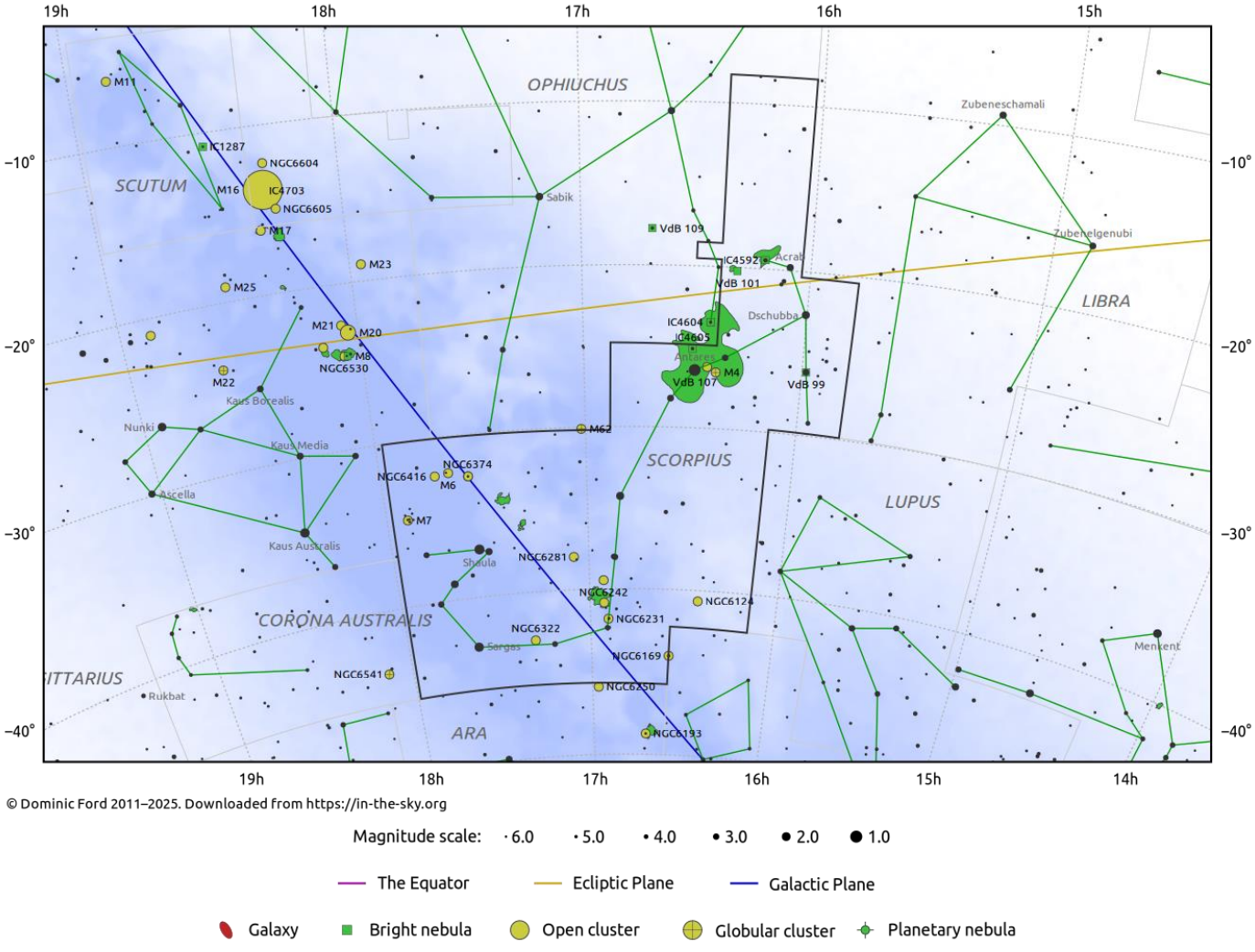
Constellation Guide

Scorpius(Sco)

Evening Visibility: **May - July**
Online Information: **Scorpius**
More Online Information: Xi Scorpii, Jabbah, IC-4592, Acrab, Cr-302, M-80, M-4, Antares, NGC-6144, NGC-6242, NGC-6281, NGC-6124, NGC-6231, CR-316, NGC-6322, Shaula, M-7, NGC-6416, M-6

In-The-Sky.org Constellation Map



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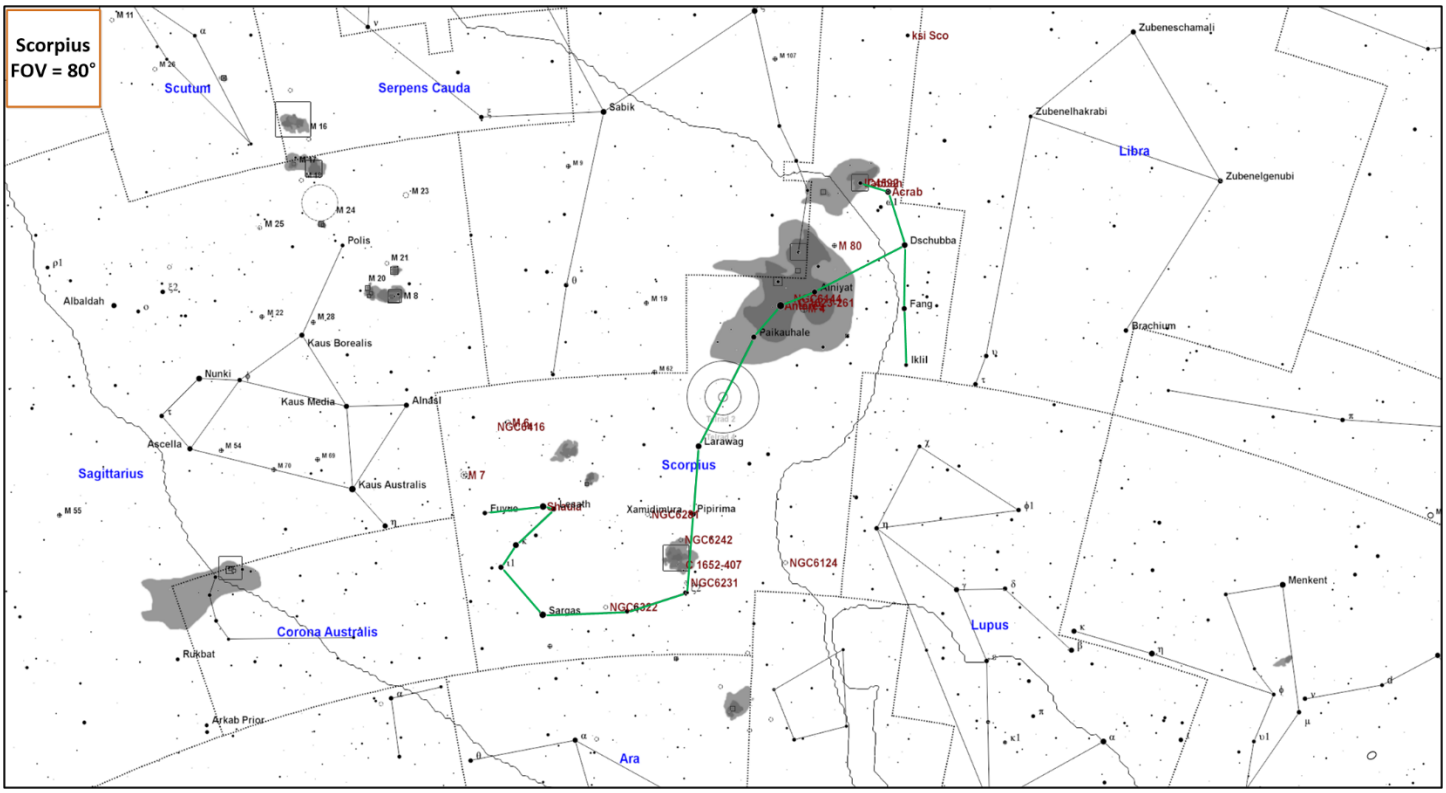
The Scorpius constellation is one of the constellations that actually look like object it is named after it is easy to make out the head, body and tail of the scorpion. The constellation is one of the oldest known and dates back to about 5,000 years ago when the Sumerians called it GIR-TAB “the scorpion”. This constellation is chock-full of open clusters and so is an excellent target for binoculars and small telescopes. This constellation contains four messier objects.

Constellation Highlights

- Messier 4: An exceptional Globular Cluster
- Messier 6: The Butterfly Cluster, an neat asterism and open cluster.
- Xi Sco: Quintuple star system nice for both high power magnification and low power binocular viewing.

