Ursa Minor (UMi)

Evening Visibility: **April - June**
Opposition: May
Latitude Visibility: **+90° to -10°**
Online Information: | In-The-Sky.org | Constellation Guide.com |

Constellation Targets

The Shark, NGC-6251, NGC-6252, STAR-22, HR-5829, NGC-5912, NGC-5909, NGC-6217, NGC-3172, STAR-01, Polaris

Mythology/Back Story

Ursa Minor is Latin for "the lesser bear". In Greek mythology, Ursa Minor represents one of the two bears who nursed the infant Zeus. Catalogued by the Greek astronomer Ptolemy in the 2nd century BCE it is believed to have been created by Thales of Miletus who lived between 625 and 545 BCE. The constellation is commonly known as the little dipper due to its similar shape to the big dipper.

Constellation Highlights

While Ursa Minor does have galaxies in its boundaries, most are very dim requiring dark skies and larger aperture telescopes.

- **Polaris** (DS): Easy to locate but a bit tricky to find the secondary.
- **The Shark** (AS): Another interesting target for binoculars.
- **STAR 01** (AS): The Engagement Ring is a ring of stars including Polaris as the diamond in the ring.

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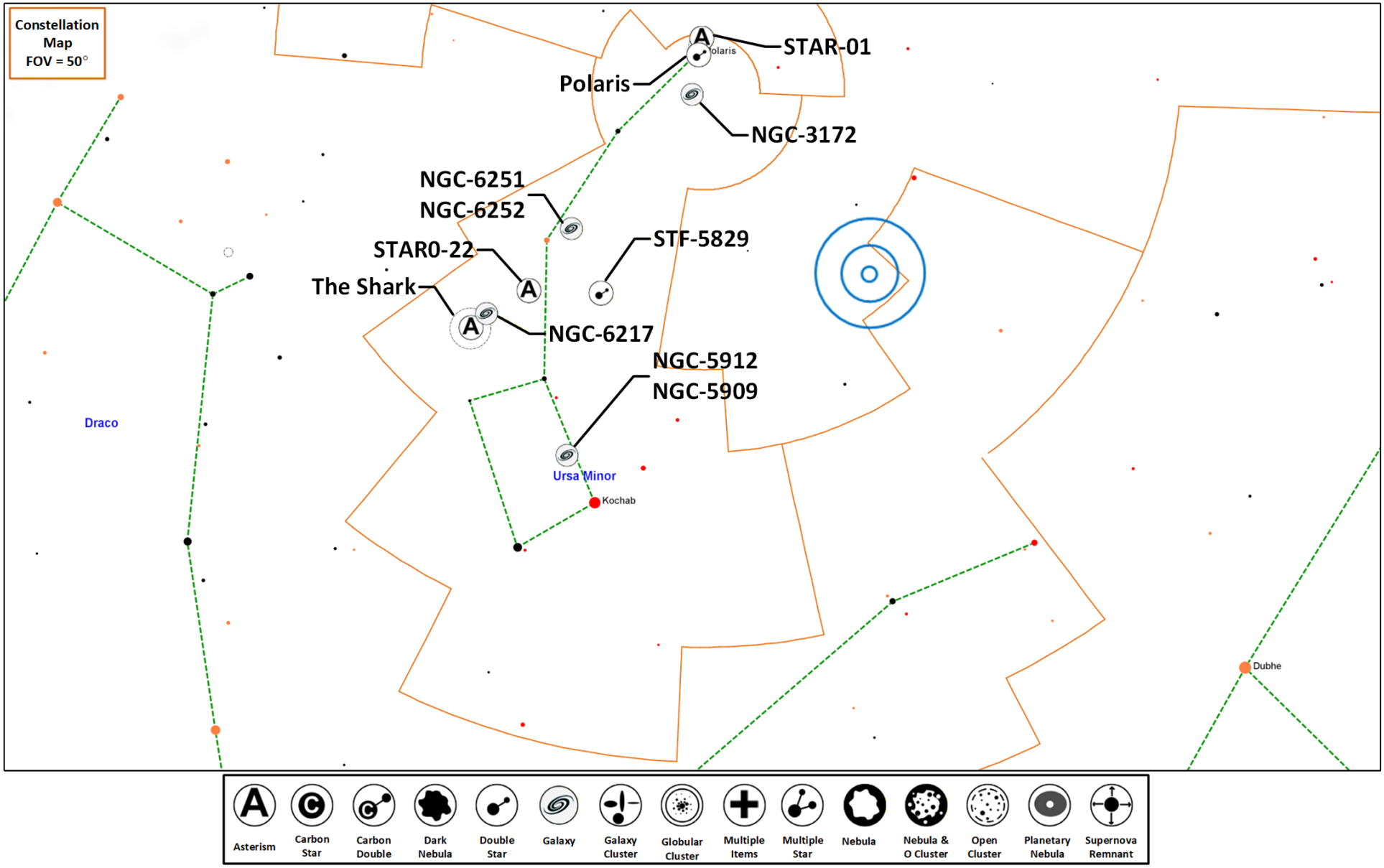

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Constellation Objects Summary

