

Constellation Guide

Constellation: Vulpecula (Vul)

Evening Visibility: **July – September**

Opposition: August

Latitude Visibility: **+90° to -55°**

Online Information: | In-The-Sky.org | Constellation-Guide.com |

Constellation Targets

STF-2457, CG Vul, STF-2523, [Alpha Vul](#), NGC-6802, Stock-1, [NGC-6820](#), [NGC-6823](#), NR Vul, [NGC-6830](#), STT-388, [M-27](#), [16 Vul](#), Roslund 4, [Caldwell 37](#), STF-2653, [NGC-6940](#), BD Vul, HD 201626, STF-2769

Mythology/Back Story

This constellation was introduced about 1690 by Polish astronomer Johannes Hevelius who called it Vulpecula cum Ansere (The Fox and Goose) representing a fox with a goose in its mouth. In recent times the goose seems to have been lost in the name of this constellation and it is now just called Vulpecula. This is a small faint constellation wedged between Aquila and Lyra constellations.

Vulpecula OB1

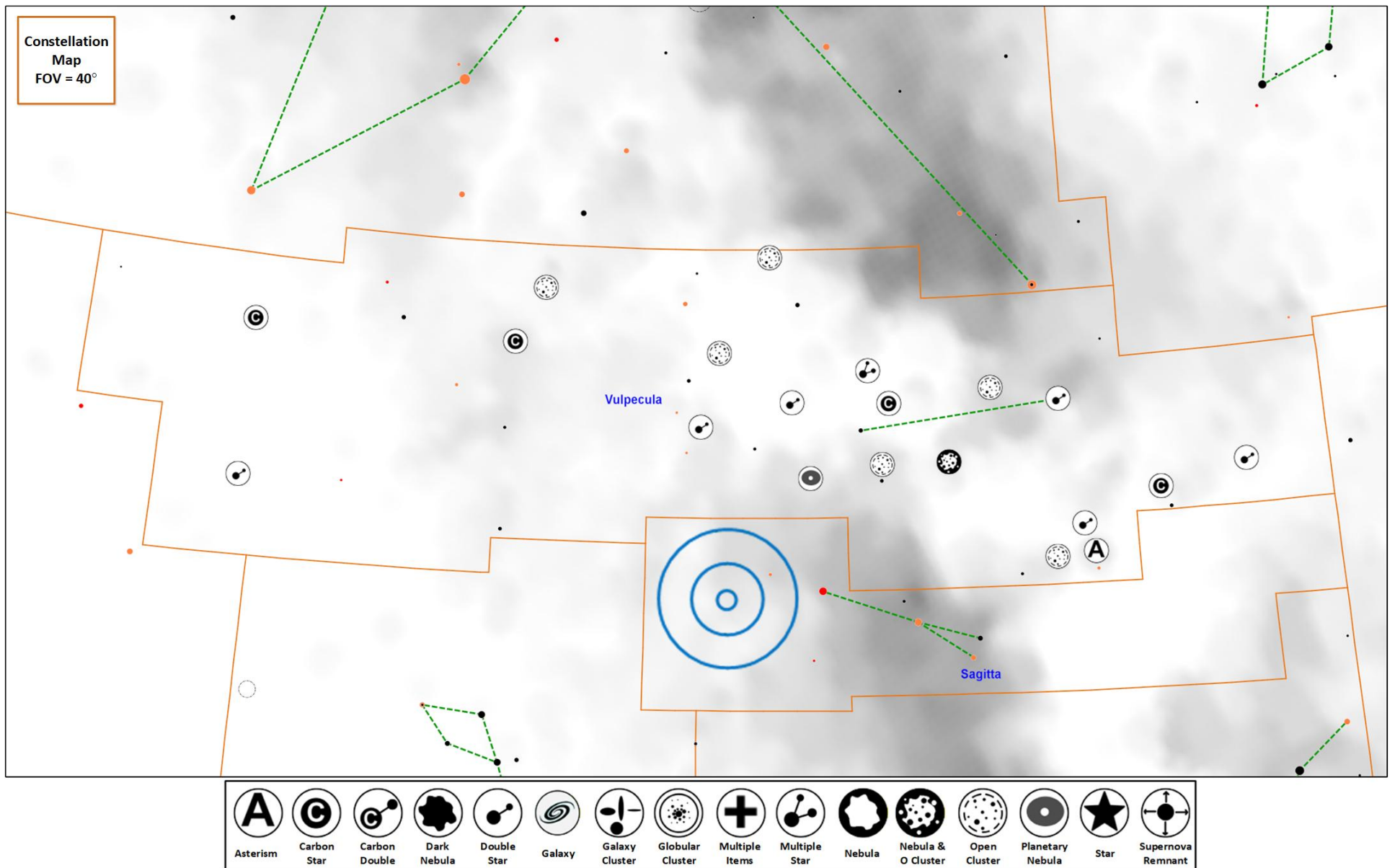
A loosely organized, gravitationally unbound group of young, massive, main sequence stars first identified by W. W. Morgan et al in 1953. The association is located in the Orion Arm of the Milky Way and includes NGC 6820, NGC 6823, and Sharpless 2-88.

Constellation Highlights

Some nice binocular targets along with the Dumbbell Nebula shows that even if this constellation is small, it still has some nice targets.

- **Coathanger** (AS) – Great Binocular target
- **Messier 27** (PN) – One of the best PN in the northern sky
- **Alpha Vulpeculae** (DS) – Wide showcase double
- **NGC-6940** (OC) – Best open cluster in this constellation

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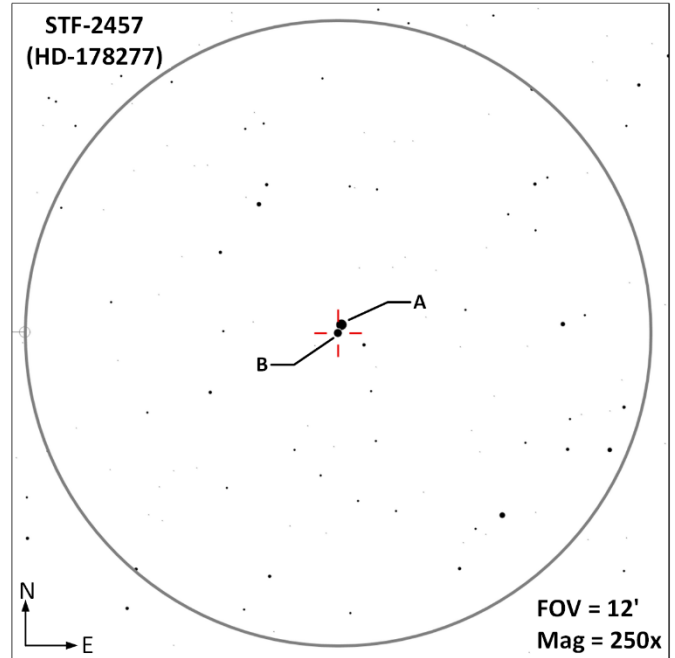
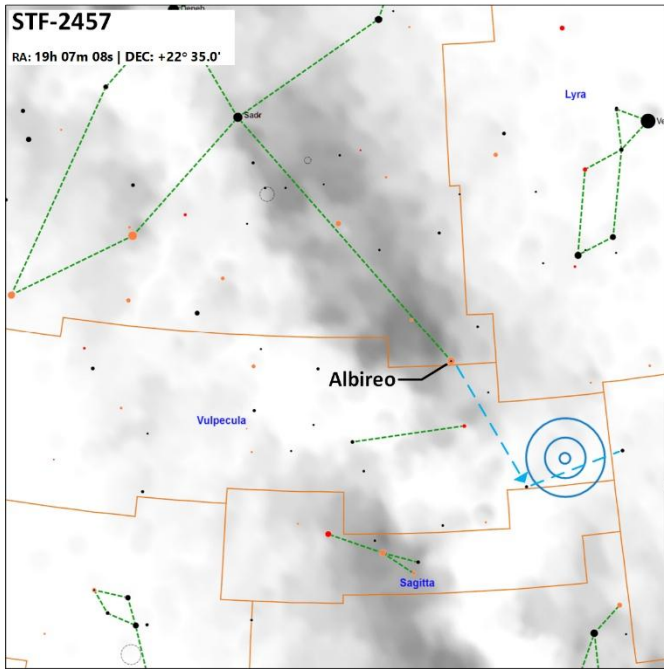
Object (Type)	Links	Gear	Aliases	Stats
STF-2457 (DS)	1	T	SAO-86828; HIP 93885; HD 178277; BD+22 3594; WDS19071+2235; Σ2457	AB Mag=7.5,9.5 Sep=10.4" PA=200° mBortle=9 mApt=50mm Spec=A7IV, ? Color=white, ?
CG Vulpeculae (CS)		T	CCCS 2717; GCVS880108; MSB 66, TYC 1611-1932-1	Magnitude Range= 13.5 to 15.1 Spec=C4,4: BV=+4.28 Color=deep red
Coathanger (AS, OC)	1	B, T	CR399; C 1923+200; OCL 113; Al Sufi's Cluster; Brocchi's Cluster; Lund 890	Mag=4.0 Size=60' SB=21.5 mBortle=9 mApt=50mm MC=III3m
STF-2523 (DS)	1	T	SAO-087218; HIP 95612; HD 183014; BD+20 4139; WDS19268+2110; Σ2523	AB Mag=8.0,8.1 Sep=6.3" PA=148° mBortle=9 mApt=50mm Spec=B3V, B7V Color=blue-white, blue-white
Alpha Vulpeculae (DS)	1 , 2	B	SAO-87261; HIP 95771; 6 Vul; HD 183439; HR 7405; BD+24 3759; FK5 1508; STFA42; WDS19287+2440; ΣI42; Anser; Lucida Anseris	AB Mag=4.6,5.9 Sep=426.6" PA=28° mBortle=9 mApt=50mm Spec=M1 III, K0 III Color=orange-red, yellow-orange
NGC-6802 (OC)		T	Cr 400; C1928+201; OCL 114; Lund 895	Mag=8.8 Size=3.2' SB=20.0 mBortle=3 mApt=180mm MC=II1m
Stock 1 (OC)		B, T	C1933+251; OCL 127; Lund 896; OCL 127.0	Mag=5.3 Size=52' SB=22.5 mBortle=9 mApt=50mm MC=III2m
NGC-6820 (EN)	1	B, T	Sh2-86; LBN 135	Mag=15.0 Size=40'x30' SB=31.3
NGC-6823 (OC)	1	T	Cr 405; Sh 2-86; C1941+231; CTB 76; LBN 135; OCL 124; W 55; [HC69] 44; Lund 903; Mrk 42; Raab 140	Mag=7.1 Size=6' SB=19.6 mBortle=9 mApt=80mm MC=I3m n
NR Vulpeculae (CS)	1	T	HD 339034; 2MASS J19501193+2455240; BD+24 3902; GCVS880293; IRAS 19480+2447; IRC+20438; TYC 2144-1244-1	Magnitude Range= 9.1 to 9.6 Spec=M1Ia BV=+3.09 Color=red
NGC-6830 (OC)	1	T	Cr 406; Mel 224; C1948+229; Lund 908; OCL 125; Raab 141; Poodle Cluster	Mag=7.9 Size=4.2' SB=19.6 mBortle=9 mApt=114mm MC=II2p
STT-388 (MS-3)		T	HIP 97792; HD 188060; OΣ388; WDS19524+2551; ADS 13050; BD +25 4004	AB Mag=8.3,8.4 Sep=3.2" PA=139° mBortle=9 mApt=50mm Spec=B9.5V, ? Color=blue-white, ? AC Mag=8.3,9.5 Sep=31.7" PA=130° mBortle=9 mApt=50mm Spec=B9.5V, ? Color=blue-white, ?
Messier 27 (PN)	1	T	NGC-6853; PK 060-03.1; PN G060.8-03.6; Apple Core Nebula; Diablo Nebula; Double-headed Shot Nebula; Dumbbell Nebula	Mag=7.4 Size=8'x6' SB=20.2 mBortle=? mApt=200mm

