

Constellation Guide

Aquarius (Aqr)

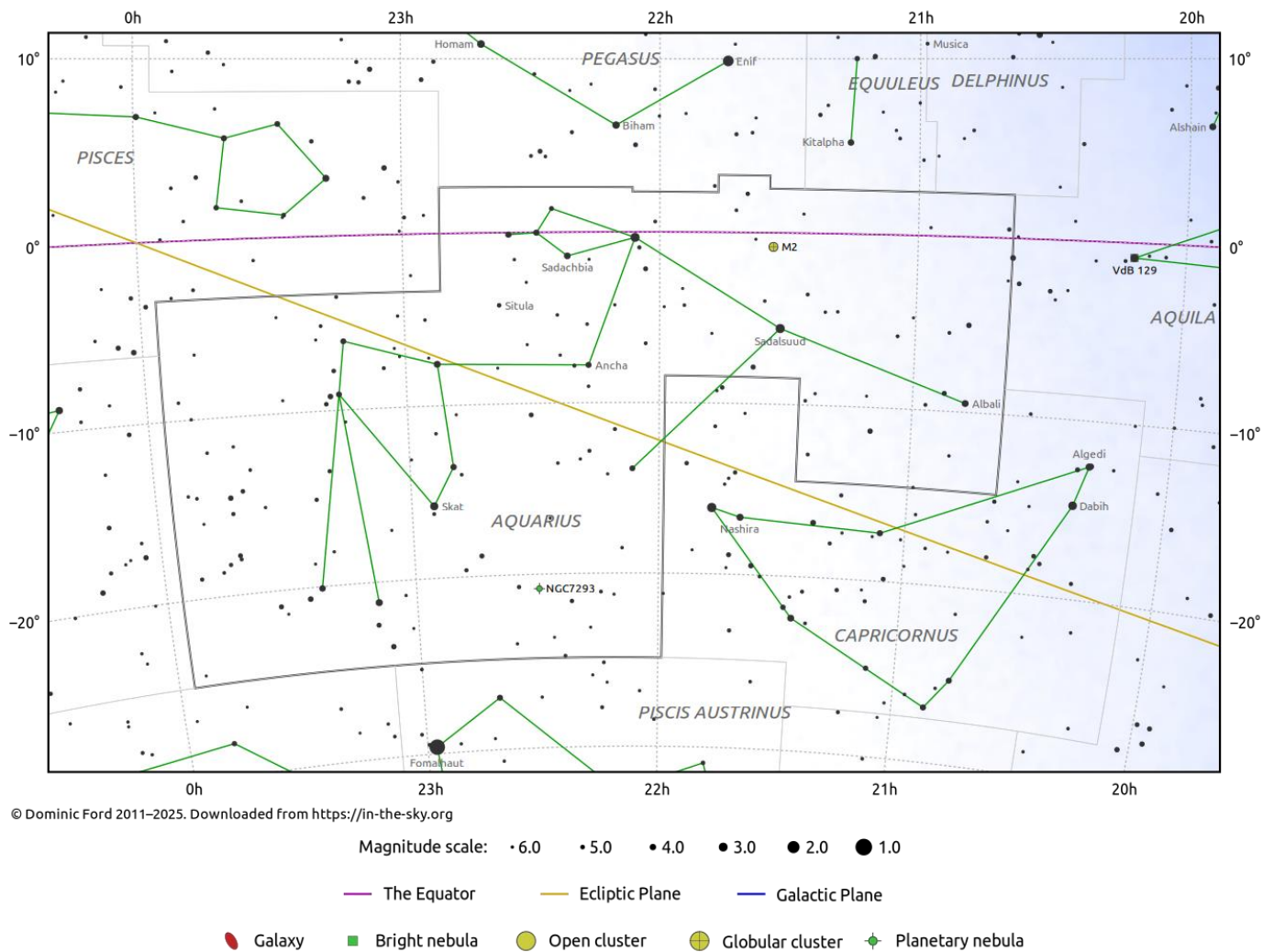
Evening Visibility: **Aug - Oct**

Online Information: [Aquarius](#)

More Online Information: [Zeta Aqr](#), [M-2](#), [1 Aqr](#), [M-72](#), [M-73](#), [NGC-7009](#), [41 Aqr](#), [NGC-7293](#),

RU Aqr, [94 Aqr](#), [R Aqr](#), [LP Aqr](#)

