

Pictor

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Pictor, a relatively faint constellation in the southern celestial hemisphere, is named after the easel used by artists to hold their canvases. It is located between the star Canopus and the Large Magellanic Cloud.

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1. Introduction

Pictor, Latin for "painter's easel," is a faint constellation located in the southern celestial hemisphere. Situated between the constellations Dorado and Carina, Pictor occupies an area of approximately 247 square degrees. Its celestial coordinates span from approximately 4 to 8 hours of right ascension and -50 to -60 degrees of declination (**Figure 1**).

While Pictor may lack the prominent stars and recognizable patterns found in some other constellations, it is notable for its association with the tools of the artist's trade. The constellation was introduced in the 18th century by French astronomer Nicolas-Louis de Lacaille, who sought to fill the gaps in the southern sky cataloged by earlier astronomers. Pictor is home to several intriguing deep-sky objects that contribute to its astronomical significance. Among these are the Pictor Galaxy Cluster, a grouping of galaxies located approximately 500 million light-years away, and the Pictor A radio galaxy, a powerful source of radio waves located at a distance of about 500 million light-years as well. These celestial wonders offer astronomers valuable insights into the structure, evolution, and dynamics of galaxies and galactic clusters.

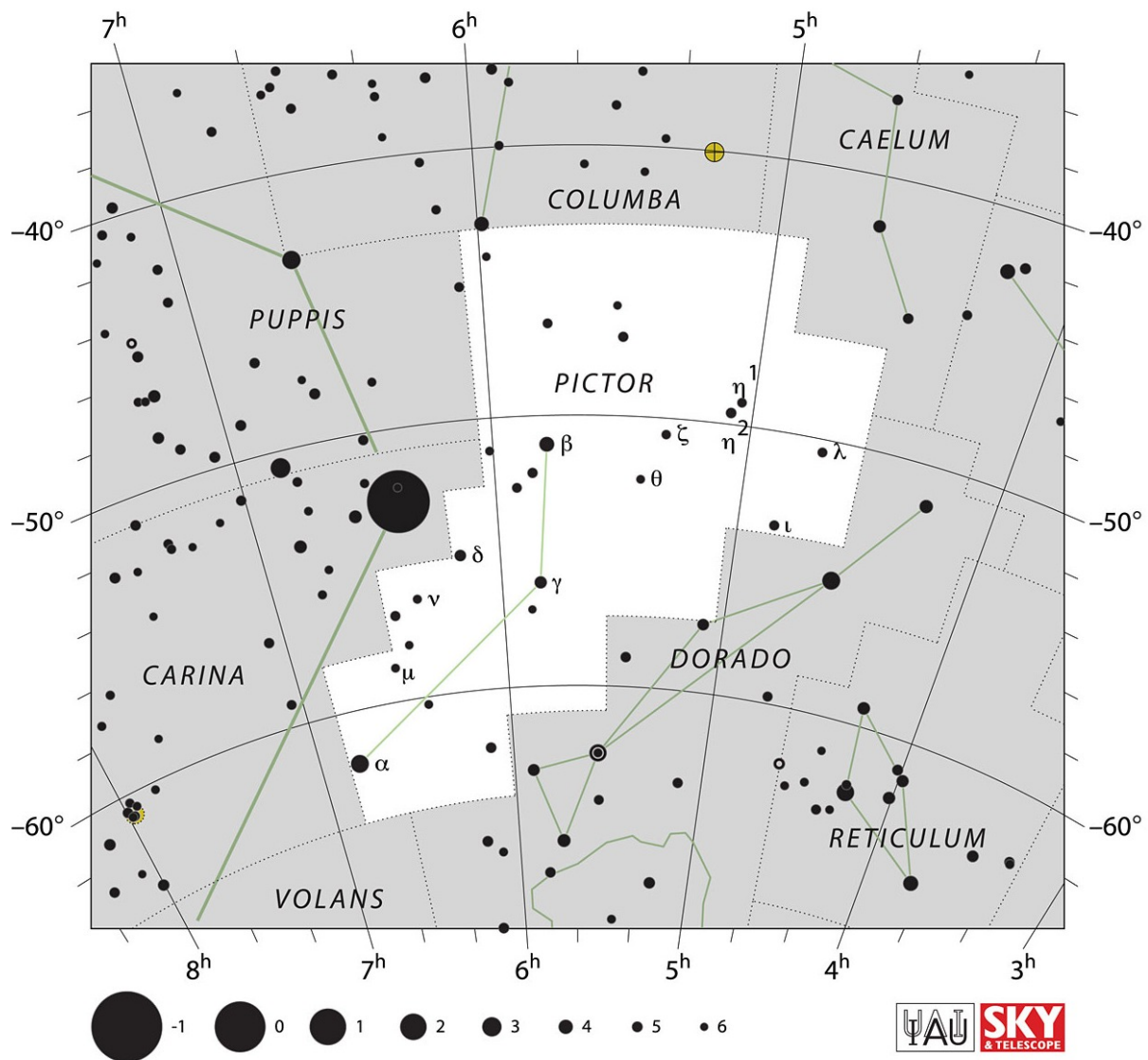


Figure 1. IAU chart of Pictor. Source: <https://www.iau.org/static/archives/images/screen/aqr.jpg>. Credit: IAU and Sky & Telescope. Reproduced under CC BY 4.0 license.

