



The Hubble Space Telescope took this stunning image of the Keyhole Nebula (which is located within the Carina Nebula [NGC 3372] and is about 8,000 light years from Earth).

The image—which you can click-on for a truly wonderful view—is actually a montage of four different telescope pointings from the spring of 1999.

NASA's Jet Propulsion Laboratory (JPL) at Cal Tech (California Institute of Technology) tells us [more about this image](#) (which NASA refers to as "Light and Shadow in the Carina Nebula"):

Previously unseen details of a mysterious, complex structure within the Carina Nebula (NGC 3372) are revealed by this image of the "Keyhole Nebula," obtained with NASA's Hubble Space Telescope. The picture is a montage assembled from four different April 1999 telescope pointings with Hubble's Wide Field Planetary Camera 2, which used six different color filters.

The picture is dominated by a large, approximately circular feature, which is part of the Keyhole Nebula, named in the 19th century by Sir John Herschel. This region, about 8000 light-years from Earth, is located adjacent to the famous explosive variable star Eta Carinae, which lies just outside the field of view toward the upper right.

The Carina Nebula also contains several other stars that are among the hottest and most massive known, each about 10 times as hot, and 100 times as massive, as our Sun.

The circular Keyhole structure contains both bright filaments of hot, fluorescing gas, and dark silhouetted clouds of cold molecules and dust, all of which are in rapid, chaotic motion. The high resolution of the Hubble images reveals the relative three-dimensional locations of many of these features, as well as showing numerous small dark globules that may be in the process of collapsing to form new stars.

Two striking large, sharp-edged dust clouds are located near the bottom center and upper left edges of the image. The former is immersed within the ring and the latter is just outside the ring.

The pronounced pillars and knobs of the upper left cloud appear to point toward a luminous, massive star located just outside the field further toward the upper left, which may be responsible for illuminating and sculpting them by means of its high-energy radiation and stellar wind of high-velocity ejected material. These large dark clouds may eventually evaporate, or if there are sufficiently dense condensations within them, give birth to small star clusters.

The Carina Nebula, with an overall diameter of more than 200 light-years, is one of the outstanding features of the Southern-Hemisphere portion of the Milky Way. The diameter of the Keyhole ring structure shown here is about 7 light-years.

Click on the image for a better view.

Credits:

Image, described above, by NASA/JPL-Caltech/ESA, the Hubble Heritage Team (STScI/AURA).

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