[In-The-Sky.org](#) Constellation Map

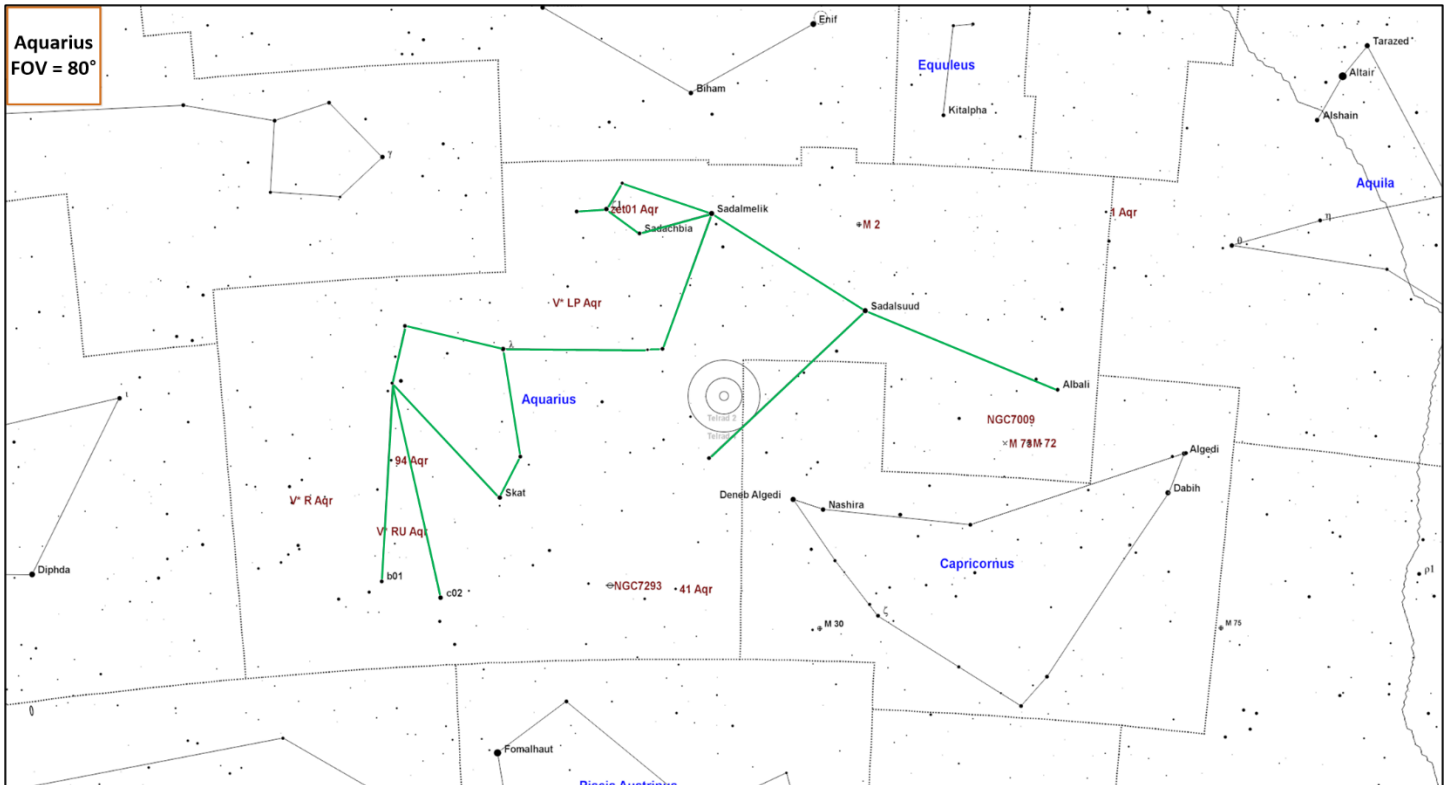


Constellation Guide

Aquarius means “the water bearer” in Latin. This constellation was cataloged by the Greek astronomer Ptolemy. This is the 10th largest constellation in the sky.

Constellation Highlights

- **Messier 2** – An excellent globular cluster. Visible in small telescopes and binoculars
- **NGC 7009** – Although quite small, the Saturn nebula is interesting to view in telescopes.



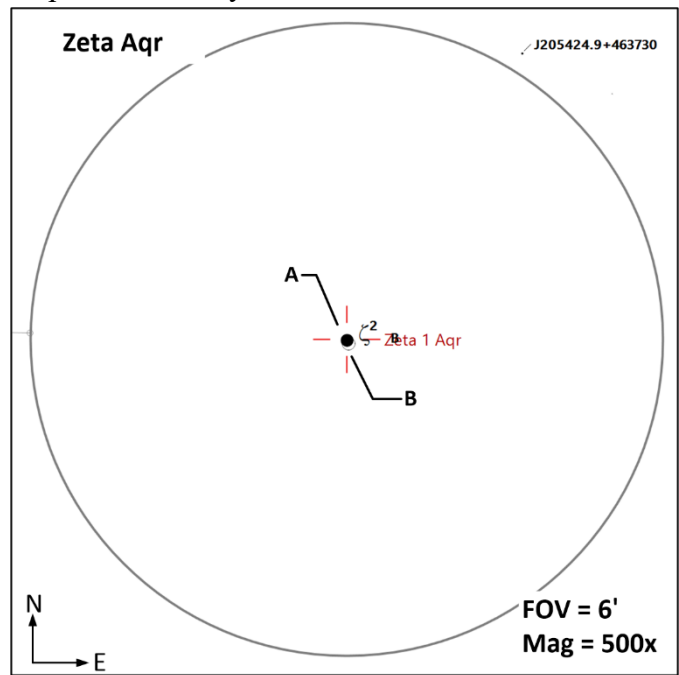
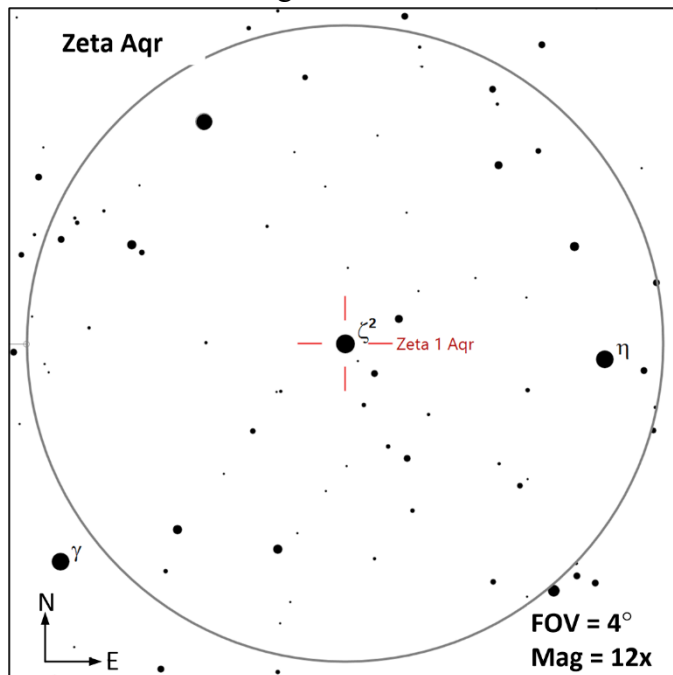
Objects Summary

Object (Type)	Ref	Aliases	Stats
Zeta Aqr (DS)	1 , 2	SAO-146107, HIP 110960, 55 Aqr, HR 8558, HD 213051, STF 2909, ADS 15970	AB M=4.3, 4.5 Sep = 2.3'' PA = 154°
M-2 (GC)	1	NGC-7089	M = 6.5 Size = 16' SB = 21.1
1 Aqr (MS-3)	1 , 2	SAO-126062, HIP 101936, HR 7897, HD 196758, ADS 14108	AB M=5.3, 12.3 Sep=65'' PA=225° AC M=5.3, 11.3 Sep=66'' PA= 30°
M-72 (GC)	1	NGC-6981	M = 9.3 Size = 6.6' SB = 20.0
M-73 (OC, AS)	1	NGC-6994	M = 9.0 Size = 2.8' SB = 19.9
NGC-7009 (PN)	1	Saturn Nebula, C 55, ARO 16	M = 8.0 Size = 0.5' SB = 15.1
41 Aqr (MS-4)	1 , 2	SAO-190986, HIP 109786, HR 8480, HD 210960, ADS 15760	AB M = 5.6, 6.7 Sep=5.2'' PA=112° AC M = 5.6, 8.9 Sep=210'' PA=45° CD M = 8.9, 11.6 Sep=12.3'' PA=255°
NGC-7293 (PN)	1	Helix Nebula, C 63, ARO 17, Eye of God	M = 7.6 Size = 25' SB = 23.2

