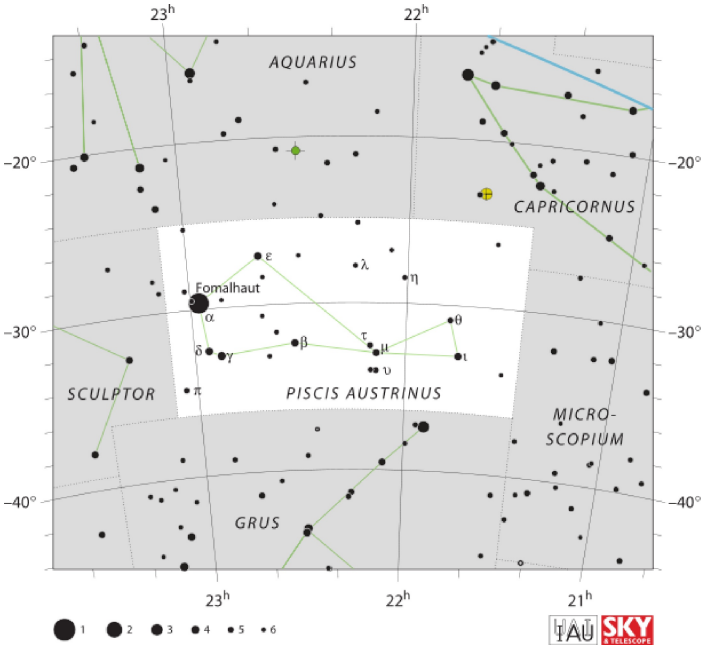
PISCIS AUSTRINUS, THE SOUTHERN FISH

Piscis Austrinus (also known as Piscis Australis) is a constellation in the southern celestial hemisphere. The name is Latin for "the southern fish", in contrast with the larger constellation Pisces, which represents a pair of fishes. Prior to the 20th century, **it was also known as Piscis Notius from the Greek notos, 'south', Notos or Notius is the god of the South Wind, a warm and very moist wind**. Its only star brighter than 4th magnitude is Fomalhaut, which is a first-magnitude star and is the 18th brightest star in the night sky.



Piscis Austrinus was one of the 48 constellations listed by the 2nd century astronomer Ptolemy, and it remains one of the 88 modern constellations but its history dates back to Babylonian times and mythology. The stars of the modern constellation Grus once formed the "tail" of Piscis Austrinus. In 1597 (or 1598), **Petrus Plancius** carved out a separate constellation and named it after the crane.

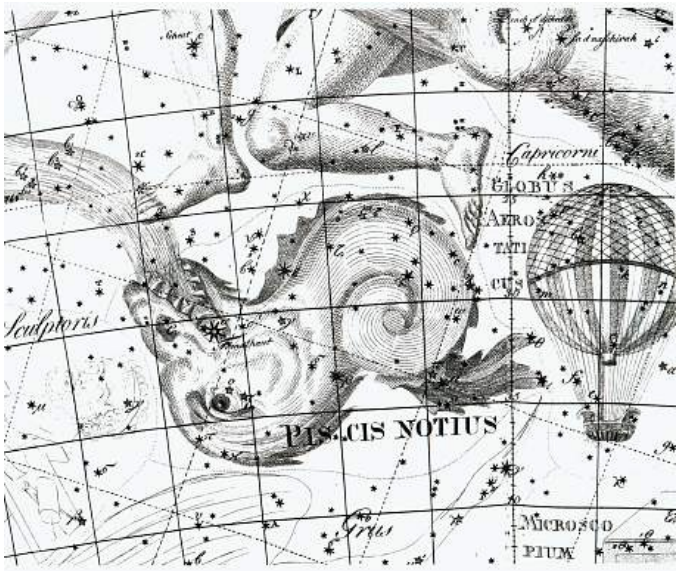
In Greek mythology, this constellation is known as the Great Fish and it is portrayed as swallowing the water being poured out by Aquarius, the water-bearer constellation. **The two fish of the constellation Pisces are said to be the offspring of the Great Fish**. In Egyptian mythology, this fish saved the life of the Egyptian goddess Isis, so she placed this fish and its descendants into the heavens as constellations of stars. In a different version of the story, she deliberately threw herself into the lake, attempting to commit suicide and was turned into a mermaid in the lake. Her daughter was brought up by doves and grew up to be Semiramis, the Assyrian queen. Pisces Austrinus probably originated with the Babylonian constellation simply known as the Fish. **It is bordered by Capricornus to the northwest, Microscopium to the southwest, Grus to the south, Sculptor to the east and Aquarius to the north**. The recommended three-letter abbreviation for the constellation, as adopted by the **International Astronomical Union** in 1922, is 'PsA'. The official constellation boundaries, as set by **Eugène Delporte** in 1930, are defined by a polygon of four segments. In the equatorial coordinate system, the right ascension coordinates of these borders lie between 21h 27.3m and 23h 06.5m, while the declination coordinates are between -24.83° and -36.46°.

