Surveyed Lava Tubes of Jalisco, Mexico

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La Cueva Cuata and La Madriguera de los Lobos are the only lava tubes surveyed in the Mexican state of Jalisco and so far the only lava tubes reported in Western Mexico (Jalisco, Colima and Nayarít). The caves are situated in CerroTequilizinta, 52 kms northwest of Guadalajara, in a canyon wall overlooking the Santiago River, at N20°55′08.3″ W103°45′11.6″. Both caves are in the Rio Santiago alkali basalts, which are from 1.3 to 0.4 million years old Their approximate location in Mexico is shown in Figure 1.

Cuata Cave

Cuata cave is 280.79 m long with passages varying in height from 1.9 m to .25 m and ranging in width from 15 m to 1 m. A map of the cave is shown in Figure 2.

Members of Grupo Espeleológico Zotz first investigated this cave in early 1990 and surveyed it during the same year. The cave can be reached via a paved road from Amatitán to the pueblo of Chome, after which dirt roads lead to a tequila distillery called La Taberna. From here it is necessary to hike northwest for one hour along a narrow trail which leads to La Barranca de Santa Rosa. La Cueva Cuata is one of numerous caves in a wall of a precipice on the south side of the Santiago River and at least 100 m above the river bed. Care must be taken in order to climb up to the cave entrance, but no gear or rigging are required (see Fig. 3).

The cave entrance is protected by a low, man-made wall at the very edge of the precipice. The entrance room, shown in Figure 4, is nearly 2 m high, 20 m long and 8 m wide. Dry, powdery sediment of an unknown depth covers the floor of this room. A seven-tiered, man-made religious altar of recent origin is found against the north wall of the room. This was placed here by a sect which believed this cave would be one of seven sites spared at the end of the world. A low passage connects this room to another entrance in the precipice wall.

Figure 1. Location of Cuata and Madriguera de los Lobos Caves in Mexico.

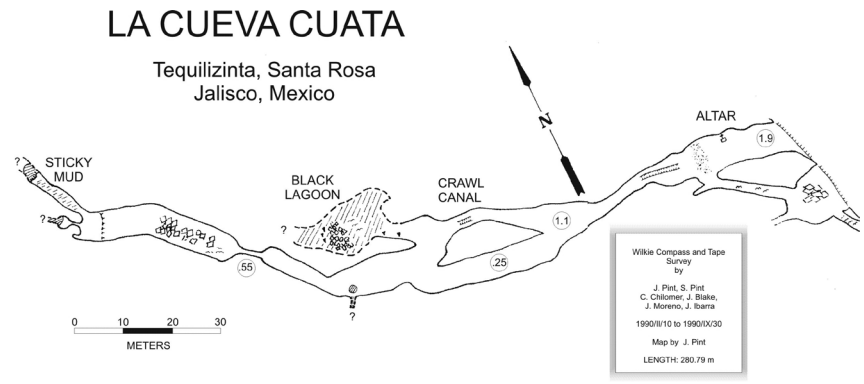

Figure 2. Map of Cuata Cave.

Figure 3. The approach to Cuata Cave requires an exposed climb high above the Santiago River.

The interior of the cave consists mainly of mud-or-clay-filled passages beneath an arched roof (Fig. 5). Trenches have been dug through the mud in some places to facilitate access.

Throughout most of the cave, the original ceiling appears to have spalled off long ago. However, 83 m south of the main entrance, lava stalactites, black in color and less than 4 cm long were observed in an indentation on the passage ceiling (Fig. 6). These were taken to be an indication that this cave is, in fact, a lava tube.

The cave contains a pool of water (The Black Lagoon), roughly 15 x 20 m and less than 60 cm deep, contaminated by the droppings of vampire bats which roost above it. At the far western end of the cave, an area of sticky clay is found. The cave continues in a westerly direction as a low, water-filled passage which was not explored.