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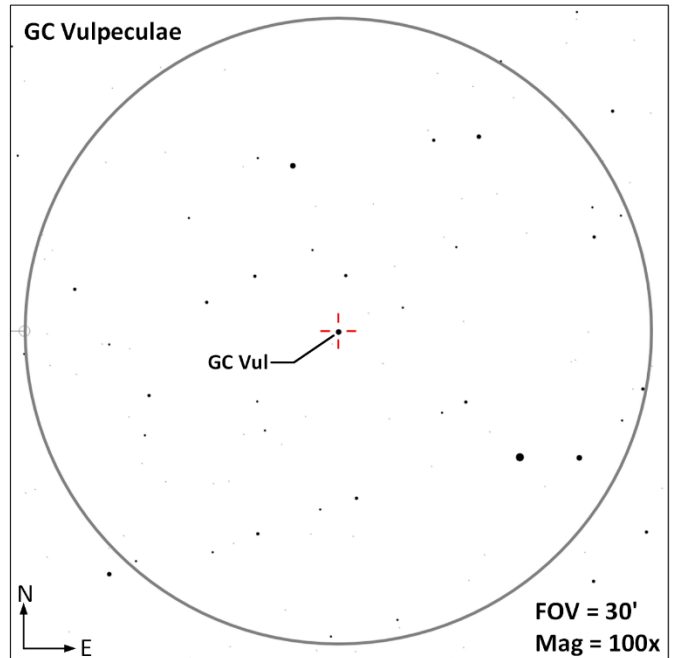
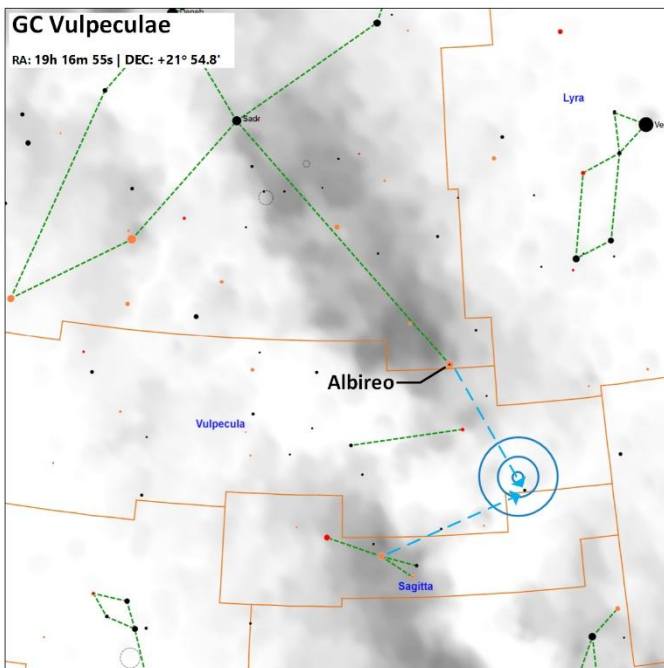
Object (Type)	Links	Gear	Aliases	Stats
16 Vulpeculae (DS)	1 , 2	T	SAO-88098; HIP 98636; HD 190004; HR 7657; ADS 13277; BD+24 3977; OΣ395; STT395; WDS20020+2456; 16 Vul	AB Mag=5.8,6.2 Sep=0.8" PA=129° mBortle=? mApt=180mm Period=1201y Spec=F2III, ? Color=yellow-white, ?
Roslund 4 (OC)		T	IC 4954; IC 4955; C2002+290; Ros 4	Mag=10 Size=6' SB=22.5 mBortle=? mApt=300mm MC=II3m n
Caldwell 37 (OC)	1	T	20 Vulpeculae Cluster; NGC-6882; NGC-6885; Cr 416; Cr 417; C2009+263; H. VII.22; H. VIII.20; Caldwl 37; C 37; Lund 933; OCl 132; OCl 132.0; h 2071	Mag=5.9 Size=20' SB=21.0 mBortle=9 mApt=50mm MC=III2m
STF-2653 (DS)	1	T	SAO-88377; HIP 99679; HD 192342; HR 7723; ADS 13543; BD+23 3935; WDS20137+2414; Σ2653	AB Mag=6.7,9.2 Sep=2.8" PA=274° mBortle=9 mApt=60mm Spec=A1m, ? Color=white, ?
NGC-6940 (OC)	1	B, T	C 2032+281; Cr 424; Mel 232; MWSC 3370; OCL 141; Lund 961; OCl 141.0; Raab 145	Mag=6.3 Size=31' SB=22.4 mBortle=9 mApt=50mm MC=III2r
BD Vulpeculae (CS)		T	CCCS 2916; D 221; TYC 2165-0417-1	Magnitude Range= 9.3 to 12.7 Period=430d Spec=C7,3e BV=+3.74 Color=deep red
HD 201626 (CS)		B, T	SAO-089499; NSV 13571; SBC9 2165; AG+26 2461; BD+26 4091; CGCS 6882	Magnitude Range= 8.1 to 8.2 Spec=C1,1 (R0) Color=yellow-orange
STF-2769 (DS)	1	B, T	SAO-89505; HIP 104539; HD 201671; HR 8101; ADS 14710; BD+21 4486; WDS21105+2227; Σ2769	AB Mag=6.7,7.4 Sep=18.1" PA=300° mBortle=9 mApt=50mm Spec=A1V, ? Color=white, ?

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STF-2457 (DS || **AB** | Mag=7.5,9.5 | Sep=10.4" | PA=200° | mBortle=9 | mApt=50mm | Spec=A7IV,? | Color=white, ? |) HD 178277 is one of four stars forming a 10' row of stars that have similar magnitudes. This is a physical double located 310 light years away. The orbital period of this system is not known.

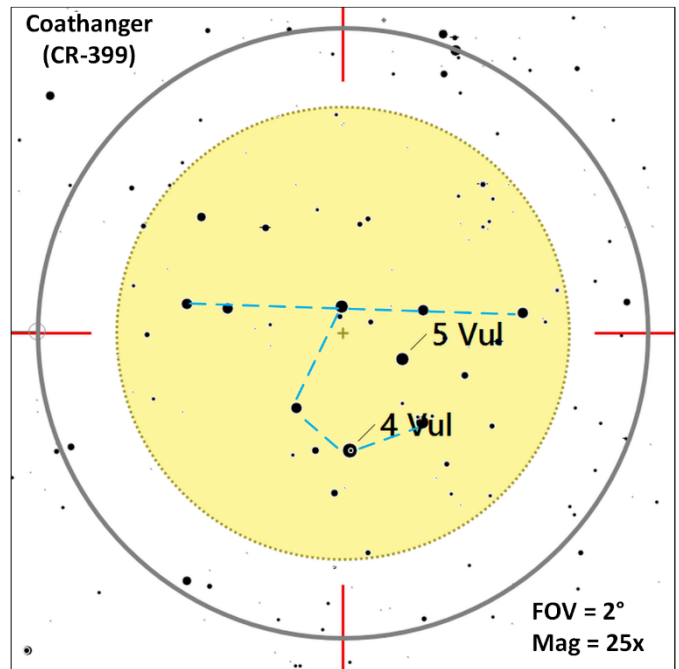
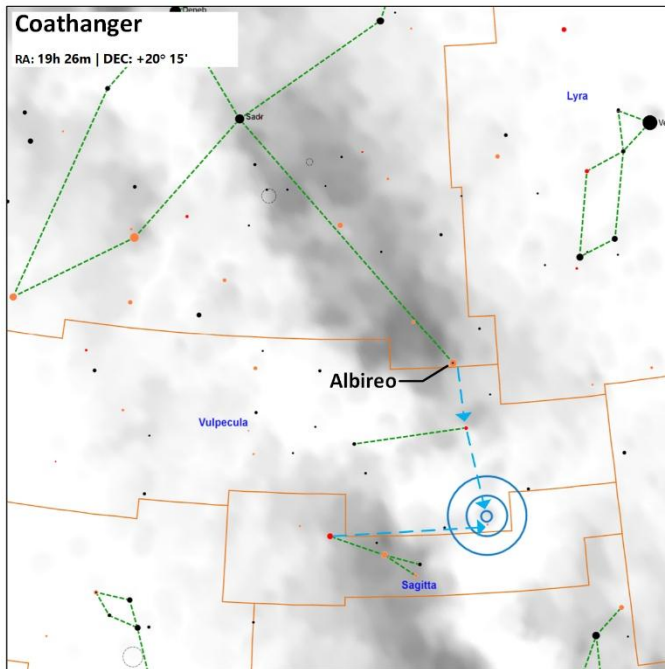


CG Vulpeculae (CS || | Magnitude Range= 13.5 to 15.1 | Spec=C4,4: | BV=+4.28 | Color=deep red |) This is a pulsating long period variable star with an unknown period. With a B-V color index of +4.28, this star should appear quite red.

