

Smoking Cigar: Cigar Galaxy gets its name from long, narrow shape

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The Cigar Galaxy (M82) is 12 million light years away in the Ursa Major constellation.

Dr. Carlos Rotellar

“I found through the 7-foot telescope, closely above of UMa (Ursa Major), east near the star δ at its ear, two small nebulous patches ...” Johann Elert Bode, 1774.

This month we feature the Cigar Galaxy (M82) 12 million light years away in the constellation Ursa Major and with a diameter of 47,000 light years. It owes its name to its long and narrow shape.

In the image, we can see the Cigar Galaxy and to the right lower corner a picture including the Bode's galaxy (M81), which we will discuss next month.

The Cigar Galaxy is an edge-on, “star-burst” spiral galaxy discovered in 1774, along with Bode’s Galaxy, by the German astronomer Johann Elert Bode. The Cigar Galaxy is estimated to be 500 million years old and contains more than 30 billion stars.

Galaxies that undergo a very high rate of star formation are classified as “star-burst” galaxies. In this image, we can see the “bluish” galactic disk on its edge and the red streams of glowing hydrogen blasting out from the center of the galaxy, pushed by the supermassive galactic winds. These galactic winds can travel at speed of several thousand miles per second.

Around the Cigar Galaxy center, stars are being formed at a rate 10 times faster than the formation of stars in the entire Milky Way. Eventually, in several million years, the rate of star formation will decrease as it consumes the material needed to form more stars.

The Cigar Galaxy is affected by the interaction with Bode’s Galaxy separated by 130,000 light years. It is this interaction that is fueling the Cigar Galaxy star formation. It also has a high rate of supernova explosions and contains a supermassive black hole at its core with a mass of about 30 million solar masses.

These galaxies are intertwined in a galactic dance that is shaping their destinies.

– Dr. Carlos Rotellar is a Bowling Green nephrologist who has had an interest in astrophotography and has been taking images of the universe from his driveway for several years. Website: Skyastrophotos.com.