

CONSTELLATION AURIGA, THE CHARIOTEER

Auriga is one of the 48 constellations listed by the 2nd-century astronomer **Ptolemy** and remains one of the 88 modern constellations. Located north of the celestial equator, its name is the Latin word for "charioteer", associating it with various mythological charioteers, including **Erichthonius** and **Myrtilus**. Auriga is most prominent during winter evenings in the Northern Hemisphere, along with the five other constellations that have stars in the Winter Hexagon asterism. Because of its northern declination, Auriga is only visible in its entirety as far as 34° south, for observers farther south it lies partially or fully below the horizon. **A large constellation, with an area of 657 square degrees, it is half the size of the largest constellation, Hydra.**

NOTABLE FEATURES

Its brightest star, Capella, is an unusual multiple star system among the brightest stars in the night sky. *Beta Aurigae* is an interesting variable star in the constellation; *Epsilon Aurigae*, a nearby eclipsing binary with an unusually long period, has been studied intensively. Because of its position near the winter Milky Way, Auriga has many bright open clusters in its borders, including M36, M37, and M38, popular targets for amateur astronomers. In addition, it has one prominent nebula, the Flaming Star Nebula, associated with the variable star *AE Aurigae*, see below.

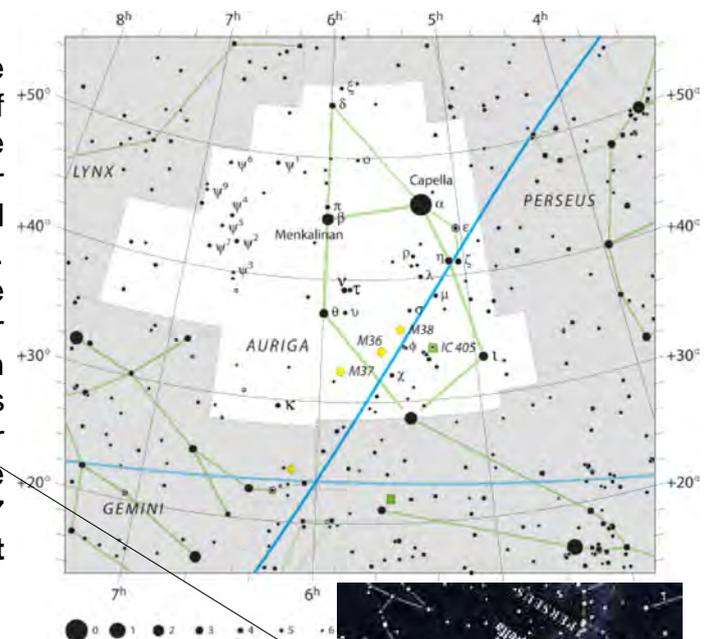
HISTORY AND MYTHOLOGY

The first record of Auriga's stars was in Mesopotamia as a constellation called GAM, representing a scimitar or crook. However, this may have represented just Capella (Alpha Aurigae) or the modern constellation as a whole. The crook of Auriga stood for a goat-herd or shepherd. It was formed from most of the stars of the modern constellation; all of the bright stars were included except for Elnath, traditionally assigned to both Taurus and Auriga. Later, Bedouin astronomers created constellations that were groups of animals, where each star represented one animal. The stars of Auriga comprised a herd of goats, an association also present in Greek mythology. The association with goats carried into the Greek astronomical tradition, though it later became associated with a charioteer along with the shepherd.

In Greek mythology, Auriga is often identified as the mythological Greek hero **Erichthonius of Athens**, the son of **Hephaestus** (Vulcan), who was raised by the goddess Athena. **Erichthonius was generally credited to be the inventor of the quadriga, the four-horse chariot, which he used in the battle against the usurper Amphictyon, the event that made Erichthonius the king of Athens.**

His chariot was created in the image of the Sun's chariot, the reason Zeus placed him in the heavens. The Athenian hero then dedicated himself to Athena and soon after, Zeus raised him into the night sky in honour of his ingenuity and heroic deeds.