Constellation Guide

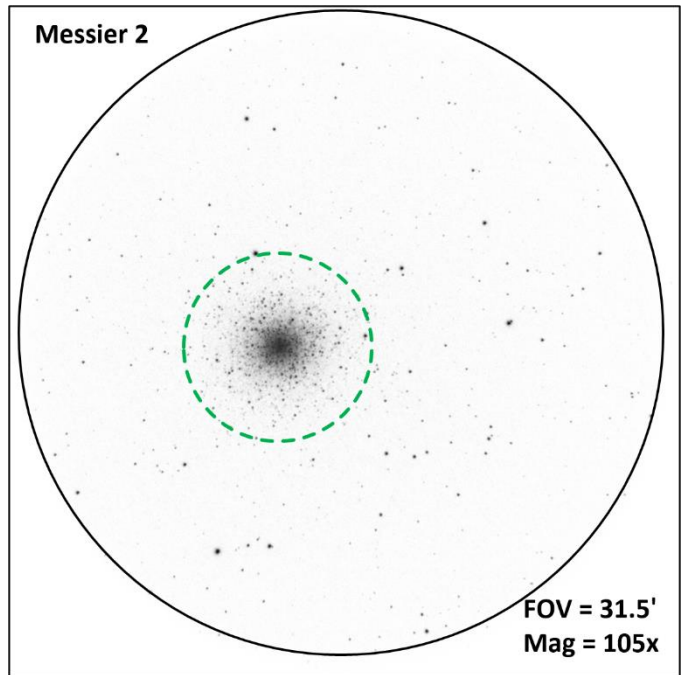
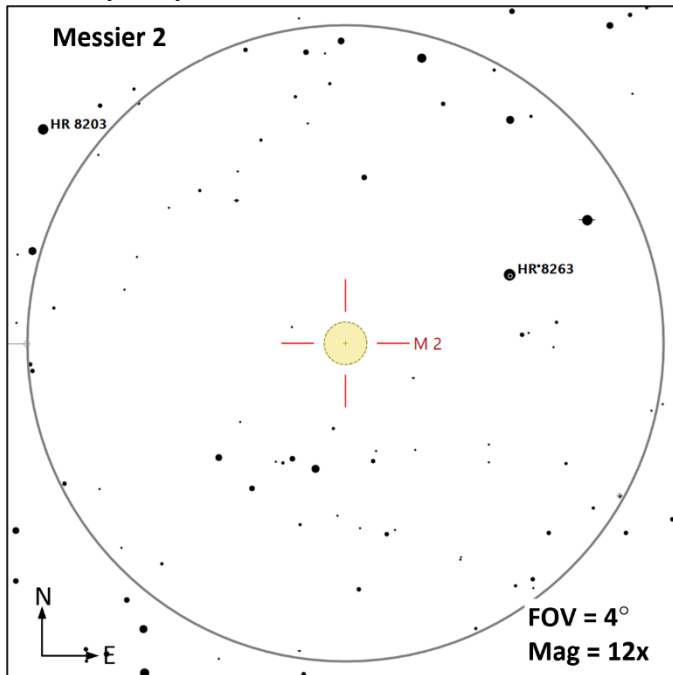
Object (Type)	Ref	Aliases	Stats
RU Aqr (CS)		SAO-165676, HIP 115553, HD 220515	M = 8.5 to 10.1 Period = 119 days
94 Aqr (DS)	1 , 2	SAO-165624, HIP 115126, STF 2998, ADS 16672, WDS23191-1328	AB M = 5.2, 7.0 Sep = 12.3" PA = 353°
R Aqr (CS)	1	SAO-165849, HIP 117054, HR 8992, HD 222800, HEG 2	M= 5.2 to 12.4 Period = 390 days
LP Aqr (CS, MS-3)	1 , 2	SAO-146241, HIP 112078, HD 214983	AB M = 6.7, 10.9 Sep =61.1" PA =267° AC M = 6.7, 9.7 Sep=161" PA =185°

Zeta Aqr (DS | **AB** | M=4.3, 4.5 | Sep = 2.3" | PA = 154° |) – This is actually a triple star system, but the Aa and Ab components cannot be resolved by armature telescopes. he two components A & B suns in this system orbit each other at an average distance of 140 AU with an orbital period of 760 years.

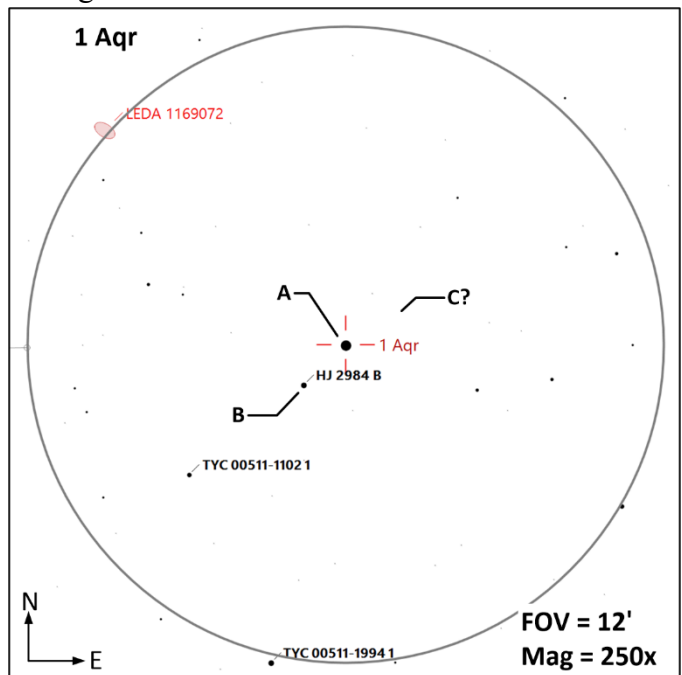
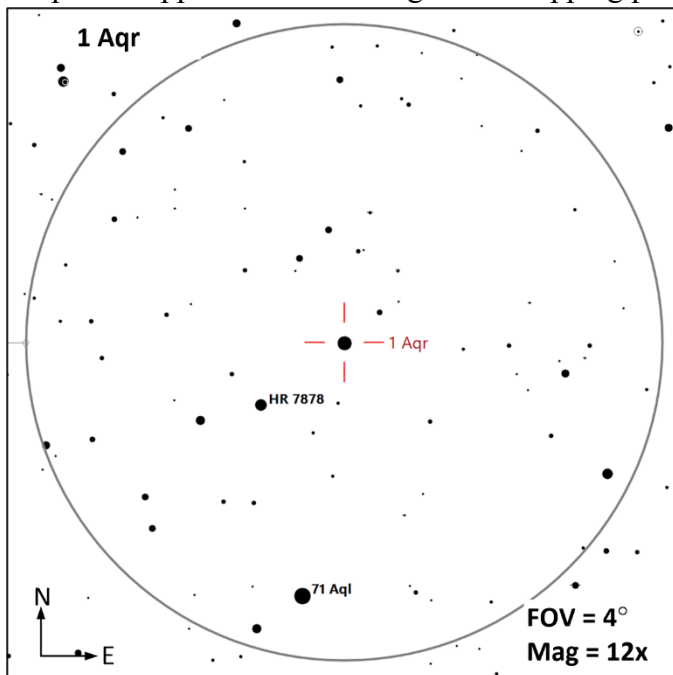