Constellation Targets Map



Objects Summary

Object (Type)	Ref	Aliases	Stats
Xi Sco (MS-3)	1, 2	SAO-159665, HIP 78727, HR 5978, HD 144069, STF 1998, ADS 9909, ξ Sco	AB | M=4.8, 4.9 | Sep=1.1” | PA=17° | AC | M=4.8, 7.3 | Sep=8.0” | PA=42° | BC | M=4.9, 7.3 | Sep=7.1” | PA=45° |
Jabbah (MS-4)	1, 2	SAO-159764, HIP 79374, 14 Sco, HR 6027, HD 145502, ADS 9951, Nu Sco	AB | M=4.3, 5.3 | Sep=1.4” | PA=126° | AC | M=4.4, 6.6 | Sep=41.4” | PA=336° | CD | M=6.6, 7.2 | Sep=2.4” | PA=49° |
IC-4592 (RN)	1	LBN 1113, Blue Horsehead Nebula	| Mag = 3.9 | Size = 150x60’ | SB = 22.4 |

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Object (Type)	Ref	Aliases	Stats
Acrab (MS-3)	1, 2	SAO-159682, HIP 78820, Beta Sco, 8 Sco, HR 5984, HD 144217, ADS 9913, Graffias	AB | M=2.6, 10.6 | Sep= 0.3" | PA= 224° | AC | M=2.6, 4.5 | Sep=13.7" | PA=19° |
Cr-302 (OC)	1	Collinder 302, Lund702, OCL1011,Antares Cluster, C 162-261	| Mag = 1.0 | Size = 8.3° | SB = 23.1 |
M-80 (GC)	1	NGC-6093	| Mag = 7.3 | Size = 10'' | SB = 20.9 |
M-4 (GC)	1	NGC 6121, Spider Globular Cluster,	| Mag = 5.6 | Size = 26' | SB = 21.3 |
Antares (CS, DS)	1, 2	SAO-184415, HIP 80763, 21 Sco, HR 6134, HD 148478, ADS 10074, α Sco	|Mag = 0.6 to 1.6 | Per=1,000 to 2,300 day | AB | M = 0.96, 5.4 | Sep=2.7" | PA=277° |
NGC-6144 (GC)	1		| Mag = 9.6 | Size = 1.8' | SB = 19.5 |
NGC-6242 (OC)	1	Cr 317	| Mag = 6.4 | Size = 9' | SB = 19.8 |
NGC-6281 (OC)	1	Cr324, Mel161, Lund739, OCL1003, Moth Wing Cluster	| Mag = 5.4 | Size = 5.4' | SB = 18.5 |
NGC-6231 (OC)	1	C-76, Baby Scorpion Cluster, Table of Scorpius, Melotte 153	| Mag = 2.6 | Size = 15.0' | SB = 17.1 |
Cr-316 (OC)		Lund731, OCL998, C 1652-407	| Mag = 3.4 | Size = 105' | SB = 22.1 |
NGC-6322 (OC)		Cr326, Lund743, OCL1000	| Mag = 6.0 | Size = 10' | SB = 19.6 |
Shaula (DS)	1,2	SAO-208954, HIP 85927, 35 Sco, HR 6527, HD 158926, Lambda Sco, λ Sco	AC | M = 1.6, 9.2 | Sep=94.4" | PA=330° |
M-7 (OC)	1	NGC 6475, Ptolemy's Cluster, Scorpion's Tail	| Mag = 3.3 | Size = 80' | SB = 21.4 |
NGC-6416 (OC)			| Mag = 5.7 | Size = 18' | SB = 20.6 |
M-6 (OC, AS)	1	NGC 6405, Butterfly Cluster	| Mag = 4.2 | Size = 25' | SB = 19.8 |
NGC-6124 (OC)	1	C 75	| Mag = 5.8 | Size = 29' | SB = 21.7 |

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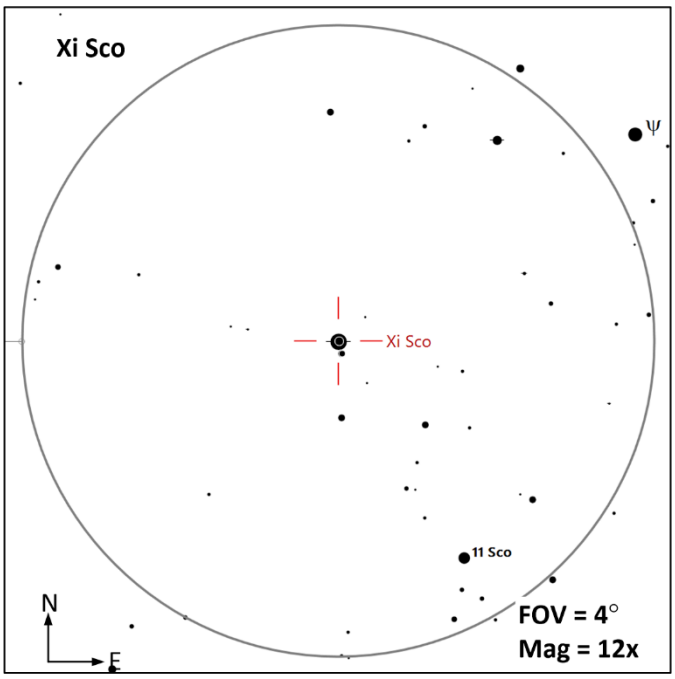
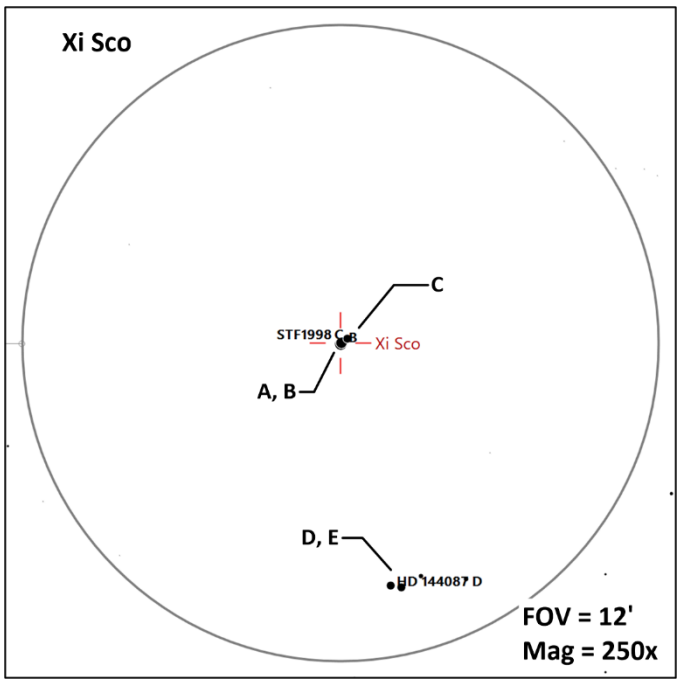
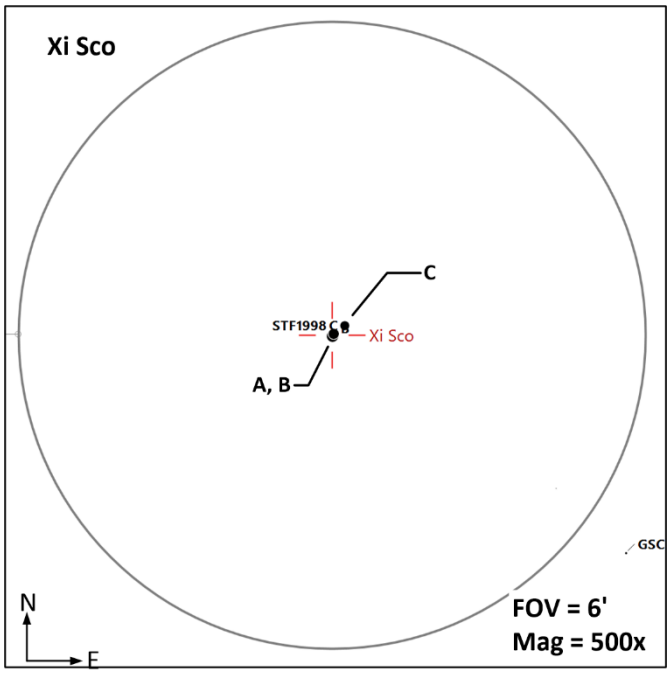
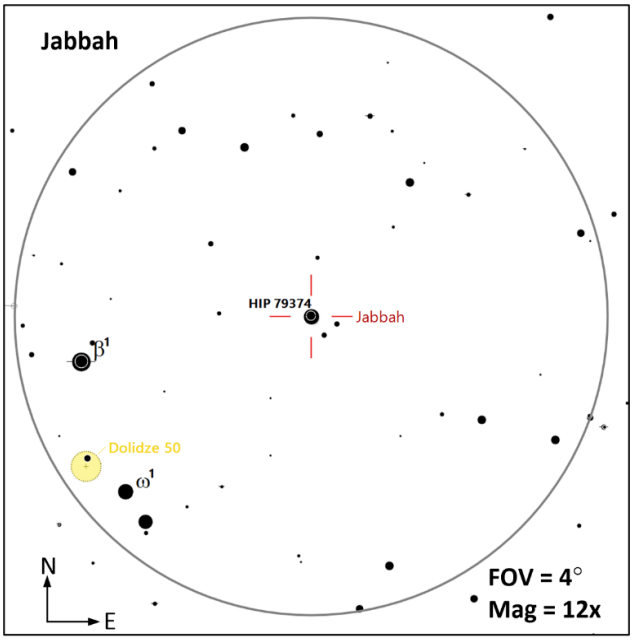
Xi Sco (MS-3 | **AB** | M=4.8, 4.9 | Sep=1.1” | PA=17° || **AC** | M=4.8, 7.3 | Sep=8.0” | PA=42° || **BC** | M=4.9, 7.3 | Sep=7.1” | PA=45° |) – Wikipedia indicates this is a quintuple (5) star system yet information on only three components (ABC) are included in the Stelle Doppie website. Wikipedia indicates this system is grouped into two groups The 250x image below it is clear the AB&C components are group close together while the D&E components are grouped together considerably distant from the first group (on the scale of arc minutes). This should be an interesting system for both high power telescopes and binoculars since a high-power telescope may be able to resolve all five components while binoculars can show the two groupings.

