

MESSIER 23, OPEN CLUSTER

Messier 23 (also known as M23 and NGC 6494) is an open cluster in the constellation Sagittarius. It was discovered by **Charles Messier** on June 20, 1764. M23 is at a distance of about 2,150 light-years away from Earth, its radius is around 15-20 light years.

There are some 150 identified members in this cluster, the brightest being of magnitude 9.2.

M23 can be found with a modestly sized telescope in the rich starfields of the Sagittarius Milky Way.

OBSERVATION DATA (J2000 epoch)

Constellation: Sagittarius

Right ascension: 17h 56.8m

Declination: -19° 01'

Distance: 2.15 kly (659 Pc)

Apparent magnitude (V): 6.9

Apparent dimensions (V): 27.0'

Radius: 8

Estimated age: 220 million years

Back in the 18th century, famed French astronomer Charles Messier noted the presence of several “nebulous objects” in the night sky. Having originally mistaken them for comets, he began compiling a list of these objects so that other astronomers wouldn’t make the same mistake. Now consisting of 100 objects, the Messier Catalog has come to be viewed as a major milestone in the study of Deep Space Objects.

One of these objects is Messier 23, a large open star cluster that is located in the constellation Sagittarius. Given its luminosity, it can be found quite easily in the rich star fields of the summer Milky Way using small telescopes and even binoculars.

Located some 2,150 light years (659 Parsecs) away from Earth, this vast cloud of 176 confirmed stars stretches across 15 to 20 light years of space. At an estimated 220 to 300 million years old, Messier 23 is on the “senior citizen” list of galactic open clusters in our galaxy. At this age, its hottest stars reach spectral type B9, and it even contains a few blue straggler candidates.

Given that M23 has spent many centuries sweeping through the interstellar medium, astronomers have wondered how this would affect its metal content. Using UBV photometry, astronomers examined the metallicity of M23, and determined that it had no discernible effect. **W.L. Sanders** wrote of the cluster in 1990:

“UBV photometric observations of 176 stars in the galactic cluster NGC 6494 are presented and analyzed. The effect of a gas poor environment on the metal abundance of NGC 6494 is studied. It is determined that the metallicity of NGC 6494, which has a $\Delta(U - B)$ value = + 0.02, is not affected by the interarm region in which it dwelled.”

This neat and tidy galactic star cluster was one of the original discoveries of Charles Messier. As he recorded when first viewing it::

In the night of June 20 to 21, 1764, I determined the position of a cluster of small stars which is situated between the northern extremity of the bow of Sagittarius and the right foot of Ophiuchus, very close to the star of sixth magnitude, the sixty-fifth of the latter constellation [Oph], after the catalogue of Flamsteed: These stars are very close to each other and none can be seen easily with an ordinary refractor of 3 feet and a half, and which was taken for these small stars. The diameter of all is about 15 minutes of arc. I have determined its position by comparing the middle with the star Mu Sagittarii.

Both **William Herschel** and **Admiral Smyth** had a look at this cluster at the time, and wrote personal notes about it.

AK, with Wikipedia Notes

