

Cave fauna from “Las Sardinias”, one Mexican mixed energetic subterranean system

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Las Sardinias cave (or Cave of Villa Luz) is located at Tabasco State (3.5 km south of Tapijulapa, Mexico). Altitude at the area is about 100 m. There are very few records of the animals living in this interesting cave, which is a very special environment as it has mixed resources of energy, from bat guano, vegetal debris and autotrophic bacterial colonies.

This cave is rather small, about 300 m long. The main chambers are not taller than 15 m and the communication among them occur through very narrow passages, but there are several entrances which allow litter and soil to fall inside different parts of the cave.

Some chambers are inhabited by huge populations of bats. We have seen five species of the Mormoopidae family. In the guano of those bats there are very complex communities of arthropods.

We are presenting a film with our results of the bioespeleological work recently done in this cave. Specimens were hand collected or extracted from soil, litter and detritus in Berlese-Tullgren funnels.

We have observed many arachnids, four families of Spiders, and specimens of Pseudoscorpionida, Amblypygi and Opiliona.

Among the mites, most abundant are the Cryptostigmata (Malaconothridae: *Malaconothrus*; Haplozetidae: *Rostrozetes*) which are usually very common in soil and litter. Members of Astigmata mites (Acaridae and Gnarolichidae) have been collected in several places of the cave, including where “snotites” (chaetotropic bacteria colonies) are growing. Most frequent predators are Mesostigmata and Prostigmata (Cunaxidae), the micophages belong to the Uropodidae family and the ticks Argasidae are associated with bats, being very often found on the guano.

Springtails are also very abundant. We have recorded the following genera: *Willemia*, *Schaefferia*, *Cryptogygus*, *Pseudosinella* and *Americanura*. Specimens of Chilopoda, Diplopoda and Symphyla were also collected. The most abundant insects are the flies *Tendipes fulvipilus* (Diptera: Tendipedidae) which develop on the bat guano. The aquatic arthropods include water crabs of the family Potamonidae and hemipteran insects of the families Gerridae and Belostomatidae. Other terrestrial insects are Psocoptera, Orthoptera, Coleoptera, and Hymenoptera which are under study.

We have found that this environment is very special, with a high diversity of species well adapted to partial conditions and it needs to be preserved because it is unique in America and ecological studies need to be done before the system can be modified.