Piscis Austrinus can be seen cut off at the bottom of Urania's Mirror's 1825 depiction of Aquarius. Next to it is the obsolete constellation Ballon Aerostatique

THE STARS

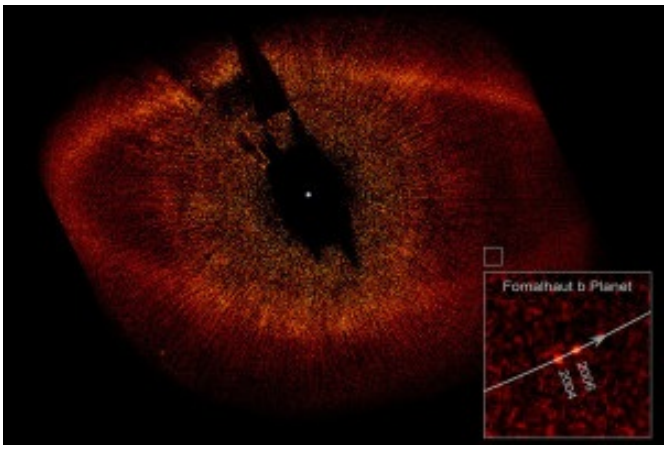
Alpha Piscis Austrini, Fomalhaut, with an apparent visual magnitude of 1.16, it is also the 18th brightest individual star in the night sky and traditionally represents the mouth of the fish. Its companion Fomalhaut b was thought to be the first extrasolar planet ever detected by a visible light image, thanks to the Hubble Space Telescope, but infrared observations have since retracted this claim: it is instead a spherical cloud of dust. *TW Piscis Austrini* can be seen close by and is possibly associated with Fomalhaut as it lies within a light year of it. Of magnitude 6.5, it is *a BY Draconis* variable.

Beta, Delta and Zeta constitute the Tien Kang ("heavenly rope") in China. Beta is a white star of apparent magnitude

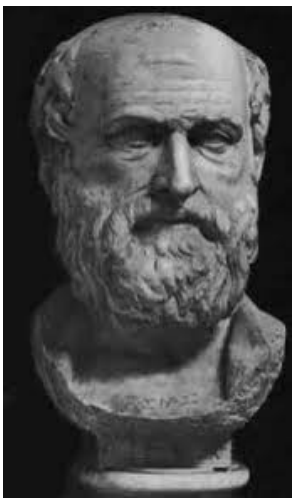


Piscis Austrinus, called Piscis Notius on the Uranographia of Johann Bode (1801), is shown lying on its back and drinking water from the urn of Aquarius. In its mouth is the bright star Fomalhaut.

