

SAGITTA, THE ARROW

Sagitta is a dim but distinctive constellation in the northern sky. Its name is Latin for "arrow", and it should not be confused with the larger constellation Sagittarius, the Archer. Although Sagitta is an ancient constellation, it has no star brighter than 3rd magnitude and has the third-smallest area of all constellations (only Equuleus and Crux are smaller). It was included among the 48 constellations listed by the 2nd century astronomer **Ptolemy**, and it remains one of the 88 modern constellations defined by the International Astronomical Union. Located to the north of the equator, Sagitta can be seen from every location on Earth except within the Antarctic circle.

FACTS

The red giant *Gamma Sagittae* is the constellation's brightest star, with an apparent magnitude of 3.47. Two star systems have been found to have planets.

It is bordered by Vulpecula to the north, Hercules to the west, Aquila to the south, and Delphinus to the east. The three-letter abbreviation for the constellation, as adopted by the International Astronomical Union in 1922, is 'Sge'. The official constellation boundaries, as set by **Eugène Delporte in 1930**, are defined by a polygon of twelve segments.

Johann Bayer gave Bayer designations to eight stars, labelling them Alpha to Theta. In his *Uranometria*, Bayer depicted Alpha, Beta and Epsilon Sagittae as the fins of the arrow.

- Alpha (known as Sham) is a yellow bright giant star with an apparent magnitude of 4.38, which lies at a distance of 430 light-years from Earth.
- Beta is a G-type giant located 440 light-years distant from Earth.
- Gamma is a red giant of spectral type M0III, and magnitude 3.47. It lies at a distance of 258 light-years from Earth marking the arrow's head
- Epsilon is a G8 III, 5.66m, multiple star (4 components; component B is optical)
- Eta is a star of spectral class K2 III with a magnitude of 5.1, which belongs to the Hyades Stream.
- Theta is a multiple star system.

DEEP-SKY OBJECTS

Messier 71 is a very loose globular cluster mistaken for quite some time for a dense open cluster. It lies at a distance of about 13,000 light-years from Earth and was first discovered by the French astronomer **Philippe Loys de Chéseaux** in the year 1745.

The Necklace Nebula is a planetary nebula in Sagitta, approximately 15,000 light years from the solar system. The nebula was discovered in 2005. It was created when a giant star came too close to its binary companion and exploded, producing the nebula.

MYTHOLOGY

There are at least two different stories to account for the arrow in the sky. **Eratosthenes** said it was the projectile with which Apollo killed the Cyclopes because they made the thunderbolts of Zeus that struck down Apollo's son, Asclepius. Asclepius was a great healer and Zeus killed Asclepius when Hades, god of the Underworld, complained that he was losing business because no more humans were dying.

According to **Hyginus** Sagitta was the arrow with which Hercules killed the eagle that ate the liver of Prometheus. Prometheus had given humans the fire he had stolen from Zeus. For this Zeus punished him by chaining him to Mount Caucasus, where an eagle ate at his liver every day. Hercules freed Prometheus from this eternal torture by shooting the eagle with an arrow.

