

Hubble captures jellyfish galaxy JW39

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Credit: ESA/Hubble & NASA, M. Gullieuszik and the GASP team

The jellyfish galaxy JW39 hangs serenely in this image from the NASA/ESA Hubble Space Telescope. This galaxy lies over 900 million light-years away in the constellation Coma Berenices and is one of several jellyfish galaxies Hubble has been studying over the past two years.

Despite this jellyfish galaxy's serene appearance, it is adrift in a ferociously hostile environment: a [galaxy cluster](#). Compared to their more isolated counterparts, the [galaxies](#) in galaxy clusters are often distorted by the gravitational pull of larger neighbors, which can twist galaxies into a variety of shapes.

If that was not enough, the space between galaxies in a cluster is also pervaded with a searingly hot plasma known as the intracluster medium. While this plasma is extremely tenuous, galaxies moving through it experience it almost like swimmers fighting against a current, and this interaction can strip galaxies of their star-forming gas.

This interaction between the intracluster medium and the galaxies is called ram-pressure stripping and is the process responsible for the trailing tendrils of this jellyfish galaxy. As JW39 moved through the cluster, the pressure of the [intracluster medium](#) stripped away gas and dust into long trailing ribbons of [star formation](#) that now stretch away from the disk of the galaxy.

Astronomers using Hubble's Wide Field Camera 3 studied these trailing tendrils in detail, as they are a particularly extreme environment for star formation. Surprisingly, they found that star formation in the 'tentacles' of jellyfish galaxies was not noticeably different from star formation in the galaxy disk.

Provided by NASA

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