

## CONSTELLATION EQUULEUS

### The Little Horse or The Foal

Equuleus is the head of a horse with a flowing mane which the Arabs called Al Faras al Awwal, 'the First Horse', in reference to its rising before Pegasus. Equuleus is the second smallest of the modern constellations (after Crux), spanning only 72 square degrees. It is tucked between the head of Pegasus and the dolphin, Delphinus. It is also very faint, having no stars brighter than the fourth magnitude. Its name is Latin for 'little horse', a foal. It was one of the 48 constellations listed by the 2nd century astronomer **Ptolemy**, and remains one of the 88 modern constellations. The actual inventor is unknown; it may have been Ptolemy himself, or one of his predecessors, such as **Hipparchus**, the Greek astronomer who lived around 190-120 B.C.

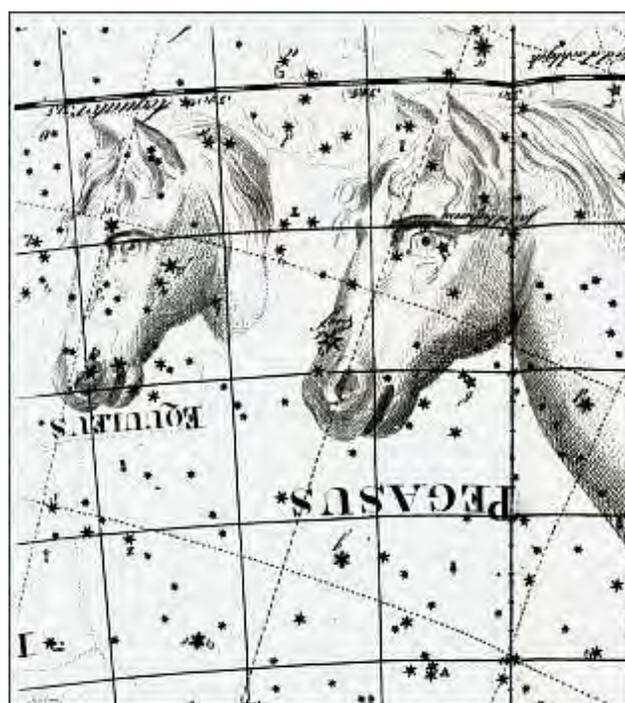
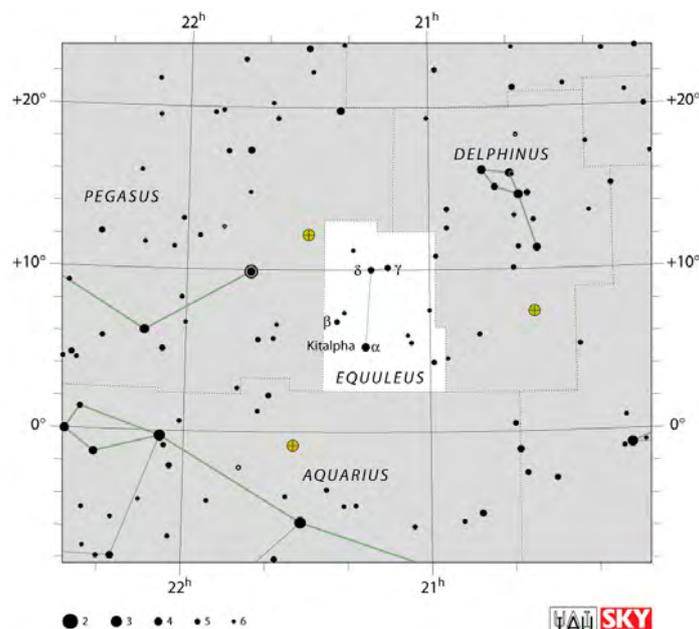
Hipparchus mapped the position of 850 stars in the earliest known star chart. **His observations of the heavens form the basis of Ptolemy's geocentric cosmology.** Ptolemy called the constellation Protomé Hippou, the forepart of a horse, perhaps Ptolemy had in mind the story of Hippe and her daughter Melanippe:

*Hippe, daughter of Chiron the centaur, one day was seduced by Aeolus, grandson of Deucalion. To hide the secret of her pregnancy from Chiron she fled into the mountains, where she gave birth to Melanippe. When her father came looking for her, Hippe appealed to the gods who changed her into a mare. Artemis placed the image of Hippe among the stars, where she still hides from Chiron (represented by the constellation Centaurus), with only her head showing*

### THE STARS

**Equuleus consists merely of a few stars of fourth magnitude and fainter, forming the head of a horse, next to the head of the much better-known horse Pegasus.** Only around 25 are known, most of which are faint.

