# Draco (Dra)

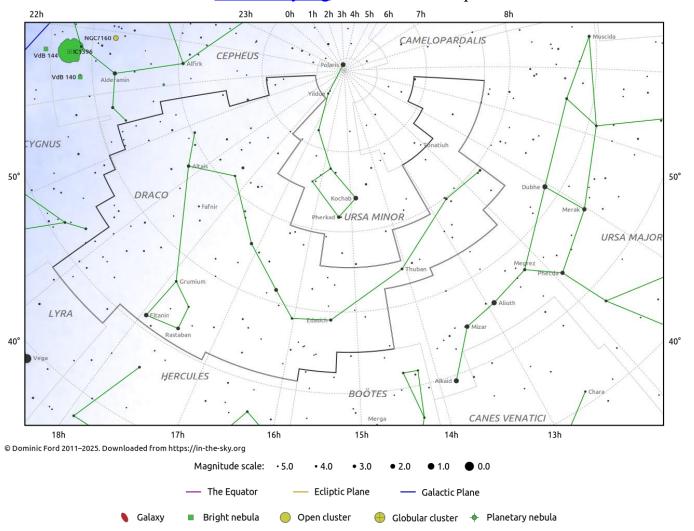
Evening Visibility: August - October

Online Information: **Draco** 

More Online Information: Nu Dra, T Dra, NGC-6543, NGC-6503, Dziban, STAR-25, UX Dra, Athebyne,

16/17 Dra, NGC-5907, M-102, RY Dra, NGC-4125

#### **In-The-Sky.org** Constellation Map

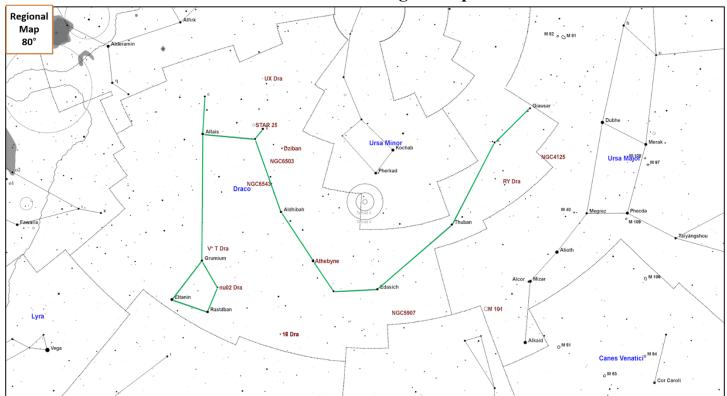


Draco is Latin for "dragon". This constellation wraps around most of the little dipper (Ursa Minor) and represents the dragon that Zeus' wife Hera employed to guard a tree that golden apples grew. Draco is the sixth largest constellation.

#### **Constellation Highlights**

- STAR 25 (AS)— Mini Cassiopeia, really does look like the constellation.
- 16/17 Dra (MS-4) Nice multiple star system.