Object (Type)	Links	Gear	Aliases	Stats
The Shark (AS)		B		| Size = 1.5° | Stars = 12 | Ref Star: SAO-008640
NGC-6251 (G)	1	T	UGC 10501, PGC 58472, MCG 14-8-10, CGCG 367-13, QSO B1637+826, LEDA 58472	| M=14.3 | Size=1.8' x 1.6' | SB=24.1 | MC=E2 |
NGC-6252 (G)		T	PGC 58456, MCG 14-8-11	| M=14,2 | Size=0.7'x0.3' | SB=22.1 | MC=S |
STAR-22 (AS)		B, T	Mini-Coathanger	| Size = 15' | Stars = 11 | Ref Star: SAO-002725
HR-5829 (DS)	1	B, T	SAO-002556, HIP 75809, STF 1972, HR 5829, HD 139777, ADS 9595, Σ1972, Pi1 UMi, π1 UMi	**AB** | Mag=6.6, 7.3 | Sep=32" | PA=79° | Color= Yellow, Yellow | Spec=G1.5V, G9V |
NGC-5912 (G)		T	PGC 54237, MCG 13-11-11	| M=13.8 | Size=1.2'x1.1' | SB=22.7 | MC=E-S0 |
NGC-5909 (G)		T	UGC 9778, PGC 54223, MCG 13-11-10, CGCG 354-21	| M=13.8 | Size=1.1'x0.5' | SB=21.8 | MC=Sbc |
NGC-6217 (G)	1	T	UGC 10470, PGC 58477, MCG 13-12-8, CGCG 355-14, Arp 185, IRAS 16350+7818	| M=11.2 | Size=3.0'x2.5' | SB=22.0 | MC=SBbc |
NGC-3172 (G)	1	T	PGC 36847, MCG 15-1-11, CGCG 370-8, CGCG 370-2, Polarissima Borealis	| M=14.9 | Size= 0.9'x0.8' | SB=23.2 | MC=S0 |
STAR-01 (AS)		B, T	Engagement Ring, Diamond Ring	| Size = 45' | Stars = 10+ | Ref Star: SAO-000308, HIP 11767
Polaris (DS)	1, 2	T	SAO-000308, HIP 11767, 1 UMi, HR 424, HD 8890, STF 93, ADS 1477, Lodestar, North Star, Alpha Ursae Minoris, α Umi, Cynosura, Alruccabah, Phoenice, Polare, Stella Polare, Tramontana, Angel Stern, Navigatoria, Star of Arcady, Yilduz, Mismar, Polyarnaya	**AB** | Mag=2.0, 9.1 | Sep=18.4" | PA=236° | Color= Yellow-White, Yellow-White | Spec= F7Ib, F3V |

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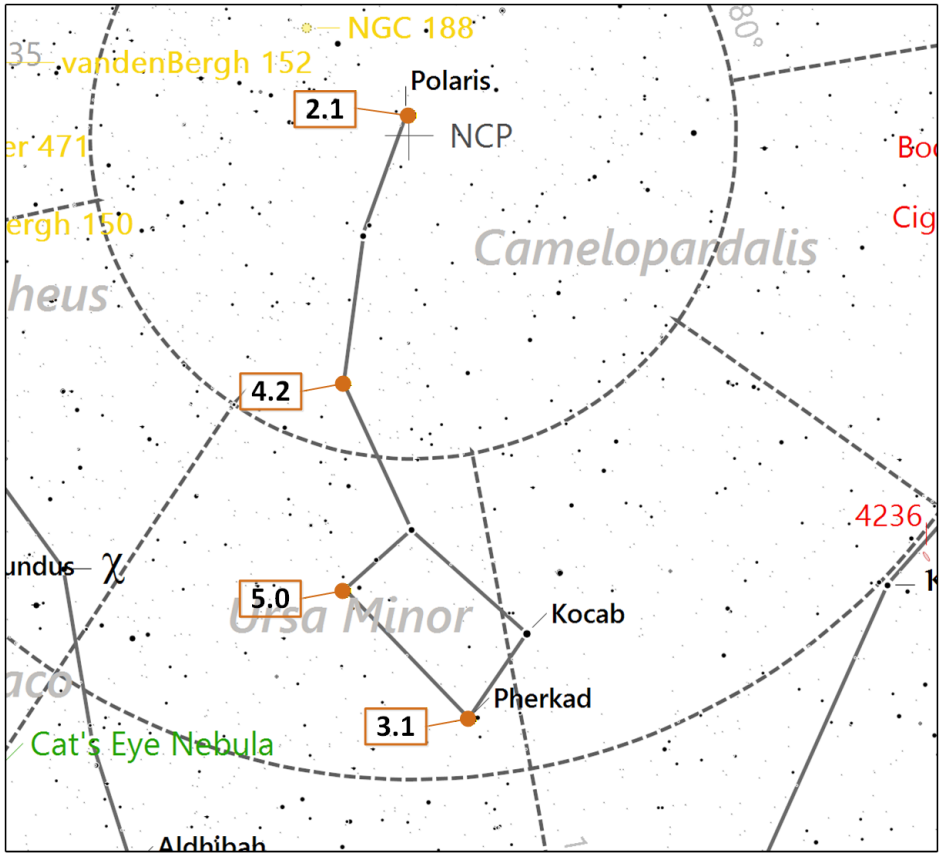
Using the Little Dipper to Estime Limiting Magnitude

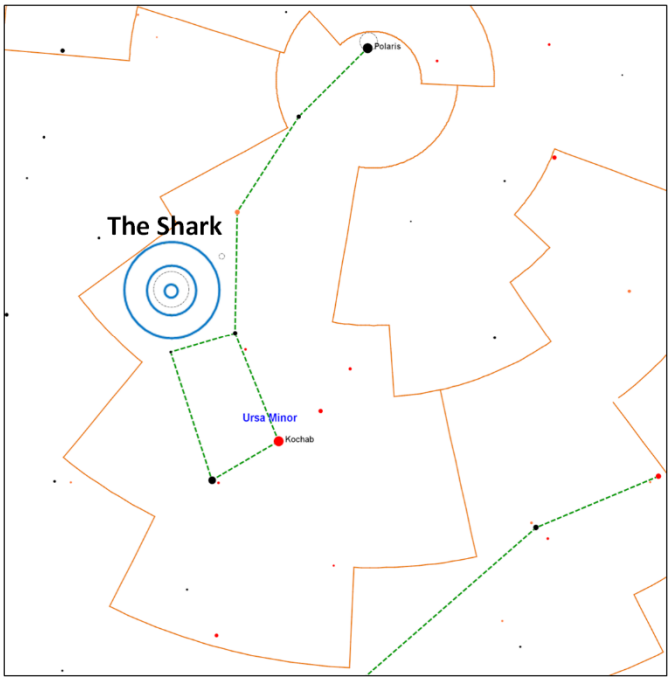
Ursa Minor is visible year-round for those in the northern hemisphere. Conveniently, the constellation has a number of nearly equally spaced magnitude stars ranging from 2.1 to 5.0:

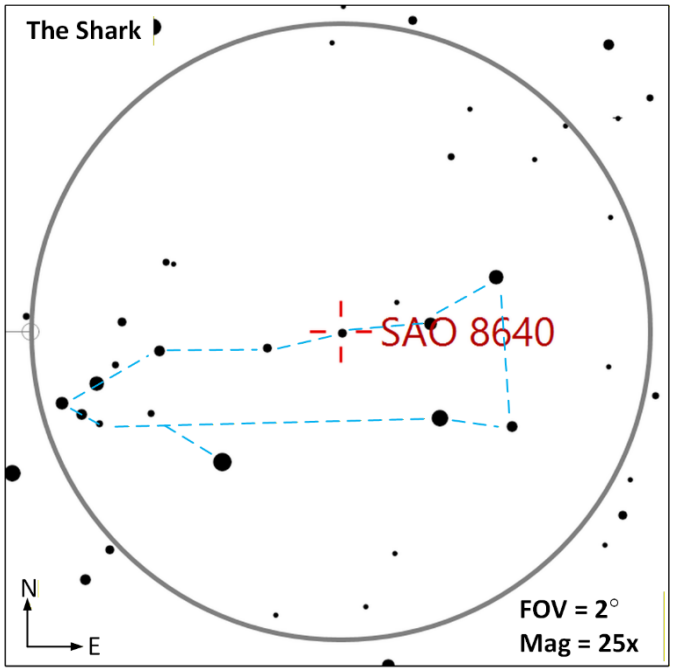
- Alpha UMi (Polaris/North Star) = 2.1
- Gamma UMi (Pherkad) = 3.1 ➔ Bortle 9 (4.0 and less)
- Epsilon UMi = 4.2 ➔ Bortle 8 (4.1 – 4.5)
- Eta UMi = 5.0 ➔ Bortle 7 (4.6 – 5.0)

As a result, the constellation provides a good scale for estimating limiting magnitude for the night sky for your location.

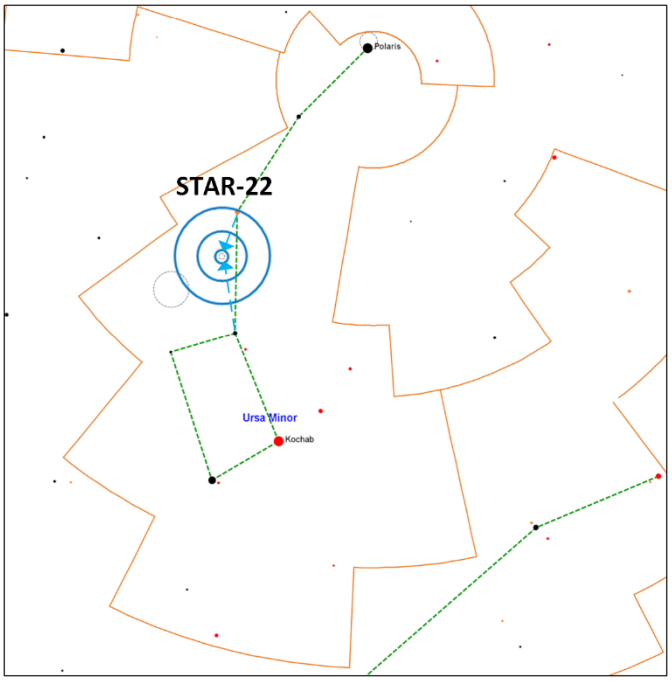


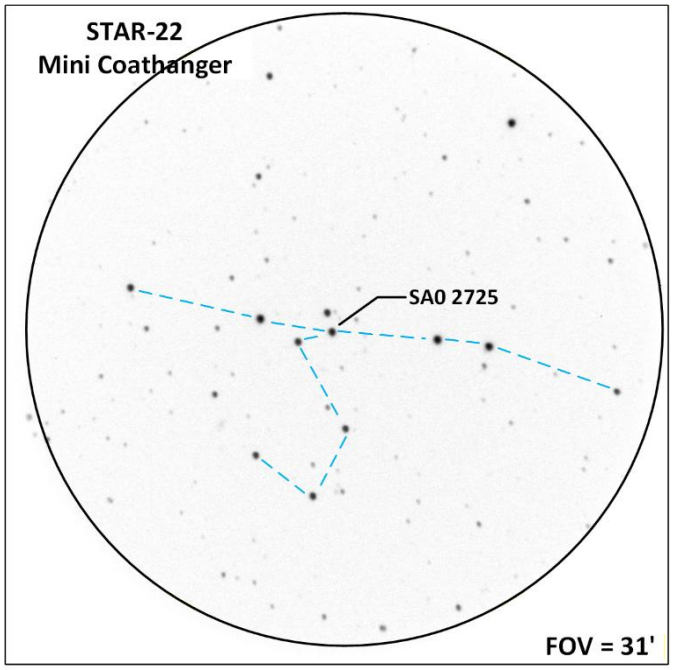
The Shark (AS | Size = 1.5° | Stars = 12 |) – This asterism is supposed to be easily recognized as a shark and requires binoculars to observe. Four stars form the tail with a chevron of five stars forming the nose and one bright star forming the fin. Reference Star SAO 008640 is in the back of the shark, close to the base of the back tail of the shark.