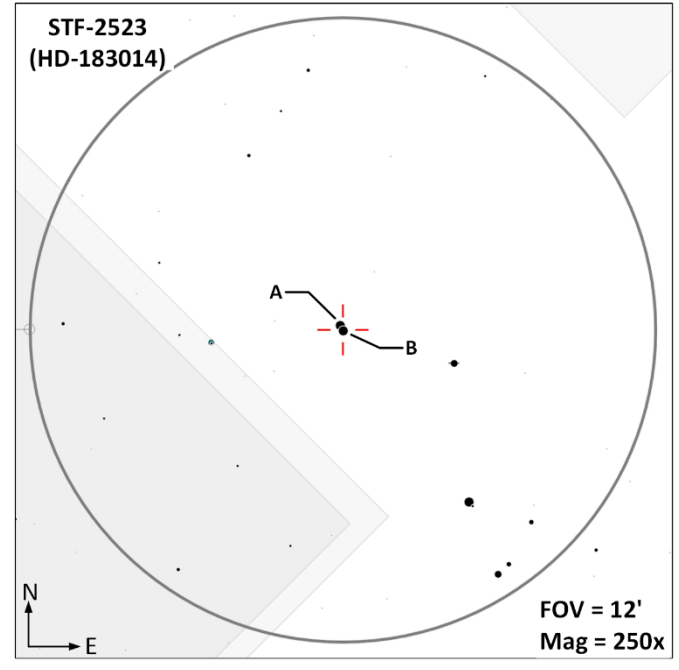
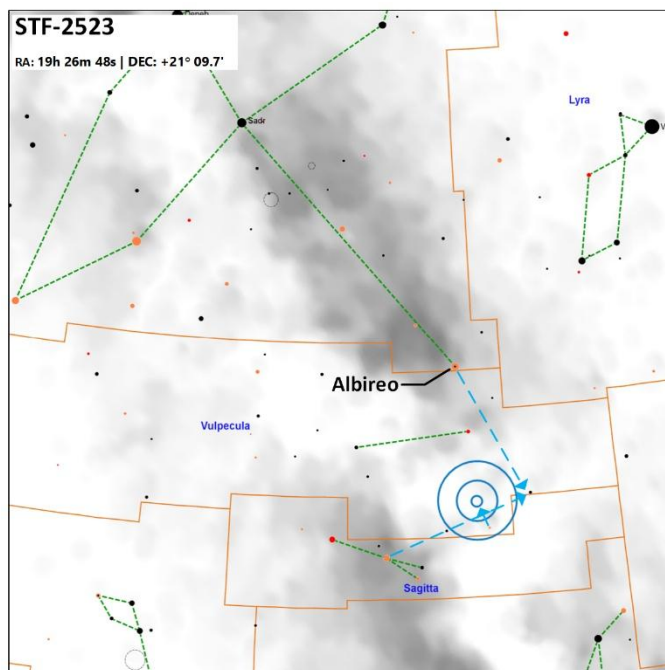


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Coathanger (AS, OC || Mag=4.0 | Size=60' | SB=21.5 | mBortle=9 | mApt=50mm | MC=III3m |) Collinder 399 has been historically classified as an open cluster but recent studies indicate that these stars are not part of an open cluster and so this formation of 10 stars forming the outline of a coathanger is just an asterism. An excellent target for binoculars and wide-field views through a telescope.

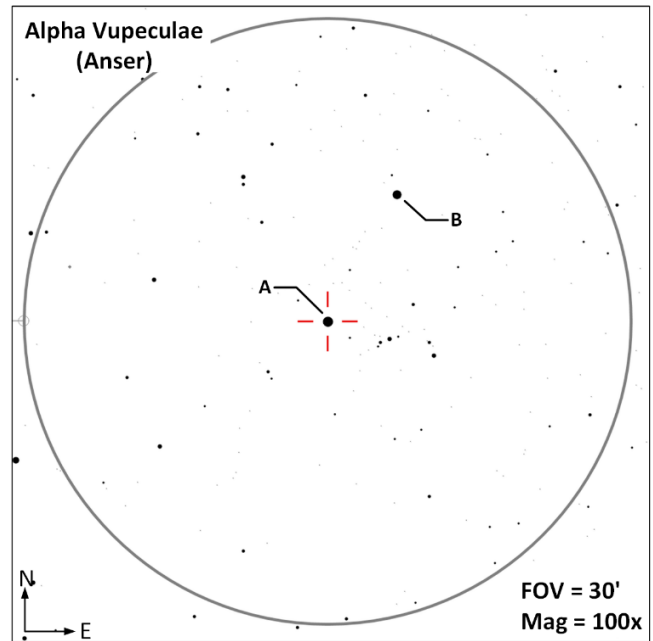
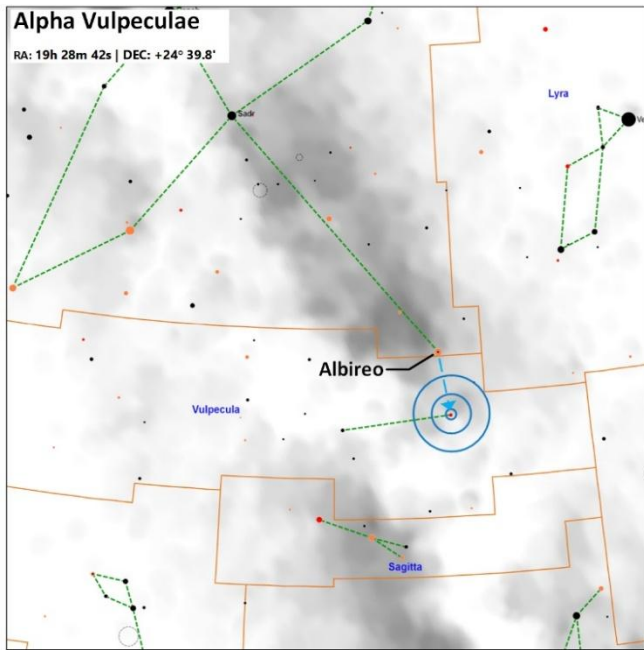


STF-2523 (DS || AB | Mag=8.0,8.1 | Sep=6.3" | PA=148° | mBortle=9 | mApt=50mm | Spec=B3V, B7V | Color=blue-white, blue-white |) HD 183014 is located 1,500 ly away and has been described as a pair evenly matched in color and brightness.

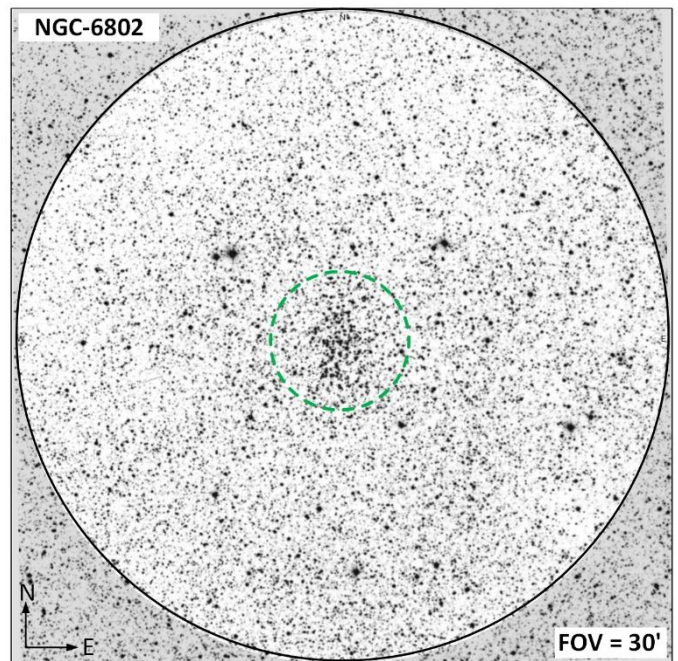
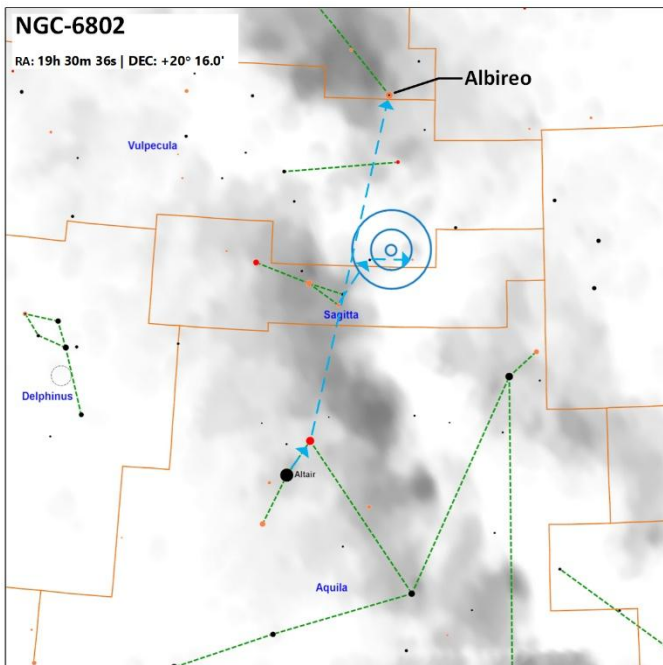


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Alpha Vulpeculae (DS || AB| Mag=4.6,5.9 | Sep=426.6" | PA=28° | mBortle=9 | mApt=50mm | Spec=M1 III, K0 III | Color=orange-red, yellow-orange |) Anser is an optical double that is reported as a Showcase pair with a brilliant citrus orange beside a bright azure white star (Haas). This system has a wide separation at about 7' between stars.

