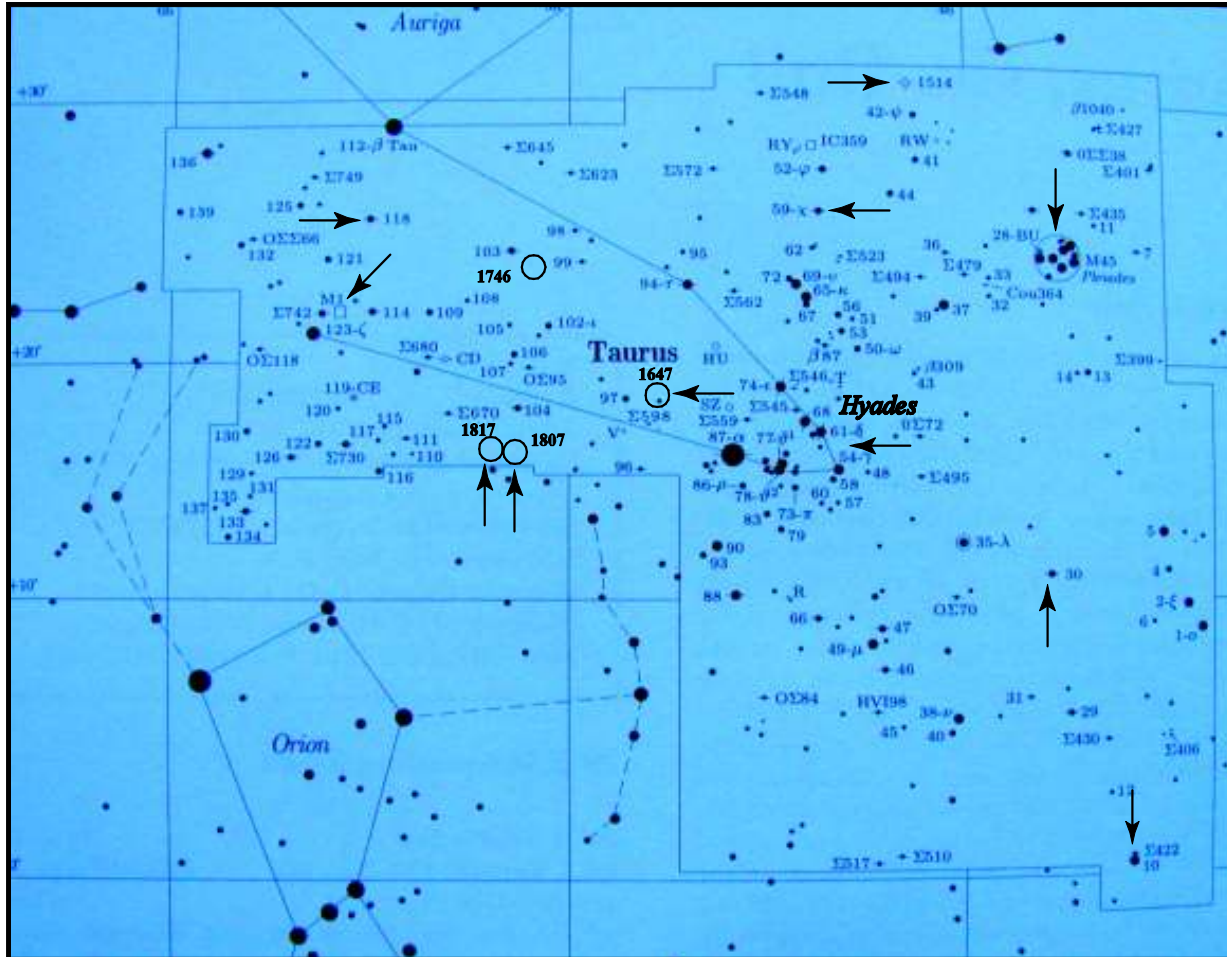


*Travels on the Celestial Sphere*

# Taurus, the Bull

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The constellation of Taurus, the Bull, is located north and NW of the bright stars of Orion.

**Struve 422 Double Star Spectral Type G0**

**Mags. 5.9, 8.8, Separation 6.6", P.A. 265°, R.A. 03h36.8m, Dec. +00°35'**

Lying just north of 10 Tauri, Struve 422 is a nice double for small telescopes with stars of yellow and bluish-white.

**30 Tauri Triple Star Spectral Type B3**

**AB Pair: Mags. 5.1, 10.2, Separation 9.0", P.A. 59°, R.A. 03h48.3m, Dec. +11°09'**

**AC Pair: Mag. 9.0, Separation 10.2", P.A. 236°**

30 Tauri has a nice bluish-white primary with the faintest member being reddish. We have no notes on the third member.

**59-Xi Tauri Double Star Spectral Type B9**

**Mags. 5.5, 7.6, Separation 19.4", P.A. 24°, R.A. 04h22.6m, Dec. +25°38'**

59-Xi is an interesting pair with a bluish-white primary and a blue secondary.

