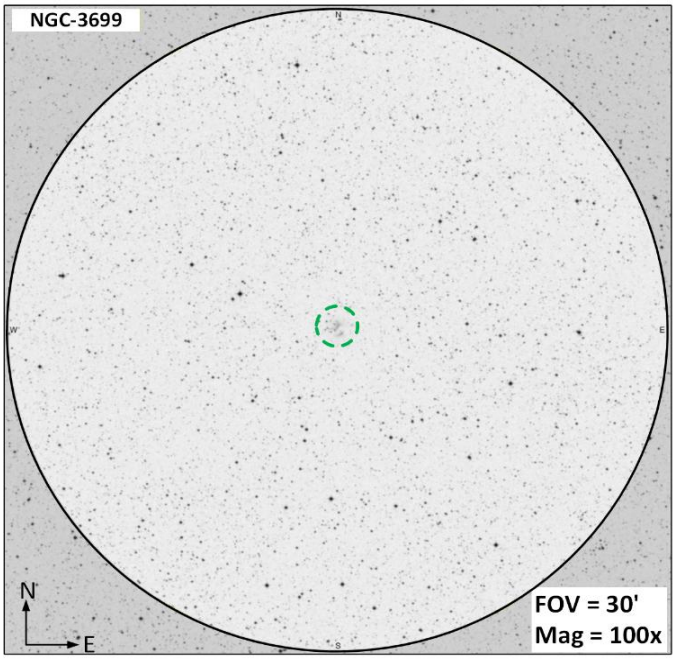
IC-2944 (EN, OC | M=4.5 | Size=75’ | SB= 22.5 | Stars=25 | MC= III3m n |) – Caldwell 100 is an open cluster embedded in an emission nebula. A great target for binoculars due to its large size (75’). Described as ‘almost featureless emission nebula’ this nebula contains Bok globules (not visible in small telescopes), small dark nebula considered sites for star formation, however no evidence of star formation has been discovered in the Bok globules associated with this object.



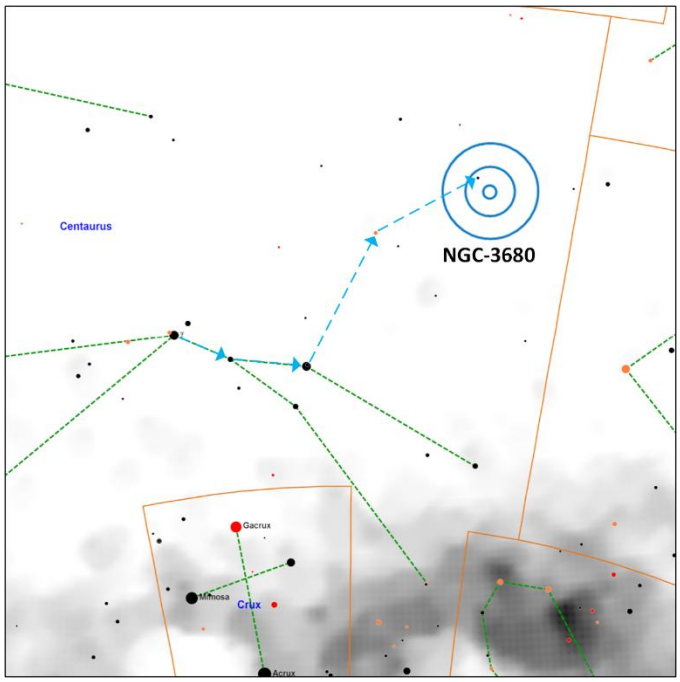


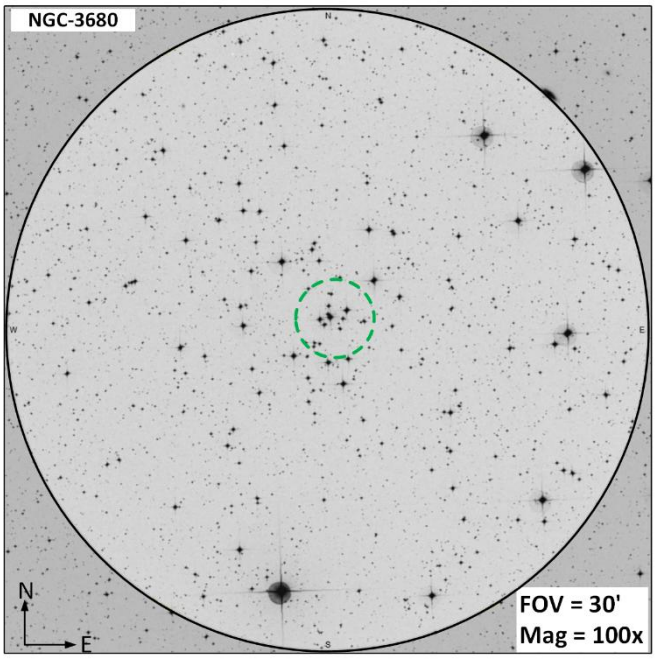
NGC-3699 (PN | M=11.0 | Size=1.2’ | SB= 20.0 | – A bi-polar planetary nebula, a dark rift should be visible in 200-mm scope with high magnification. Planetary Nebula He 2-67 appears in the 30’ field of view but appears only as a faint star, it is a 13th magnitude PN with a size of 0.1’x0.1’. Using a O3 filter may show more features of NGC-3699 and identify He 2-67.





NGC-3680 (OC | M=7.6 | Size=5’ | SB=19.7 | Stars=20 | MC=I2m |) – Described as pretty rich; little compressed (Peter Birren) this open cluster is 3,100 light years away with a physical diameter of 4 light years and contains 20 stars.





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Constellation Guide

Observation Log: Centaurus (Cen)

Equipment Config A: _____ Config B: _____

Notes: _____

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide

Observation Log: Centaurus (Cen)

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 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
  - 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