Constellation Guide

M-2 (GC | M = 6.5 | Size = 16' | SB = 21.1 |) – This is a nice globular cluster that is good target for small telescopes and binoculars. M2 is 55,000 ly from Earth and has a physical diameter of 175 ly. It is expected this globular cluster has about 150,000 stars and is 12.5 billion years old and is one of the oldest clusters of stars in the Milky Way.

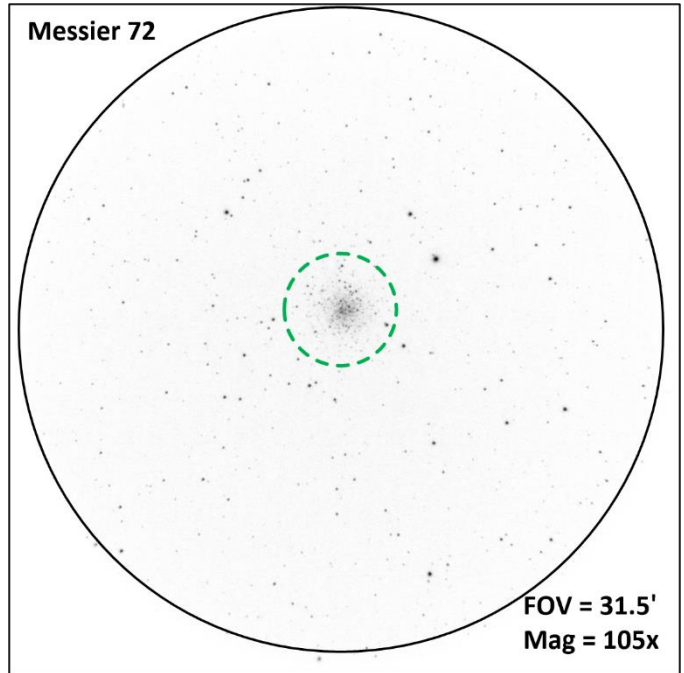
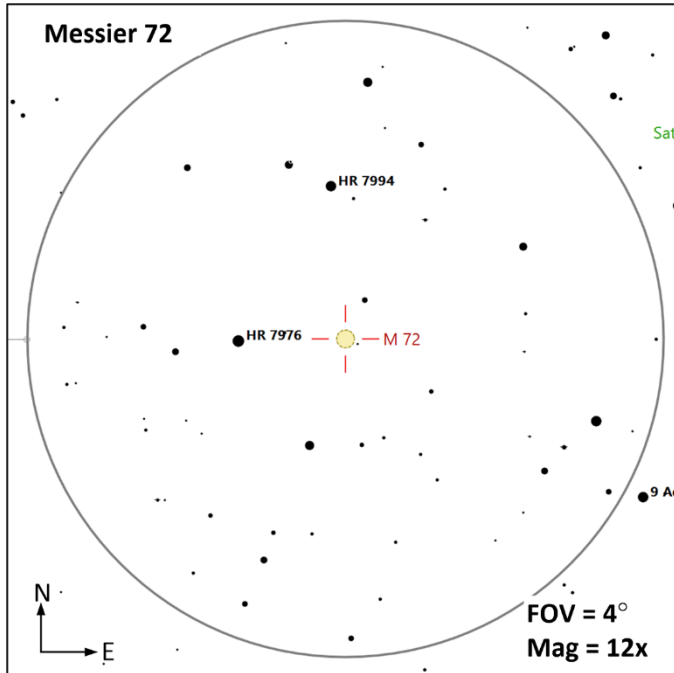


1 Aqr (MS-3 AB | M=5.3, 12.3 | Sep=65'' | PA=225° || AC | M=5.3, 11.3 | Sep=66'' | PA= 30° |) – This triple star system is 263 ly from our sun. There seems to be conflicting information the components of this system, C component appears to be missing in the mapping program image below.

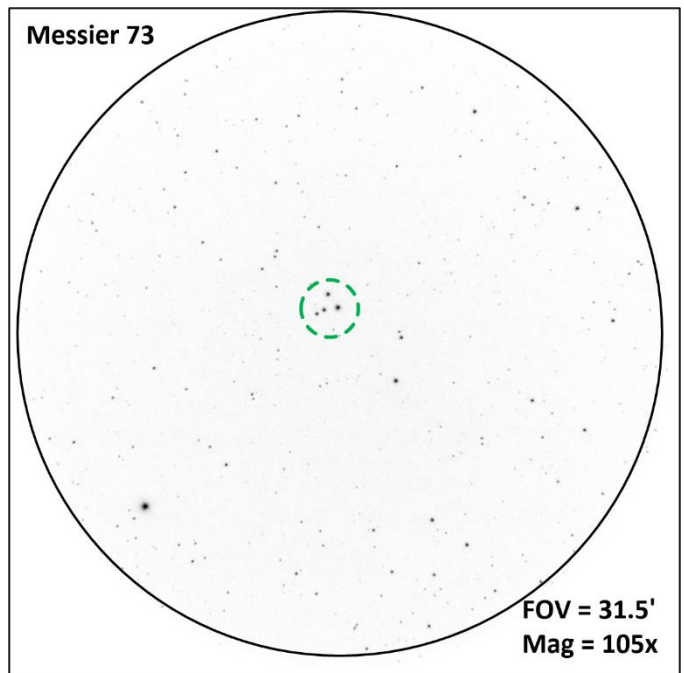
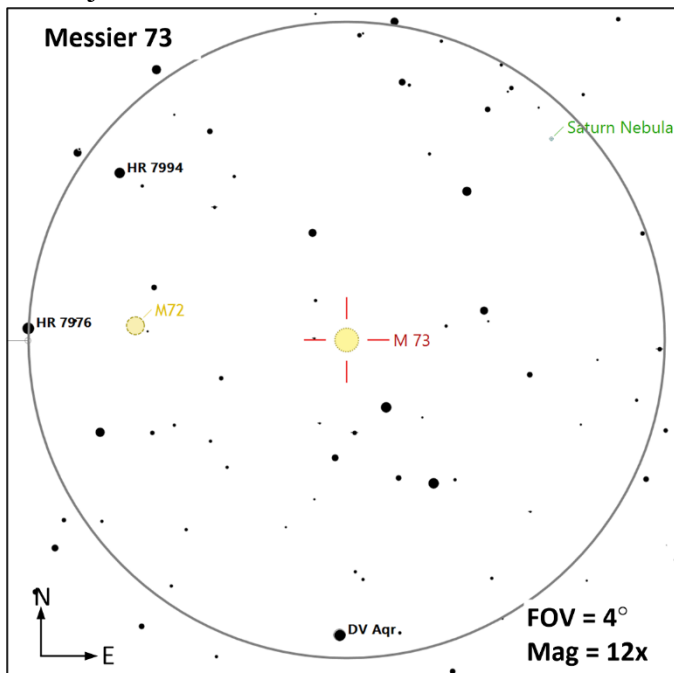