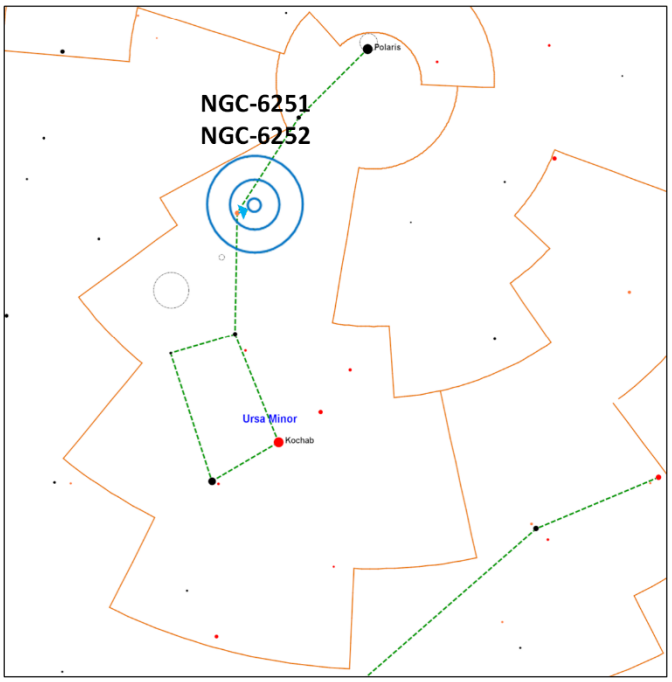


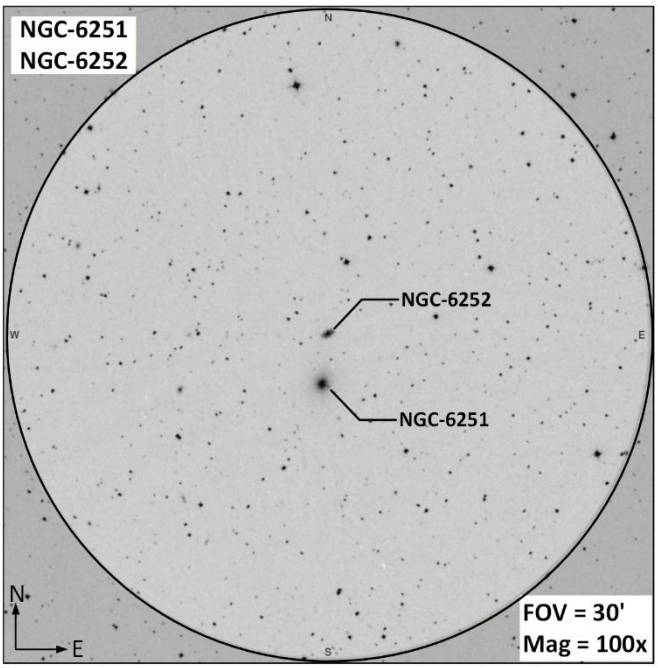
STAR 22 (AS | Size = 15' | Stars = 11 |) – The Min-Coathanger has a similar shape to the coathanger (Collinder 399) located in the constellation Vulpecula with a straight line of 8 stars forming the base and 3 fainter stars forming the hook. Reference Star SAO 002725 is in the base of the coathanger just under the hook stars.



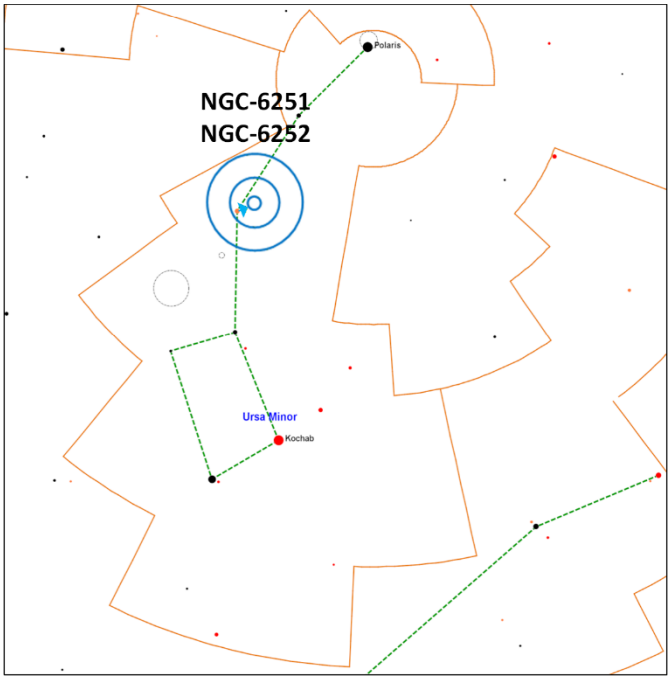


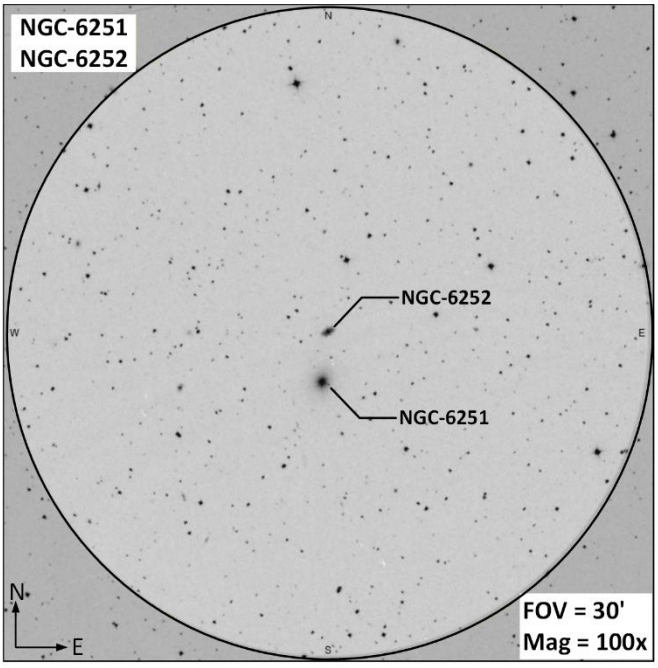
NGC-6251 (G | M=14.3 | Size=1.8’ x 1.6’ | SB=24.1 | MC=E2 |) – Both NGC 6251 & 6252 appear in the same field of view. These are both very dim galaxies and appear in the “Kemble’s Fifty-to-the-pole” list. NGC 6251 is an active supergiant elliptical radio galaxy about 340 million light years from earth.



