

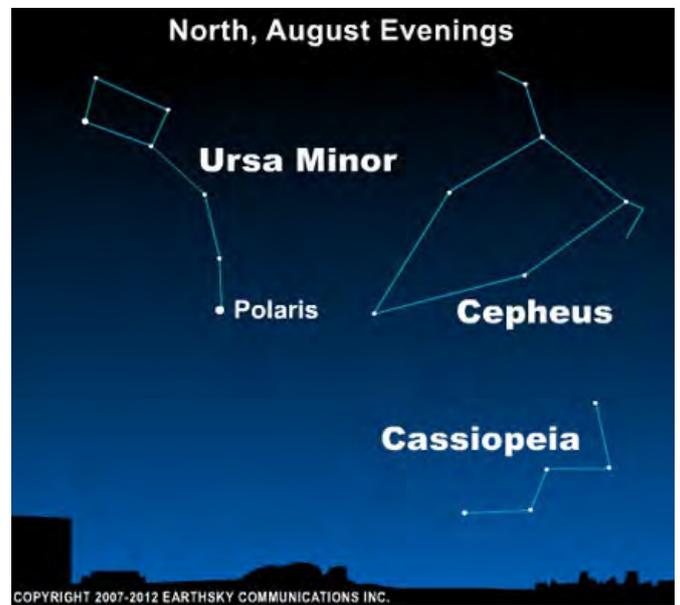
## Constellation Cepheus looks like a house

Tonight, if you are in the Northern Hemisphere, see if you can find the constellation Cepheus, which represents a King. This constellation is faint, but its distinctive shape makes it easy to locate if you look in the north on August and September evenings.

At nightfall Cepheus appears to the upper right of Polaris, the North Star. Then this constellation rotates around Polaris in a counter-clockwise direction during the night. It swings high over Polaris after midnight, and then sweeps to the left side of Polaris around dawn.

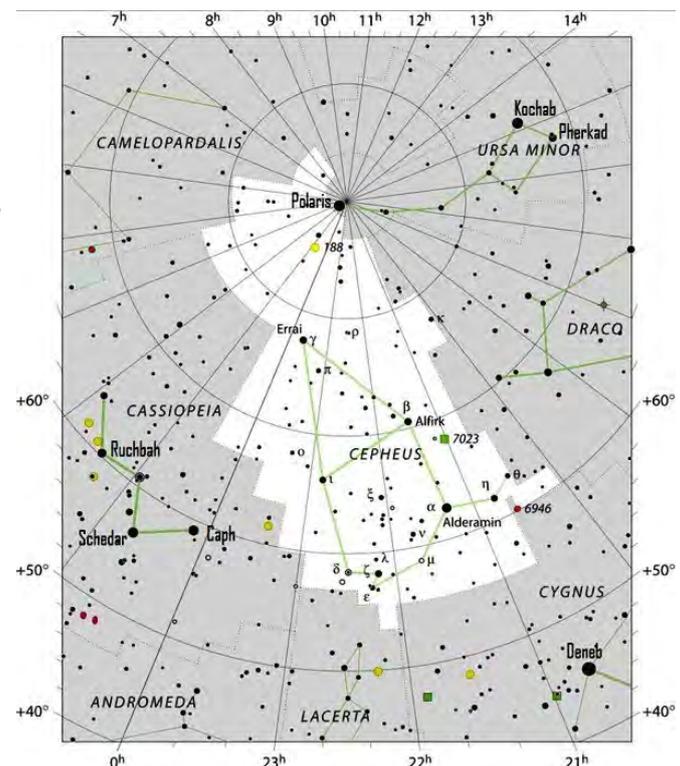
Cepheus resembles the stick house we all drew as children – and that children today still draw – with a square for the base and a triangle for the roof. In the case of Cepheus, the tip of the roof (a star known as *Gamma Cephei*, or Errai) points generally northward.

In the sky, “northward” always means “toward the sky’s north pole,” or toward Polaris. Thus the roof of the house in Cepheus is pointing mostly north, even though – as darkness falls – that means it’s pointing sideways and downward.



Cepheus as depicted in Urania's Mirror, a set of constellation cards published in London, c. 1825

In Greek mythology, Cepheus represents a King. It is named after Cepheus, King of Ethiopia in Greek mythology. It was one of the 48 constellations listed by the second century astronomer **Ptolemy**, and remains one of the 88 modern constellations. Cepheus was married to Cassiopeia and was the father of Andromeda, both of whom are immortalized as modern day constellations along with Cepheus



Sky chart of the constellation Cepheus the King

To help find Cepheus, you might want to first locate the more prominent constellation Cassiopeia the Queen, with its distinctive W (or M) asterism.

Cepheus' brightest star is *Alpha Cephei* with an apparent magnitude of 3.5. *Delta Cephei* is the prototype of an important class of star known as a Cepheid Variable, a type of star that pulsates radially, varying in both diameter and temperature, producing changes in brightness with a well-defined stable period and amplitude. First identified by **John Goodricke** in 1784, the robust characteristic of classical Cepheids was established in 1908 by **Henrietta Swan Leavitt** after studying thousands of variable stars in the Magellanic Clouds. This discovery allows one to know the true luminosity of a Cepheid by simply observing its pulsation period. This in turn allows one to determine the distance to the star, by comparing its known luminosity to its observed brightness. Other notable stars are RW Cephei, an orange hypergiant who, together with the red supergiants *Mu Cephei*, *VV Cephei*, and *V354 Cephei* are among the largest stars known. In addition, Cepheus also has the hyperluminous quasar S5 0014+81, which hosts an ultramassive black hole in its core, reported at 40 billion solar masses, about **10,000 times more massive than the central black hole of the Milky Way**, making it the most massive black hole known. AK, with Wikipedia Notes