MRK 1216 is an example of a “red nugget” galaxy, so-called because of its compact size and a population of predominantly old stars which give the galaxy a red color in the optical band.

Red nugget galaxies, though fairly common ten billion years ago, mostly merged with other galaxies and are extremely rare in the present epoch.

MRK 1216 is one of about a half dozen known surviving relic red nuggets that avoided merging with other galaxies.

Chandra discovered X-ray emission from an extended cloud or halo around MRK 1216 and another relic red nugget.

A massive black hole with a mass of about 5 billion times the mass of the Sun lies at the center of MRK 1216.

Energy generated by gas falling toward this black hole probably keeps the gas hot, and suppresses the formation of new stars, accounting for the galaxy’s red color.