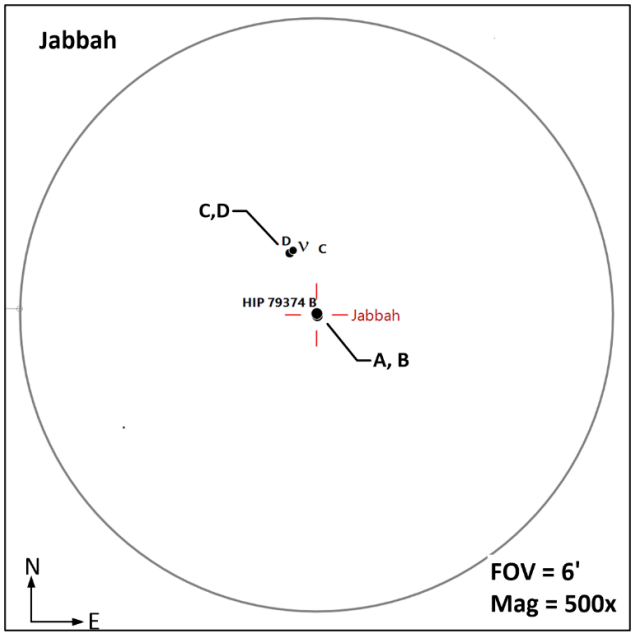




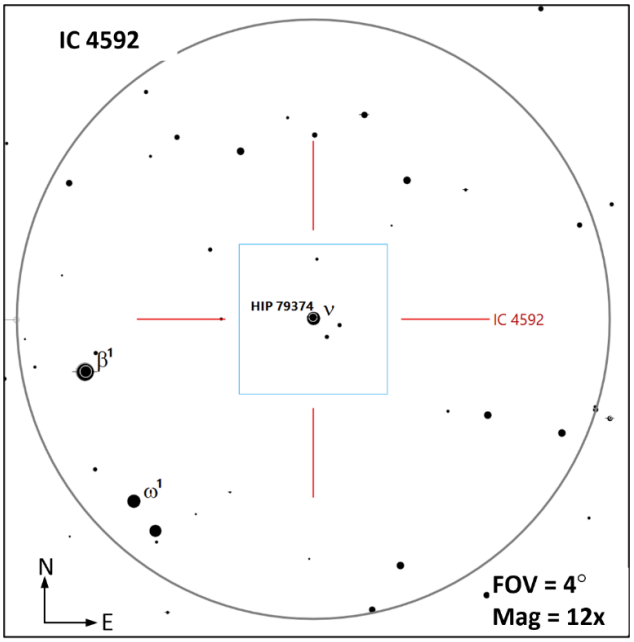


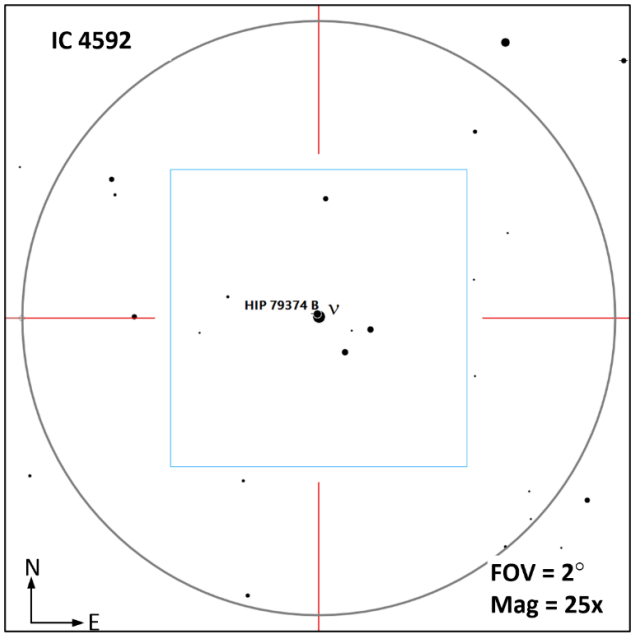
Jabbah (MS-4 | **AB** | M=4.3, 5.3 | Sep=1.4” | PA=126° || **AC** | M=4.4, 6.6 | Sep=41.4” | PA=336° || **CD** | M=6.6, 7.2 | Sep=2.4” | PA=49°|) – Nu Scorpii is located just above the head of the scorpion, so should be easy to locate. It is suspected to be a septuple (7) star system, but only four components may be visible. Similar to Xi Sco, this should be a good target for both binoculars and telescopes.



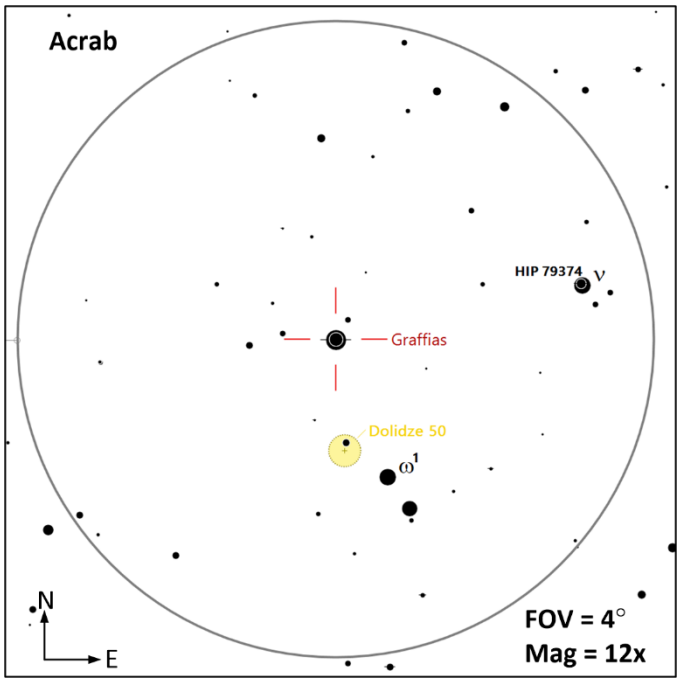


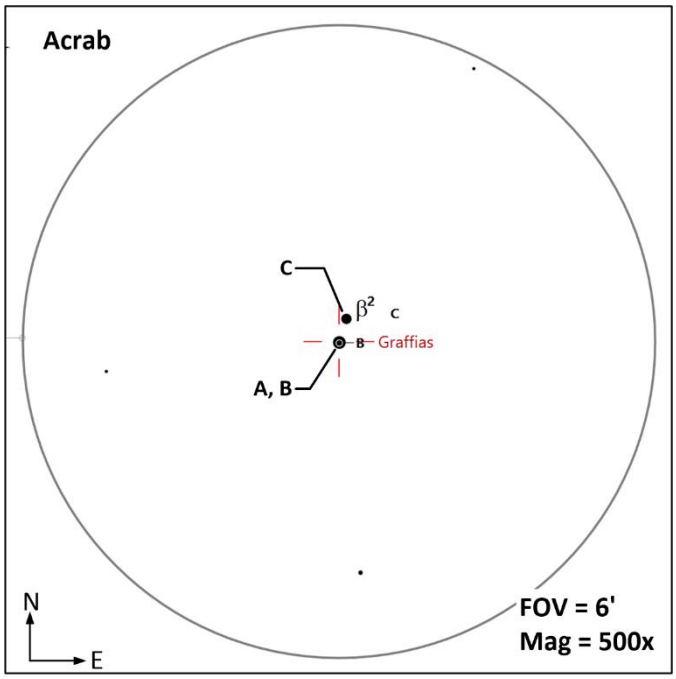
IC-4592 (RN | Mag = 3.9 | Size = 150x60’ | SB = 22.4 |) – A dim reflection nebula known as the Blue Horsehead Nebula is centered around Jabbah, so even though this is a very dim object if is worth seeing if you can see this. Use low power and possibly a broadband pollution filter to see it.



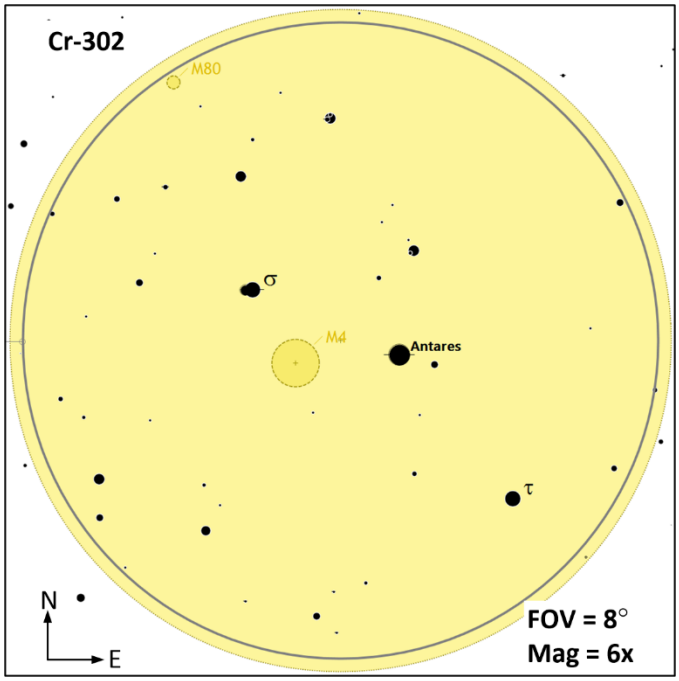


Acrab (MS-3 | **AB** | M=2.6, 10.6 | Sep= 0.3” | PA= 224° || **AC** | M=2.6, 4.5 | Sep=13.7” | PA=19° |) – Beta Scorpii is the second brightest star in the constellation and easily located in the head of the scorpion. Another interesting multiple star system (with three components) for both binoculars and high power telescope views.

