

GIANT STAR CLUSTER OMEGA CENTAURI

All globular star clusters are impressive, but Omega Centauri's in a class by itself. Having a mass of 5 million suns, Omega Centauri is 10 times more massive than a typical globular cluster. Omega Centauri has a diameter of 230 light-years. Located in the constellation Centaurus, it is a stellar city sparkling with perhaps 10 million stars and the Milky Way's largest globular star cluster.

Globular clusters generally have stars of similar age and composition. However, studies of Omega Centauri reveal that this cluster has different stellar populations that formed at varying periods of time. It may be that Omega Centauri is a remnant of a small galaxy that merged with the Milky Way.

Spica, the brightest star in the constellation Virgo, serves as a guide star to the Omega Centauri globular star cluster. When Spica is highest up for the night, so is Omega Centauri!, but it is far to the south on the sky's dome. From the Southern Hemisphere, Omega Centauri is a glorious sight. Northern Hemisphere residents can see Omega Centauri from January through April as well, but they must be willing to stay up past midnight or to get up before dawn.

Omega Centauri is a globular, not an open, star cluster. The symmetrical, round appearance of Omega Centauri distinguishes it from clusters such as the Pleiades and Hyades, which are open star clusters.

An open star cluster is a loose gathering of dozens to hundreds of young stars within the disk of the Milky Way galaxy. Open clusters are weakly held together by gravity, and tend to disperse after several hundreds of millions of years.

Globular clusters orbit the Milky Way outside the galactic disk. They harbor tens of thousands to millions of stars. Tightly bound by gravity, globular clusters remain intact after 12 billion years.

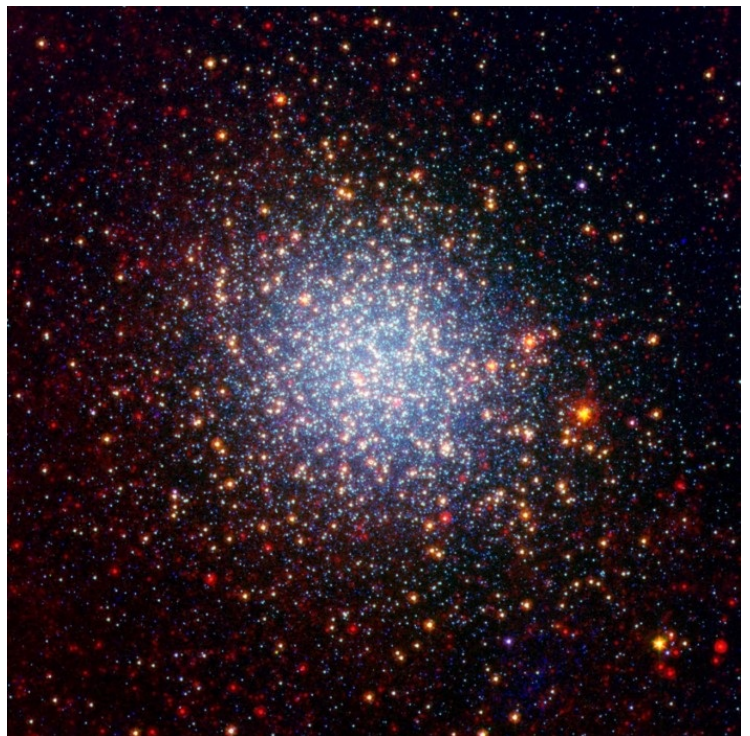
Generally, open clusters visible to the unaided eye are hundreds to a few thousand light-years away. In contrast, globular clusters are generally tens of thousands of light-years distant. **At a distance of 16,000 light-years, Omega Centauri is one of the few of the galaxy's 200 or so globular clusters that are visible to the unaided eye.** It looks like a faint, fuzzy star, but Omega Centauri's mere presence testifies to its size and brilliance. Like any globular cluster, Omega Centauri is best appreciated with a telescope.

Bottom line: The globular star cluster Omega Centauri is by far the largest globular star cluster known, as seen from Earth. It's about 10 times more massive than a typical globular cluster. It's best seen from Earth's Southern Hemisphere, but in the Northern Hemisphere you can see it, too, at certain times of year.

Omega Centauri's position is at Right Ascension: 13h 26.8m; Declination: 47 degrees 29' south
AK with EarthSky Notes by Bruce McClure



The globular cluster Omega Centauri seen at ESO's La Silla Observatory. Image via Wikimedia Commons



Omega Centauri in infrared, via the Spitzer Space Telescope