**118 Tauri Triple Star Spectral Type A0****AB Pair: Mags. 5.8, 6.6, Separation 4.8", P.A. 204°, R.A. 05h29.3m, Dec. +25°09'****AC Pair: Mags. 11.6, Separation 141.3", P.A. 99°,**118 Tauri's AB pair has two bluish-white stars with an 11<sup>th</sup> magnitude C component to the east.**Messier 45, Mel 22, "Pleiades", Open Cluster 100\*, Tr Type I 3 r****Size 110', Mag. 1.2v, Br\* 2.87v, R.A. 03<sup>h</sup>47.0<sup>m</sup>, Dec. +45°07'**

The Pleiades is one of the most beautiful objects in the sky no matter how you look at it – with the unaided eye, binoculars, or through a telescope! In ancient times it was called "The Seven Sisters" probably because it was a test of good eye sight if one could see its seven brightest stars with the naked eye. Through binoculars you may pick out a dipper-shaped asterism surrounded by bluish reflection nebulae. Even in the smallest of scopes you see between 50 and 100 stars depending on the magnification used. There are many double stars which reveal themselves at medium to high powers.

**NGC 1514 Planetary Nebula Type 3+2****Size >114", Mag. 10.9v, Central Star 9.4v, R.A. 04<sup>h</sup>09.2<sup>m</sup>, Dec. +30°47'**

NGC 1514, lies between a 16' N-S pair of 8.5 magnitude stars. 6 and 8-inch scopes will show a bright central star embedded in a rather faint 1.5' diameter disk. 12-inch and larger scopes may discern an irregular 2' diameter disk noticeably fainter on its NE and SW edges.

**NGC 1647 Open Cluster 200\*, Tr Type II 2 r****Size 45', Mag. 6.4v, Br\* 9.0v, R.A. 04<sup>h</sup>46.0<sup>m</sup>, Dec. +19°04'**

NGC 1647, just NE of the huge Hyades Cluster, is a large, loose, irregularly scattered group showing 50 stars in small telescopes. Its stars show numerous pairs and triplets. There are a dozen 9.5 to 10<sup>th</sup> magnitude stars while the majority of its members are 11<sup>th</sup> to 12<sup>th</sup> magnitude.

**The Hyades, Cr 50, Mel 25, Open Cluster 200\*, Tr Type II 3 m****Size 330', Mag. 0.5v, Br\* 3.4v, R.A. 04<sup>h</sup>47.<sup>m</sup>, Dec. +16°**

The Hyades, lying only 150 light years away, is the nearest open cluster to the Earth after the Ursa Major Moving. Its brightest stars form the bull's face with a distinctive V-shaped pattern visible to the naked eye. The bright reddish-orange 1<sup>st</sup> magnitude star Aldebaran forms the eye of the bull but it is not a true cluster member as it is only 68 light years away.

**NGC 1746 Open Cluster 75\*, Tr Type III 2 p****Size 42', Mag. 6.1v, Br\* 8.0v, R.A. 05<sup>h</sup>03.6<sup>m</sup>, Dec. +23°49'**

NGC 1746 is a large, loose and irregularly scattered cluster having two groups each in turn having their own numbers, NGC 1750 and NGC 1758. NGC 1750, the western group has three dozen 10<sup>th</sup> magnitude and fainter stars in an area elongated 7'x5' NNE-SSW while NGC 1758, the eastern group, has thirty 12<sup>th</sup> magnitude and fainter stars in a 5' area.

**NGC 1807, Mel 29, Open Cluster 20\*, Tr Type II 2 p****Size 17', Mag. 7.0v, Br\* 8.6v, R.A. 05<sup>h</sup>10.7<sup>m</sup>, Dec. +16°32'**

NGC 1807 is located half a degree NNW of a 4.5 magnitude star and is centered 20' WSW of the much larger open cluster NGC 1817. NGC 1807 is a loose, irregular V-formation of stars with its apex pointing SSE. There are thirty 9<sup>th</sup> magnitude and fainter stars in a 12' area. The N-S string of the "V" has a prominent triangle near its center.

**NGC 1817, Cr 6, Open Cluster 60\*, Tr Type IV 2 r****Size 15', Mag. 7.7v, Br\* 11.17v, R.A. 05<sup>h</sup>12.1<sup>m</sup>, Dec. +16°42'**

NGC 1817 is a loose scattering of about 75 stars spanning a 15' area. Its brighter members, 9.5 to 10<sup>th</sup> magnitude, are part of a NNW-SSE star chain along the western side. NGC 1807 visible in the same low power field lies to the WNW forming a "poor man's" double cluster, but never-the-less a nice sight.

**NGC 1952, Messier 1, Supernova Remnant, "The Crab Nebula"****Size 6'x4', R.A. 05<sup>h</sup>34.5<sup>m</sup>, Dec. +22°01'**

Messier 1 is the famous "Crab Nebula," an expanding cloud of gas from a supernova explosion observed by Chinese astronomers in 1054 A.D. The supernova was so brilliant that it could be seen in the daytime for months, and was visible in the night sky for more than a year. Photographs taken decades apart show that the Crab is visible expanding. The estimated rate of expansion is about 1000 miles per second. In 1968, a pulsar emitting a pulse of radiation every 0.033 second, was detected at its center. The pulsar is the collapsed core of the star that went supernova. The "Crab" is a pleasing object in all sizes of telescopes. In small scopes is a ghostly grayish-white oval glow elongated 5'x4' NW-SE. 12-inch scopes begin to show irregularity in the periphery while 16-inch instruments show hints of filamentary detail that give rise to its name the "Crab."