

CONSTELLATION PERSEUS

The constellation Perseus is a constellation in the northern sky which was named after the Greek mythological hero Perseus. It is located in the northern celestial hemisphere near several other constellations named after ancient Greek legends surrounding Perseus, including Andromeda to the west and Cassiopeia to the north. One of the 48 constellations listed by the 2nd-century astronomer **Ptolemy**, it is still among the 88 modern constellations as defined by the International Astronomical Union

GENERAL

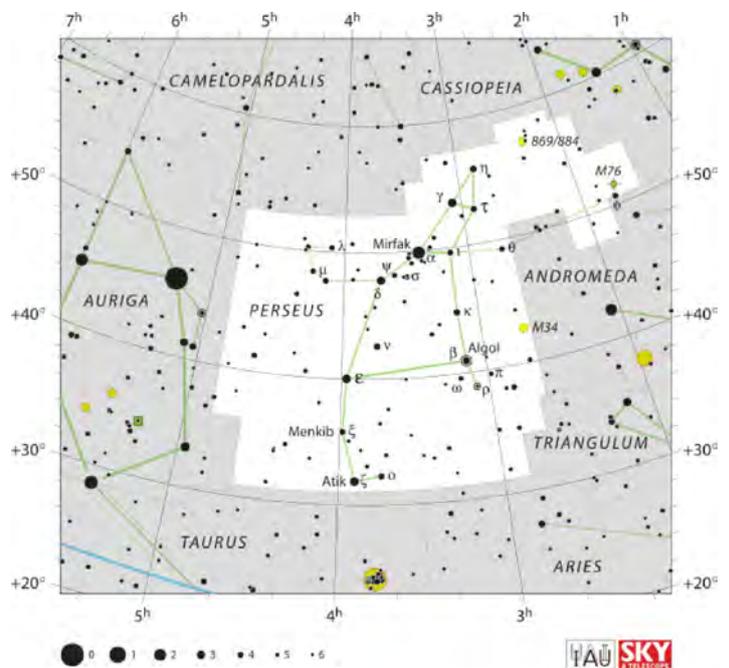
Perseus is also bordered by Aries and Taurus to the south, Auriga to the east, Camelopardalis to the north, and Triangulum to the west. Some star atlases during the early 19th century also depicted Perseus holding onto the head of the Medusa, whose asterism was named together as *Perseus et Caput Medusae*, however, this never came into popular usage.

The galactic plane of the Milky Way passes through Perseus but is mostly obscured by molecular clouds. **The constellation's brightest star is the yellow-white supergiant Alpha Persei (also called Mirfak or Mirphak), which shines at magnitude 1.79.** It and many of the surrounding stars are members of an open cluster known as the Alpha Persei Cluster. **The best-known star, however, is Algol (Beta Persei), linked with ominous legends because of its variability, which is noticeable to the naked eye.** Rather than being an intrinsically variable star, it is an eclipsing binary. Other notable star systems in Perseus include X Persei, a binary system containing a neutron star, and GK Persei, a nova that peaked at magnitude 0.2 in 1901. The Double Cluster, comprising two open clusters quite near each other in the sky, was known to the ancient Chinese. The constellation gives its name to the Perseus cluster (Abell 426), a massive galaxy cluster located 250 million light-years from Earth. **It hosts the radiant of the annual Perseids meteor shower—one of the most prominent meteor showers in the sky.**

In Greek mythology, Perseus was the son of Danaë, who was sent by King Polydectes to bring the head of Medusa the Gorgon—whose visage caused all who gazed upon her to turn to stone—as a wedding gift. Perseus slew Medusa in her sleep, and Pegasus and Chrysaor appeared from her body. **Perseus continued to the realm of Cepheus whose daughter Andromeda was to be sacrificed to Cetus the sea monster.** Perseus rescued the princess Andromeda from Cetus by turning it to stone with Medusa's head. He turned Polydectes and his followers to stone and appointed Dictys the fisherman king. Perseus and Andromeda married and had six children. In the sky, Perseus lies near the constellations Andromeda, Cepheus, Cassiopeia (Andromeda's mother), Cetus, and Pegasus.