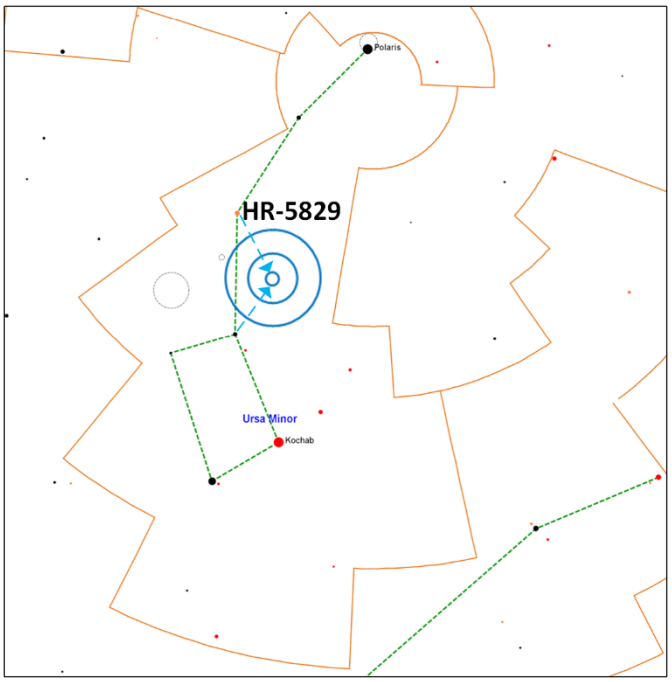


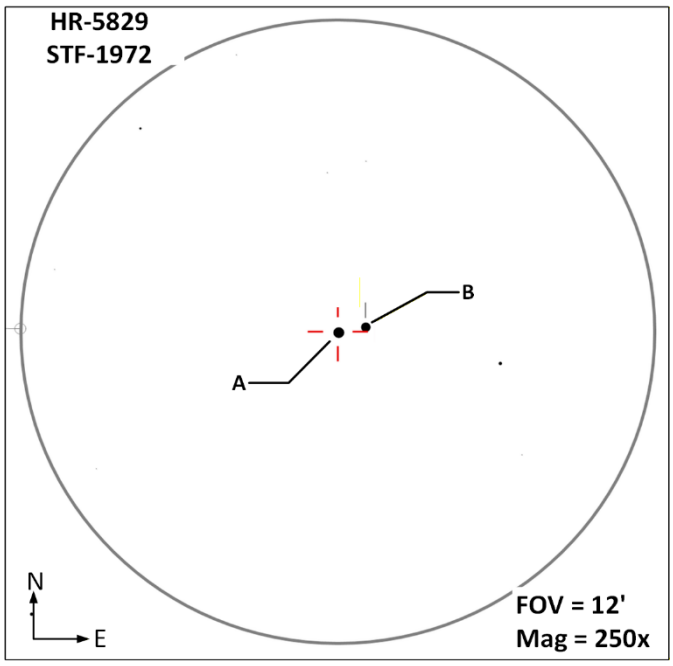
NGC-6252 (G | M=14,2 | Size=0.7’x0.3’ | SB=22.1 | MC=S |) – Both NGC 6251 & 6252 appear in the same field of view. These are both very dim galaxies and appear in the “Kemble’s Fifty-to-the-pole” list. NGC 6252 is located about 300 million light years from Earth and has a physical diameter of 50,150 light years.



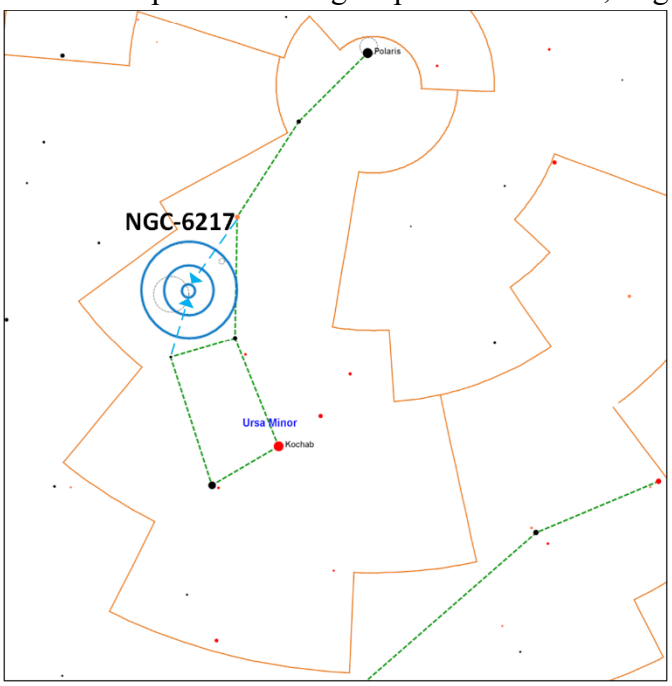


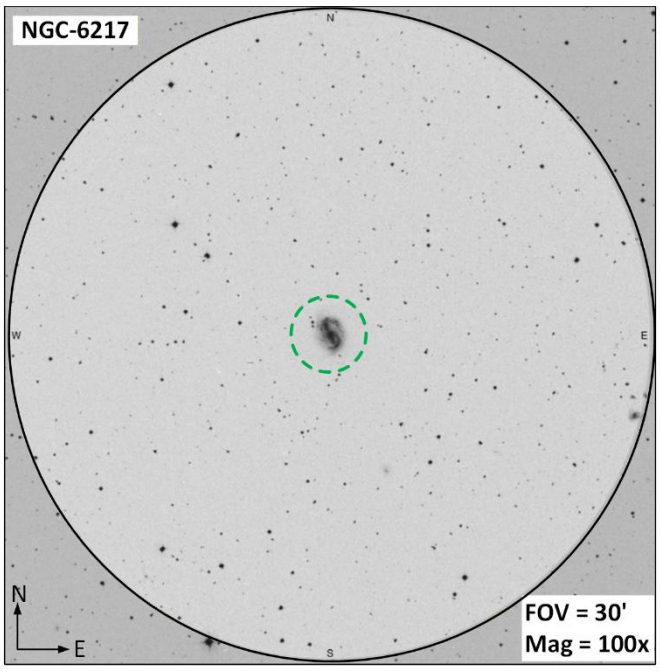
HR-5829 (DS **AB** | Mag=6.6, 7.3 | Sep=32” | PA=79° | Color= Yellow, Yellow | Spec=G1.5V, G9V |) – A yellow and blue star system. The secondary orbits about 700 AU from the primary star. The system is estimated to be 71 light years from earth.



