

Zodiac constellation 16: Scorpius



The 33rd largest constellation, is a prominent eponymous feature, visible in the winter night sky from the southern hemisphere. Its name, the Latin for 'scorpion' is hardly surprising. It is an ancient constellation, possibly because of easily recognisable shape.

In Babylonian astronomy, then name for the scorpion constellation meant 'the creature with a burning sting'. Then astronomers saw adjacent Libra as the scorpion's claws. Greek myths usually contain references to Orion, the hunter, with the scorpion being the animal which stung Orion to death.

In one such myth, Orion boasted to the goddess Artemis and her mother, Leto, that he would kill every animal on Earth. Although also a hunter, Artemis promised to protect the animals, and sent a scorpion to deal with Orion. In recognition of this feat, Zeus raised scorpion to heaven. Then, at Artemis's request, he did same with Orion to remind mortals to curb excessive pride.



Another myth relates that Orion knew he was a better hunter than Artemis. However, he said she was the stronger, in order to curry favour with Artemis. Apollo, Artemis's twin brother, resented this and sent the scorpion to attach Orion. After Orion was killed, Artemis asked Zeus to put him in the sky. Every winter Orion hunts in sky, but every summer flees as scorpion constellation comes into sight.

In the southern hemisphere, Orion hunts during the summer, but flees in winter as Scorpius comes into sight. During Roman times, the link between Scorpius and Libra weakened, and it became linked with Virgo as the scales of justice. Predictably, Scorpius was one of Ptolemy's 48 constellations.

The Sun passes through Scorpius for around one week, at the end of November. The scorpion's heart is marked by red Antares. Its tail extends into the rich area of the Milky Way, towards centre of galaxy. This alignment means that the constellation features numerous deep-sky objects. There are four Messier objects and numerous NGC objects which can be observed. At least 14 stars in Scorpius are known to have exoplanets.

Notable features include:

- Alpha Scorpii (Antares - 'rival of Mars' as it has a similar reddish colour): this red supergiant is hundreds of times larger than the Sun. Its brightness fluctuates every 405 year from magnitude 0.9 to 1.2.
- M4: a large, loosely scatter globular cluster near Antares, 7,000 ly away, it is one of the closest globular clusters. It is visible through binoculars.
- M7 (Ptolemy cluster): an open cluster. Although visible to the naked eye, it is best viewed through binoculars.



- M6 (Butterfly cluster): an open cluster which appears smaller than M7 because it is twice as distant. It is named for its butterfly shape with two 'wings'. It is visible through binoculars.

- M80: a globular cluster further away than M4 from Antares towards the head of scorpion. It was discovered in 1781 by the French astronomer Charles Messier. It has a very dense nucleus. In 1860, it was the site of rare discovery by von Auwers of the nova T Scorpii.
- NGC 6302 (Bug Nebula): a bipolar planetary nebula, about 6,500 ly away.
- NGC 6334 (Cat's Paw Nebula): an emission nebula and star forming region
- Scorpius X-1: the brightest persistent X-ray source in sky, In 1962, it became the first known celestial X-ray source after the Sun. It was discovered during a sounding-rocket flight. It is a low mass X-ray binary with 1an 8.9 hr orbital period. Its counterpart is a visible blue star 9,000ly away. X-rays arise from transfer of material from this to its companion neutron star via an accretion disk. It is over 3 times brighter at X-ray wavelengths than 2nd brightest constant X-ray source, the Crab Pulsar

Sources: Ridpath, I (Ed) 2012 Oxford dictionary or astronomy Oxford, OUP, Ridpath, I (Ed) 2006 Astronomy London, Dorling Kindersley, en.wikipedia.org