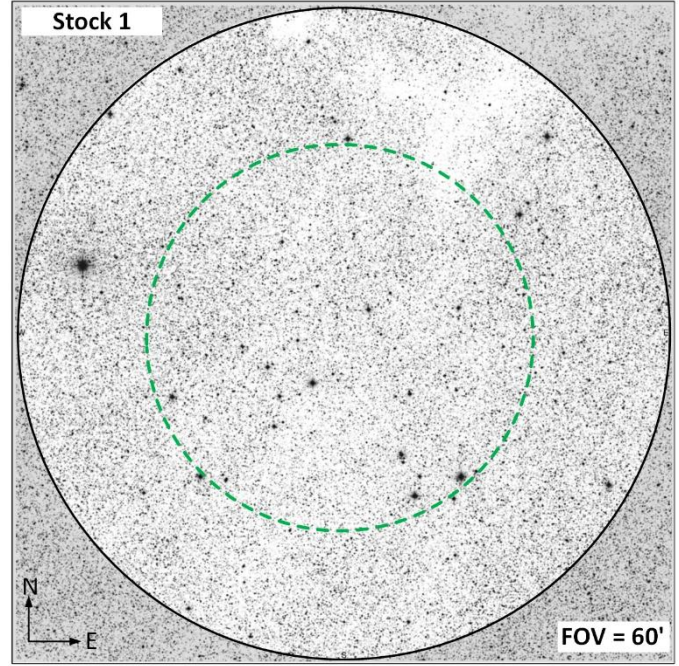
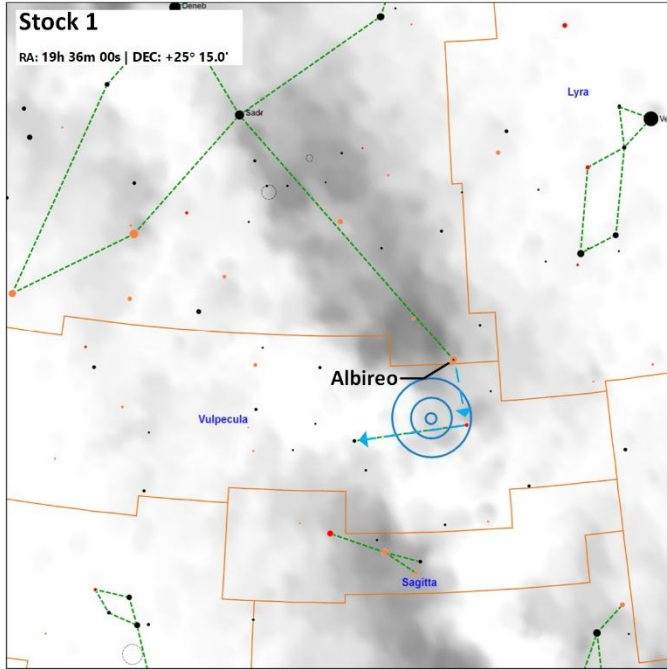


NGC-6802 (OC || Mag=8.8 | Size=3.2' | SB=20.0 | mBortle=3 | mApt=180mm | MC=I1m |) An open cluster containing a keystone of four stars ranging in magnitude from 9 to 11. This cluster is described as a faint oval patch with about 7 stars that can be resolved. Trumpler Classification is I-Detached cluster with strong central concentration, 1-Most of the stars are nearly the same apparent brightness, m-Medium rich cluster with 50-100 stars.

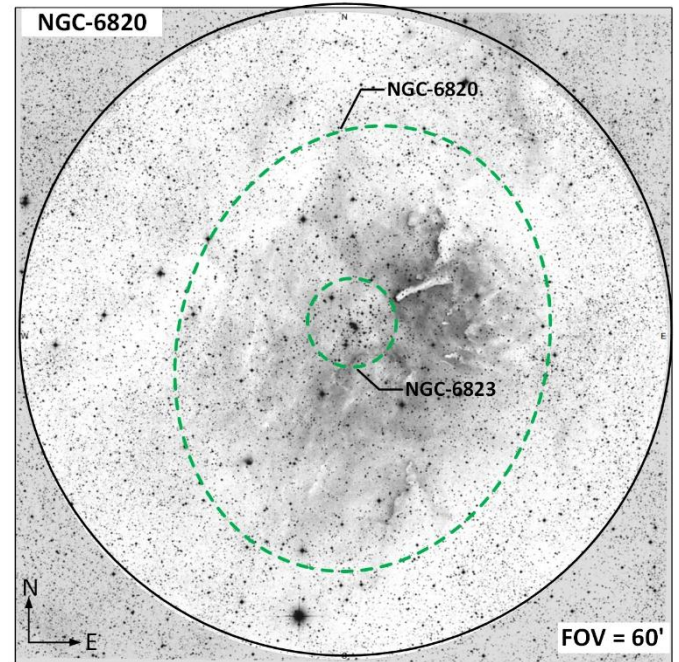
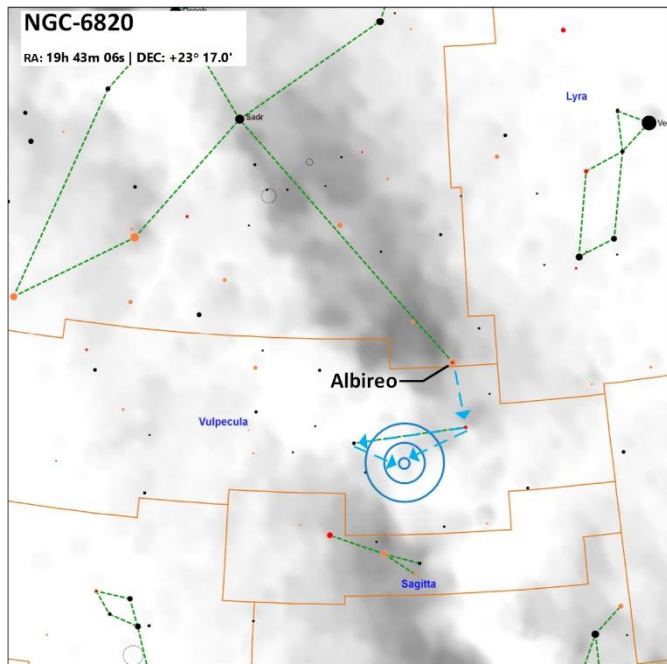


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Stock 1 (OC || Mag=5.3 | Size=52' | SB=22.5 | mBortle=9 | mApt=50mm | MC=III2m |) Located 1,000 light years away, this large open cluster is an excellent target for binoculars and is reported to have about 50 stars split up into two groups of stars, the western section with about 30 stars and the eastern section with about ten stars. Trumpler Class is III-Detached cluster with no noticeable concentration, 2-Medium range of brightness between stars in the cluster, m-Medium rich cluster with 50 – 100 stars.

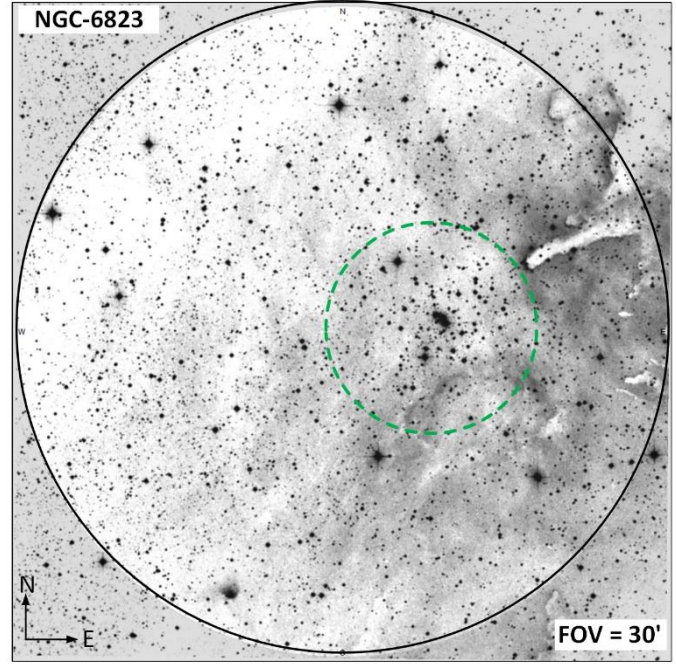
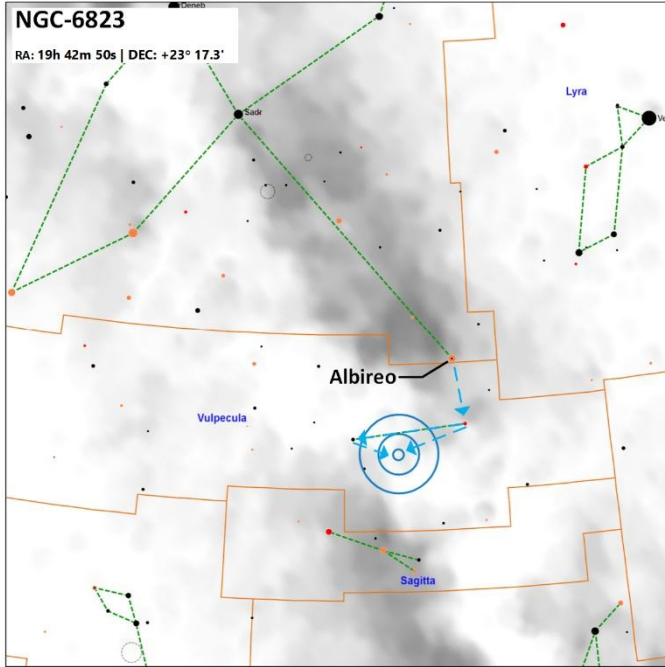


NGC-6820 (EN || Mag=15.0 | Size=40'x30' | SB=31.3 |) This is an emission nebula that has the open cluster NGC-6823 embedded in it. With such a low surface brightness it is likely the nebula will only be visible in long photographic exposures.

