

MESSIER 35 OPEN CLUSTER

Messier 35 (also known as M35, or NGC 2168) is an open cluster in the constellation Gemini. It was discovered by Philippe **Loys de Chéseaux** in 1745 and independently discovered by **John Bevis** before 1750. The cluster is scattered over an area of the sky almost the size of the full moon and is located 850 parsecs (2,800 light-years) from Earth.

OBSERVATION DATA (J2000 epoch)

Constellation Gemini

Right ascension 06h 09.1m

Declination +24° 21'

Distance 2800 ly (850 pc)

Apparent magnitude (V) 5.30

Apparent dimensions (V) 28 arcmins, Radius 11 ly

The mass of M35 has been computed using a statistical technique based on proper motion velocities of its stars. The mass within the central 3.75 parsecs was found to be between 1600 and 3200 solar masses (95 percent confidence), consistent with the mass of a realistic stellar population within the same radius.

An open cluster is a group of up to a few thousand stars that were formed from the same giant molecular cloud and have roughly the same age. More than 1,100 open clusters have been discovered within the Milky Way Galaxy, and many more are thought to exist.

They are loosely bound by mutual gravitational attraction and become disrupted by close encounters with other clusters and clouds of gas as they orbit the galactic centre. This can result in a migration to the main body of the galaxy and a loss of cluster members through internal close encounters. Open clusters generally survive for a few hundred million years, with the most massive ones surviving for a few billion years. In contrast, the more massive globular clusters of stars exert a stronger gravitational attraction on their members, and can survive for longer. Open clusters have been found only in spiral and irregular galaxies, in which active star formation is occurring.

MYTHOLOGY

In Babylonian astronomy, the stars Castor and Pollux were known as the Great Twins. The Twins were regarded as minor gods and were called **Meshlamtaea** and **Lugalirra**, meaning respectively 'The One who has arisen from the Underworld' and the 'Mighty King'. Both names can be understood as titles of **Nergal**, the Babylonian god of plague and pestilence and king of the Underworld.

In Greek mythology, Gemini was associated with the myth of Castor and Pollux, children of Leda and both part of the Argonauts. But Pollux was the son of Zeus, who had seduced Leda, while Castor was the son of **Tyndareus**, king of Sparta and Leda's husband. Both were mythologically associated with St. Elmo's fire in their role as the protectors of sailors. When Castor died, because he was mortal, Pollux begged his father Zeus to give Castor immortality, which he did by uniting them in the heavens.