2. Historical Background and Mythology

Pictor, the painter's easel, is a constellation with a relatively short cultural and historical background compared to many other constellations. It was introduced in the 18th century by French astronomer Nicolas-Louis de Lacaille during his expedition to the Cape of Good Hope in South Africa. Lacaille sought to fill in the gaps in the southern celestial sky cataloged by earlier astronomers, and in doing so, he created several new constellations, including Pictor. As its name suggests, Pictor is associated with the tools of the artist's trade, specifically the easel used by painters to hold their canvases. However, unlike many other constellations, Pictor lacks any significant mythological or cultural associations from ancient civilizations. Instead, its name and symbolism are purely astronomical in nature, reflecting Lacaille's penchant for naming constellations after scientific instruments and tools. Despite its relatively recent introduction, Pictor has nonetheless become an integral part of the modern constellation system. Its association with the arts and creativity has led to its adoption in various cultural contexts, particularly within the realm of astronomy and scientific exploration.

In popular culture, Pictor is sometimes associated with the concept of artistic inspiration and creativity. Artists and writers may draw upon its symbolism as a representation of the muse or the source of creative inspiration. Additionally, the constellation's name and imagery have been used in literature, music, and visual art as a metaphor for the creative process and the pursuit of artistic expression.

In modern astronomy, Pictor remains an important reference point for astronomers studying the southern sky. Its position near the Large Magellanic Cloud, a satellite galaxy of the Milky Way, makes it a valuable target for observational studies of nearby galaxies and galactic clusters. Additionally, the deep-sky objects within Pictor, such as the Pictor Galaxy Cluster and Pictor A radio galaxy, provide astronomers with valuable insights into the structure, composition, and evolution of the universe.

3. Notable Stars

Alpha Pictoris (α Pictoris): Alpha Pictoris is the brightest star in the constellation, although it is still relatively faint with an apparent magnitude of around 3.3. It is a white main-sequence star located approximately 97 light-years away from Earth. Alpha Pictoris is known for its young age and is surrounded by a debris disk, making it a target of interest for studying planetary formation.

Beta Pictoris (β Pictoris): Beta Pictoris is another intriguing star system in Pictor. It is a young A-type main-sequence star located around 63.4 light-years away from Earth. Beta Pictoris is famous for its circumstellar disk of gas and dust, which has been imaged in detail and is believed to contain signs of ongoing planet formation. This makes Beta Pictoris an essential target for astronomers studying the early stages of planetary systems.

Zeta Pictoris (ζ Pictoris): Zeta Pictoris is a binary star system located approximately 300 light-years away from Earth. The primary star in this system is an Algol-type eclipsing binary, where one star periodically passes in front of the other, causing fluctuations in brightness. Zeta Pictoris A, the larger and brighter star, is formally named Wurren. Its apparent magnitude varies between 3.9 and 4.4 with a period of approximately 1.67 days.

4. Deep-Sky Objects

NGC 1705: NGC 1705 is a dwarf irregular galaxy located approximately 17 million light-years away from Earth. It is known for its intense starburst activity, characterized by a high rate of star formation. NGC 1705 contains numerous young, hot stars that illuminate the surrounding gas clouds, creating a striking visual appearance in telescopic images.

NGC 1805: NGC 1805 is a young open star cluster located within the Large Magellanic Cloud (LMC), a satellite galaxy of the Milky Way. This cluster is part of the complex star-forming region known as the Tarantula Nebula. NGC 1805 contains hundreds of young, massive stars that illuminate the surrounding gas and dust, creating a dazzling display of light and color.

NGC 1964: NGC 1964 is a spiral galaxy located approximately 250 million light-years away from Earth. It is classified as a Seyfert galaxy, characterized by a bright, compact nucleus and strong emission lines in its spectrum. NGC 1964 exhibits active galactic nuclei (AGN) activity, likely powered by a supermassive black hole at its center.

NGC 2100: NGC 2100 is a young open star cluster located within the Large Magellanic Cloud. This cluster is part of the populous star-forming region known as the Tarantula Nebula. NGC 2100 contains hundreds of young, massive stars that are still embedded in their natal gas and dust clouds, providing astronomers with valuable insights into the process of star formation.

Pictor A (PKS 0518-45): Pictor A is a radio galaxy located approximately 500 million light-years away from Earth. It is one of the brightest radio sources in the sky and is known for its powerful radio emissions. Pictor A is believed to harbor a supermassive black hole at its center, which is actively accreting matter and producing jets of high-energy particles.