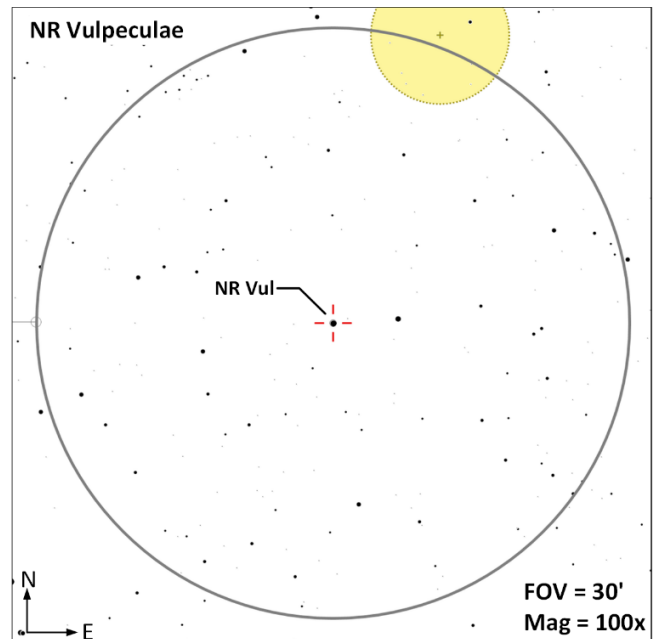
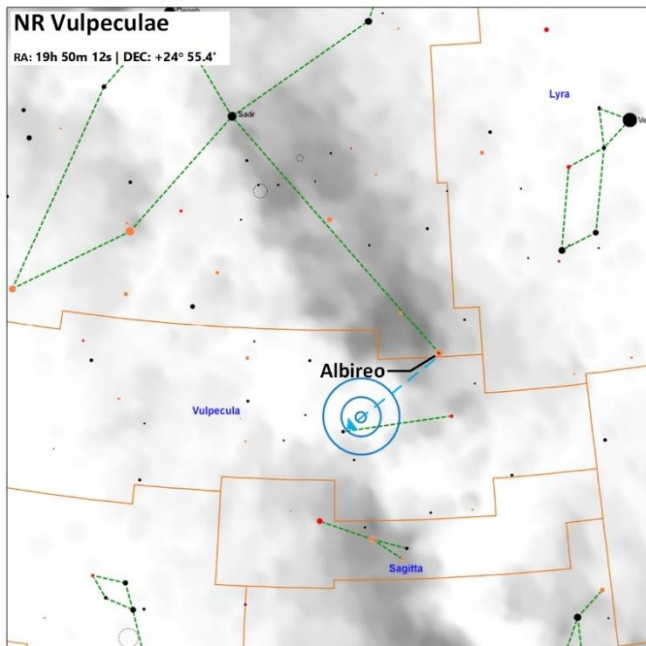


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NGC-6823 (OC || Mag=7.1 | Size=6' | SB=19.6 | mBortle=9 | mApt=80mm | MC=I3m n |) This is the open cluster that is precipitating out of the emission nebula it is embedded in (NGC-6820). This open cluster is located 10,000 light years away and has a physical diameter of 18 light years. Trumpler classification is I-Detached cluster with strong central concentration, 3-Composed of bright and faint stars, m-Medium rich cluster, n – Nebulosity associated with cluster.

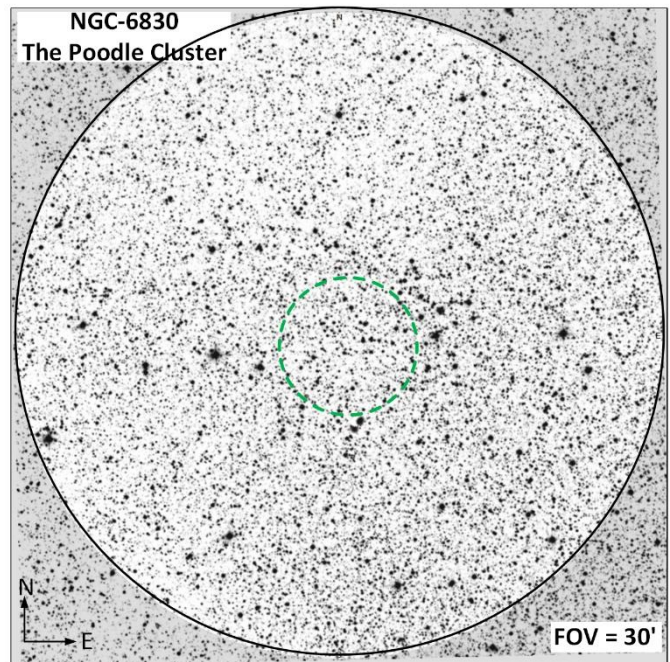
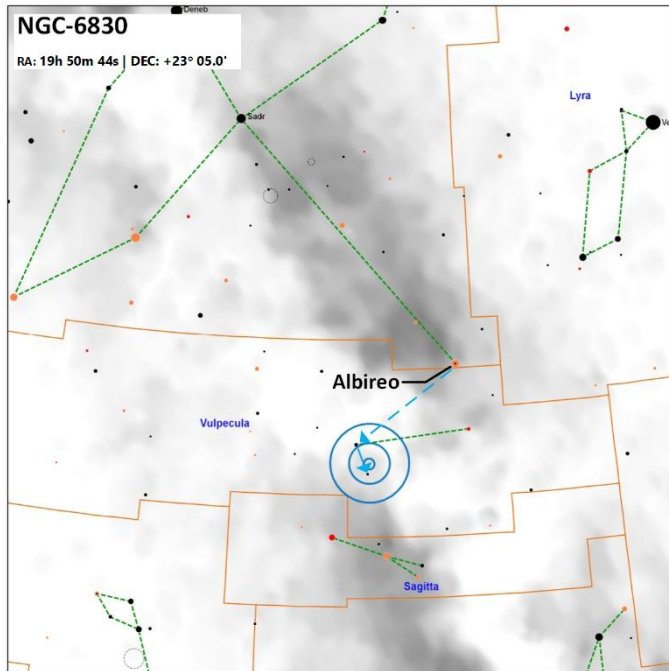


NR Vulpeculae (CS | Magnitude Range= 9.1 to 9.6 | Spec=M1Ia | BV=+3.09 | Color=red |) Located about 8,800 light years away, this red supergiant is an irregular variable star with an apparent magnitude ranging from 9.1 to 9.6 and is likely a member of the [Vulpecula OB1](#) stellar association mentioned in the introduction of this guide.

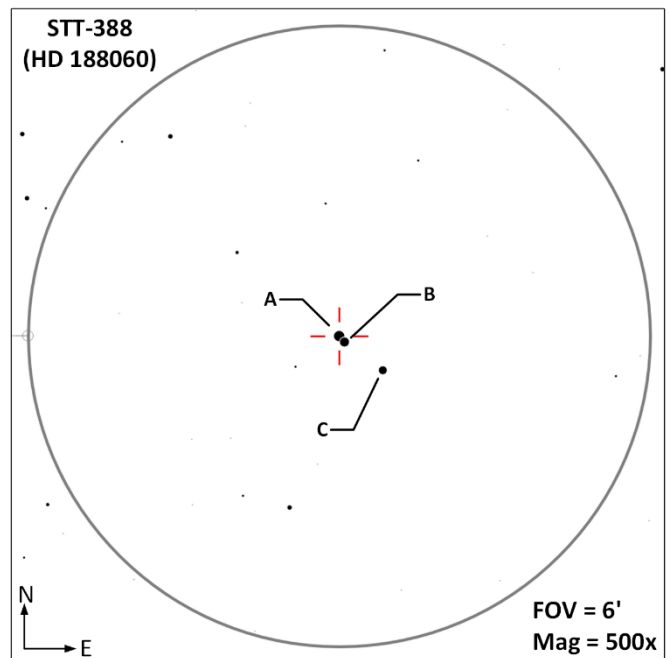
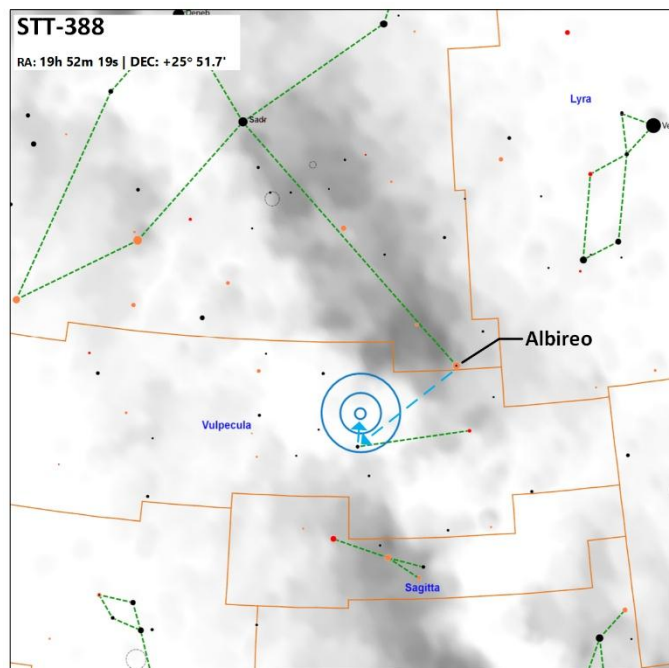


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NGC-6830 (OC || Mag=7.9 | Size=4.2' | SB=19.6 | mBortle=9 | mApt=114mm | MC=II2p |) The Poodle Cluster contains close to 50 stars up to 12 magnitude with a V-shaped pattern of stars near the center of the cluster. Trumpler class is II-Detached cluster with little central concentration, 2-Medium range of brightness between stars in the cluster, p-Poor cluster with fewer than 50 stars.