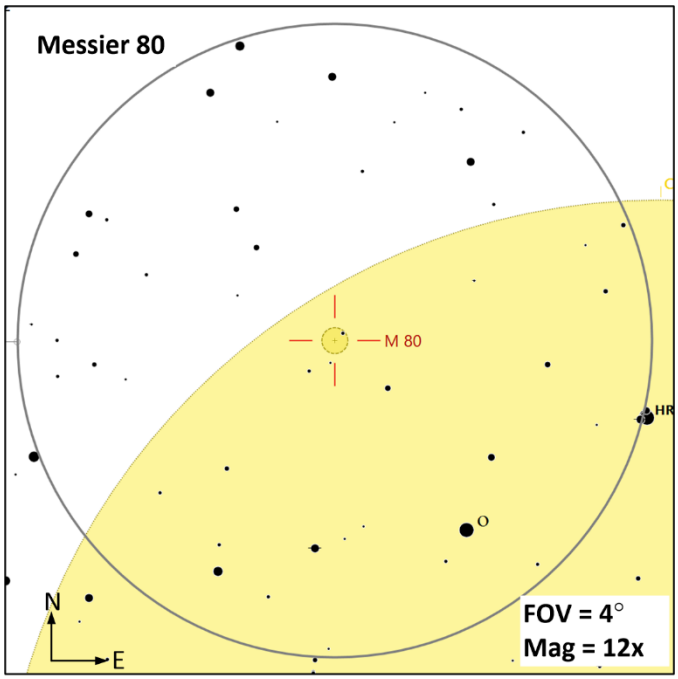


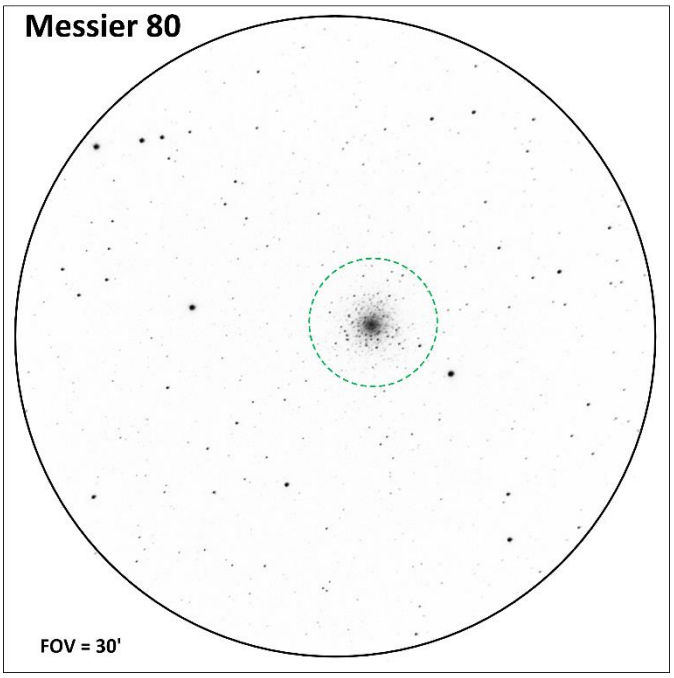


CR-302 (OC | Mag = 1.0 | Size = 8.3° | SB = 23.1 |) – This is classified as an open cluster but really should be considered a large region that contains a number of objects worth looking at in binoculars. Included in this region, and highlighted in this guide below include Antares(CS, DS), NGC-6144 (GC), M-4(GC) and just at the edge M-80 (GC). An incredible patch of sky!

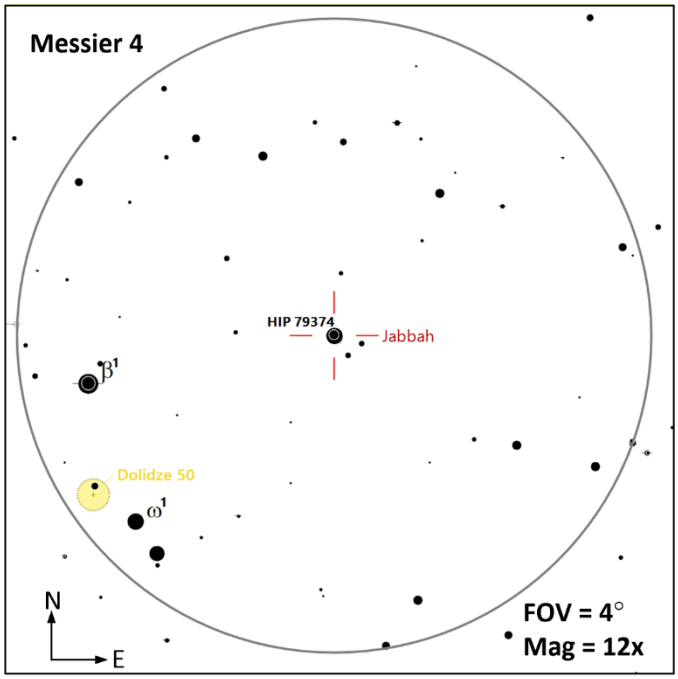


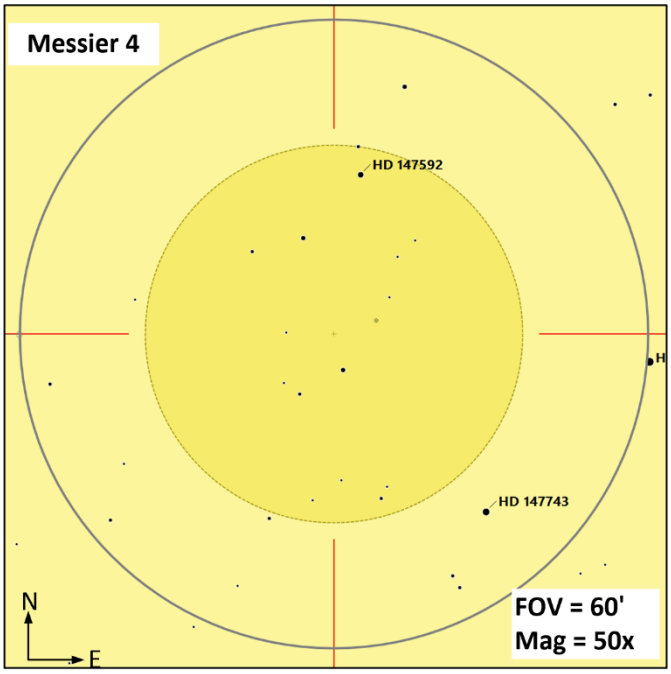
M-80 (GC | Mag = 7.3 | Size = 10'' | SB = 20.9 |) – Located on the edge of CR-302. This globular cluster is 32,600 ly from earth and is one of the most dense globulars in the Milky Way containing over 300,000 stars in an area of 95 ly in diameter.



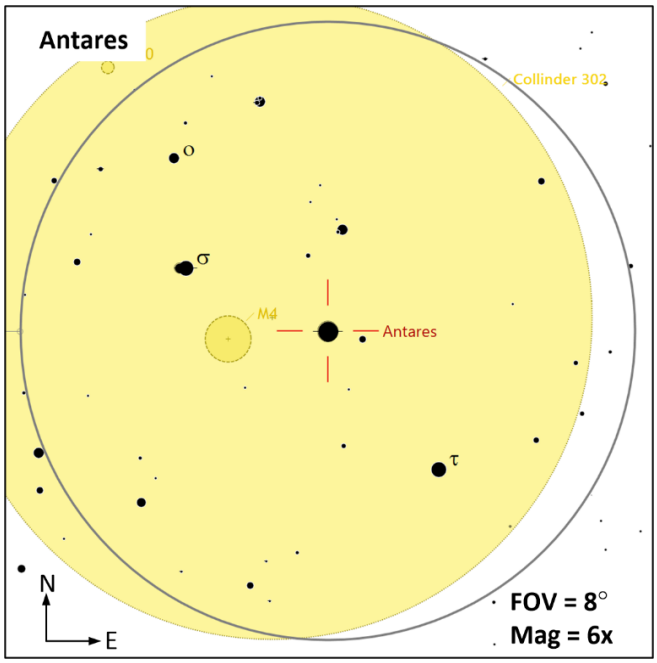


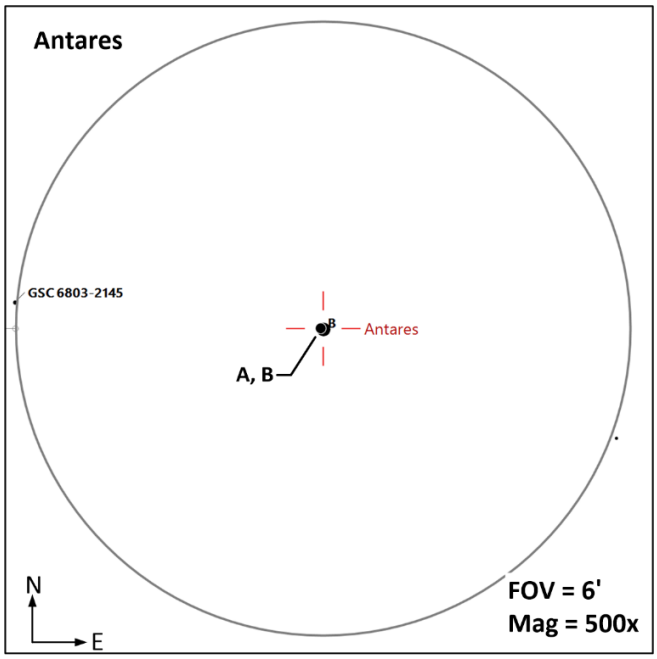
M-4 (GC | Mag = 5.6 | Size = 26' | SB = 21.3 |) – One of the closest and brightest globular clusters in the sky it is positioned only 1.3° west of Antares so it is also easily located. M4 is estimated to be 7,200 ly from earth with an estimated age of 12.2 billion years.