#### **Constellation Targets Map**

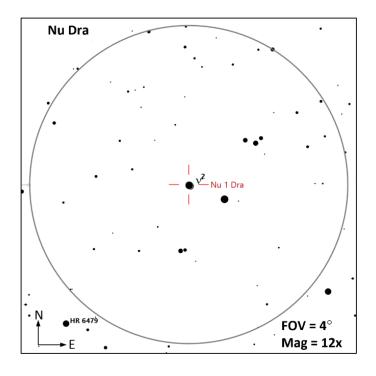


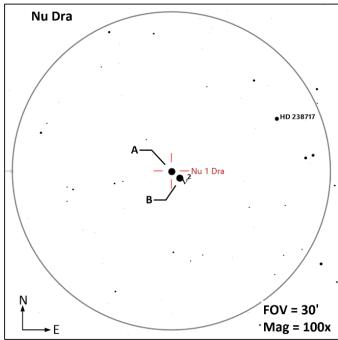
# **Objects Summary**

Object (Type)	Ref	Aliases	Stats
Nu Dra (DS)	<u>1</u> , <u>2</u>	SAO-030447, HIP-85819, 24 Dra, Kuma, HR	<b>AB</b>   M = 4.8, 4.9   Sep=62.3"   PA=310.6°
		6554, HD 159541, v Dra	
T Dra (CS, DS)		HIP 87820, ADS 10937, SACDBL788	<b>AB</b>   M = 10.8, 11.1   Sep=17.4"   PA=209.9°
NGC-6543 (PN)	<u>1</u>	Cat's Eye Nebula, C6, ARO 6, VV 143	M = 9.0   Size = 5.8'   SB = 21.4
NGC-6503 (G)	1	PGC-60921, UGC 11012	M = 10.2   Size = 6.2'   SB = 22.8
Dziban (MS-3)	<u>1</u> , <u>2</u>	SAO-008890, HIP-86614, HR 6636, HD	<b>AB</b>   M = $4.6$ , $5.6$   Sep= $29.6$ °   PA = $14^{\circ}$
		162003, STF 2241, ADS 10759, Psi1 Dra, 31	$AC \mid M = 4.6, 11.1 \mid Sep=78.1" \mid PA=107^{\circ} \mid$
		Dra	
STAR-25 (AS)		The Little Queen, Mini Cassiopeia, Kemble 2	Size = 10 x 20   Stars = 6
,			Ref Star: SAO-009181 (HD 172992)
UX Dra (CS)		SAO-009404, HIP 95154, HD 183556	M = 5.9 to 7.1   Period = 158d

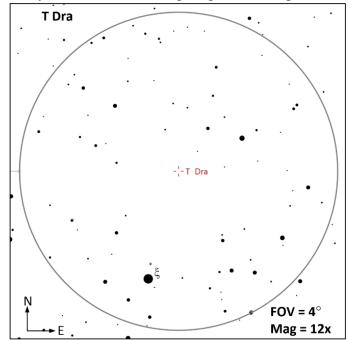
Object (Type)	Ref	Aliases	Stats
Athebyne (MS-3)	<u>1</u> , <u>2</u>	SAO-017074, HIP-80331, 14 Dra, Eta Dra,	<b>AB</b>   M = 2.8, 8.2   Sep=4.7"   PA =142°
,		HR 6132, HD 148387, ADS 10058	( <b>AB</b> ) C   M=2.8, 8.2, 8.1   Sep=586"   PA=240°
16/17 Dra (MS-4)	1	SAO-30013, HIP-81292, HD150117, 17 Dra,	<b>AB</b>   M=5.4, 6.4   Sep =2.9"   PA=104°
	<del>-</del>	HR6185, HD150118, STF 2078, ADS 10129	<b>AC</b>   M=5.4, 5.5   Sep=90"   PA=194°
			<b>BC</b>   M= 6.4, 5.5  Sep=90"   PA=194°
			<b>CD</b>   M=5.5, 11.2   Sep =126"   PA=123°
NGC-5907 (G)	1	Splinter Galaxy, PGC-54470, UGC 9801,	M = 10.4   Size = 12.3'   SB = 24.5
		Knife Edge Galaxy	
M-102 (G)	1	Spindle Galaxy, NGC-5866, UGC 9723, PGC	M = 10.8   Size = 6.5x3.1'   SB = 22.7
· /	_	53933	
RY Dra (CS)		SAO-015945, HIP 63152, HD 112559	M = 6.4   Period = 6m
NGC 4125 (G)	1	PGC-38524, UGC 7118	M = 9.8   Size = 5.1'   SB = 22.0

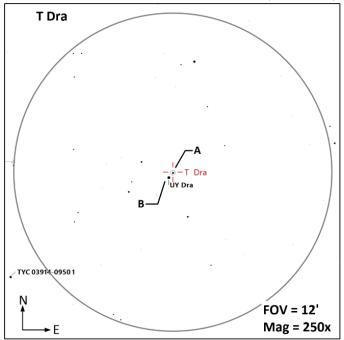
**Nu Dra** (DS | **AB** | M = 4.8, 4.9 | Sep = 62.3" | PA = 310.6° |) – Also known as Kuma, this double star should be easily separated in small telescopes and binoculars. This star system is 100 ly from earth with an orbital period of 44,000 years. This star is one of the four stars that create the head of draco.