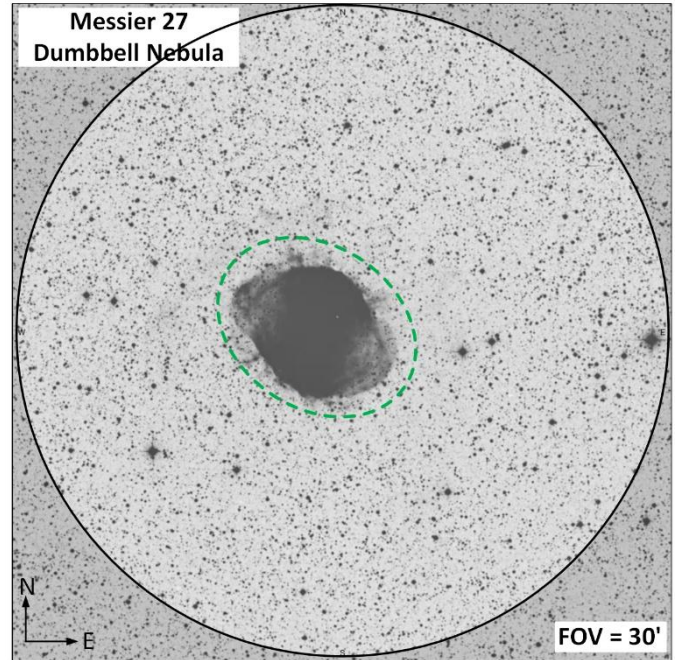
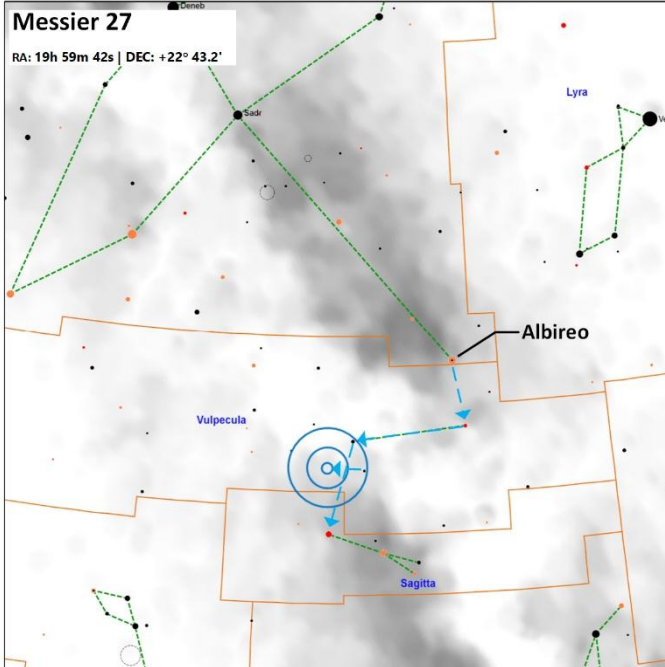


STT 388 (MS-3 || **AB** | Mag=8.3,8.4 | Sep=3.2" | PA=139° | mBortle=9 | mApt=50mm | Spec=B9.5V, ? | Color=blue-white, ? || **AC** | Mag=8.3,9.5 | Sep=31.7" | PA=130° | mBortle=9 | mApt=50mm | Spec=B9.5V, ? | Color=blue-white, ? |) HD 188060 is located 1,170 light years away and is an optical triple star system. The system is described as a pair of hair-split white twins and a wide gray star, all in a straight line (Haas).

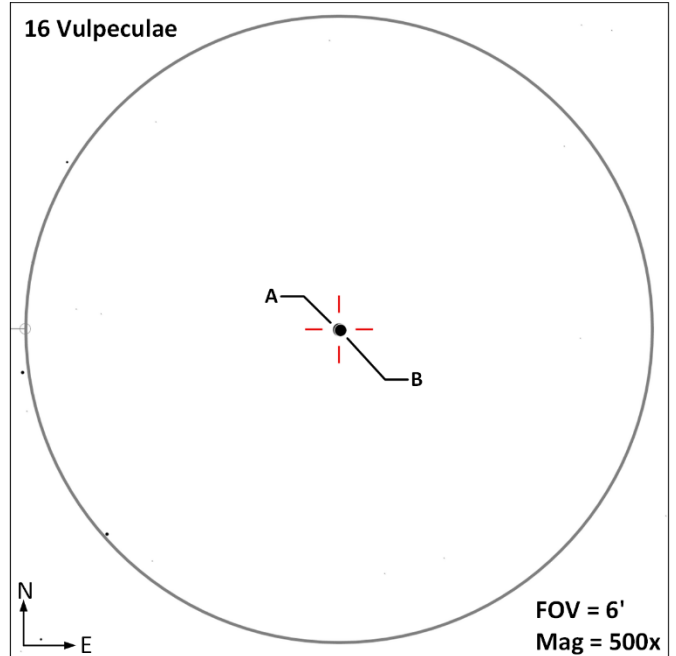
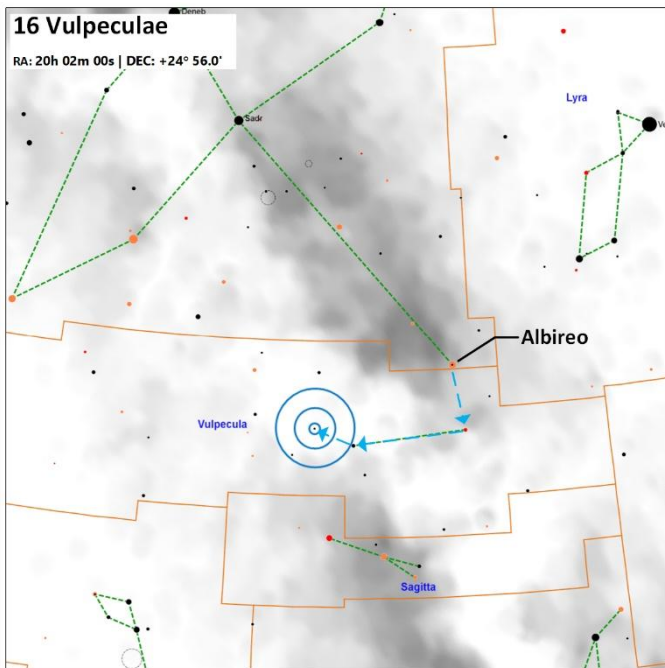


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Messier 27 (PN || | Mag=7.4 | Size=8'x6' | SB=20.2 | mBortle=? | mApt=200mm |) The Dumbbell Nebula is one of the finest planetary nebulae in the sky and is estimated to be about 1,300 light years away.

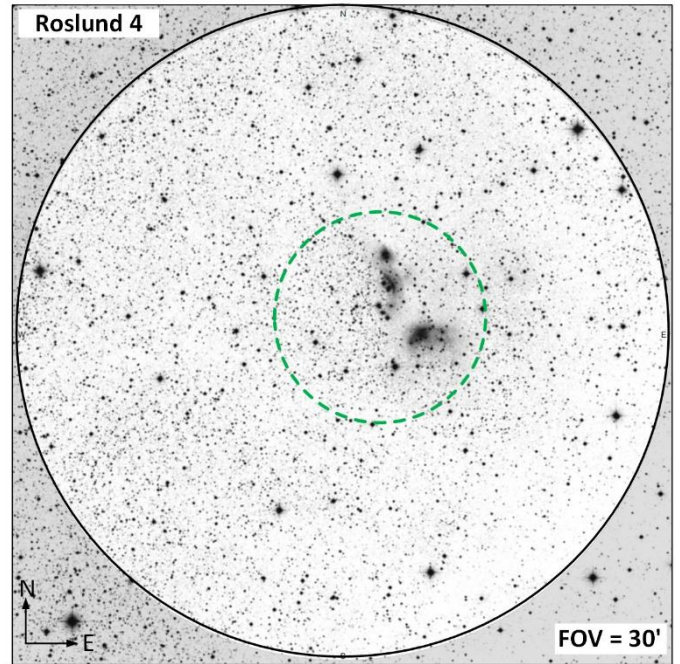
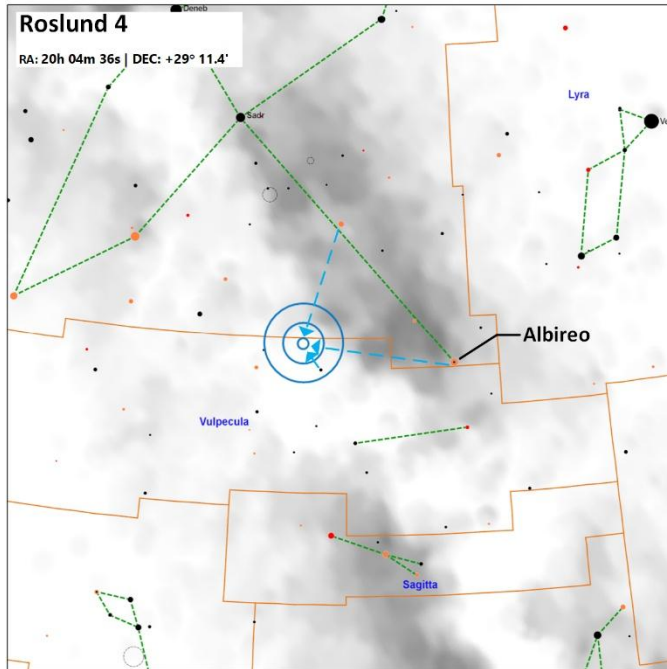


16 Vulpeculae (DS AB || | Mag=5.8,6.2 | Sep=0.8" | PA=129° | mBortle=? | mApt=180mm | Period=1,201y | Spec=F2III, ? | Color=yellow-white, ? |) Located 222 light years away, this tight pair has an orbital period of 1,200 years and may be a challenge to resolve.

