

MESSIER 77, SPIRAL GALAXY IN CETUS

Messier 77 or M77, also known as NGC 1068, is a barred spiral galaxy about 47 million light-years away in the constellation Cetus, the whale. Messier 77 was discovered by **Pierre Méchain** in 1780, who originally described it as a nebula. Méchain then communicated his discovery to **Charles Messier**, who subsequently listed the object in his catalogue. Both Messier and **William Herschel** described this galaxy as a star cluster. Today, however, the object is known to be a galaxy.

It has been suggested a non-barred spiral galaxy with tightly wound arms. However, infrared images of the inner part of the galaxy reveal a prominent bar feature not seen in visual light, and for this reason it is now considered a barred spiral. It is an active galaxy with an Active Galactic Nucleus (AGN), which is obscured from view by astronomical dust at visible wavelengths. The diameter of the molecular disk and hot plasma associated with the obscuring material was first measured at radio wavelengths by the VLBA and VLA. The hot dust around the nucleus was subsequently measured in the mid-infrared by the MIDI instrument at the VLT. It is the brightest and one of the closest and best-studied type 2 Seyfert galaxies, forming a prototype of this class. Seyfert galaxies (named after **Carl Keenan Seyfert** for his work in 1943 on the subject) are one of the two largest groups of active galaxies, along with quasars. They have quasar-like nuclei (very luminous, distant and bright sources of electromagnetic radiation) with very high surface brightnesses whose spectra reveal strong, high-ionisation emission lines, but unlike quasars, their host galaxies are clearly detectable.

X-ray source 1H 0244+001 in Cetus has been identified as Messier 77. Only one supernova has been detected in Messier 77. The supernova, named SN 2018 iva, was discovered on 24 November 2018 by the DLT40 Survey. It is a type II supernova, and at discovery it was 15th magnitude and brightening.

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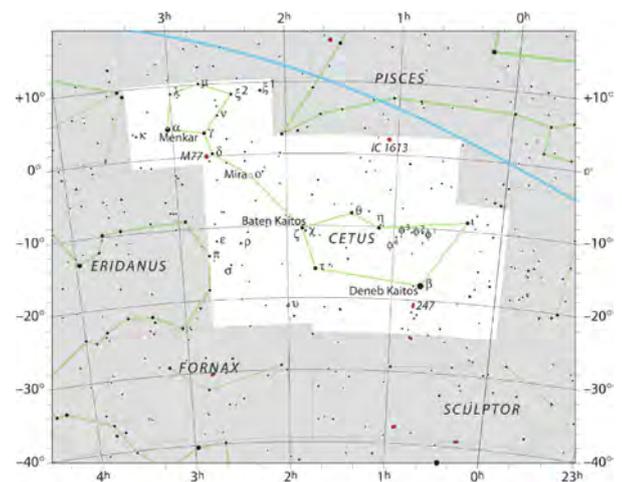
Cetus may have originally been associated with a whale, which would have had mythic status amongst Mesopotamian cultures. It is still often now called the Whale, though it is most strongly associated with Cetus the sea-monster, who was slain by Perseus as he saved the princess Andromeda from Poseidon's wrath. Cetus is located in a region of the sky called "The Sea" because many water-associated constellations are placed there, including Eridanus, Pisces, Piscis Austrinus, Capricornus, and Aquarius.

Cetus has been depicted in many ways throughout its history. In the 17th century, Cetus was depicted as a "dragon fish" by **Johann Bayer**. Both **Willem Blaeu** and **Andreas Cellarius** depicted Cetus as a whale-like creature in the same century. However, Cetus has also been variously depicted with animal heads attached to a piscine (fishlike) body.

AK, with EarthSky and Wikipedia Notes



Messier 77 image showcasing its glittering arms criss-crossed with dust lanes.[



The Cetus constellation. Its name refers to Cetus, a sea monster in Greek mythology, although it is often called 'the whale' today. Cetus is located in the region of the sky that contains other water-related constellations such as Aquarius, Pisces, and Eridanus