CHARACTERISTICS

Covering 615 square degrees, it ranks twenty-fourth of the 88 constellations in size. It appears prominently in the northern sky during the Northern Hemisphere's spring. Its main asterism consists of 19 stars. The constellation's boundaries, **as set by Eugène Delporte in 1930, are defined by a 26-sided polygon.** The International Astronomical Union (IAU) adopted the three-letter abbreviation "Per" for the constellation in 1922.



Perseus carrying the head of Medusa the Gorgon, as depicted in Urania's Mirror, a set of cards published in London c.1825

NOTABLE FEATURES

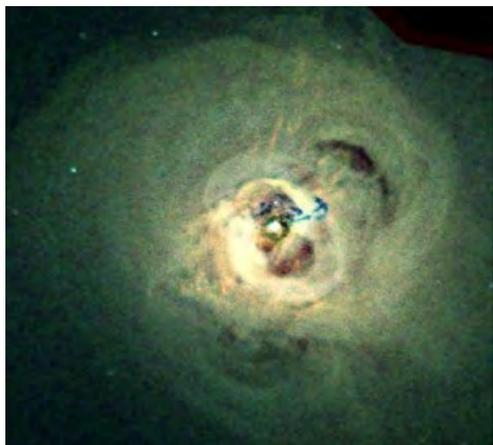
- *Beta Persei* known as Algol (from the Arabic Ra's al-Ghul, which means The Demon's Head), is the best-known star in Perseus. Representing the eye of the Gorgon Medusa in Greek mythology, it was called Horus in Egyptian mythology and Rosh ha Satan ("Satan's Head") in Hebrew. Located 92.8 light-years from Earth, it varies in apparent magnitude from a minimum of 3.5 to a maximum of 2.3 over a period of 2.867 days. The star system is the prototype of a group of eclipsing binary stars named Algol variables.
- *Alpha Persei* known as Mirfak (Arabic for elbow) is the brightest star of this constellation with an apparent magnitude of 1.79. A supergiant of spectral type F5Ib located around 590 light-years away from Earth, Mirfak has 5,000 times the luminosity and 42 times the diameter of our Sun. It is the brightest member of the Alpha Persei Cluster, an open cluster containing many luminous stars.
- *Zeta Persei* is the third-brightest star in the constellation at magnitude 2.86. Around 750 light-years from Earth, it is a blue-white supergiant 26–27 times the radius of the Sun and 47,000 times its luminosity.
- *V518 Persei* is another X-ray binary in Perseus. One component is a red dwarf star of spectral type M4.5V,[42] which orbits a mysterious dense and heavy object—possibly a black hole—every 5.1 hours. The system is an X-ray nova, meaning that it experiences periodic outbursts in the X-ray band of the electromagnetic spectrum. If the system does indeed contain a black hole, it would be the smallest one ever recorded.
- **GK Persei**, also known as Nova Persei 1901, is a bright nova that appeared halfway between Algol and Delta Persei. Discovered on 21 February 1901 by Scottish amateur astronomer **Thomas David Anderson**, it peaked at magnitude 0.2—almost as bright as Capella and Vega. It faded to magnitude 13 around 30 years after its peak brightness.
- **Xi Persei**, traditionally known as Menkhib, a blue giant of spectral type O7III, is one of the hottest bright stars in the sky, with a surface temperature of 37,500 K. It is one of the more massive stars, being between 26 and 32 solar masses, and is 330,000 times as luminous as our Sun.
- *Rho Persei* known as Gorgonea Tertia, varies in brightness like Algol, but is a pulsating rather than eclipsing star. At an advanced stage of stellar evolution, it is a red giant that has expanded for the second time to have a radius around 150 times that of our Sun.

Seven stars in Perseus have been found to have planetary systems. V718 Persei is a star in the young open cluster IC 348 that appears to be periodically eclipsed by a giant planet every 4.7 years. This has been inferred to be an object with a maximum mass of 6 times that of Jupiter and an orbital radius of 3.3 AU.

DEEP-SKY OBJECTS

The galactic plane of the Milky Way passes through Perseus, but is much less obvious than elsewhere in the sky as it is mostly obscured by molecular clouds. The Perseus Arm is a spiral arm of the Milky Way galaxy and stretches across the sky from the constellation Cassiopeia through Perseus and Auriga to Gemini and Monoceros. This segment is towards the rim of the galaxy. There are many nebulae in Perseus. M76 is a planetary nebula, also called the Little Dumbbell Nebula. It appears two arc-minutes by one arc-minute across and has an apparent brightness of magnitude 10.1. NGC 1499, also known as the California Nebula, is an emission nebula that was discovered in 1884–85 by American astronomer **Edward E. Barnard**. It is very difficult to observe visually because of its low surface brightness. Perseus also contains a giant molecular cloud, called

the Perseus molecular cloud; it belongs to the Orion Spur and is known for its low rate of star formation compared .