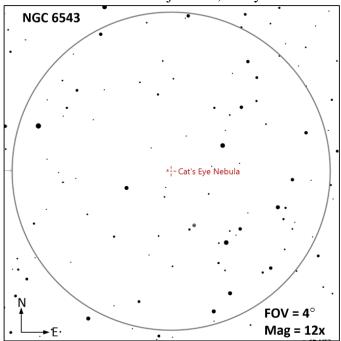


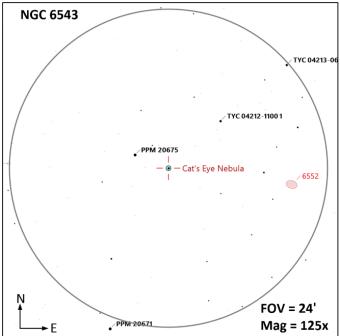
**T Dra** (CS, DS **AB** | M = 10.8, 11.1 | Sep = 17.4" | PA 209.9° |) -A 11<sup>th</sup> mag carbon star that is part of a double star system with a matching magnitude companion. T Dra is located less than 2° north of Xi Dra (Grumium).



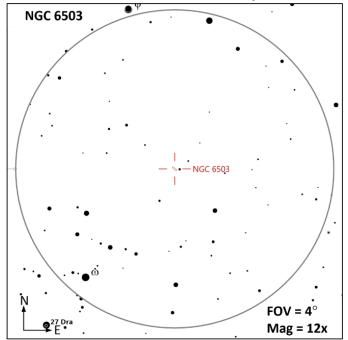


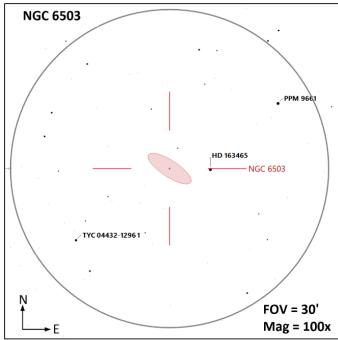
NGC-6543 (PN | M = 9.0 | Size = 5.8' | SB = 21.4 |) – The Cat's Eye Nebula is a Planetary nebula that may appear as a bluish disk in telescopes. An oxygen 3 filter might help identify this nebula if you are uncertain you have identified it. This object is 3,300 ly from our solar system.



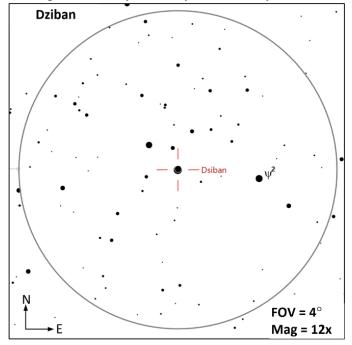


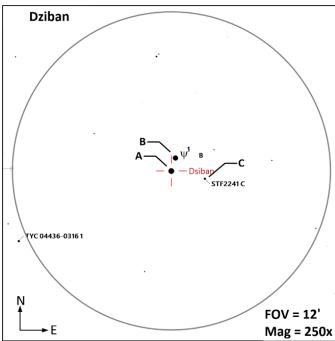
NGC-6503 (G | M = 10.2 | Size = 6.2' | SB = 22.8 |) – This dwarf spiral galaxy is 18 million light years from our sun and has a diameter for 36,660 ly.



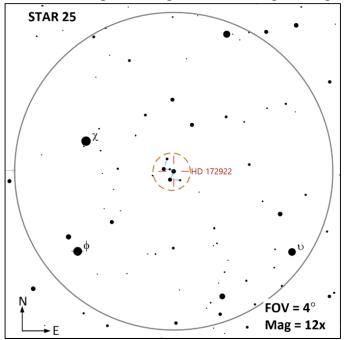


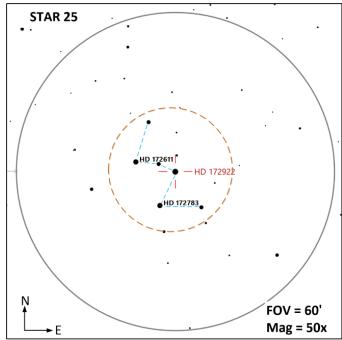
**Dziban** (MS-3 **AB** | M = 4.6, 5.6 | Sep=29.6" | PA = 14° || **AC** | M = 4.6, 11.1 | Sep=78.1" | PA=107° |) – Arabic for "The Two Wolfs", this is a nice binocular pair with a very faint third component that may require a telescope to identify. This system is 72 ly from the sun.



