

CONSTELLATIONS OF THE SOUTHERN SKY VOLANS - THE FLYING FISH

Created by Bayer in 1603, this constellation used to be called *Piscis Volans*, the Flying Fish, before it was shortened to Volans.

Volans was one of the 12 new constellations introduced at the end of the 16th century by the Dutch navigators **Pieter Dirkszoon Keyser** and **Frederick de Houtman**. Volans represents a real type of fish found in tropical waters that can leap out of the water and glide through the air on wings. Sometimes the fish landed on the decks of ships and were used for food. In the sky the flying fish is imagined being chased by the predatory Dorado. The constellation was first depicted in 1598 on a globe by the Dutchman **Petrus Plancius** under the name *Vliegendevis*. Bayer in 1603 called it *Piscis Volans*, the Latin title by which it became generally known until the mid 19th century. In 1844 the

English astronomer **John Herschel** proposed shortening it to just *Volans*. **Francis Baily** adopted this suggestion in his British Association Catalogue of 1845, and it has been known as that ever since.

Volans is the 76th constellation in size, occupying an area of 141 square degrees. It is located in the second quadrant of the southern sky (SQ2) and can be seen at latitudes between $+15^\circ$ and -90° . The neighbouring constellations are **Carina, Chamaeleon, Dorado, Mensa and Pictor**.

Volans contains two stars with confirmed planets and does not have any Messier objects. The brightest star in the constellation is *Beta Volantis*, with an apparent visual magnitude of 3.77.

There are no meteor showers associated with the constellation.

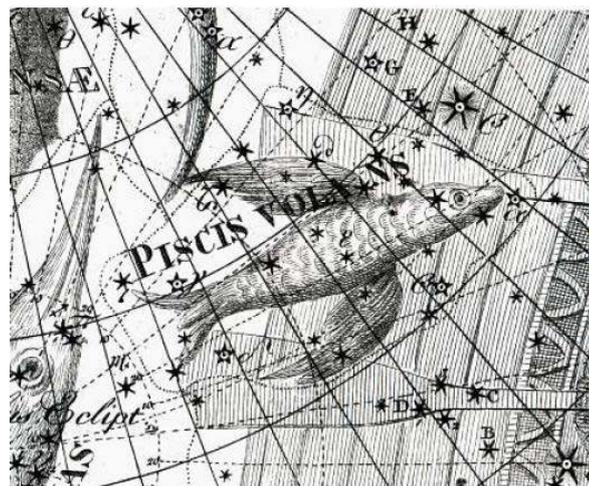
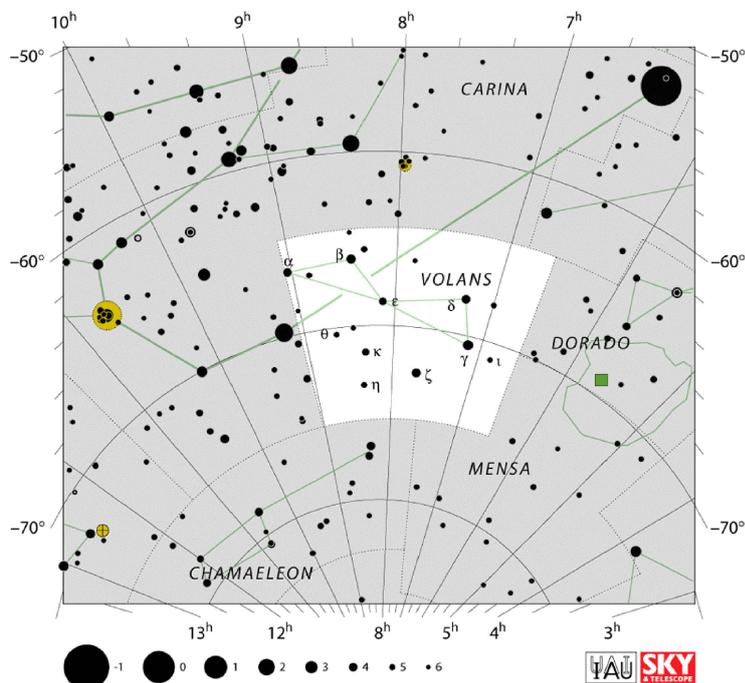
Volans belongs to the Johann Bayer family of constellations, along with Apus, Chamaeleon, Dorado, Grus, Hydrus, Indus, Musca, Pavo, Phoenix and Tucana

Flying fish are bony fishes of the family *Exocoetidae* from tropical waters. They have winglike pectoral fins that can be spread to glide over the water. Flying fish are unique because they are the only fish that can actually get into the air. The term *Exocoetidae* (from *exo* 'outside' + *koitos* 'bed', 'lying down outside' or 'sleeping under the stars') refers to the common occurrence of stranded flying fish lying in boats. "Flying fish can attain enough height to carry them onto the decks of ships in their waters, where their remains are frequently discovered at dawn" [Encyclopædia Britannica].

