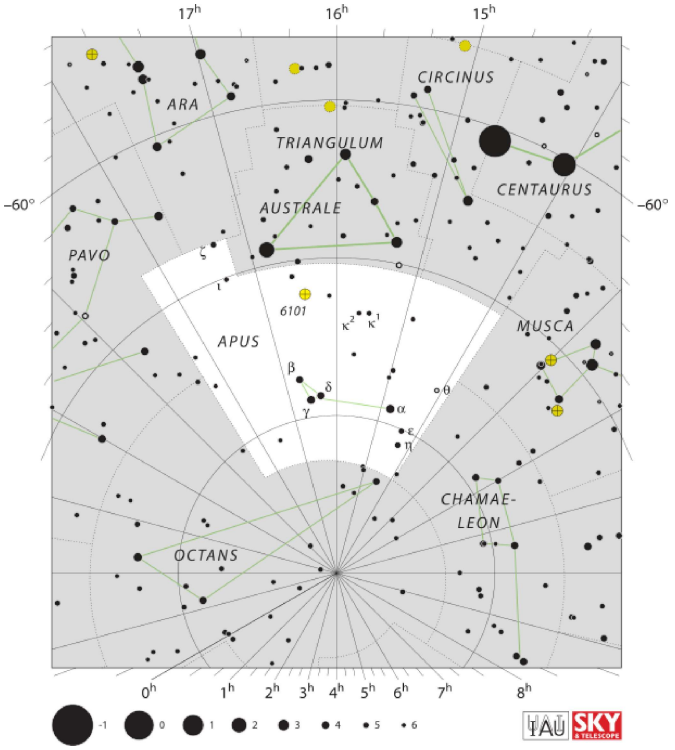
CONSTELLATION APUS, BIRD OF PARADISE

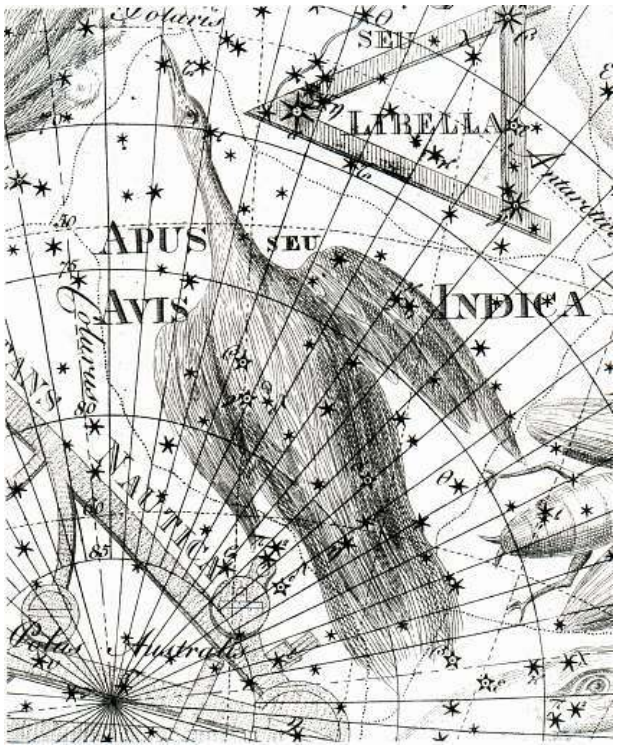
Apus is a faint constellation in the southern sky, first defined in the late 16th century. The Constellation is bordered by *Triangulum Australe, Circinus, Musca, Chamaeleon, Octans, Pavo and Ara*. Its genitive is *"Apodis"*. Apus is the 67th constellation in size, occupying an area of 206 square degrees.

It was one of the twelve constellations created by **Petrus Plancius** from the observations of **Pieter Dirkszoon Keyser** and **Frederick de Houtman** and it first appeared on a 35 cm diameter celestial globe published in 1597 in Amsterdam by Plancius. He called the constellation "Paradysvogel Apis Indica"; the first word is Dutch for 'bird of paradise,' but the others are Latin for "Indian Bee". "apis" is presumably an error for "avis" or "bird".



Apus represents a fabulous bird of paradise, as found in New Guinea, but it is a disappointing tribute to such an exotic animal, its brightest stars being only of 4th magnitude. Birds of paradise live in rainforests and have a lek-type mating system, in which twelve to twenty male birds gather together to dance on huge trees in the forest, which have wide-spreading branches and large but scattered leaves, giving a clear space for the birds to display themselves and exhibit their plumes. They raise up their wings, stretch out their necks and elevate their exquisite plumes, keeping them in a continual vibration. Females visit the lek and wander among the displaying males as if comparing their virtues, or 'window shop' for the best suitor. If a female does not find a male she likes, she moves on to another display area, usually selecting the most eligible male, or the most gaudy male. From the lek the males coo and whistle at passing females. Usually only a few males out of all those present on the lek ever successfully mate.

The name "Apus" is derived from the Greek "apous", meaning "without feet", which referred to the Western conception of a bird-of-paradise as one without feet, a misconception perpetuated by the fact that the only specimens available in the West at that time had both feet and wings removed. These specimens began to arrive in Europe in 1522, when the survivors of **Ferdinand Magellan's** expedition brought them home.



