CONSTELLATION AQUILA, THE EAGLE

Aquila is a constellation in the northern sky. Its name is Latin for 'eagle' and it represented the bird who carried Zeus/Jupiter's thunderbolts in Greco-Roman mythology. Aquila lies just a few degrees North of the celestial equator, next to Ophiuchus. **The alpha star, Altair, lies in its neck and is a vertex of the northern hemisphere Summer Triangle asterism with the stars Vega and Deneb, found in the constellations Lyra and Cygnus respectively.** The constellation is best seen in mid-year as it is located along the Milky Way. Because of this location along the line of our galaxy, many clusters and nebulae are found within its borders, but they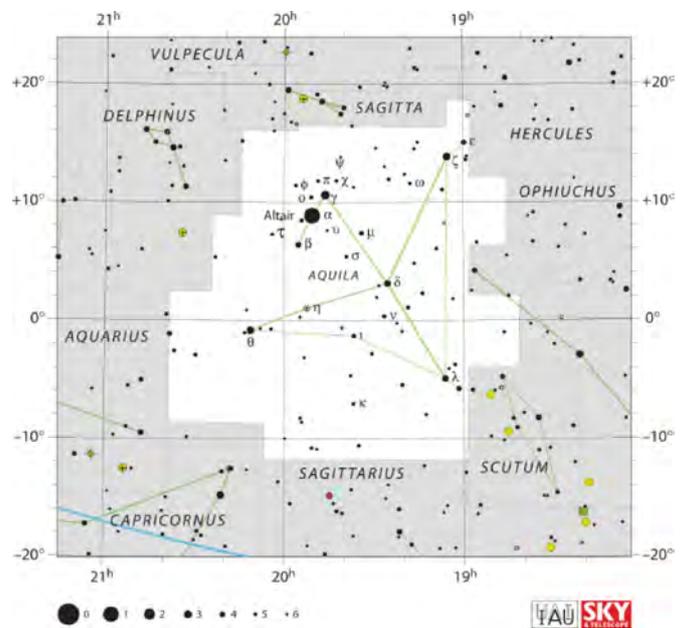 are dim and there are few galaxies. **Aquila was one of the 48 constellations described by the 2nd century astronomer Ptolemy**. It had been earlier mentioned by **Eudoxus** in the 4th century BC and **Aratus** in the 3rd century BC. The constellation was also known as *Vultur volans* (the flying vulture) to the Romans, not to be confused with *Vultur cadens* which was their name for Lyra. It is often associated with the eagle who kidnapped **Ganymede**, a son of the king of Troy (associated with Aquarius), to Mount Olympus to serve as cup-bearer to the gods. **It is now one of the 88 constellations defined by the International Astronomical Union**.

The Greek Aquila is probably based on the Babylonian constellation of the Eagle (MUL.A.MUSHEN), which is located in the same area as the Greek constellation. The name of the constellation's brightest star, Altair, comes from the Arabic *al-nasr al-ta'ir*, meaning 'flying eagle' or 'vulture'. Ptolemy called this star Aetus, the eagle, the same as the constellation. The German scholar **Paul Kunitzsch** notes that the Babylonians and Sumerians referred to Altair as the eagle star, testimony to an even more ancient origin of the name. Altair's neighbouring stars *Beta and Gamma Aquilae* lie in the eagle's neck and in its left shoulder respectively, according to Ptolemy's description. **These two stars have their own names, *Alshain and Tarazed*, which come from a Persian translation of an old Arabic word meaning 'the balance'.**

The southern part of Aquila was subdivided by Ptolemy into a now-obsolete constellation called *Antinous*, visualized on some maps as being held in the eagle's claws

Two major novae have been observed in Aquila: the first one was in 389 BC and was recorded as being as bright as Venus; the other (*Nova Aquilae* 1918) briefly shone brighter than Altair, the brightest star in Aquila.

The expression 'eagle-eyed' describes acuteness (acumine) of the eyes, someone who sees all from a distance, the bigger picture. An Eagle can spot a rabbit three miles away but has poor close-up vision, which often metaphorically expresses foresight, and the ability to see the potentials.

In Greek mythology Aquila is said to be the Eagle that preyed on the liver of Prometheus, he who was chained to a Caucasian Mountain as penance for teaching the humans how to make fire. Making fire was supposed to be a prerogative of the gods It had the titles *Aquila Promethei*.

Deep-Sky Objects:
- IRAS 19024+0044 is a protoplanetary nebula in Aquila.
- Three interesting planetary nebulae lie in Aquila:
    - NGC 6804 shows a small but bright ring
    - NGC 6781 which bears some resemblance with the Owl Nebula in Ursa Major.
    - NGC 6709 is a loose open cluster containing approximately 40 stars, which range in magnitude from 9 to 11. It is approximately 3000 light-years from Earth. NGC 6709 appears in a rich Milky Way star field and is classified as a Shapley class d and Trumpler class III 2m cluster. These designations mean that it does not have many stars, is loose, does not show greater concentration at the center, and has a moderate range of star magnitudes.
- NGC 6755: an open cluster of 7.5m; it is made up of about a dozen stars with magnitudes 12 through 13
- NGC 6751: also known as the Glowing Eye, a planetary nebula.
- NGC 6760: a globular cluster of 9.1m
- NGC 6749: an open cluster
- NGC 6778: planetary nebula
- NGC 6741: the Phantom Streak planetary nebula
- NGC 6772: planetary nebula

Aquila also holds some extragalactic objects. One of them is what may be the largest single mass concentration of galaxies in the Universe known, the Hercules–Corona Borealis Great Wall. It was discovered in November 2013 and has the size of 10 billion light years. It is the biggest and the most massive structure in the Universe known..

FACTS

Aquila is the 22nd biggest star constellation in the sky, occupying an area of 652 square degrees in the fourth quadrant of the northern hemisphere (NQ4). It can be seen at latitudes between +90° and -75°.

The neighboring constellations are *Aquarius, Capricornus, Delphinus, Hercules, Ophiuchus, Sagitta, Sagittarius, Scutum, and Serpens Cauda.*

Aquila has seven stars with known planets and contains no Messier objects.

The brightest star in the constellation is Altair, *Alpha Aquilae*, which is also the 12th brightest star in the sky.

There are two meteor showers associated with Aquila: the June Aquilids and the Epsilon Aquilids.

Aquila belongs to the Hercules family of constellations, together with Ara, Centaurus, Corona Australis, Corvus, Crater, Crux, Cygnus, Hercules, Hydra, Lupus, Lyra, Ophiuchus, Sagitta, Scutum, Serpens, Sextans, Triangulum Australe, and Vulpecula.

It was in the stars of the Aquila constellation, to the northwest of Altair, that **Professor Edward E. Barnard** discovered a comet from its trail on a photograph taken at the Lick Observatory on the 12th of October, 1892, **the first ever found by the camera**.

NGC 6751 is a planetary nebula in the constellation Aquila. The nebula is estimated to be around 0.8 light-years in diameter. The star at the centre of the nebula has a surface temperature of approximately 140,000 K. Distance to Earth: 6,500 light years

NGC 6741 is a planetary nebula first discovered in 1882 by the American astronomer **Edward Charles Pickering**. The nebula is approximately 7000 light years distant.

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