La Madriguera de los Lobos

On April 6, 2006, John Pint and Sergi Gómez investigated the accessible holes beneath Tequilizinta Bluff. In one of these, lava stalactites were observed and in another, a lava stalagmite about 50 cm high and wide was found (Fig. 7). The largest of these holes is located directly underneath La Cueva Cuata and turned out to be a cave with passages totalling approximately 100 m in length, ranging in width from 25 m to 1 m. This cave was named Madriguera de los Lobos. A map of the cave is shown in Fig. 8.

The entrance is 7 m wide and 1.3 m high. Flat layers of rock in the entrance room appear to be layers of lava. The

Figure 4 (top). The entrance room viewed from the edge of the precipice. Note dry sediment on floor and altar in the distance.

Figure 5 (middle). Typical passage in Cuata Cave, less than 1 m high. One of three species of bats inhabiting the cave is shown in this photograph.

Figure 6 (bottom). Lava stalactites on a passage ceiling with double-A battery for scale.

Figure 7. Outdoor lava stalagmite found approximately 20 m south of La Madriguera de los Lobos.

floor of the cave is covered with powdery sediment, bat guano and, beginning about 60 m inside, what appears to be the dry scat (Fig. 9) of wolves or coyotes. Calcite stalactites less than 10 cm long were observed on the ceiling. Bats were found in several parts of the cave. In most parts of this cave the ceiling height is around 70 cm. About 80 m from the entrance, the roof rises and chunks of breakdown fill much of the space. Airflow through the breakdown was noted in this area, as well as the flight of bats in and out of a further extension of the cave. Because this breakdown area seemed rather unstable, no attempt was made to follow the air flow.

There are additonal photographs for this article in the supplementary material on the CD.

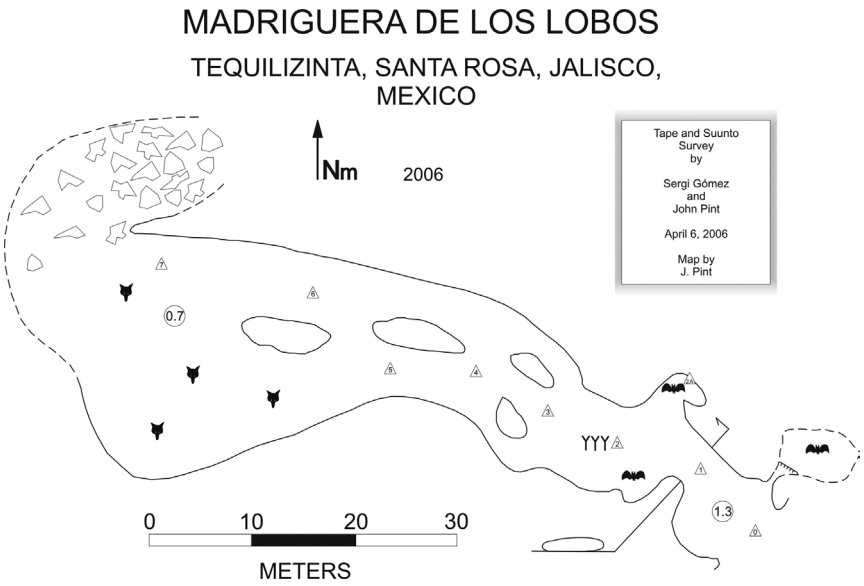

Figure 8. Map of La Madriguera de los Lobos Cave.

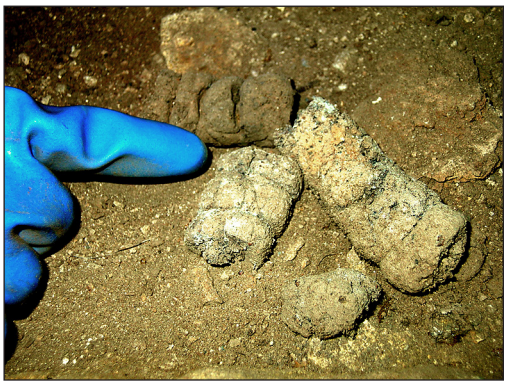

Figure 9. Typical sample of dry scat found about 50 m inside the cave.