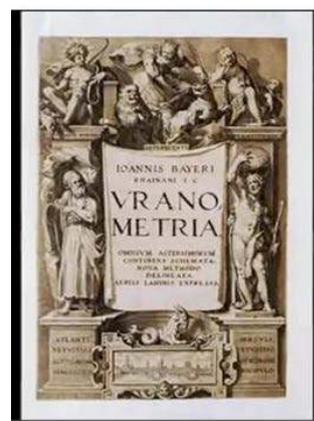
The Exocet guided missile is named after these fish

"There is a sea monster called the flying-fish, which has huge wings. When it sees a ship under sail on the sea, it raises its wings over the water and tries to keep pace with the ship for three or four miles; when it fails to keep pace, it lowers its wings and folds them to go back to its home in their depths."

Piscis Volans, the Flying Fish, now known by astronomers as Volans, is the *Poisson Volant* of the French and the *Fliegende Fisch* of the Germans. The Rudolphine Tables have it *Passer*, the Sparrow, and, as such, it is translated *Fe Yu* by the Chinese. This is another of the new southern constellations formally introduced by **Johann Bayer** (1572 – 1625) in his *Uranometria*, published in 1603, starting a new age in the history of celestial cartography. In this atlas the 49 maps stand out both for their careful indication of the star positions and brightness and for the very attractive plates. The star positions were taken from the **Tycho Brahe's** catalogue. The forty-ninth map shows the twelve new southern constellations defined by the Dutch navigators Keyser and De Houtmann. Bayer's *Uranometria* is the first to represent the stars around the south pole.



Volans, under its original name Piscis Volans, shown leaping against the side of the ship Argosy in the Uranographia of Johann Bode (1801)



Volans contains several notable deep sky objects, among them the Lindsay-Shapley Ring (AM0644-741) and the Meathook Galaxy (NGC 2442). (see below).

MAJOR STARS IN VOLANS

Beta Volantis is the brightest star in Volans constellation. It has an apparent visual magnitude of 3.77 and is 107.5 light years distant from the Sun. It is an orange giant with the stellar classification K1III. It has 1.62 solar masses and is 41 times more luminous than the Sun.

Gamma Volantis is a binary star in Volans, located about 142 light years from the Sun. The system is composed of the primary component, *Gamma-2 Volantis*, an orange giant with the stellar classification K0III, and *Gamma-1 Volantis*, a yellow-white main sequence star belonging to the stellar class F2V. Gamma-2 Volantis has an apparent magnitude of 3.78 and Gamma-1 has a visual magnitude of 5.68. The two stars are separated by 14.1 seconds of arc in the sky.

Zeta Volantis is another binary star in Volans. It has an apparent visual magnitude of 3.93 and is approximately 134 light years distant. The system consist of an orange giant belonging to the spectral class K0III and a 10th magnitude companion. The stars are separated by 16.7 arcseconds.

Delta Volantis is a yellow-white bright giant star with the stellar classification F6II. It has an apparent magnitude of 3.97 and is approximately 660 light years distant from the Sun.

Alpha Volantis is an Am star (metallic line star), which means that it is a class A chemically peculiar star with a strong spectrum and variable absorption lines of metals. It has the stellar classification of kA3hA5mA5 V. The star has an apparent visual magnitude of 4.00 and is approximately 125 light years distant from Earth. It is believed to be about 427 million years old.

Epsilon Volantis is a triple star system about 642 light years away in Volans constellation. It has an apparent visual magnitude of 4.35. The primary component in the system is a blue-white subgiant with the stellar classification of B6IV. It is a spectroscopic binary star with an orbital period of 14.17 days. The binary system has a companion with a visual magnitude of 8.1 located 6.05 arcseconds away.

DEEP SKY OBJECTS IN VOLANS

NGC 2397 is a spiral galaxy in Volans. It has an apparent magnitude of 12.68 and is approximately 60 million light years distant from Earth. The galaxy's nucleus contains old red and yellow stars, and the outer spiral arms are regions where star formation has recently taken place. The galaxy was discovered by the English astronomer and mathematician John Herschel on February 21, 1835. A late stage supernova, SN 2006bc, was discovered in NGC 2397 in 2006.

Lindsay-Shapley Ring – AM0644-741

The sparkling blue ring, around the yellowish nucleus of what was once a normal spiral galaxy, is 150,000 light-years in diameter, making it larger than our entire home galaxy, the Milky Way. The galaxy is a member of the class of so-called ring galaxies. It lies 300 million light-years away in the direction of the southern constellation Dorado. The ring is believed to have formed after a collision with another galaxy, which caused the dust in AM0644-741 to condense and begin to form stars, and then to expand away from the galaxy and form a ring. The galaxy was discovered by **Eric Lindsay and Harlow Shapley** in 1960. It is situated near the Large Magellanic Cloud, located in the constellations Mensa and Dorado.

The distorted galaxy NGC 2442, also known as the **Meathook Galaxy**, is located some 50 million light-years away. The galaxy is 75 000 light-years wide and features two dusty spiral arms extending from a pronounced central bar that give it a hook-like appearance. The galaxy's distorted shape is most likely the result of a close encounter with a smaller, unseen galaxy. Discovered by **John Herschel**, who first described the galaxy's spiral arms as hook-like.

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