



**Chandra X-ray  
Observatory Center**

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**R Aquarii:** A binary star system located about 710 light years from Earth.

(Credit: X-ray: NASA/CXC/SAO/R. Montez et al.; Optical: Adam Block/Mt. Lemmon SkyCenter/U. Arizona)

**Caption:** This composite image shows Chandra X-ray data (blue) along with optical data of the "symbiotic" system R Aquarii (R Aqr). This system contains a white dwarf star in orbit with a pulsating red giant. Occasionally, the white dwarf pulls enough material from the red giant onto its surface to generate a thermonuclear explosion. Since shortly after Chandra launched in 1999, astronomers have been using the X-ray telescope to monitor the behavior of R Aqr, giving them a better understanding of the behavior of this volatile stellar pair.

**Scale:** Image is about 4.2 x 3.4 arcmin

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*