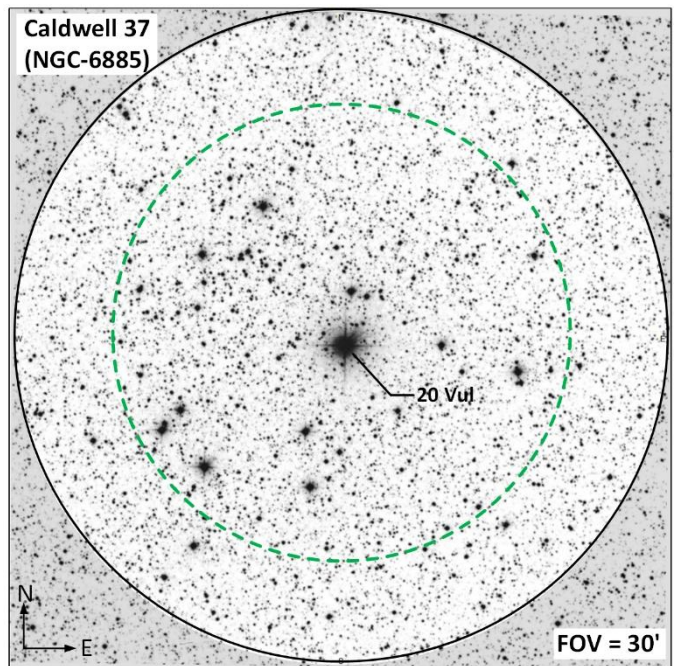
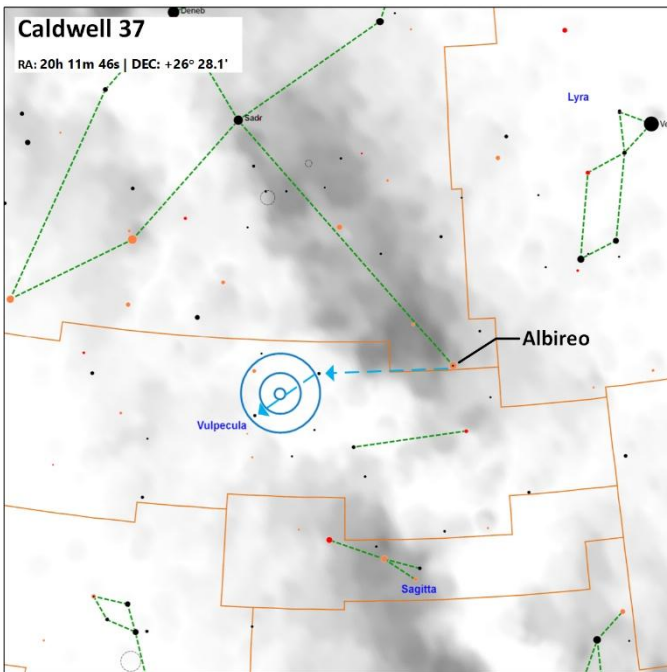


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Roslund 4 (OC || Mag=10 | Size=6' | SB=22.5 | mBortle=? | mApt=300mm | MC=II3m n |) Located 6,500 light years away with an estimated diameter of 9 light years. Trumpler classification is II-Detached cluster with little central concentration, 3-Composed of bright and faint stars, m-Medium rich cluster with 50-100 stars, n-Nebulosity.

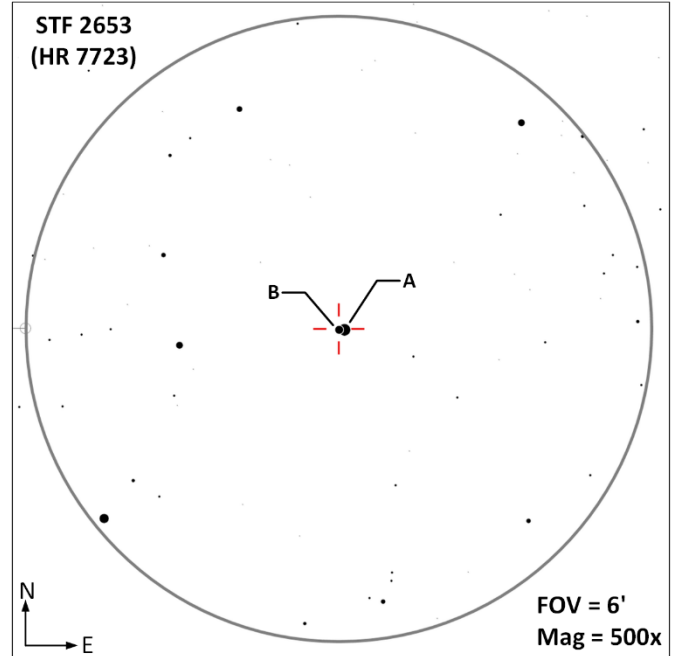
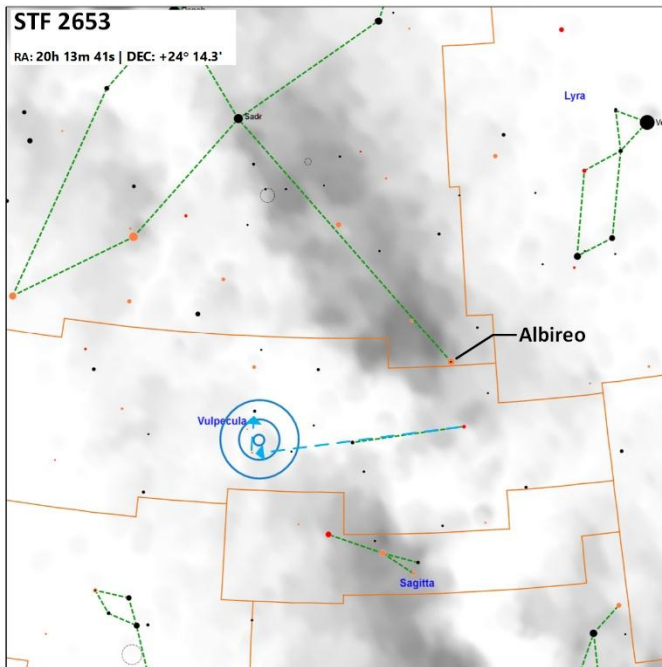


Caldwell 37 (OC || Mag=5.9 | Size=20' | SB=21.0 | mBortle=9 | mApt=50mm | MC=III2m |) The 20 Vulpeculae Cluster is a combination of NGC-6882 and NGC-6885. Apparently these two clusters are not really distinguishable as separate clusters. NGC-6885 is centered on 20 Vul, thus the name for the cluster.

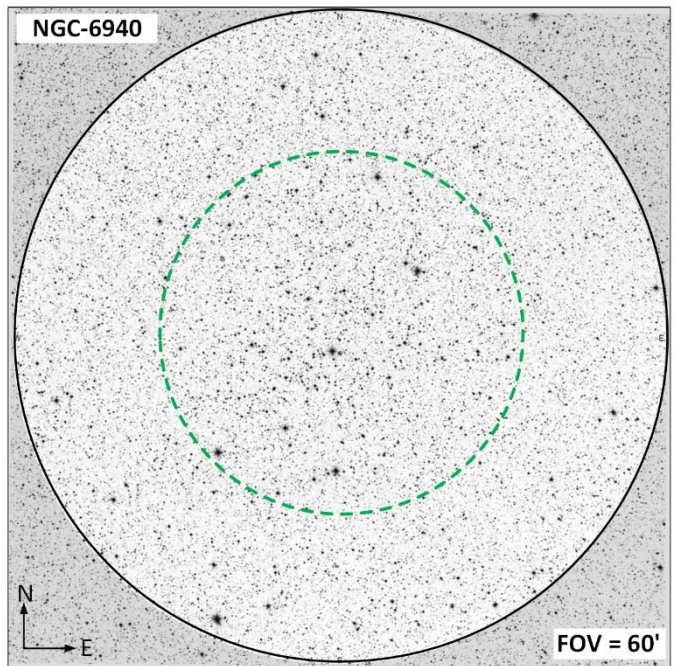
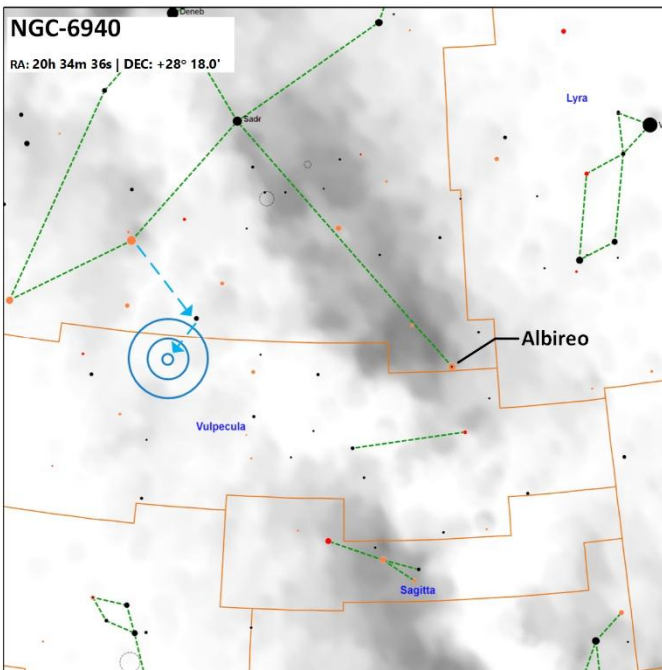


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STF-2653 (DS || AB | Mag=6.7,9.2 | Sep=2.8" | PA=274° | mBortle=9 | mApt=60mm | Spec=A1m, ? | Color=white, ? |) HR 7723 is located 298 light years away and is described as an unequal yellow pair in an attractive starry field and is quite clear with 75mm (Hartung).