- *Alpha Equulei* is the brightest star in Equuleus, traditionally called Kitalpha, a yellow star magnitude 3.9, 186 light-years from Earth. The name means "the section of the horse".
- *Beta Equulei* is a main sequence star belonging to the spectral class A3V. It has four visual companions that are not physically related to the main star. The system has a combined apparent magnitude of 5.159 and is about 360 light years distant from Earth
- *Gamma Equulei* is an alpha CVn star, ranging between magnitudes 4.58 and 4.77 over a period of around 12½ minutes. It is a white star 115 light-years from Earth, and has an optical companion of magnitude 6.1. It is divisible in binoculars.
- *Delta Equulei* is a binary star with an orbital period of 5.7 years, which at one time was the shortest known orbital period for an optical binary. At a combined magnitude of 4.47, the two components of the system are never more than 0.35 arcseconds apart..
- *Epsilon Equulei* is a triple star, also designated *1 Equulei*. The system, 197 light-years away, has a primary of magnitude 5.4 that is itself a binary star; its components are of magnitude 6.0 and 6.3 and have a period of 101 years. The secondary is of magnitude 7.4 and is visible in small telescopes. The components of the primary are becoming closer together and will not be divisible in amateur telescopes beginning in 2015.
- *Lambda Equulei* is another binary star in the constellation. The primary component in the system is a main sequence star belonging to the spectral class F6V. The system has an apparent magnitude of 6.72 and is approximately 332 light years distant from the solar system



In the Northern Hemisphere both horses are upside down

- HD 200964 is a subgiant of the spectral type K0 IV. It has a visual magnitude of 6.64 and is some 223 light years distant. The star is notable because two large extrasolar planets were discovered in its orbit in July 2010. The planet closer to the star is almost double the mass of Jupiter, while the more distant planet is slightly less massive than Jupiter. The inner planet has an orbital period of 614 days and the outer one orbits the star every 825 days. This adds up to a 4:3 resonance: every time the bigger planet orbits the star four times, the smaller one orbits the star three times.

## DEEP-SKY OBJECTS

Due to its small size and its distance from the plane of the Milky Way, Equuleus contains no notable deep sky objects. Very faint galaxies magnitudes 13 and less include NGC 7015, NGC 7040, NGC 7045 and NGC 7046.

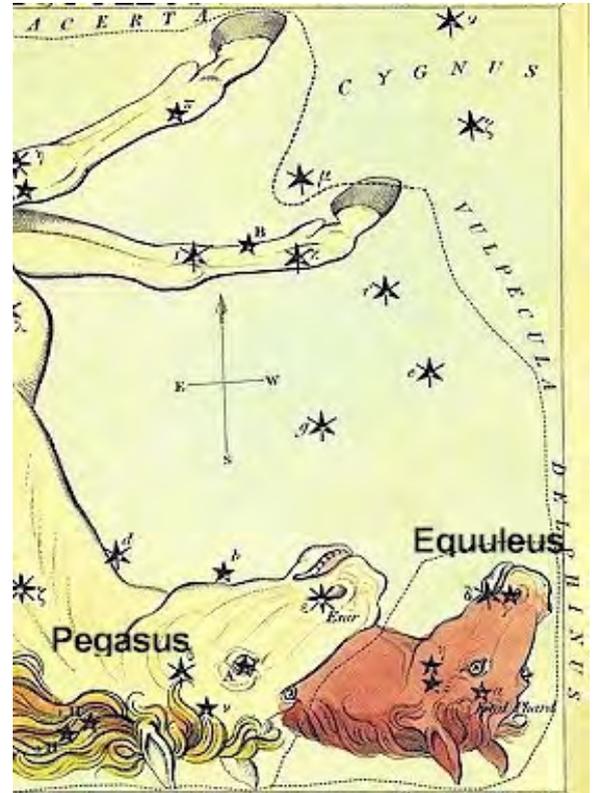
## MYTHOLOGY

Some of the mythologists said that the constellation Equuleus represents the creature struck by Neptune's (Poseidon) trident from the Earth when contesting with Minerva (Athena) for superiority:

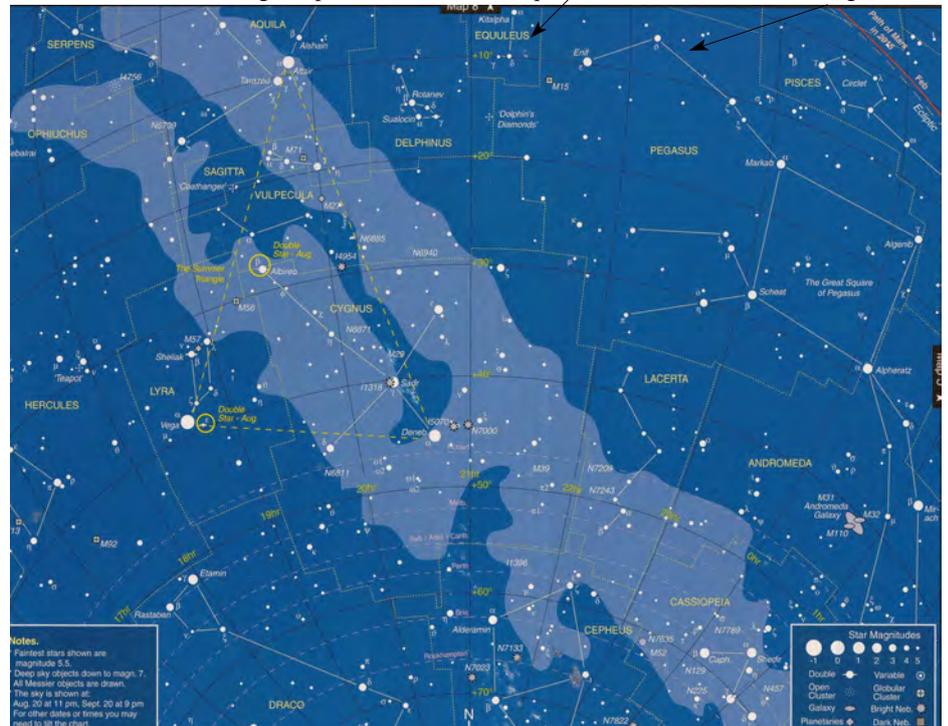
Athena (the Greek virgin goddess of reason, intelligent activity, arts and literature) became the patron goddess of the city of Athens, in a competition with Neptune (the god of the sea and protector of all aquatic features, and patron of horse races). They agreed that each would give the citizens one gift and the citizens would choose whichever gift they preferred. **Neptune struck the ground with his trident and there sprang forth a horse.** The Athenians were filled with wonder at the sight of the noble animal, and when Neptune explained how useful it would be to man, they all thought that the victory would be his. **Athena then produced an olive tree;** and when the goddess explained how all its parts--the wood, the fruit, and the leaves--could be used by man, how it was the sign of peace while the horse was the symbol of war, they decided that Athena had won. **To honour the goddess as the patron of the city, the citizens called it Athens.**

## FACTS, LOCATION & MAP

1. Because the Equuleus section of stars rises before Pegasus, it is often called *Equus Primus*, or the First Horse.
2. The constellation is located in the fourth quadrant of the northern hemisphere (NQ4) and can be seen at latitudes between  $+90^\circ$  and  $-80^\circ$ .
3. The neighbouring constellations are Aquarius, Delphinus and Pegasus.
4. Equuleus does not contain any Messier objects and has only one star with known planets.
5. The brightest star in the constellation is *Kitalpha*, Alpha Equulei.
6. There are no meteor showers associated with the constellation.
7. Equuleus belongs to the Heavenly Waters family of constellations, together with Carina, Columba, Delphinus, Eridanus, Piscis Austrinus, Puppis, Pyxis, and Vela



Seen here in the evenings September-October, Equuleus is near the head of Pegasus



In the Southern hemisphere we see the constellation the right side up. AK