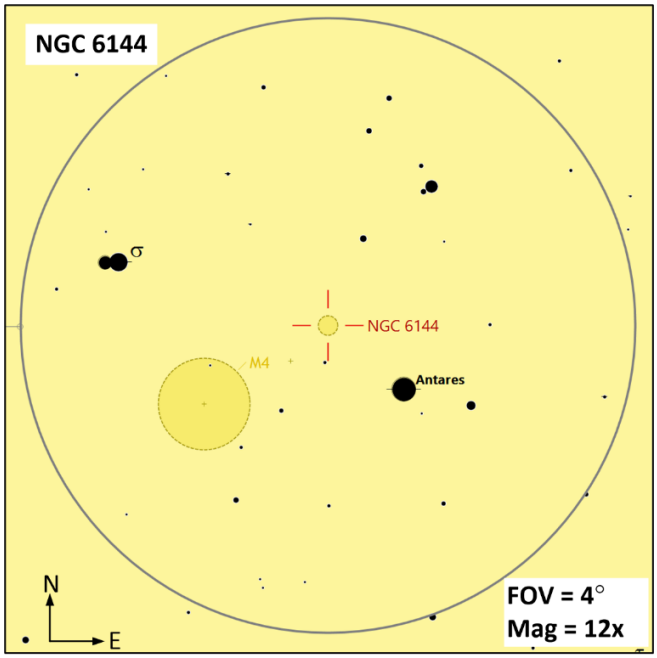


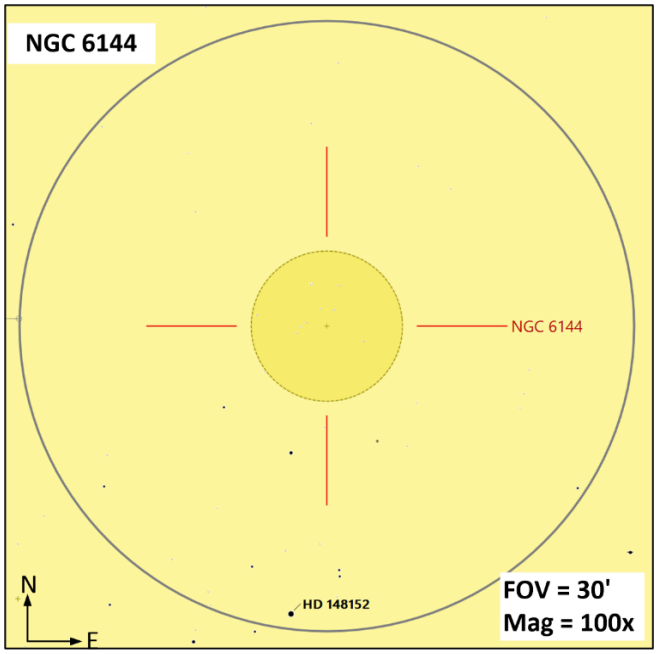
Antares (CS, DS | Mag = 0.6 to 1.6 | Per=1,000 to 2,300 day || AB | M = 0.96, 5.4 | Sep=2.7" | PA=277° |) – Alpha Scorpii is the brightest star in the Scorpius constellation. This is a red supergiant about 500 ly from earth and has a radius of 3.4 AU, about 400 times that of the earth. Antares has a much dimmer blue star companion measuring at 5.4 magnitude with a separation of 2.7, so it is easily lost in Antares glare in small telescopes.



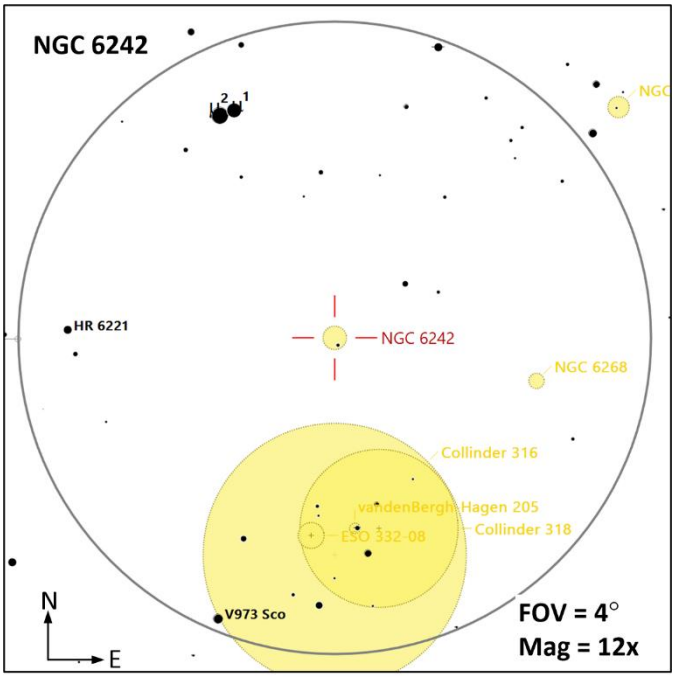


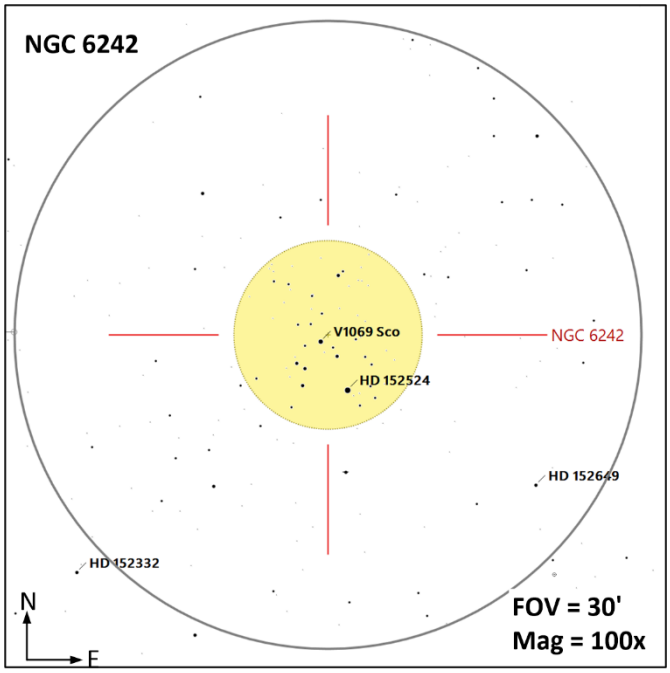
NGC-6144 (GC | Mag = 9.6 | Size = 1.8' | SB = 19.5 |) – Located 1°north-east of M-4 this cluster has a very low core density for a globular cluster and may appear more like an open cluster. NGC 6144 is 33,000 ly from earth. It is interesting to contrast NGC-6144 to M-80, one of the most dense globular clusters.