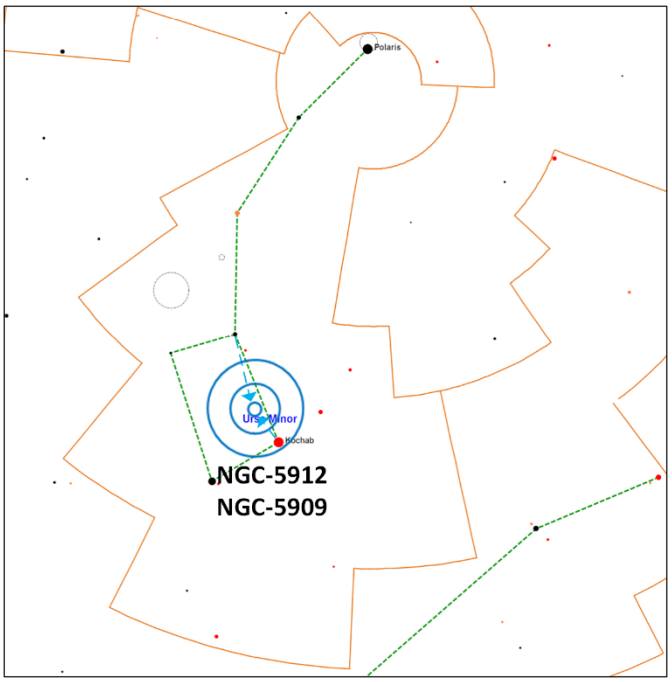


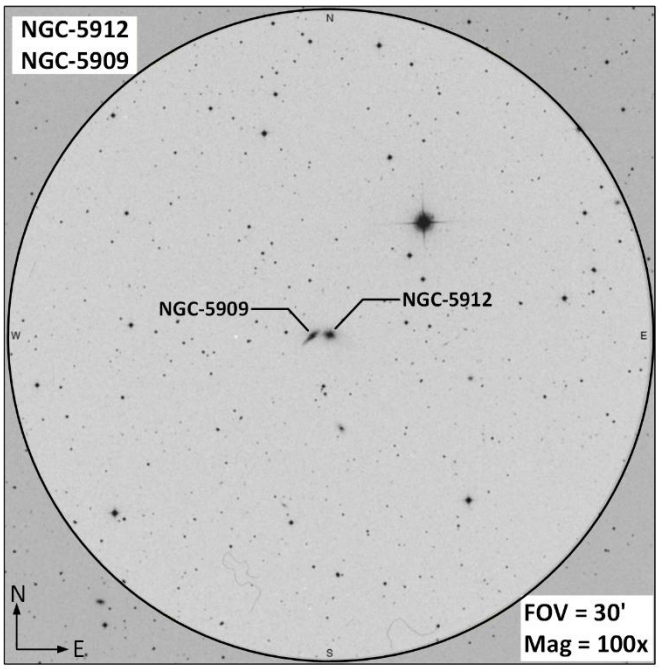
NGC-6217 (G | M=11.2 | Size=3.0’x2.5’ | SB=22.0 | MC=SBbc |) – A face-on barred spiral galaxy located 67 million light years away with a physical diameter of 58,025 light years. This should be visible in dark skies with a telescope of 4” or larger aperture however, larger apertures will show more details.