Constellation Guide

M-72 (GC | M = 9.3 | Size = 6.6' | SB = 20.0 |) – This globular cluster is quite a bit smaller than M-2 and dimmer. A larger size telescope will be required to resolve stars in this globular. M-2 is 55,000 ly from Earth with a diameter of 106 ly with an age estimated at 9.5 billion years old.

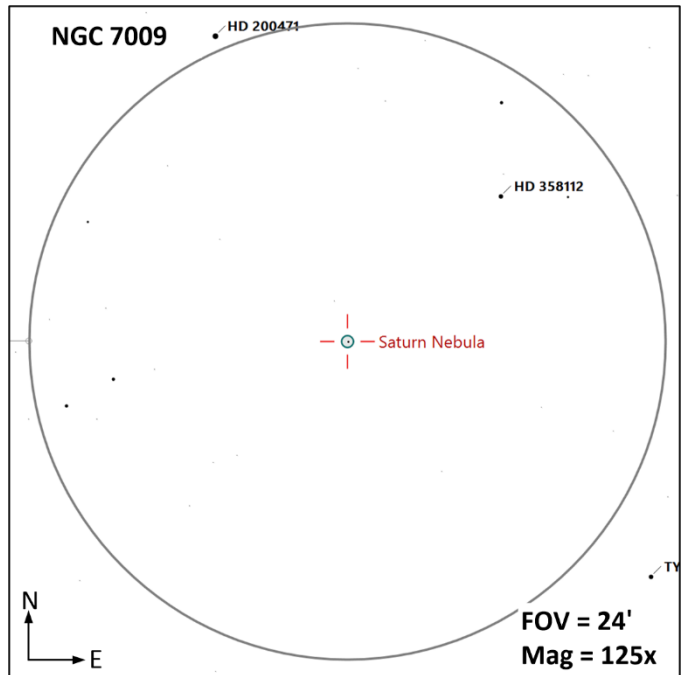
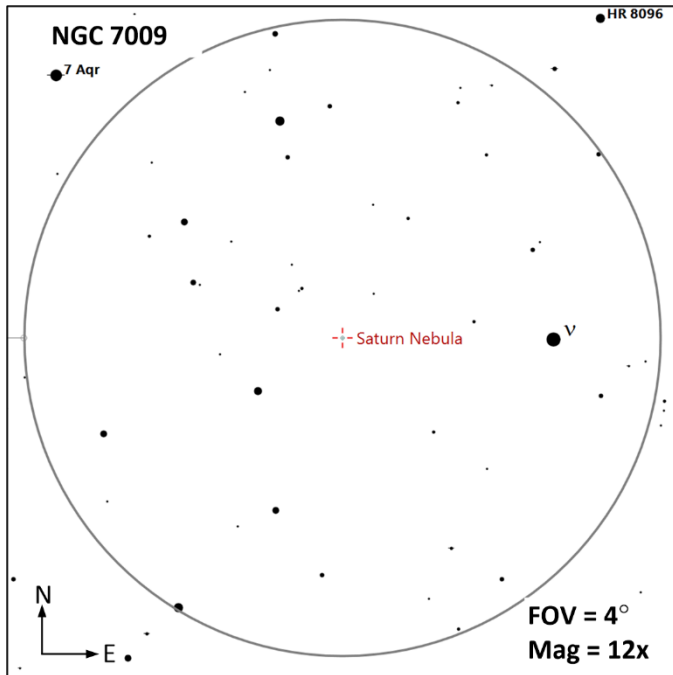


M-73 (AS | M = 9.0 | Size = 2.8' | SB = 19.9 |) – This asterism has a long history/debate on if this is a small open cluster or just a chance alignment of stars (asterism). In 2002 the debate was finally settled that this group is indeed just an asterism.