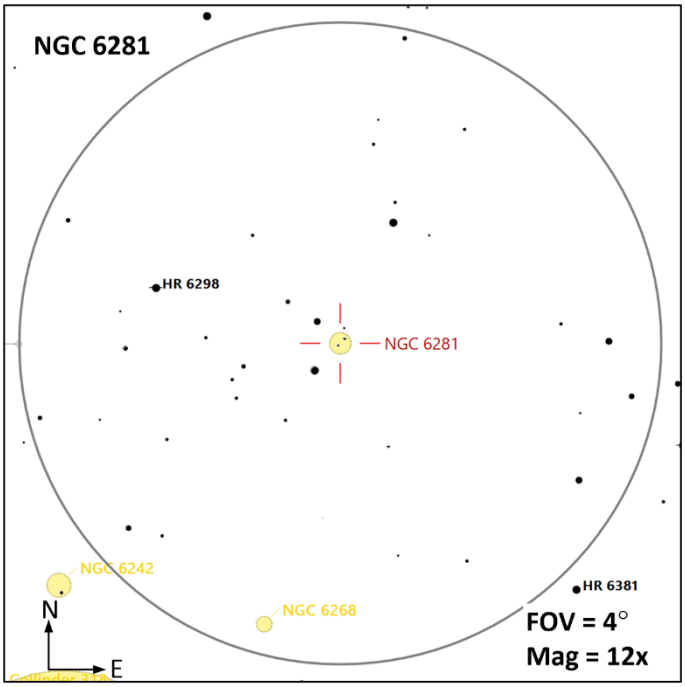


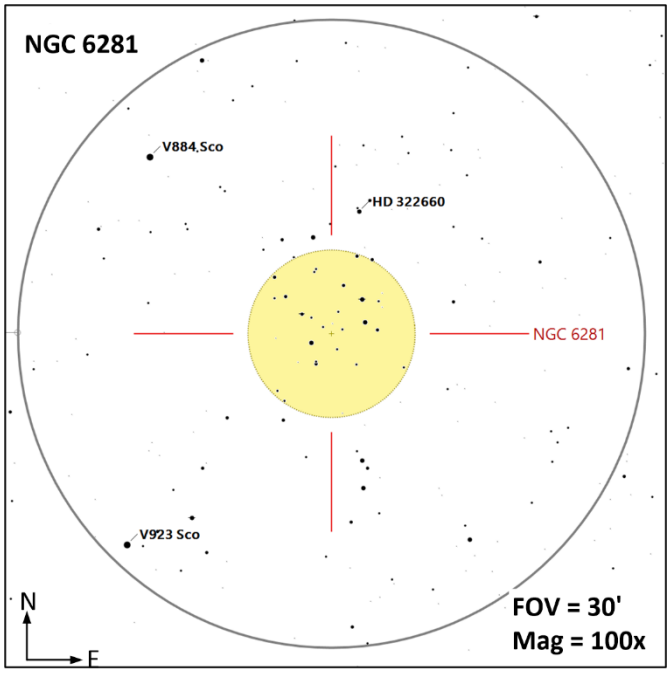
NGC-6242 (OC | Mag = 6.4 | Size = 9’ | SB = 19.8 |) – An open cluster located 1.5° south-southeast of t Mu Scorpii. This open cluster is about 4,300 ly from earth and is estimated to be 77.6 million years old.



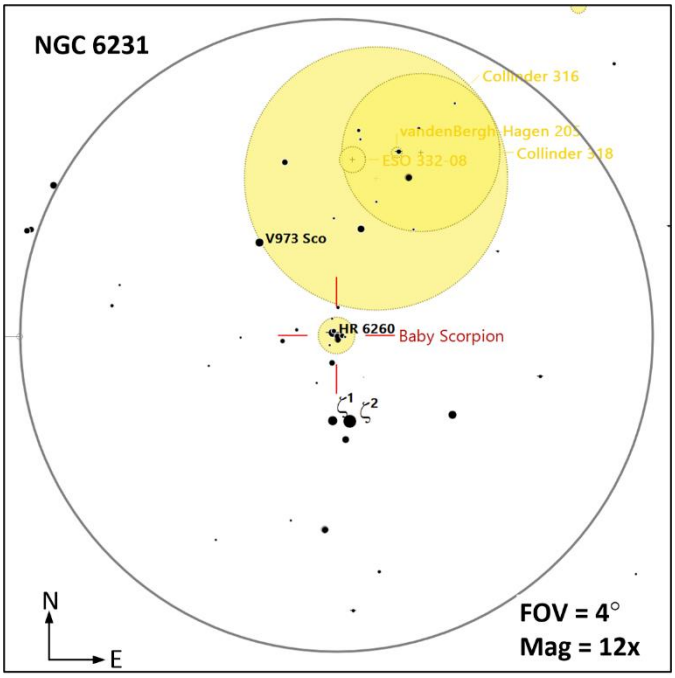


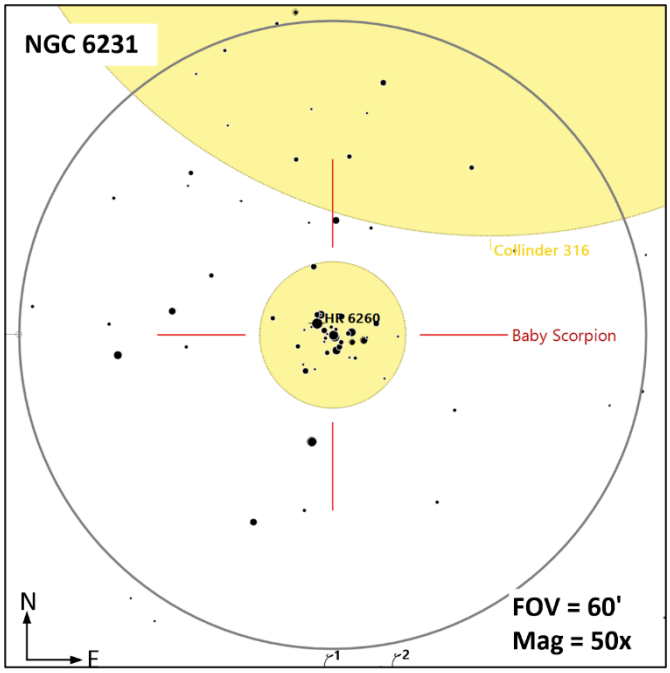
NGC-6281 (OC | Mag = 5.4 | Size = 5.4’ | SB = 18.5 |) – The Moth Wing Cluster a fairly righ an open cluster of about 50 stars located 1,600 ly from earth with a diameter of about 4 light years.



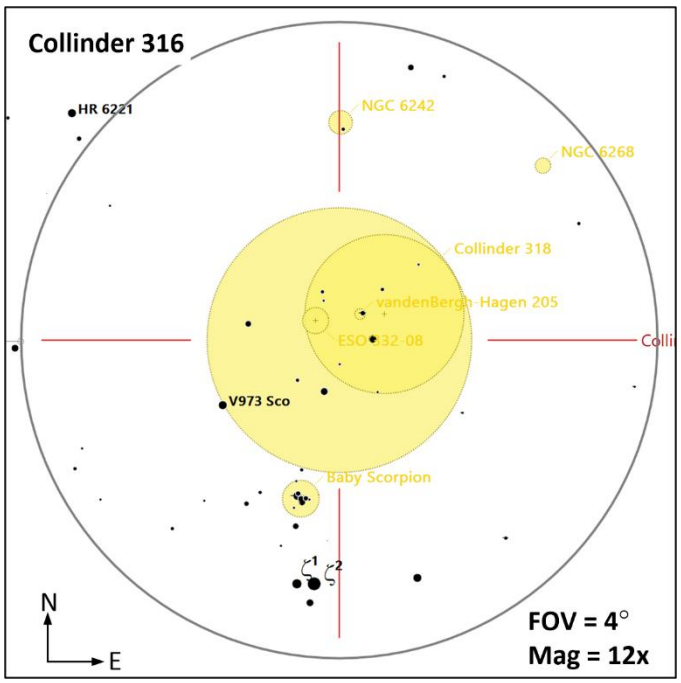


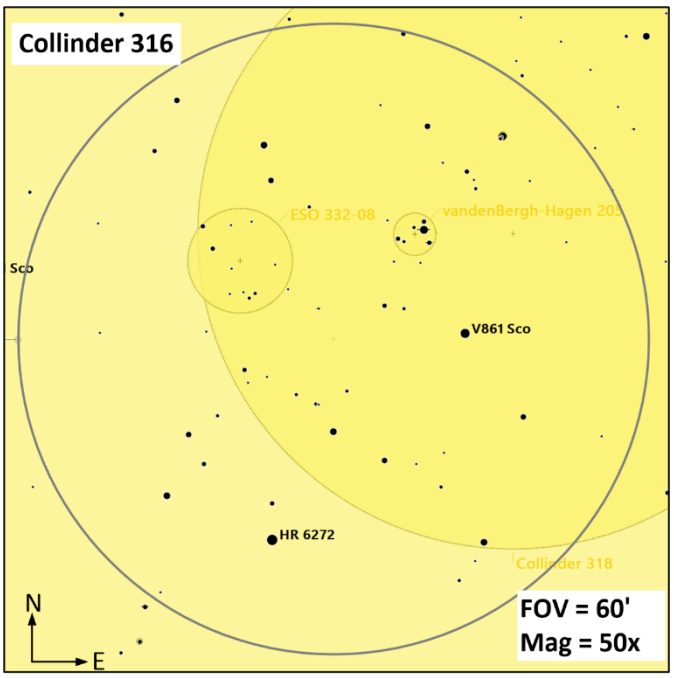
NGC-6231 (OC | Mag = 2.6 | Size = 15.0’ | SB = 17.1 |) – The Baby Scorpion Cluster (Caldwell 76) is located 1/2°and is estimated to be a young cluster about 3.2 million years old. This rich cluster is located 4,100 ly from earth.