Auriga, however, is sometimes described as **Myrtilus**, who was Hermes's son and the charioteer of Oenomaus. The association of Auriga and Myrtilus is supported by depictions of the constellation, which rarely show a chariot. After his death, Myrtilus's father Hermes placed him in the sky. **Regardless of Auriga's specific representation, it is likely that the constellation was created by the ancient Greeks to commemorate the importance of the chariot in their society.**



A painting by Peter Paul Rubens entitled Finding of Erichthonius;

Capella is associated with the mythological she-goat Amalthea, who breast-fed the infant Zeus. It forms an asterism with the stars Epsilon Aurigae, Zeta Aurigae, and Eta Aurigae, the latter two of which are known as the Haedi (the Kids). Ptolemy merged the Charioteer and the Goats in his 2nd century **Almagest**. Before that, Capella was sometimes seen as its own constellation called Capra, Caper, or Hircus, all of which relate to its status as the "goat star".

Traditionally, illustrations of Auriga represents the charioteer holding a goat over his left shoulder with two kids under his left arm as he holds the reins to the chariot in his right hand. However, depictions of Auriga have been inconsistent over the years and the reins are sometimes shown as a whip.

Since the time of Ptolemy, Auriga has remained a constellation and is officially recognized by the International Astronomical Union, although like all modern constellations, it is now defined as a specific region of the sky that includes both the ancient pattern and the surrounding stars. In 1922, the IAU designated its recommended three-letter abbreviation, "Aur". The official boundaries of Auriga were created in 1930 by **Eugène Delporte** as a polygon of 21 segments.

STARS

Alpha Aurigae (Capella), the brightest star in Auriga, is a G8III class star (G-type giant) 43 light-years away and the sixth brightest star in the night sky at magnitude 0.08. Capella is a spectroscopic binary with a period of 104 days; the components are both yellow giants, and together have a luminosity of 160 times the luminosity of the Sun

Beta Aurigae (Menkarlina) is a bright A2IV class star. Its Arabic name "shoulder of the charioteer" is a reference to Beta Aurigae's location in the constellation. Menkarlina is 81 light-years away and has a magnitude of 1.90. Like Epsilon Aurigae, it is an eclipsing binary star that varies in magnitude by 0.1m. The two components are blue-white stars that have a period of 3.96 days.

Gamma Aurigae, (Alnath) is a B7III class star. It was originally considered to be a part of both Auriga and Taurus, but is now classified only as Beta Tauri.

Delta Aurigae, the northernmost bright star in Auriga, is a K0III-type star, 126 light-years from Earth and approximately 1.3 billion years old with a a magnitude of 3.72.

Iota Aurigae, also called Kabdhilinan, is a K3II class star. The traditional name sometimes shortened to "Alkab", comes from the Arabic, meaning "shoulder of the rein holder".

Lambda Aurigae (Al Hurr) is a G1.5IV-V-type star of magnitude 4.71. It is located 41 light-years from Earth. Like Delta, it has several optical companions and is often categorized as a single star.

AE Aurigae is a blue-hued main-sequence variable star in the Flaming Star Nebula. It is likely to have entered the nebula only recently, as determined through the discrepancy between the radial velocities of the star and the nebula. There are four Mira variable stars in Auriga: all of which are type M stars, and there are five stars with confirmed planetary systems in Auriga;

DEEP-SKY OBJECTS

The galactic Anticenter (the point opposite the Galactic Centre as seen from Earth) is located about 3.5° to the east of *Beta Aurigae*. Auriga has many open clusters because the Milky Way runs through it. The three brightest are M36, M37 and M38, are visible in binoculars, or small telescopes.

AK with Wikipedia Notes.



Auriga carrying the goat and kids as depicted in Urania's Mirror, a set of constellation cards illustrated by Sidney Hall, London circa 1825.



The Flaming Star Nebula (IC 405), and its neighbour IC 410, along with the runaway star AE Aurigae, which illuminates the nebula