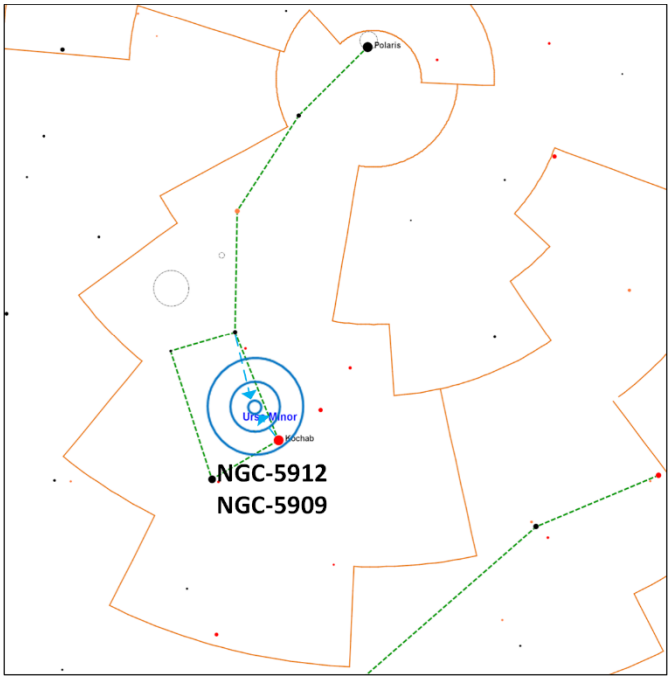


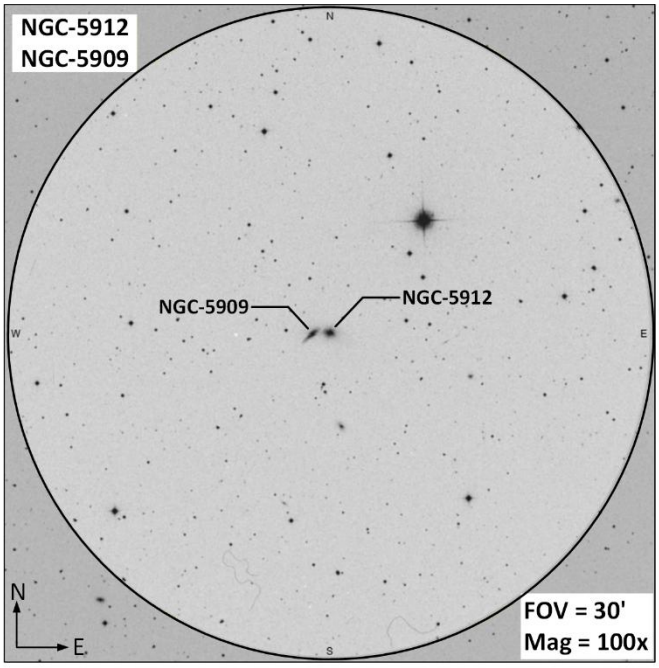
NGC-5912 (G | M=13.8 | Size=1.2'x1.1' | SB=22.7 | MC=E-S0 |) – A dim pair of galaxies (NGC-5912, NGC-5909) appearing in the "Kemble's Fifty-to-the-Pole" list. Located 332 million light years away with a physical diameter of 116,025 light years.



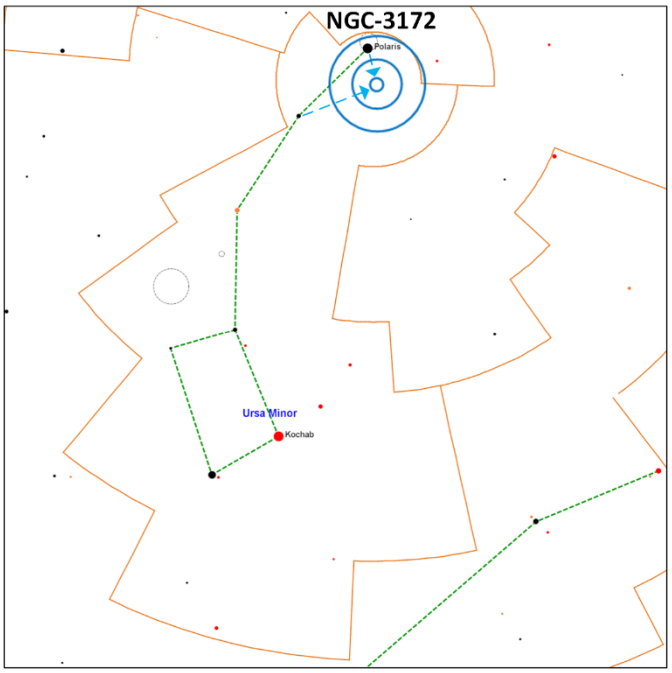


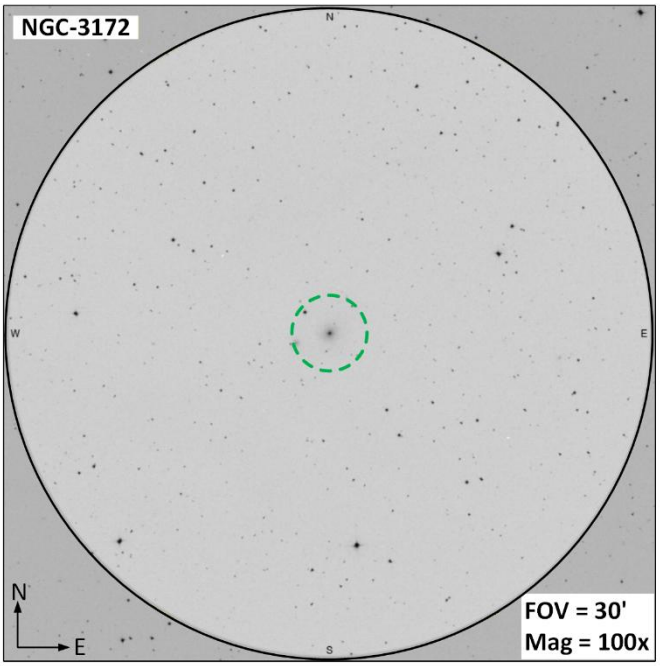
NGC-5909 (G | M=13.8 | Size=1.1'x0.5' | SB=21.8 | MC=Sbc |) – A dim pair of galaxies (NGC-5912, NGC-5909) appearing in the "Kemble's Fifty-to-the-Pole" list. Located 324 million light years away with a physical diameter of 103,695 light years.