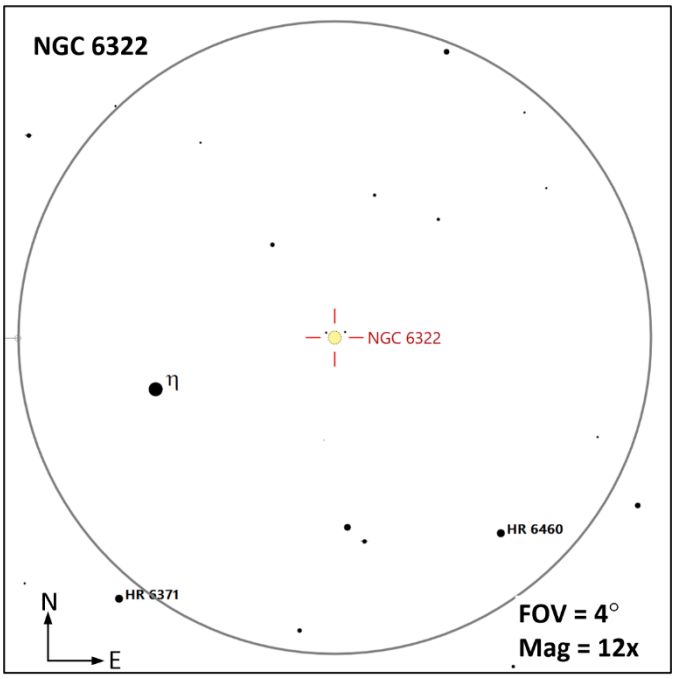


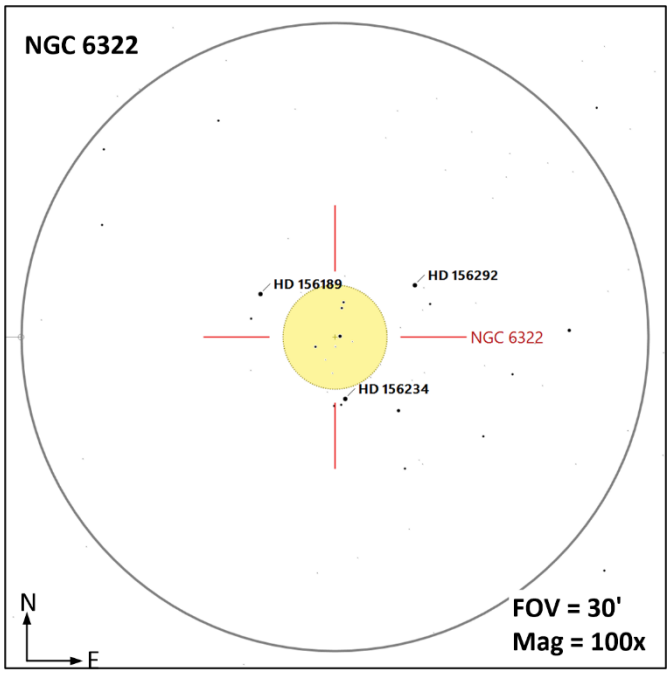
CR-316 (OC | Mag = 3.4 | Size = 105’ | SB = 22.1 |) – A loose open cluster approximately 3,300 ly from earth. The collection of NGC-6231, CR-315 and NGC-6242 form an asterism known as the “False Comet”.



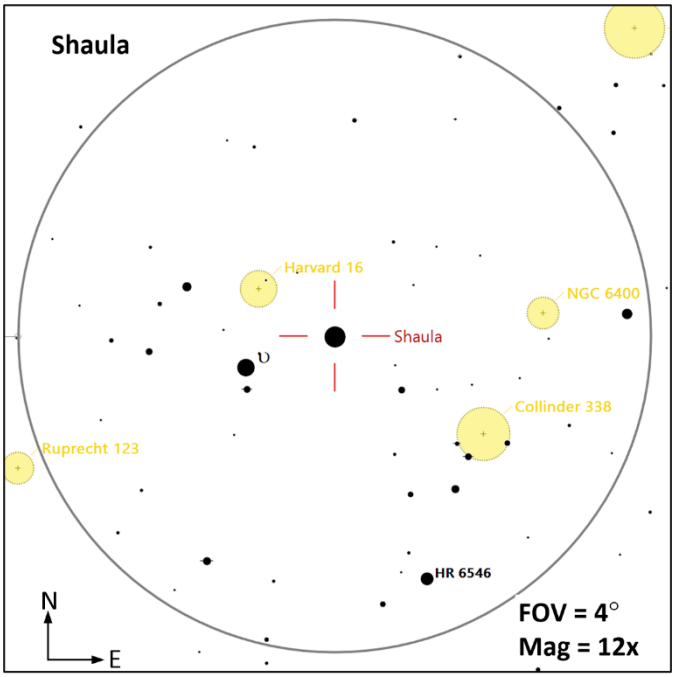


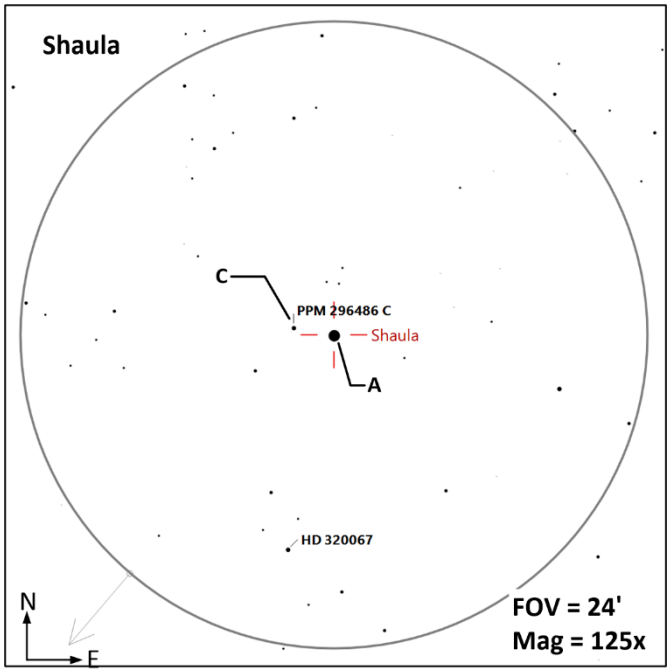
NGC-6322 (OC | Mag = 6.0 | Size = 10’ | SB = 19.6 |) – A fairly small open cluster of stars located about 3,300 ly from earth. Located just over 1° east of Eta Scorpii.





Shaula (DS | AC | M = 1.6, 9.2 | Sep=94.4” | PA=330° |) – Lambda Scorpii, the second brightest star in the constellation (not following Bayer destination rules). This is a triple star system, but the B component is extremely dim at 14.9 magnitude so probably will not be visible. The system is about 570 ly from earth.





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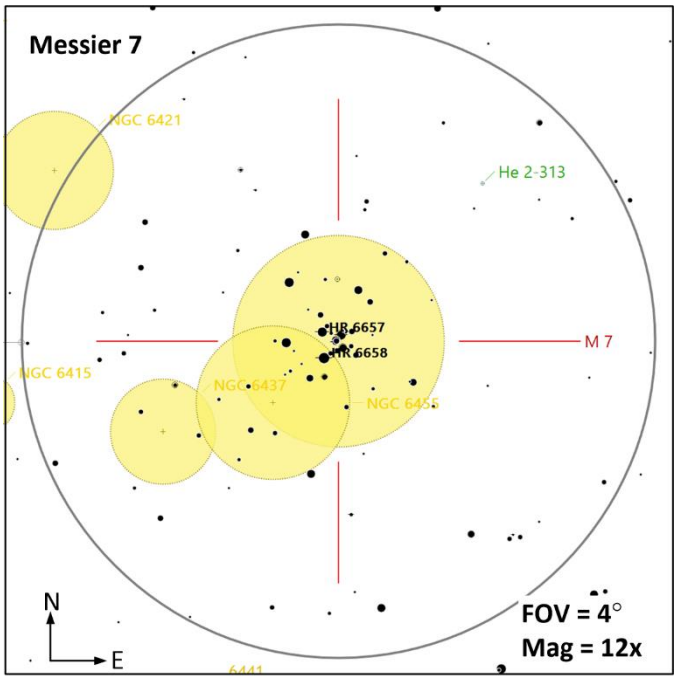
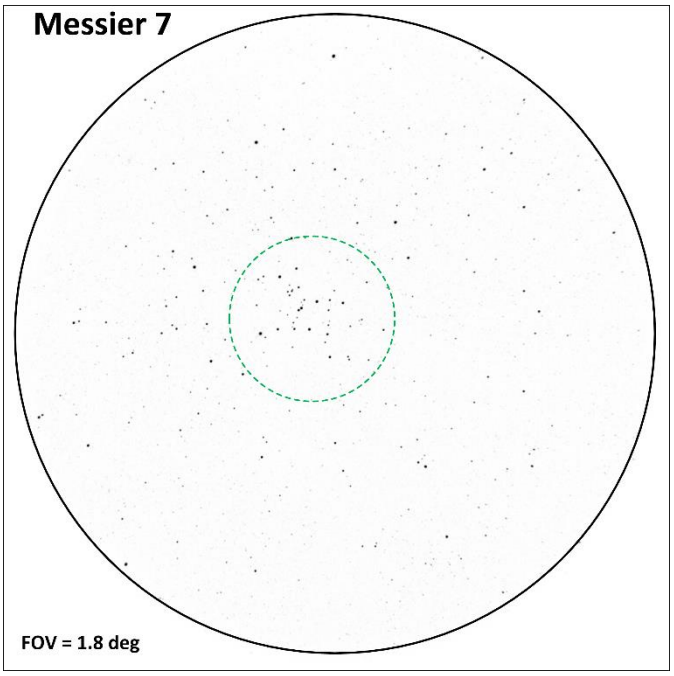
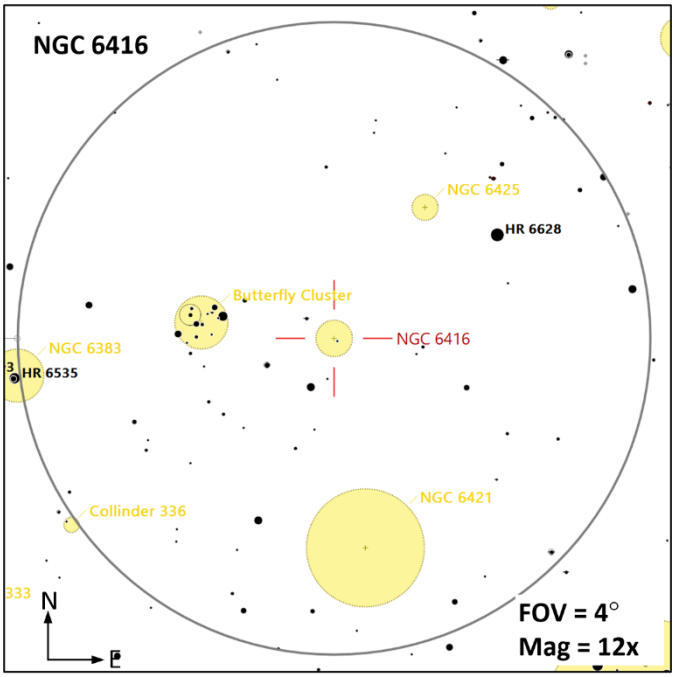
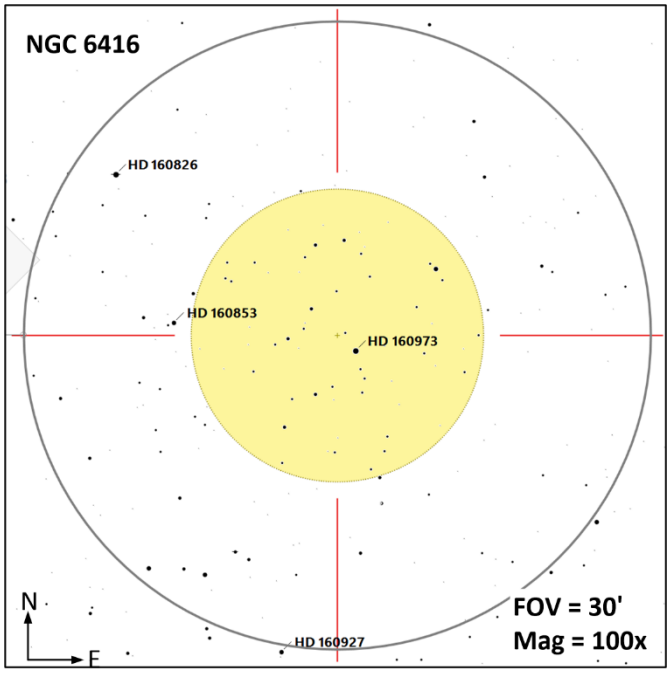
M-7 (OC | Mag = 3.3 | Size = 80’ | SB = 21.4 |) – The Ptolemy Cluster is a large open cluster containing about 8 stars in a 1.2°field. The age of the cluster is about 200 million years and has a diameter of 25 ly.