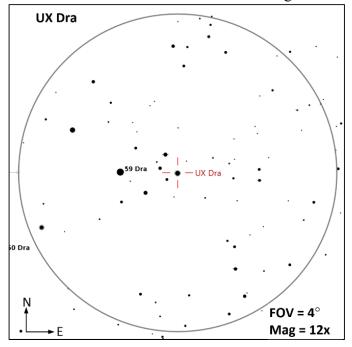


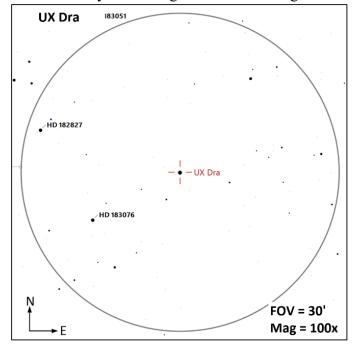
**STAR-25** (AS | Size =  $10 \times 20$  | Stars = 6 | Ref Star: SAO-009181/HD 172992) – This asterism is also called the Mini Cassiopeia for a good reason. A great target for binoculars.



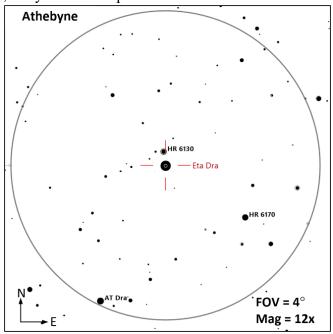


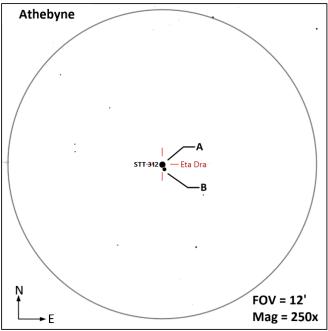
**UX Dra** (CS | M = 5.9 to 7.1 | Period = 158d |) – A carbon star located 1,259 ly from earth. It's energy output is about 400 times that of our suns. The magnitude of this star can vary in the range of 5.9 to 7.1 magnitude.



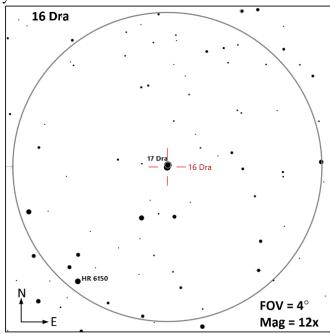


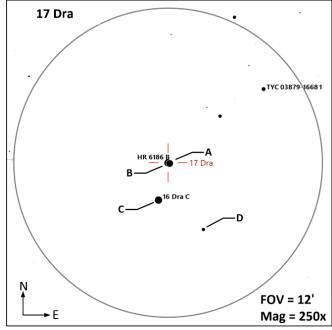
**Athebyne** (MS-3 **AB** | M = 2.8, 8.2 | Sep=4.7" | PA =142° || **(AB)** C | M=2.8, 8.2, 8.1 | Sep=586" | PA=240° |) — While this is technically a triple star system the C component is so far removed from the AB components, it may be hard to identify it. This star system is 92 ly from the sun. The AB components orbit takes at lease 1,000 years to complete.



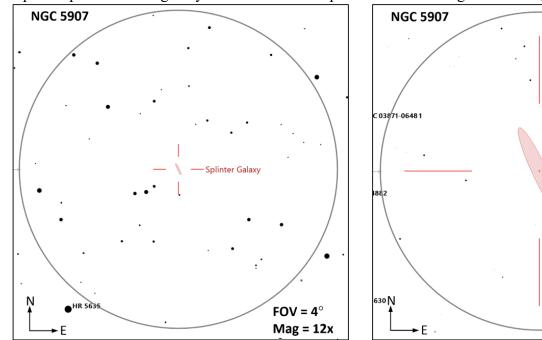


**16/17 Dra** (MS-4) | **AB** | M=5.4, 6.4 | Sep =2.9" | PA=104° || **AC** | M=5.4, 5.5 | Sep=90" | PA=194° || **BC** | M=6.4, 5.5 | Sep=90" | PA=194° || **CD** | M=5.5, 11.2 | Sep =126" | PA=123° |) – 16 and 17 Draconis make a wide double but instruments with enough aperture may be able to detect up to 4 components to this multiple star system.

