

## Messier 71 Globular Cluster in Constellation Sagitta

Messier 71, also known as M71, NGC 6838, GCl 115 was discovered by **Philippe Loys de Chéseaux** in 1745 and included by **Charles Messier** in his catalog of comet-like objects in 1780. It was also noted by **Koehler** at Dresden around 1775.

OBSERVATION DATA (J2000 EPOCH)

Class X-XI Constellation Sagitta

Right ascension 19h 53m 46.49s

Declination +18° 46' 45.1"

Distance 13.0 kly (4.0 kpc)

Apparent magnitude (V) +6.1

Apparent dimensions (V) 7'.2

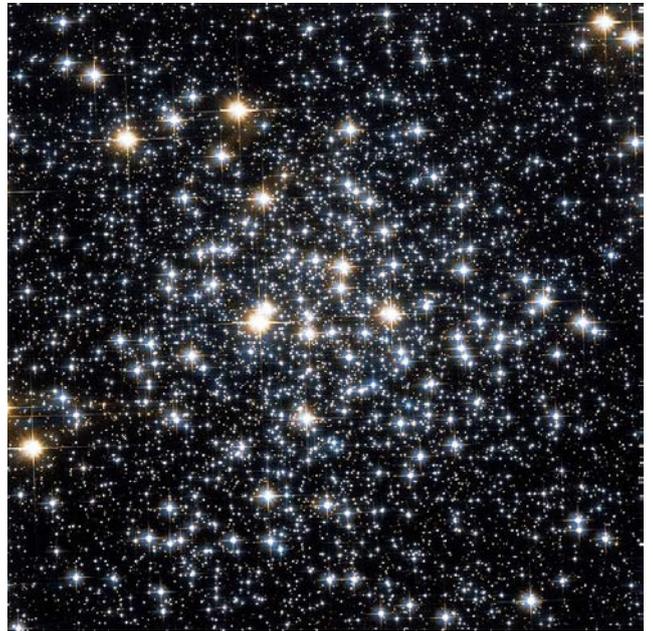
PHYSICAL CHARACTERISTICS

Mass  $1.7 \times 10^4 M$

Radius 13 ly

Metallicity [ Fe / H ] =  $-0.78[6]$  dex

Estimated age 9-10 Gyr



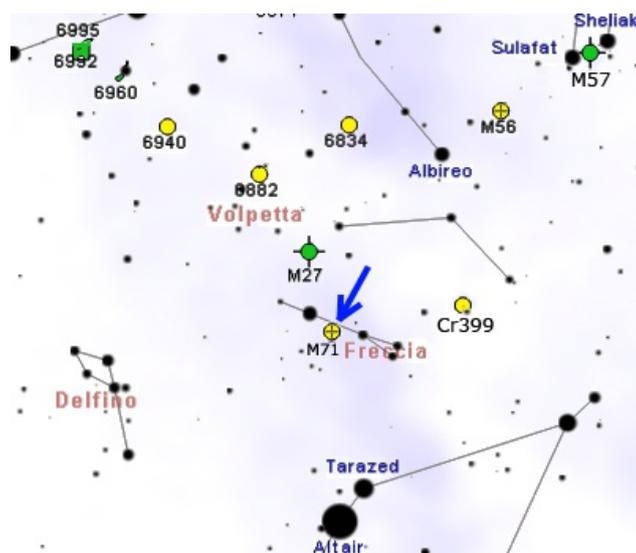
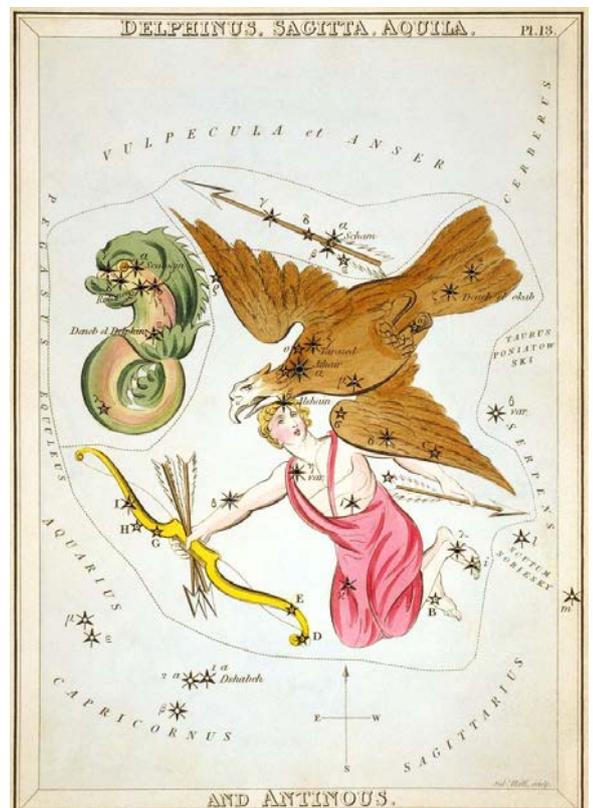
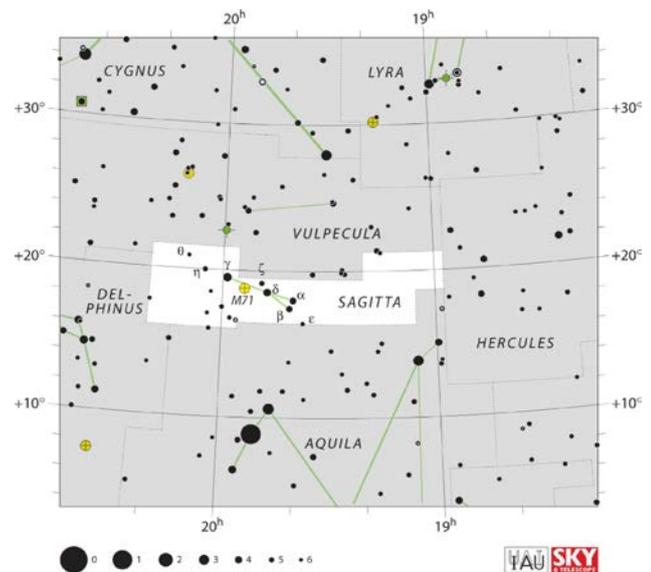
Messier 71 (also known as M71 or NGC 6838) is a globular cluster in the constellation Sagitta. It appears to be the only one in the constellation. The star cluster is at a distance of about 12,000 light years away from Earth and spans some 27 light years across. The irregular variable star Z Sagittae is a member of this cluster.

M71 was long thought to be a densely packed open cluster and was classified as such by leading astronomers in the field of star cluster research due to its lacking a dense central compression, and to its stars having more "metals" than is usual for an ancient globular cluster; furthermore, it lacks the RR Lyrae "cluster" variable stars that are common in most globulars.

However, modern photometric photometry has detected a short "horizontal branch" in the H-R diagram of M71, which is characteristic of a globular cluster. The shortness of the branch explains the lacking of the RR Lyrae variables and is due to the globular's relatively young age of 9-10 billion years. The relative youth of this globular also explains the abundance of "metals" in its stars. Hence today M71 is

designated as a very loosely concentrated globular cluster, much like M68 in Hydra. M71 has a luminosity of around 13,200 Suns.

AK, with EarthSky and Wikipedia Notes



Map showing location of M71