METEOR SHOWERS

The Perseids are a prominent annual meteor shower that appear to radiate from Perseus from mid-July, peaking in activity between 9 and 14 August each year. Associated with Comet Swift–Tuttle, they have been observed for about 2,000 years. The September Epsilon Perseids, discovered in 2012, are a meteor shower with an unknown parent body in the Oort cloud.

THE STORY OF PERSEUS

King Acrisius of Argos had a daughter called Danaë and when an oracle foretold him that one day he would be killed by his grandson he locked her securely in a dungeon. But Zeus visited Danaë in the form of a shower of golden rain that fell through the skylight of the dungeon into her lap and impregnated her. When Acrisius found out, he locked Danaë and the infant Perseus into a wooden chest and cast them out to sea.

Inside the bobbing chest Danaë clutched her child and prayed to Zeus for deliverance from the sea. A few days later, the chest washed ashore on the island of Seriphos, its cargo still alive but starved and thirsty. A fisherman, Dictys, broke the chest open and found the mother and child. Dictys brought up Perseus as his own son.

The brother of Dictys was **King Polydectes**, who coveted Danaë as a wife. But Danaë was reluctant and Perseus, now grown to manhood, defended her from the king's advances. But then, King Polydectes hatched a plan to get rid of Perseus. He asked all his subjects, including Perseus, to provide horses for a wedding present. Perseus had no horse to give, nor money to buy one, so Polydectes sent him to bring the head of Medusa the Gorgon instead.

The Gorgons were three hideously ugly sisters called **Euryale, Stheno and Medusa**. They were the daughters of Phorcys, a god of the sea, and his sister Ceto. The Gorgons had faces covered with dragon scales, tusks like boars, hands of brass and wings of gold. Their evil gaze turned to stone anyone who set eyes on them. Euryale and Stheno were immortal, but Medusa was mortal. She was distinguishable from the others because she had snakes for hair. King Polydectes schemed that Perseus would die in his attempt to obtain her head. However, the king had reckoned without Perseus's family connections among the gods. **Athene gave him a bronze shield which he carried on his left arm, while in his right hand he wielded a sword of diamond made by Hephaestus. Hermes gave him winged sandals, and on his head he wore a helmet of darkness from Hades that made him invisible.**

Under the guidance of Athene, Perseus flew to the slopes of Mount Atlas where the sisters of the Gorgons, acted as lookouts. But they were poorly qualified for the task, since they had only one eye between the three of them, which they passed to each other in turn. Perseus snatched the eye from them and threw it into Lake Tritonis.

He then followed a trail of statues of men and animals who had been turned to stone by the gaze of the Gorgons. Unseen in his helmet of invisibility, Perseus crept up on the Gorgons and waited until night when Medusa and her snakes were asleep. Looking only at her reflection in his brightly polished shield, Perseus swung his diamond sword and decapitated Medusa with one blow. As Medusa's head rolled to the ground, Perseus was startled to see the winged horse Pegasus and the armed warrior Chrysaor spring fully grown from her body, the legacy of her youthful affair with Poseidon. Perseus rapidly collected up Medusa's head, put it in a pouch and flew away before the other Gorgons awoke.

Strong winds blew Perseus across the sky like a raincloud, so he stopped to rest in the kingdom of Atlas. When Atlas refused him hospitality, Perseus took out the Gorgon's head and turned him into the range of stone mountains that now bear his name.

The following morning Perseus resumed his flight with new vigour, coming to the land of King Cepheus whose daughter Andromeda was being sacrificed to a sea monster. Perseus's rescue of the girl became one of the most famous themes of mythology. Perseus returned triumphantly with Andromeda to the island of Seriphos, where he found his mother and Dictys sheltering in a temple from the tyranny of King Polydectes. Perseus stormed into the king's palace to a hostile reception.

Reaching into his pouch, Perseus brought out the head of Medusa, turning Polydectes and his followers to stone. Perseus appointed his stepfather Dictys king of Seriphos. AK with Wikipedia Notes