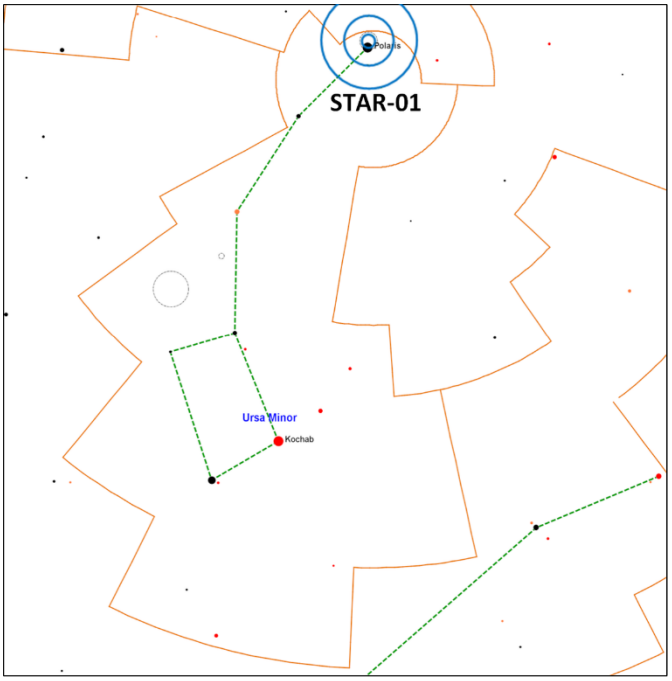


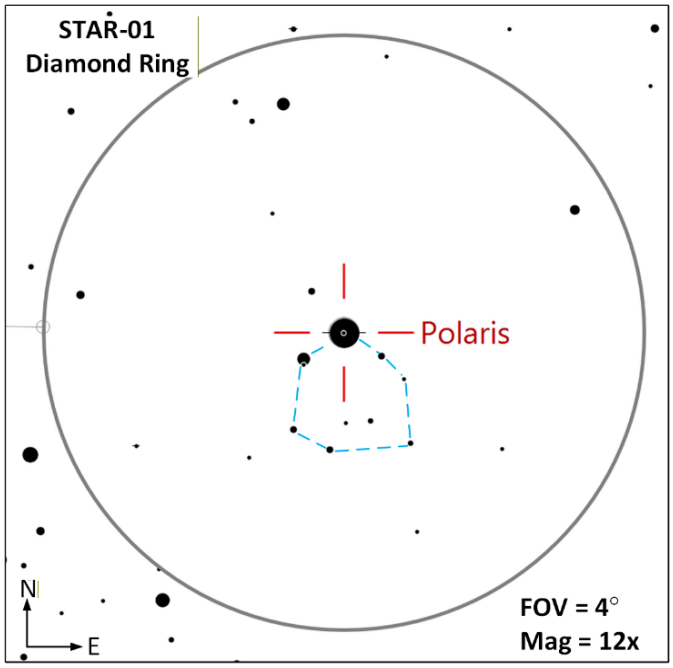
NGC-3172 (G | M=14.9 | Size= 0.9'x0.8' | SB=23.2 | MC=S0 |) – Polarissima Borealis is located 280 million light years away and has a physical diameter of 81,488 light years. This dim galaxy is in the "Kemble's Fifty-to-the-Pole" list. This is the closest galaxy to the North Celestial Pole (NCP). Barely visible with an 8" telescope in dark skies.





STAR 01 (AS | Size = 45' | Stars = 10+ |) – A circle of 10 stars along with some dimmer stars form this circle of stars (the ring) with Polaris representing the diamond of the ring. A nice visual object for small telescopes and binoculars. Polaris (SAO 308) is the reference star.





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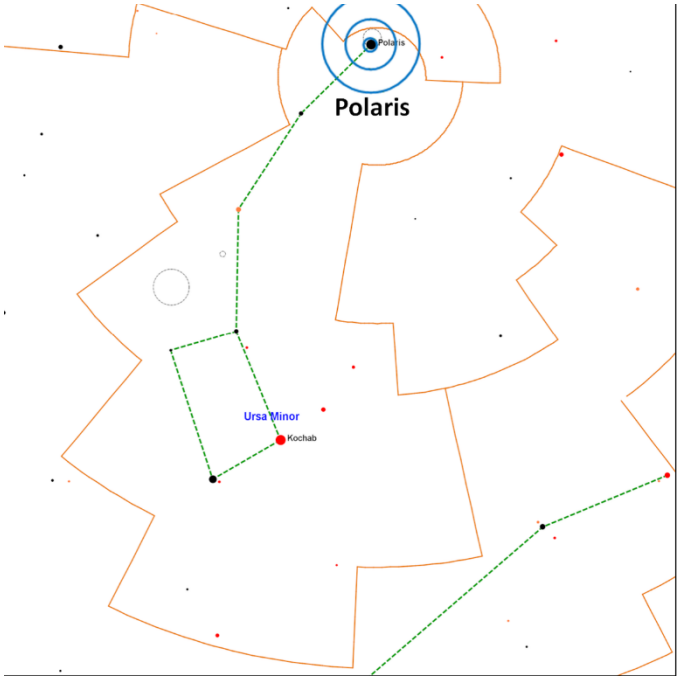
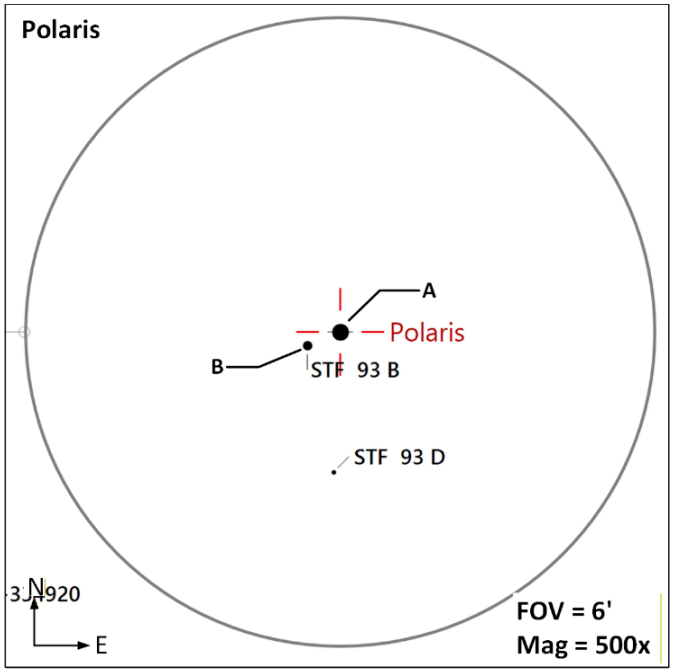
Polaris (DS | **AB** Mag=2.0, 9.1 | Sep=18.4” | PA=236° | Color= Yellow-White, Yellow-White | Spec= F7Ib, F3V |) –The North Star may be one of the most important stars for visual astronomers, since it is always above the horizon for observers in the northern hemisphere and can help orient the observer in the night sky. While this isn’t the brightest star in the sky it is the brightest star in this area of the sky, so is fairly easy to located. This is also a nice double star that exhibits how such a large difference in magnitude between stars can make seeing a dimer secondary star tricky to locate. Small telescopes (2.5” and larger) should be able to view the secondary, but even in larger telescopes one must examine the star system closely to see the secondary.





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
  - 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