

Hubble spies a rebel

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Credit: ESA/Hubble & NASA

Most galaxies possess a majestic spiral or elliptical structure. About a quarter of galaxies, though, defy such conventional, rounded aesthetics, instead sporting a messy, indefinable shape. Known as irregular galaxies, this group includes NGC 5408, the galaxy that has been snapped here by

the NASA/ESA Hubble Space Telescope.

John Herschel recorded the existence of NGC 5408 in June 1834. Astronomers had long mistaken NGC 5408 for a [planetary nebula](#), an expelled cloud of material from an aging star. Instead, bucking labels, NGC 5408 turned out to be an entire galaxy, located about 16 million light-years from Earth in the constellation of Centaurus (The Centaur).

In yet another sign of NGC 5408 breaking convention, the galaxy is associated with an object known as an ultraluminous X-ray source, dubbed NGC 5408 X-1, one of the best studied of its class. These rare objects beam out prodigious amounts of energetic X-rays.

Astrophysicists believe these sources to be strong candidates for [intermediate-mass black holes](#). This hypothetical type of black hole has significantly less mass than the [supermassive black holes](#) found in galactic centers, which can have billions of times the mass of the sun, but have a good deal more mass than the [black holes](#) formed when giant stars collapse.

Provided by NASA

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