Apus seen in the Uranographia of Johann Bode (1801), where it was given the alternative title of Avis Indica, the Indian bird, referring to its habitat of the East Indies. The bird's tail originally extended closer to the south celestial pole, at lower left, but was clipped by Lacaille in the 1750s to make room for Octans.

After its introduction on Plancius's globe, the first known depiction of the constellation in a celestial atlas was in **Johann Bayer's** Uranometria of 1603, where it was called "Apis Indica". Others, such as **Johannes Kepler** in the Rudolphine Tables of 1627, called it *"Apus, Avis Indica"* (Apus, bird of India), correcting the apparent misprint, but the alternative usages of Apis and Avis continued to Bode's day. It was suggested by **Richard Allen** that Houtmann, who observed the southern constellations from the island of Sumatra, took his ideas for the formation of Apus (as well as Phoenix and Indus) from the Chinese, who knew these stars as the "Little Wonder Bird.". Our old friend **Julius Schiller** included it with the Chamaeleon and the Southern Fly (Musca) in his biblical Eve constellation in *Coelum Stellatum Christianum*.

This wide angle, 28-mm photographic image of the South Celestial Pole covers a lot of territory. Apus is seen as one of the 15 circumpolar constellations in the southern hemisphere. It was originally one of the constellations used by European navigators from the sixteenth century on, after the beginning of European exploration around the bottom of Africa:

In the upper centre is the constellation **Octans** and the pole itself. To the upper left of Octans, you can make out the stars in the constellation **Apus**. Just below and left of centre is the **Small Magellanic Cloud** in **Tucana**. Look carefully, and you can easily see the bright globular cluster, **47 Tucanae**. Right of center is the much larger and brighter **Large Magellanic Cloud** in **Dorado** and **Mensa**. You can easily make out NGC 2070, the **Tarantula Nebula**, in the LMC. The LMC and the SMC are elliptical galaxies which are satellite companions to our own Milky Way Galaxy. The bright triangle of **Hydrus** can be found nestled between the two Magellanic clouds. Above the LMC is the constellation **Volans**. On the far right you will find the bright star **Canopus** in the constellation **Carina**. Directly above Volans, you can make out the constellation **Chamealeon**.

DEEP-SKY OBJECTS

The most prominent deep-sky objects in Apus include the globular clusters NGC 6101 and IC 4499 as well as the spiral galaxy IC 4633. NGC 6101 is a 14th magnitude globular cluster, located seven degrees north of γ Aps. IC 4499 is a loose globular cluster in the medium-far galactic halo. Its apparent magnitude is 10.6, and it is unique because it is younger than most other globular clusters in the same region as determined by its metallicity. IC 4633 is a very faint spiral galaxy surrounded by a vast amount of Milky Way line-of-sight Integrated Flux Nebulae.

MAJOR STARS IN APUS

Alpha Apodis With an apparent visual magnitude of 3.825, is the brightest star in Apus. Approximately 410 light years distant, it is classified as a K-type giant.

Gamma Apodis is the second brightest star in the constellation, with an apparent visual magnitude of 3.872. It is a yellow G-type giant star, 160 light years away.

Delta Apodis is a binary star, approximately 800 light years distant. The brighter component, *Delta-1 Apodis,* is an irregular variable M-type red giant star and has an apparent magnitude that varies between 4.66 and 4.87.

Delta-2 Apodis is an orange K-type giant star magnitude of 5.27, 102.9 arcseconds away from the primary star.

Kappa Apodis is a Bayer designation denoting two star systems, *Kappa-1 Apodis* is a blue-white B-type subgiant approximately 1020 light years distant. It is a Gamma Cassiopeiae type variable, a fast rotating shell star with variations in luminosity caused by the outflow of matter, and has a mean apparent magnitude of 5.40. Its luminosity varies between 5.43 and 5.61.

Kappa-2 Apodis is a binary star composed of a blue-white B-type giant apparent magnitude of 5.64 and an orange K-type main sequence dwarf magnitude 12.5, 15 arcseconds away,

Gould details sixty-seven naked-eye stars in Apus, its lucida (brightest star) then being gamma at 3.9 magnitude.

NOTABLE FEATURES

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

There are no myths associated with this constellation

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The constellation has no stars with known planets or any Messier objects.

There are no meteor showers associated with the constellation.

Today the brightest star is *Alpha Apodis*.

As a result of the naming confusion Avis Indica was renamed to Apus, and Apis, the constellation representing the bee, became Musca, the fly.

French astronomer Lacaille called the constellation Apus in his chart of the southern skies published in 1763, but both Apis and Avis continued to be used well into the 19th century.

Birds of paradise live in rainforests and have a lek-type mating system, in which twelve to twenty male birds gather together to dance on huge trees in the forest, which have wide-spreading branches and large but scattered leaves, giving a clear space for the birds to display themselves and exhibit their plumes. They raise up their wings, stretch out their necks and elevate their exquisite plumes, keeping them in a continual vibration.