DEEP SKY OBJECTS
SEVENTH OF A SERIES

THE BRIDAL VEIL NEBULA

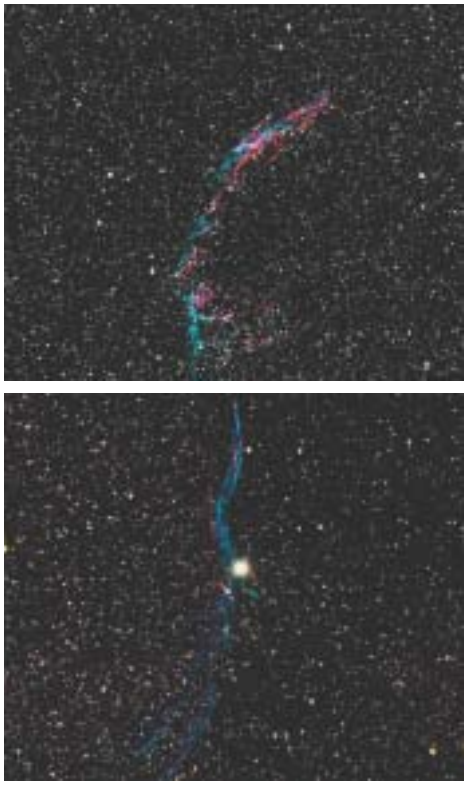
By Dr. James Dire, Kauai Educational Association for Science & Astronomy

Cygnus, the Swan, is perhaps the best-known Milky Way constellation gracing the summer skies. Some know it as the Northern Cross, an asterism contained within the constellation. Regardless, the constellation's location along the galactic equator provides it with a wealth of star clusters and emission nebulae. One of the most striking objects in the constellation is the Bridal Veil Nebula, discovered by William Hershel in 1784.

The Veil Nebula is a huge supernova remnant spanning 2.6 degrees. The nebula is often called the Great Cygnus Loop, the center of which is located 3 degrees south-southeast of the star Gienah, although there is nothing at the center. The brightest parts of the nebula are arcs located on the southwest and northeast side of the loop. These regions are visible in 3-4 inch telescopes in dark skies, but are best viewed in 8-inch or larger instruments.

The remainder of this article will describe those two arcs.

The western arc goes by many names: NGC6960, the Network Nebula, the Lacework Nebula, the Witch's Broom Nebula, and the Western Veil Nebula. This is the easiest part of the Veil Nebula to find since the 4th magnitude star 52 Cygni lies right on the edge of the arc. 52 Cygni lies 3.25 degrees due south of Gienah. Center 52 Cygni in a low power eyepiece and slew north of the star to view the brightest portion of the Western Veil. An O-III filter may enhance the contrast of the nebula.



These images of the Eastern, left, and Western Veil Nebulae were taken by the author with a canon 30D camera attached to a 102mm f/6.3 refractor.

The north section of the Lacework Nebula is narrow and has a tightly wound filamentary structure. South of 52 Cygni, the filaments are spread out much farther in right ascension and may require averted vision to see.

Like the western portion, the eastern portion of the Veil Nebula has several names: the Network Nebula, NGC6992, NGC6995 and of course, the Eastern Veil Nebula. The northernmost half of the Eastern Veil Nebula is NGC6992. This is the brightest part of the Cygnus Loop. It can be found a half-degree southwest of the midpoint between the stars Gienah and Zeta Cygni. Like the Eastern Veil Nebula, its extent reaches far beyond the eyepiece field of view in an 8-inch telescope. Panning north and south is required to see the nebula from end-to-end. The southern half of the Network Nebula, NGC6995, is broader and fainter than the northern half.

The Veil Nebula is 1500 light years away. Studies of the expansion rate of the gases indicate that the supernova that created it occurred 5,000-10,000 years ago. The hues of the various filaments of the nebula range from red to white to blue, as can be seen in the accompanying images. However, these colors cannot be seen in the eyepiece due to the low intensity of the light. The exposures used for these images duplicate the detail that can be seen in mid-sized amateur telescopes. ✵

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