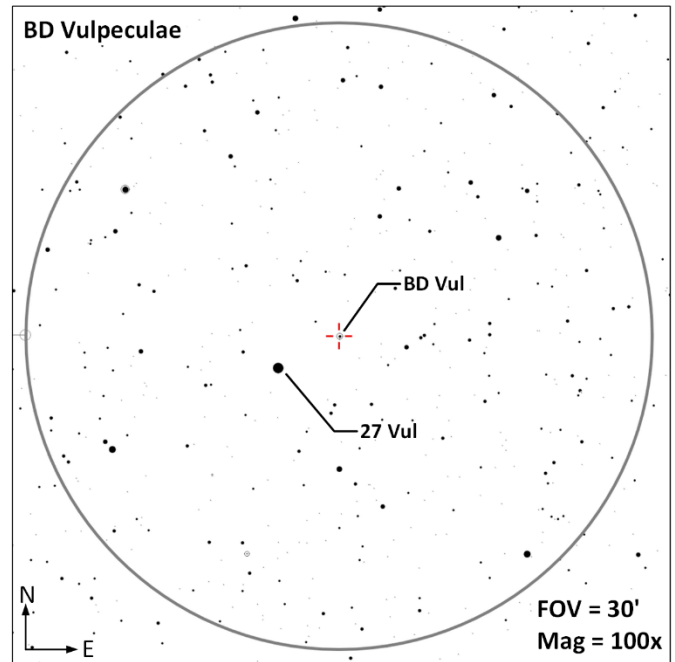
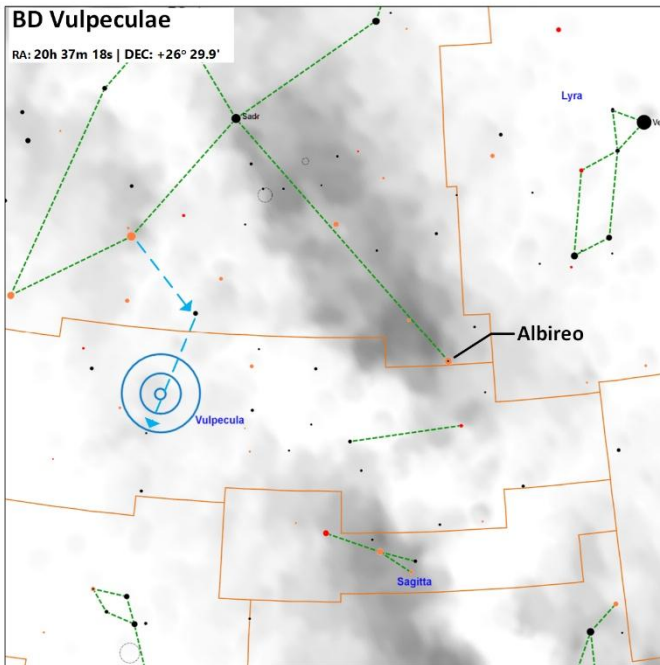


NGC-6940 (OC || Mag=6.3 | Size=31' | SB=22.4 | mBortle=9 | mApt=50mm | MC=III2r |) Located 2,500 light years away, this is considered by many to be the finest open cluster in this constellation. This cluster is described as a rich, uniformly concentrated cluster and is estimated to be about 1 billion years old. Trumpler Classification is III-Detached cluster with no noticeable concentration, 2-Medium range of brightness between stars in the cluster, r-Rich cluster with over 100 stars.

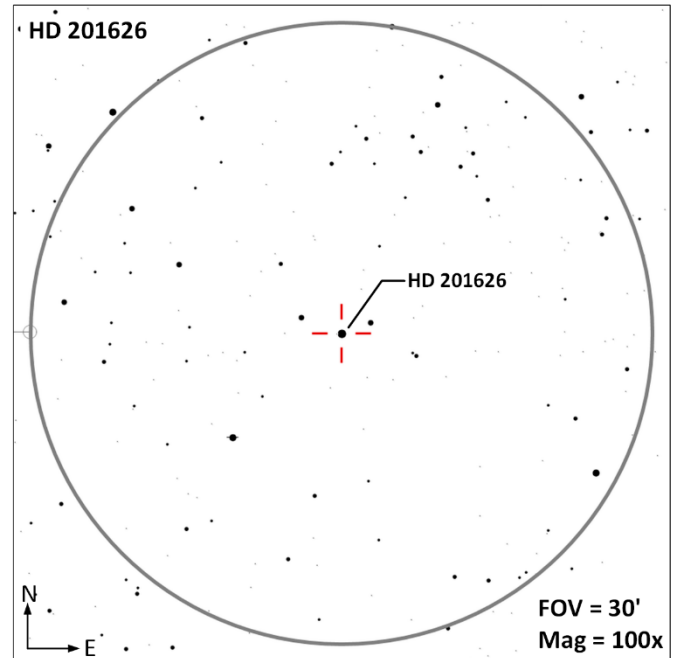
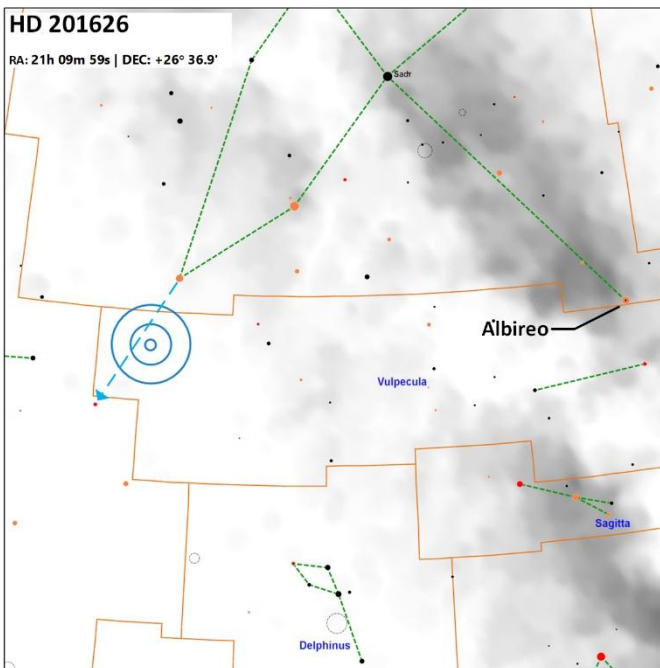


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BD Vulpeculae (CS || Magnitude Range= 9.3 to 12.7 | Period=430 d | Spec=C7,3e | BV=+3.74 | Color=deep red |) This dim star has a wide magnitude range that varies over a period of 430 days. With a B-V color index of +3.74 this should be a pretty red star, but dim enough that it may be difficult to make out the color if it happens to be at a minimum when observed.

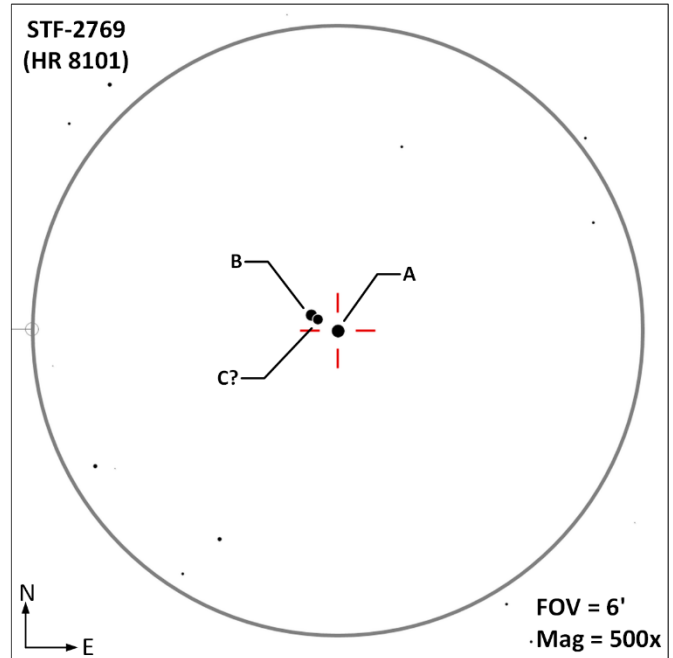
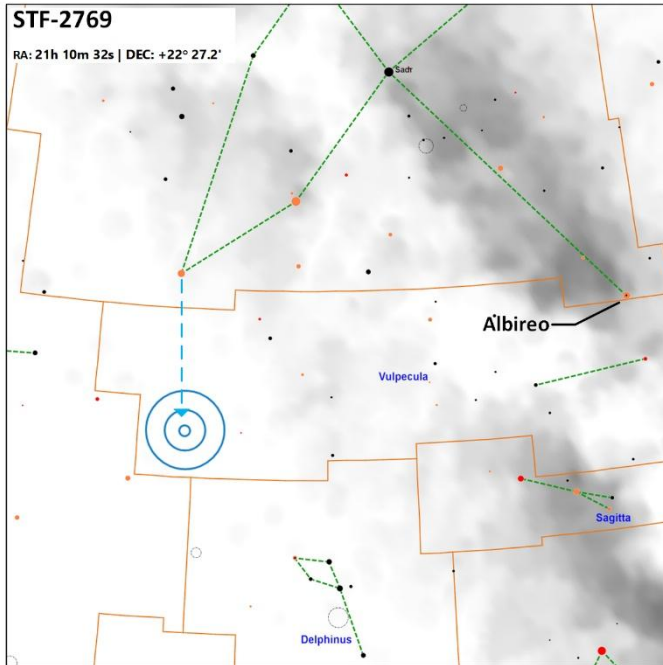


HD 201626 (CS || Magnitude Range= 8.1 to 8.2 | Spec=C1,1 (R0) | Color=yellow-orange |) Located 738 light years away, this is an orange giant star with an energy output 24 times the Sun's luminosity.



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STF 2769 (DS || **AB** | Mag=6.7,7.4 | Sep=18.1" | PA=300° | mBortle=9 | mApt=50mm | Spec=A1V, ? | Color=white, ? |) This star atlas system is a bit confusing, Stelle Doppie website indicates four visually detectable stars in this system with three being physically associated, but is missing some data for the BC pair and indicates the D component is very dim. Haas describes two components. The star used for this guide shows three closely matched stars in a row (see image below). Data from all sources seem to agree on the AB pair. Observation of this system should be informative.



Blank

Constellation Guide
Observation Log: Vulpecula (Vul)

Equipment Config A: _____ Config B: _____

Notes: _____

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide
Observation Log: Vulpecula (Vul)

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: Brent Archinal, Steve Hynes
 - Double Stars for Small Telescopes: Sissy Haas
 - [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: Demelza Ramakers
 - [Pattern Asterisms](#): John Chiravalle
 - Milwaukee Astronomical Society: [Binocular Asterisms](#)
 - Deep-Sky.co.uk: [Observing Asterisms](#) (David Ratledge)
- [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](#)
 - [Claude AI](#) – Some Stats for targets

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