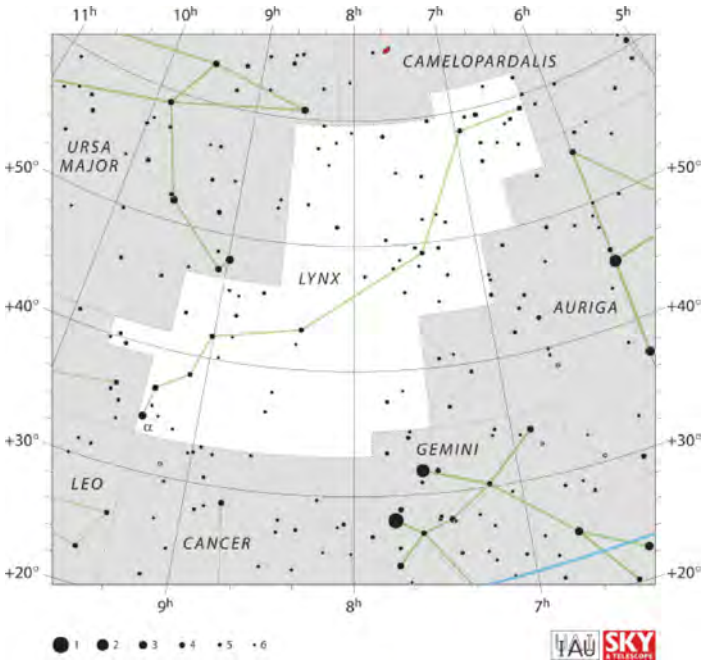
THE CONSTELLATION LYNX



Lynx, named after the animal of that name, is a constellation in the northern sky that was introduced in the 17th century by **Johannes Hevelius**. This is a faint constellation with its brightest stars forming a zigzag line. The orange giant *Alpha Lyncis* is the brightest star in the constellation, while the semiregular variable star *Y Lyncis* is a target for amateur astronomers. Six star systems have been found to contain planets. 6 Lyncis and HD 75898 were discovered to have planets by the Doppler method, while XO-2, XO-4, XO-5 and WASP-13 were found to have planets that were observed as they passed in front of the host star.

Within the constellation's borders lie NGC 2419, an unusually remote globular cluster, the galaxy NGC 2770, which has hosted three recent Type Ib supernovae; the distant quasar APM 08279+5255, whose light is magnified and split into multiple images by the gravitational lensing effect of a foreground galaxy; and the Lynx Supercluster, which was the most distant supercluster known at the time of its discovery in 1999.

HISTORY

Polish astronomer Johannes Hevelius formed the constellation in the 17th century from 19 faint stars that he observed with the unaided eye between the constellations Ursa Major and Auriga. Naming it Lynx because of its faintness, he challenged future stargazers to see it, declaring that only the lynx-eyed (those of good sight) would have been able to recognize it. There is a figure in mythology who might be linked to the constellation's name. Lynceus, who sailed with Jason and the Argonauts in the expedition for the Golden Fleece, was said to have the keenest eyesight of all men and could even see things underground. **John Flamsteed** adopted the constellation in his catalogue and atlas. **Petrus Plancius** had made these stars part of his new constellation Jordanus, the river Jordan, but it was Hevelius's alternative creation that endured. According to amateur astronomer **Richard Hinckley Allen**, the chief stars in Lynx "might well have been utilized by the modern constructor, whoever he was, of our Ursa Major to complete the quartette of feet."

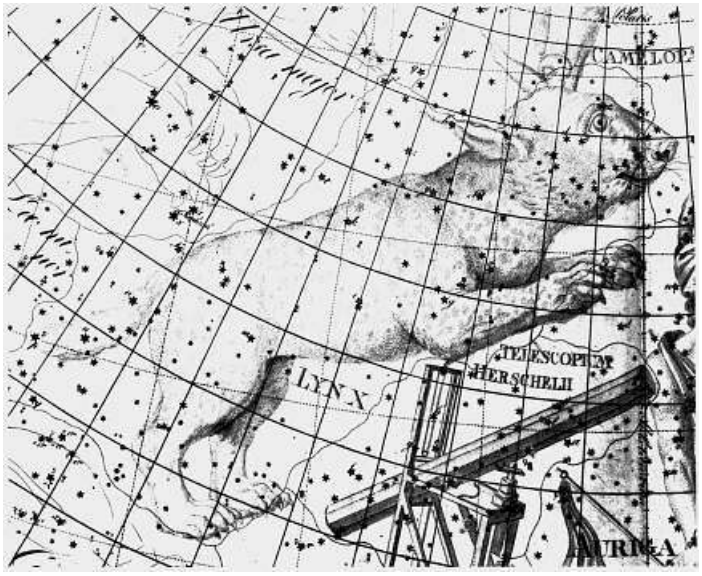


Illustration from Urania's Mirror depicting a lynx (1825). The obsolete constellation Telescopium Herschelii is to its right.