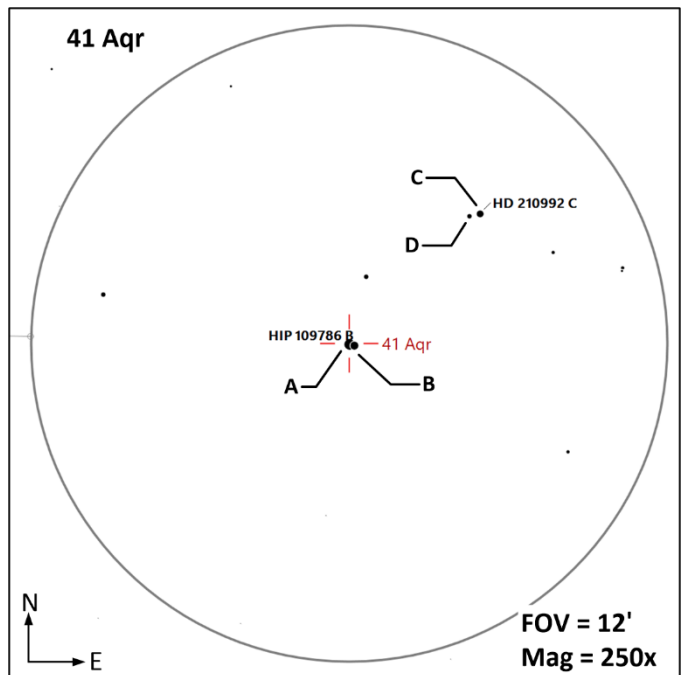
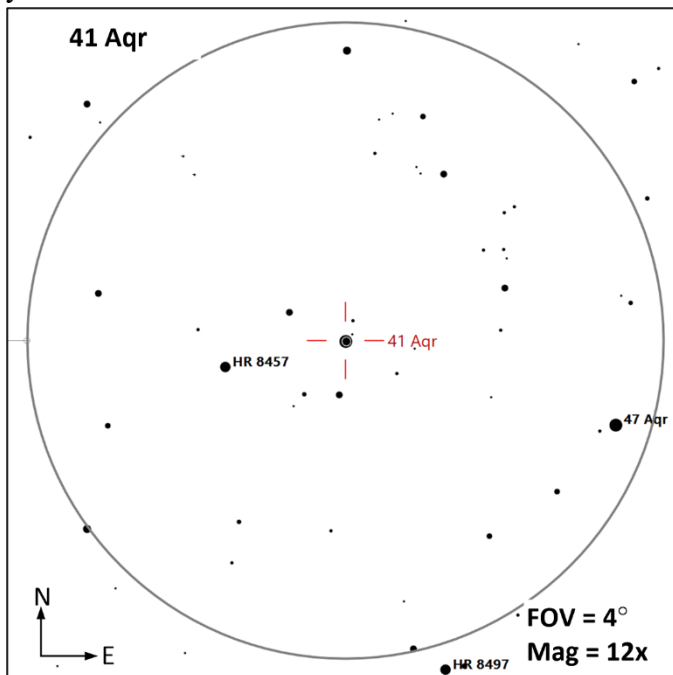


Constellation Guide

NGC-7009 (PN | M = 8.0 | Size = 0.5' | SB = 15.1 |) – The Saturn Nebula (also called Caldwell 55) is a planetary nebula that has a shape similar to Saturn when viewed at high magnification. It is estimated to be about 5,200 ly from earth with an approximate diameter of 0.5 ly

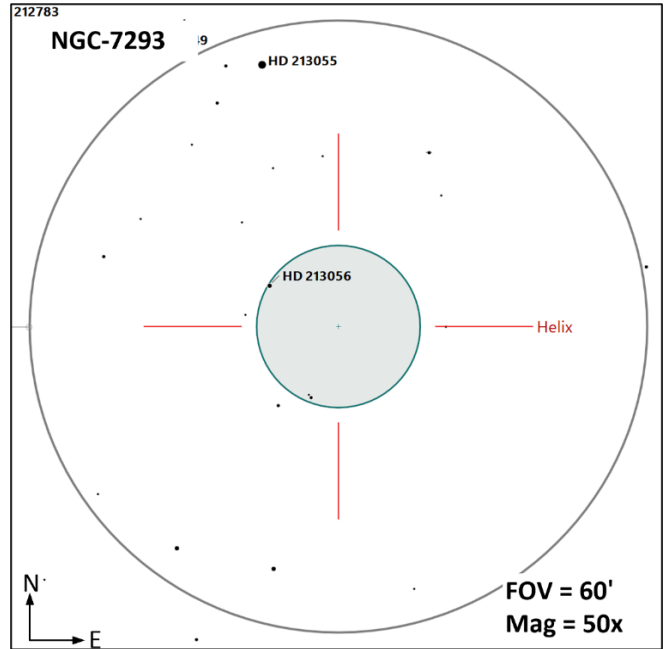
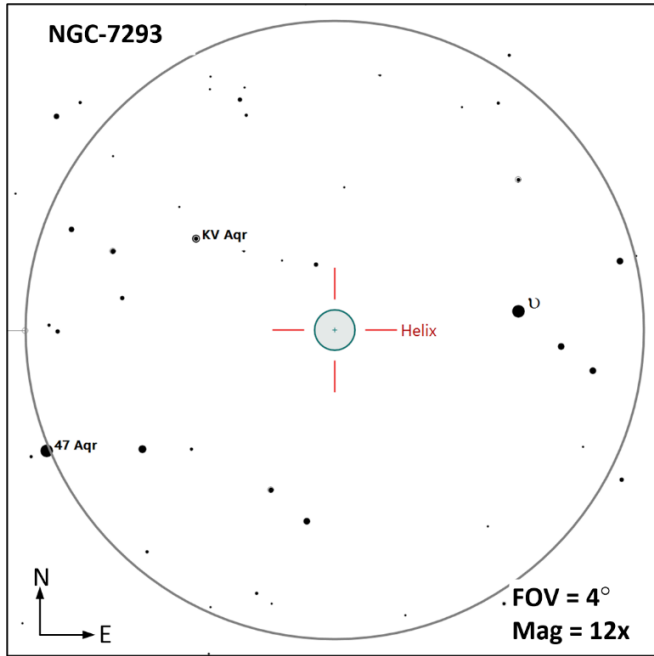


41 Aqr (MS-4 AB | M = 5.6, 6.7 | Sep=5.2'' | PA =112° || AC | M = 5.6, 8.9 | Sep=210'' | PA =45° || CD | M = 8.9, 11.6 | Sep =12.3'' | PA =255° |) – The AB components of this system are suspected to be physically associated with each other while the C & D components do not seem to be physically related. This system is 233 ly from earth.