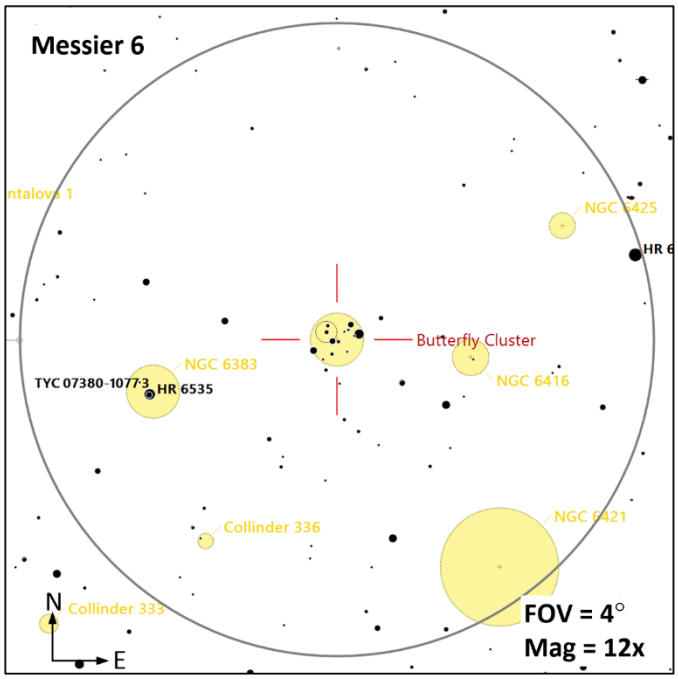


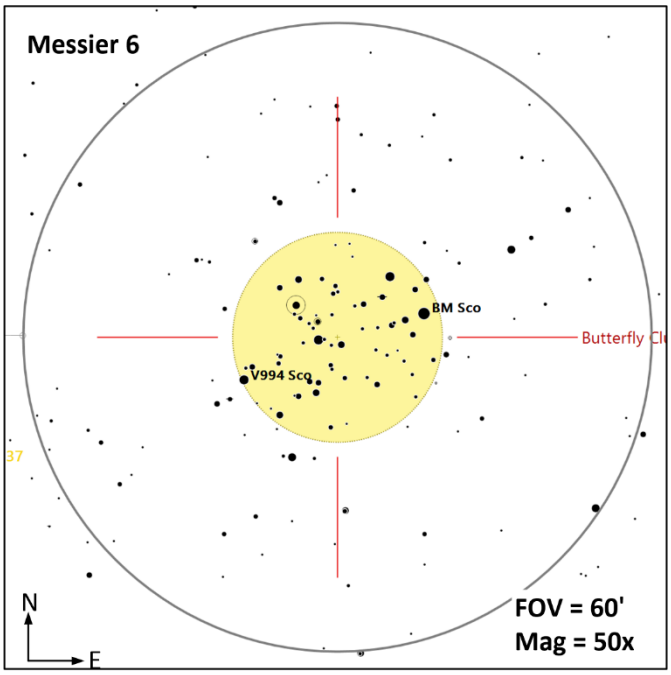
NGC-6416 (OC | Mag = 5.7 | Size = 18’ | SB = 20.6 |) – Another loose open cluster located about ½° south east of The Butterfly Cluster (M-6) and North west of the Ptolemy’s Cluster (M-7). NGC 6416 is 2,400 ly from earth with a diameter of 10 ly.



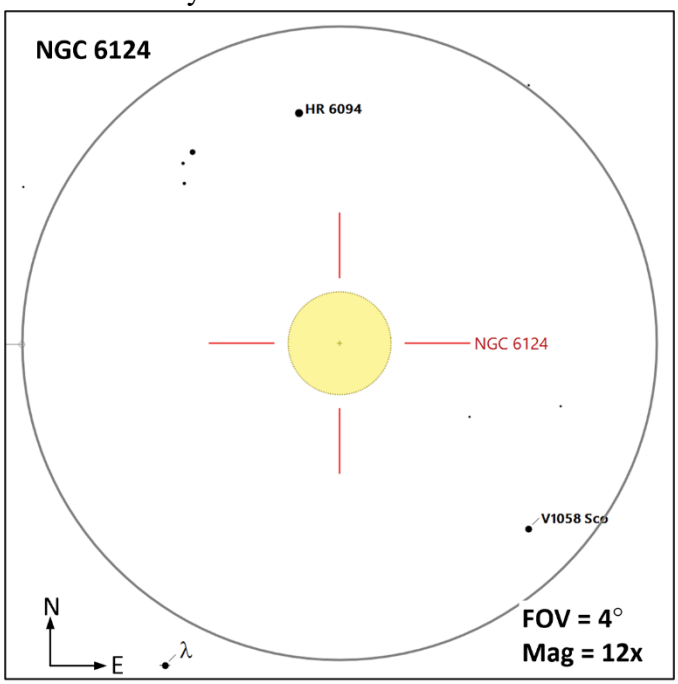


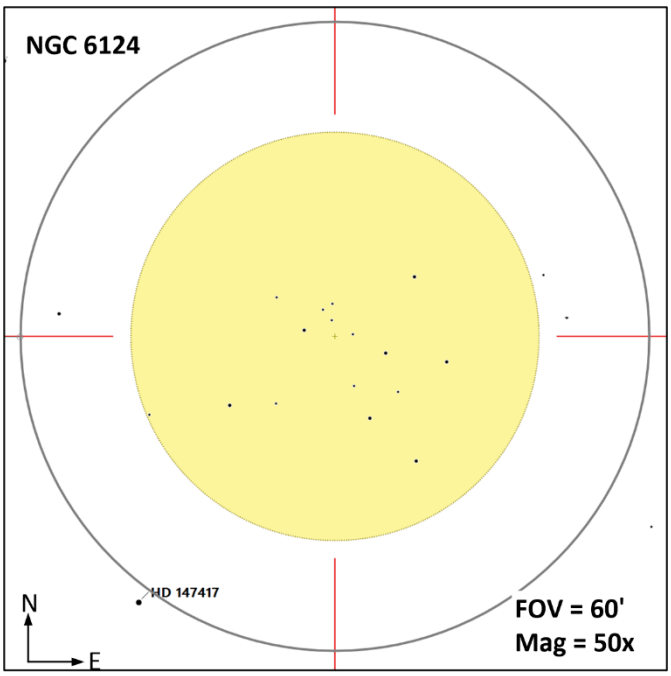
M-6 (OC, AS | Mag = 4.2 | Size = 25’ | SB = 19.8 |) – The Butterfly cluster does remotely resemble the shape of a butterfly if you use your imagination. This rich open cluster of about 80 stars is located about 1,600 ly from earth.





NGC-6124 (OC | Mag = 5.8 | Size = 29’ | SB = 21.7 |) – Caldwell 75 is a large, righ open cluster located in the open space between Scorpius and Lupus. Located about 1,700 ly from earth and covers about the size of the moon in our sky.





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
- 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 2010
- IrfanView Version 4.72