4.29 and spectral type A0, and lies 130 light years away. *Delta Piscis Austrini* is a double star with components of magnitude 4.2 and 9.2.
S Piscis Austrini is a long period Mira-type variable red giant which ranges between magnitude 8.0 and 14.5 over a period of 271.7 days, and *V Piscis Austrini* is a semi-regular variable ranging between magnitudes 8.0 and 9.0 over 148 days.
Lacaille 9352 is a faint red dwarf star which is a mere 10.74 light-years away. At magnitude 7.34, it is too dim to be seen with the naked eye.
The famous Greek mathematician **Eratosthenes** called this the Great Fish and said that **it was the parent of the two smaller fishes of the zodiacal constellation Pisces**. Like Pisces, its mythology has a Middle Eastern setting that reveals its Babylonian origin. According to the brief account of Eratosthenes, the Syrian fertility goddess Derceto (the Greek name for Atargatis) is supposed to have fallen into a lake at Bambyce near the river Euphrates in northern Syria, and was saved by a large fish. **Hyginus** says, in repetition of his note on Pisces, that as a result of this the Syrians do not eat fish but they worship the images of fish as gods. All the accounts of this constellation's mythology are disappointingly sketchy. Bambyce later became known to the Greeks as Hieropolis (meaning 'sacred city'), now called Manbij. Other classical sources tell us that temples of Atargatis contained fish ponds. The goddess was said to punish those who ate fish by making them ill, but her priests ate fish in a daily ritual.



Coronagraph of star Fomalhaut showing disk ring and location of extrasolar planet Fomalhaut b. Image: NASA, ESA, P. Kalas, J. Graham, E. Chiang, E. Kite (University of California, Berkeley), M. Clampin (NASA Goddard Space Flight Center), M. Fitzgerald (Lawrence Livermore National Laboratory), and K. Stapelfeldt and J. Krist.


Eratosthenes of Cyrene was a Greek mathematician, geographer, poet, astronomer, and music theorist. He was a man of learning, becoming the chief librarian at the Library of Alexandria

In Greek mythology, there is a similar tale associated with Pisces. In the tale, the goddess Aphrodite took the form of a fish to hide from the monster Typhon. She and her son Eros and leapt into the river Euphrates and begged the river nymphs for help. Two fish bore them up and the goddess later honoured them by transforming them into the constellation Pisces.
Piscis Austrinus is more noticeable than the zodiacal Pisces because it contains the first-magnitude star Fomalhaut. This name comes from the Arabic fam al-hut meaning 'fish's mouth', which is where Ptolemy described it as lying. In the sky the fish is shown drinking the water flowing from the jar of Aquarius, a strange thing for a fish to do. The flow of water ends at Fomalhaut, which Ptolemy regarded as being common to Aquarius and Piscis Austrinus. The name Fomalhaut is sometimes mis-spelt "Formalhaut".
In the Almagest, Ptolemy listed six additional stars in this area that did not form part of Piscis Austrinus; these are now assigned to the modern figure of Microscopium. In addition, when the 12 new southern constellations of **Keyser and de Houtman** were invented at the end of the 16th century, the star that Ptolemy placed at the tip of the fish's tail was appropriated for use as the head of the new constellation Grus, the crane; it is now known as *Gamma Gruis*. Fomalhaut, together with Achernar and Canopus made up **Dante's TreFacelle, symbolizing Faith, Hope, and Charity,** and sixty years ago, **Boguslawski thought that it might be the Central Sun of the Universe.** Fomalhaut belongs to the Castor Moving Group, a stellar association that also includes the bright stars Castor in Gemini and Vega in Lyra constellation. **The stars in the group share a common motion through space and same location of origin, and they might be physically associated.**

Piscis Austrinus is the 60th constellation in size, occupying an area of 245 square degrees. It is located in the fourth quadrant of the southern hemisphere (SQ4) and can be seen at latitudes between +55° and -90°. Piscis Austrinus contains three stars with confirmed planets and does not have any Messier objects. There are no meteor showers associated with the constellation. **Piscis Austrinus belongs to the Heavenly Waters family of constellations, along with Carina, Columba, Delphinus, Equuleus, Eridanus, Puppis, Pyxis, and Vela.** The pictured galaxies NGC 7173, NGC 7174 and NGC 7176 are part of the Hickson Compact Group 90, named after astronomer **Paul Hickson**, who first catalogued these small clusters of galaxies in the 1980s. AK