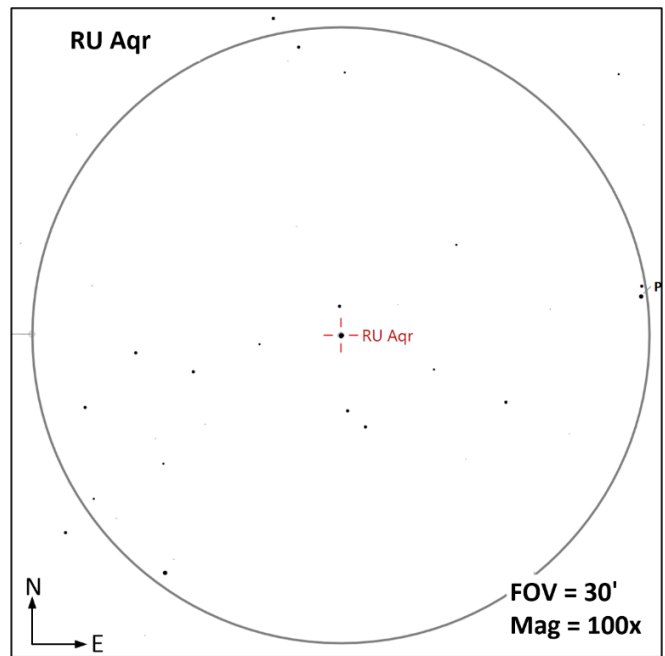
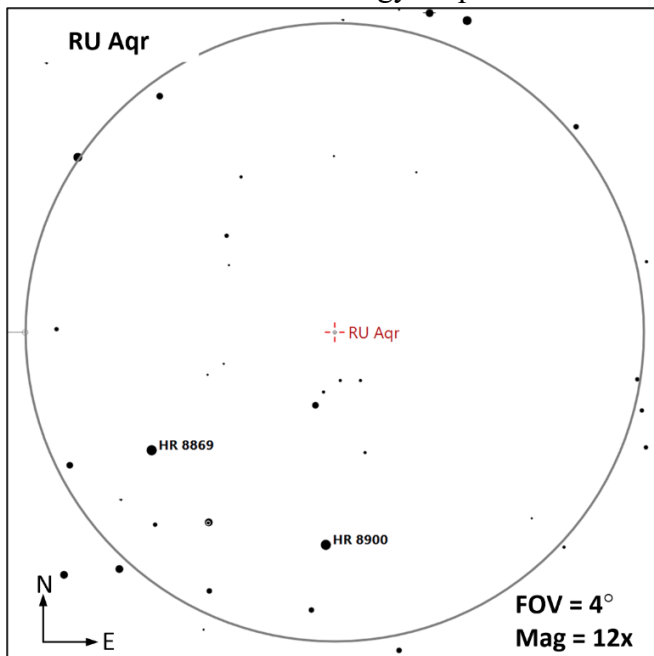


Constellation Guide

NGC-7293 (PN | M = 7.6 | Size = 25' | SB = 23.2 |) – The Helix nebula is suspected of being the closest planetary nebula to our solar system at a distance of 900 ly and appears over ½ the size of the moon and spans over 2.5 ly in diameter. Although it has a low magnitude, this size makes this object quite dim (low Surface Brightness). Very dark skies may be required to observe this object. Utilizing low magnification and O-3 filters may help make this object visible.

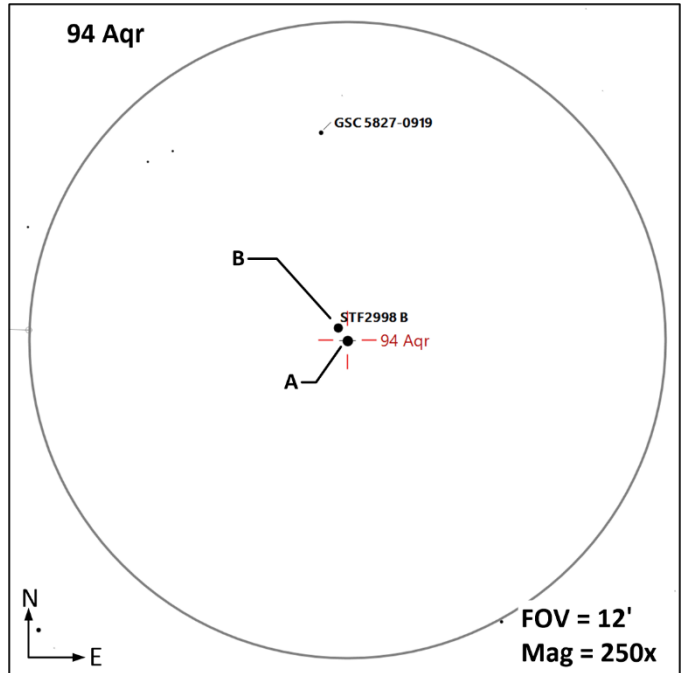
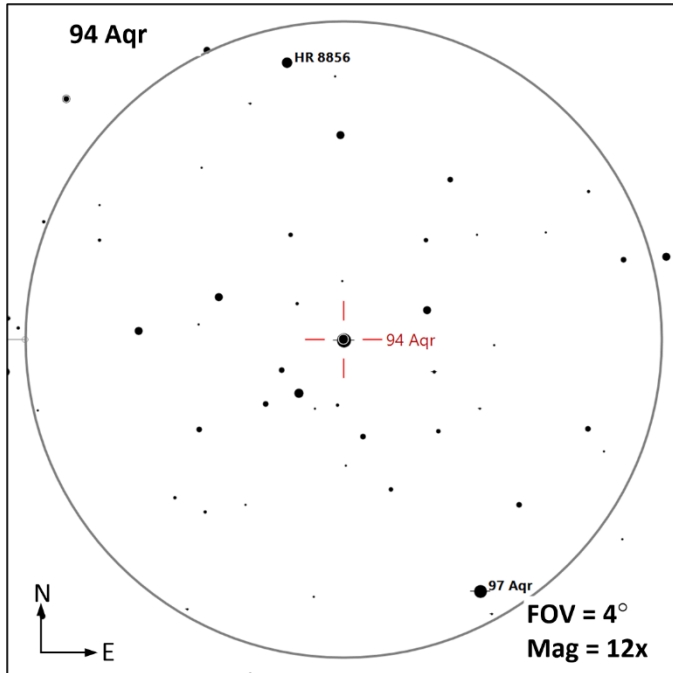


RU Aqr (CS | M = 8.5 to 10.1 | Period = 119 days |) – This carbon star is 1,382 ly from the sun. It is 44.5 times the sun's diameter and its energy output is 249 times the sun.