CHARACTERISTICS

Lynx is bordered by Camelopardalis to the north, Auriga to the west, Gemini to the southwest, Cancer to the south, Leo to the east and Ursa Major to the northeast. Covering 545.4 square degrees and 1.322% of the night sky, **it ranks 28th of the 88 constellations in size, surpassing better known constellations such as Gemini**. The three-letter abbreviation for the constellation, as adopted by the International Astronomical Union in 1922, is 'Lyn'. The official constellation boundaries, as set by **Eugène Delporte** in 1930, are defined by a polygon of 20 segments (illustrated above).

An old drawing depicting a lynx overlaying a chart of stars
Earliest depiction of Lynx, in 1690

NOTABLE FEATURES

English astronomer **Francis Baily** gave a single star a Bayer designation—Alpha Lyncis—while **Flamsteed** numbered 44 stars, but several of these lie across the boundary in Ursa Major. Overall, there are 97 stars within the constellation's borders brighter than or equal to apparent magnitude 6.5.

Alpha Lyncis is the brightest star in this constellation, with an apparent (visual) magnitude of 3.14. It is an orange giant of spectral type K7III located 203 ± 2 light-years distant from Earth. Around twice as massive as the Sun, it has exhausted the hydrogen at its core and has evolved away from the main sequence. The star has swollen to about 55 times the Sun's radius and it is emitting roughly 673 times the luminosity of the Sun. The stellar atmosphere has cooled to a surface temperature of 3,880 K.

31 Lyncis is the only star with a proper name Alsciaukat (from the Arabic for thorn),located at 380 light-years distance. This too is an evolved giant star with around twice the Sun's mass that has swollen and cooled since exhausting its core hydrogen. It is anywhere from 59 to 75 times as wide as the Sun, and 740 times as luminous. It is also a variable star, ranging in brightness by 0.05 magnitude over 25 to 30 days from its baseline magnitude of 4.25.

38 Lyncis is the second brightest star in the constellation and a double star at magnitude 3.8. When viewed through a moderate telescope, the two components—a brighter blue-white star of magnitude 3.9 and a fainter star of magnitude 6.1 that has been described as lilac.

10 Ursae Majoris is the third brightest star in Lynx. Originally in the neighbouring constellation Ursa Major, it became part of Lynx with the official laying down of the constellation borders. Appearing to be of magnitude 3.97, it can be split by a telescope to reveal a yellow-white main sequence star of spectral type F4V of magnitude 4.11 and a star very similar to the Sun of spectral class G5V. magnitude 6.18.

15 Lyncis is another star that is found to be double when viewed through a telescope, separating into two yellowish stars of magnitudes 4.7 and 5.8 that are 0.9 arcseconds apart

12 Lyncis has a combined apparent magnitude of 4.87. When seen through a telescope, it can be separated into three stars: two very close together of magnitudes 5.4 and 6.0 and a yellow-hued star of magnitude 7.2 a little further away.

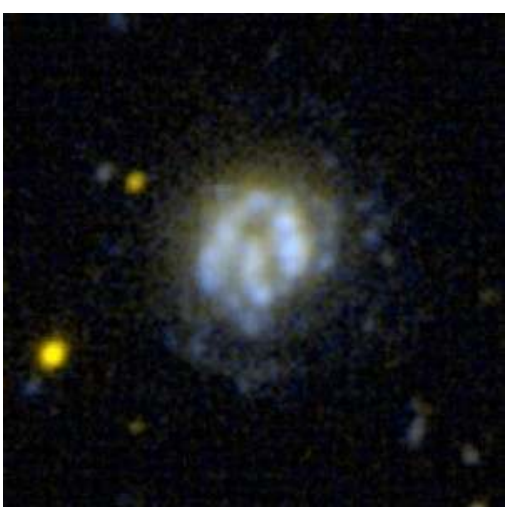
Y Lyncis is a popular target among amateur astronomers, as it is a semiregular variable ranging in brightness from magnitude 6.2 to 8.9. Its changes in brightness are complex, with a shorter period of 110 days due to the star's pulsations, and a longer period of 1400 days possibly due to the star's rotation or convectively induced oscillatory thermal mode. A red supergiant, it has an estimated diameter around 580 times that of the Sun, is around 1.5 to 2 times as massive, and has a luminosity around 25,000 times that of the Sun

Six star systems have been found to contain exoplanets, of which two were discovered by the Doppler method and four by the transit method.

NGC 2419, called the "Intergalactic Tramp or Wanderer"

DEEP-SKY OBJECTS

Lynx's most notable deep sky object is NGC 2419, also called the "Intergalactic Wanderer", a globular cluster that is one of the most distant known of its kind at a distance of 300,000 light-years from Earth. NGC 2419 is in a highly elliptical orbit around the Milky Way and could be of intergalactic origin. It has a magnitude of 10.3 and is a Shapley class II cluster; the classification indicates concentration at the centre, from I-XII. Originally thought to be a star, NGC 2419 was discovered to be a globular cluster by American astronomer **Carl Lampland**.



NGC 2537, known as the Bear's Paw Galaxy, lies about 3 degrees northnorthwest of 31 Lyncis. It is a blue compact dwarf galaxy that is somewhere between 17 and 30 million light-years from Earth

.

The Lynx Supercluster is a remote supercluster with a redshift of 1.26. **Further still lies the Lynx Arc, located around 12 billion light years away.** AK, with Wikipedia and Ridpath Notes