

Yoders' Constellation Guide Supplement

Conventions and Catalogs

Constellation Summary Sheet

Each featured constellation sheet includes the name of the constellation, the constellation abbreviation, the number of objects featured in the constellation, links to online information, and a summary table.

Example Constellation Summary Table

Object (Type)	Links	Gear	Aliases	Stats
Messier 10 (GC)	1	B, T	M-10; NGC-6254; GC1-49	Mag=6.6 Size=20.0' SB=21.7 mBortle=7 mApt=50mm MC=VII
Rasalhague (DS)	1 , 2	T	SAO-102932; HIP-86032; Alpha Ophiuchi; 55 Ophiuchi; HD 159561; HR 6556; BD+12 3252; FK5 656	AB Mag=2.1,5.0 Sep=0.8" PA=24° mBortle=? mApt=250mm Period=8.6y Spec=A5III, K5V Color=white, orange
IC 4665 (OC)	1	B	Collinder 349; Mel 179; Summer Beehive Cluster; Poseidon's Trident	Mag=4.2 Size=70' mBortle=9 mApt=50mm MC=III2p
Barnard's Star (Star)	1	B, T	HIP-87937; V2500 Oph; GJ 699; BD+04 3561a; LHS 57; LTT 15309; Proxima Ophiuchi; Velox Barnardi	Mag=9.6 Spec=M4V Color=red
Bull of Poniatowski (AS)	1	B	Taurus Poniatovii ; Taurus Poniatowski; Poniatowski's Bull; [66, 67, 68, 70, 72] Oph	Size=210' Stars= 7
NGC 6572 (PN)	1	T	Emerald Nebula; Blue Racquetball Nebula; Turquoise Orb Nebula; Green Nebula	Mag=8.1 Size=0.25' SB=13.7 mBortle=9 mApt=50mm MC=Elliptical
TY Ophiuchi (CS)			J183123.29+042253., HD170831, Sky18310086	Magnitude Range= 6.5 to 9.8 Spec=C5,5 Color=red

The summary table contains the following columns:

- **Object (Type):** Name of the object along with the type of object. Object types include:

Abr	Object	Abr		Abr	
AS	Asterism	DS	Double Star system	EN	Emission Nebula
OC	Open Cluster	MS	Multiple Star System	PN	Planetary Nebula
GC	Globular Cluster	CS	Carbon Star	RN	Reflection Nebula
G	Galaxy	DN	Dark Nebula	SNR	Supernova Remnant
GX	Galaxy Cluster	Star	Individual star		

- **Links:** The link(s) provided in this column depend on the target. For double and multiple star systems the first link is to the [Stelle Doppie website](#) for the star system. This website has extensive details on double and multiple star systems. The second link (if provided) is to the [Wikipedia website](#) where more information on the target is provided. For all other objects the first (and usually only) link is to the Wikipedia website.
- **Gear:** This is a quick and dirty listing of what gear may be best for observing the target.
 - **B:** Binoculars – multiple star systems with a separation of at least 15", and deep space objects larger than 15', are considered appropriate targets.
 - **T:** Telescope – Objects smaller than 60' (arcminutes) are generally considered good telescope targets.
- **Aliases:** Alternate identification(s) for the featured object.

Yoders' Constellation Guide Supplement

- **Stats:** Further details on the object. Information is separated by the pipe (|) symbol. What values are reported in the Stats column depends on the Object Type. Values that may appear include:
 - **Mag:** [Magnitude](#) of object. For multiple star systems, a magnitude is supplied for each component in the system.
 - **Size:** For non-stellar objects the size of the object, measured in arcminutes (') or degrees (°).
 - **SB:** [Surface Brightness](#) is provided for most of the non-stellar objects to help indicate how easy the object is to distinguish from the background.
 - **mBortle:** This is a ball-park estimate of the maximum [Bortle Scale](#) sky that is required to have a chance of seeing the object. This estimate has a lot of assumptions, including the assumption of a 6" telescope is being used. See Claude AI Models section for more details.
 - **mApt:** The Minimum aperture size required to identify an object. Another estimated value with many assumptions including that the observation is at a Bortle 4 sky. See Claude AI Models section for more details.
 - **Sep:** Separation is provided for multiple star systems; these distances are provided in units of arcseconds (").
 - **Magnitude Range:** For Carbon Stars the range of magnitude the star can exhibit.
 - **Period:** For multiple star systems this is the orbital period in years of the stars. For Carbon Stars this represents the period of oscillation of the star.
 - **Spec:** For stars including double star systems the spectral class of the star(s).
 - **BV:** For Carbon Stars the B-V [color index](#), a numeric value that predicts how "red" a star may appear when viewed. Higher positive values above 2.5 indicate a star may be quite red. B-V values can be as high as 6.0.
 - **Color:** For stars, the associated color with the spectral class of the star(s).
 - **MC:** Morphological Classification. Different classification schemes have been developed for many deep sky objects including galaxies, open clusters, globular clusters, stars, dark nebulae and planetary nebula. See the Morphological Classification section of this guide for more details of each classification. Briefly these are the classifications used:
 - Globular Clusters: Shapley–Sawyer Concentration Class
 - Open Clusters: Trumpler Classification
 - Dark Nebula: Lynds Opacity (1–6)
 - Planetary Nebula: Balick morphology (Round / Elliptical / Butterfly)
 - Galaxies: De Vaucouleurs class
 - Stars, Carbon, Double and Multiple Star systems: Harvard spectral type (+ C-system subtype for carbon stars)