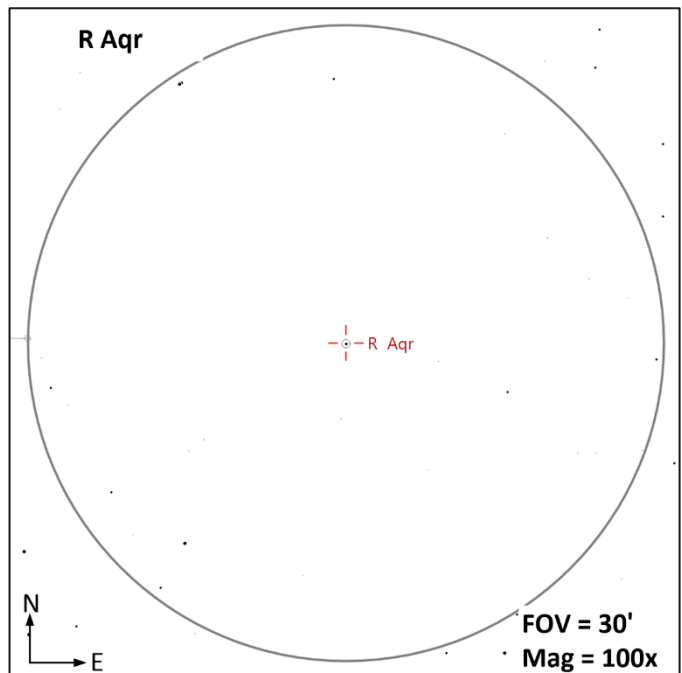
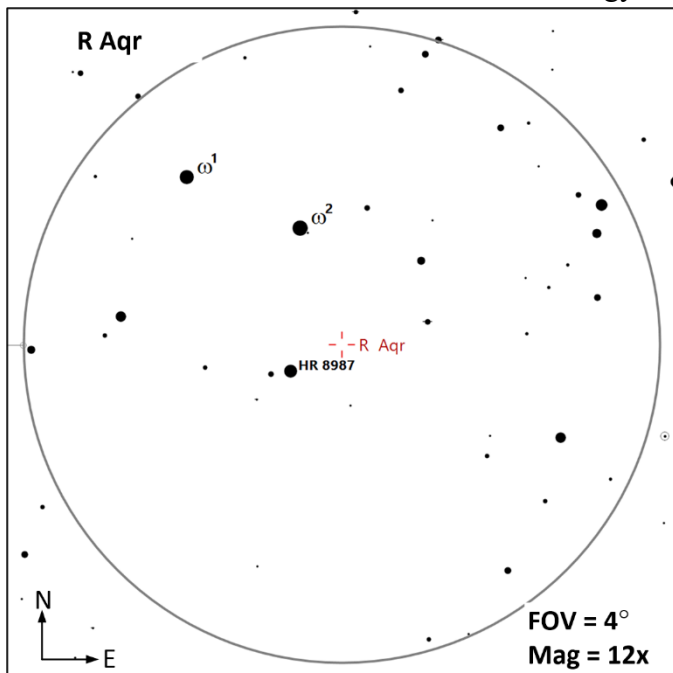


Constellation Guide

94 Aqr (DS | **AB** | $M = 5.2, 7.0$ | $\text{Sep} = 12.3''$ | $\text{PA} = 353^\circ$) – Technically a triple star system the Aa and Ab components are only $0.1''$ separated so very difficult to resolve. The A & B components are much easier to separate. This system appears as a yellow/blue star system. This system is 69 ly from earth.

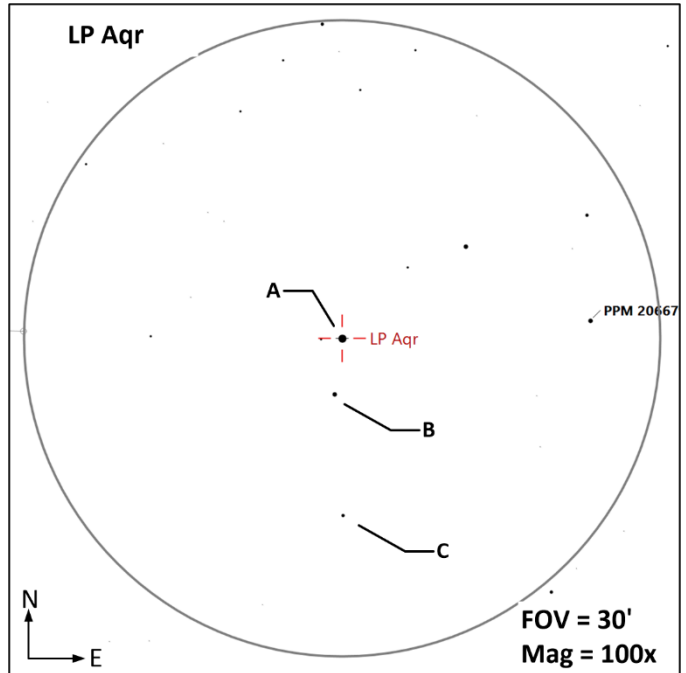
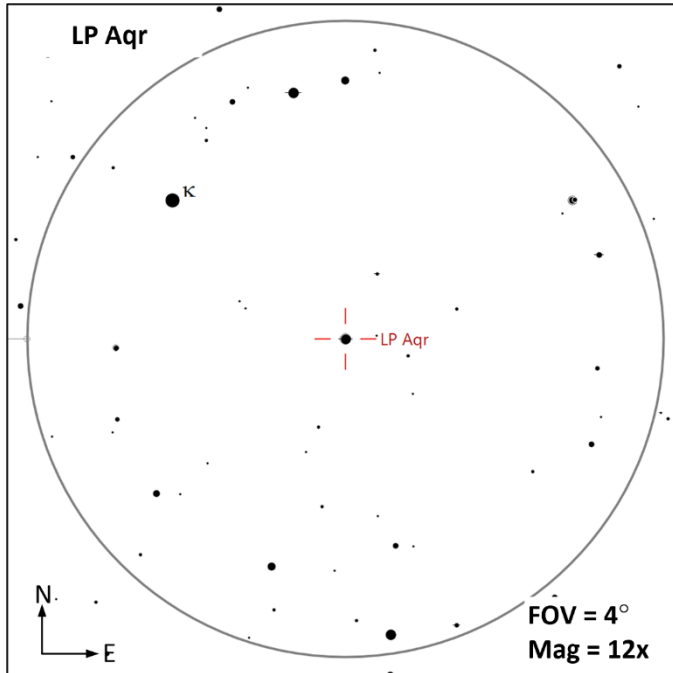


R Aqr (CS | $M = 5.2$ to 12.4 | $\text{Period} = 390$ days) – A carbon star with a large range of brightness (from 5.2 to 12.4) over a period of 390 days. This star is 1,182 ly from earth, 110 times the diameter of our sun and 45% cooler than the surface of our sun. It has an energy output of about 1,102 times that of our sun.



Constellation Guide

LP Aqr (CS, MS-3 **AB** | M = 6.7, 10.9 | Sep = 61.1" | PA = 267° || **AC** | M = 6.7, 9.7 | Sep = 161" | PA = 185° |) – Both a carbon star and multiple star system. This system is 688 ly from our sun.



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
 - [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
- [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](#)
 - Cloudy Nights: [The Best Triple Stars – Ranked!](#)

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 2010
- [IrfanView](#) Version 4.72