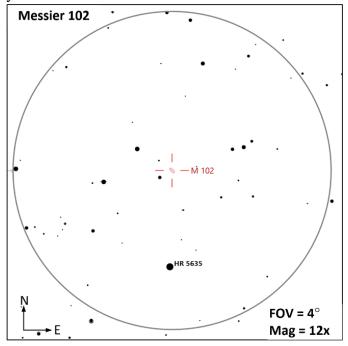


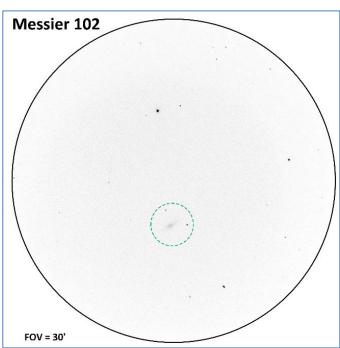


NGC-5907 (G| M = 10.4 | Size = 12.3' | SB = 24.5 |) – Also called the Splinter Galaxy or Knife Edge Galaxy this is a edge-on view of a spiral galaxy located about 46.5 million light years from earth. Interestingly, this galaxy ha a very low metallicity and very few giant stars, being composed of mostly dwarf stars. Long exposure photos of this galaxy reveal a double loop tidal stream coiling around the galaxy.



**M-102** (G | M = 10.8 | Size = 6.5x3.1' | SB = 22.7 |) – Also known as the Spindel Galaxy this galaxy is known as one of the "missing" Messier objects that have not been unambiguously identified. This galaxy is 48 million ly from earth.

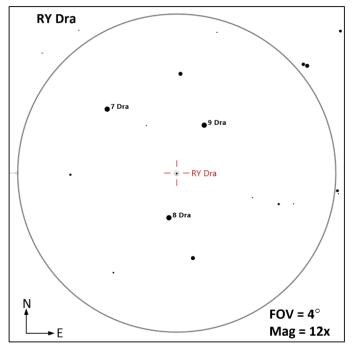


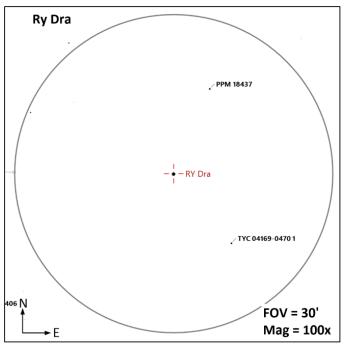


TYC 03871-05961

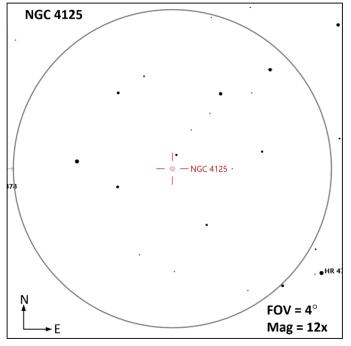
FOV = 30' Mag = 100x

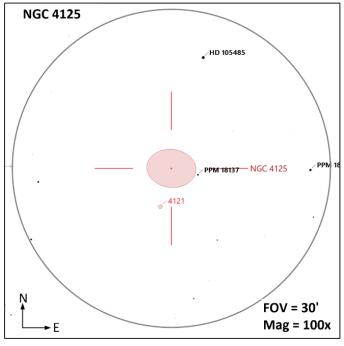
**RY Dra** (CS | M = 6.4 | Period = 6m |) – A carbon star that varies about two magnitudes over a period of six months.





NGC 4125 (G | M = 9.8 | Size = 5.1' | SB = 22.0 |) – This is an elliptical galaxy located 80 million ly from earth with a diameter for 134,377 ly.





#### 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
  - o <u>Touring the Universe through Binoculars</u>: Philip Harrington
  - o <u>The Deep Sky</u>: Philip Harrington
  - o Double and Multiple Stars and How to Observe Them: James Mullaney
  - o **Sky Spot** Books
    - Bright Telescopic Objects: Brent Watson
    - Select Double Stars: Brent Watson
    - Overlooked Objects: Bret Watson
- Asterisms
  - o Astronomical League: <u>Asterisms observing program</u> List
  - o Asterisms: Demeiza Ramakers
  - o Pattern Asterisms: John Chiravalle
- Saguaro Astronomy Club
  - Asterisms List
  - o 110 Best of the NGC
  - Red Stars List
- Online
  - o Wikipedia
  - o The Garden Astronomer: <u>Double, Multiple, and Special Star Observations List</u>
  - o Sky & Telescope: Colored Double Stars, Real and Imagined
  - o In-The-Sky.org
  - o Constellation-guide.com

#### **Applications**

- SkyTools 4.1 Visual Professional
- AstroPlanner Version 2.4
- <u>Cartes du Ciel</u> Version 4.3
- Sky Safari Pro 7
- Microsoft Office Home and business 2021 Word
- Microsoft Visio Professional 2010
- IrfanView Version 4.72