

# CUEVA DEL BUCIO LAVA TUBE (TENERIFE, CANARY ISLANDS): MAPPING, ENVIRONMENTAL FEATURES AND ANIMAL COMMUNITIES.

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## ABSTRACT

The survey and a faunistic study of Cueva del Rucio (Aguamansa, Tenerife) was carried on. The animal communities in this small lava tube resulted very varied, probably due to the optimal environmental characteristics and conservation; a total of 27 invertebrate species were found, 14 of them being troglobites.

## SITUATION

Cueva del Bucio is a small lava tube situated in Aguamansa (La Orotava), at 1.100 m above sea level (U.T.M.: 28RCS 5237). This cave was discovered in 1982 during the construction of a farm, having been a stanch tube until that time. It is probably connected to other small lava tubes situated up in the same direction, but it is impossible to go through due to an extremely narrow passage at the upper end of Cueva del Bucio and to intermediate collapses.

## FEATURES

According to MONTORIOL-POUS (1973) classification, Cueva del Rucio is a syngenetic, rheogenetic, volcanic cave. This is a 116.4 m long unbranched lava tube, which the only entrance is a skylight at 3.6 m over the cave floor. From the entrance and towards the NW it continues about 20 m, finishing in a collapse. In the opposite direction the cave is 100 m long with a natural narrow passage at the end blocking the way.

The more spacious part of the cave, close to the entrance, is 4 m wide and 5 m high. The substrate is mostly rocky and compact, without accumulated soil except in the proximity of the entrance and in the final section. The sloping is quite steep, continuously ascending towards SE.

## ORIGIN AND AGE

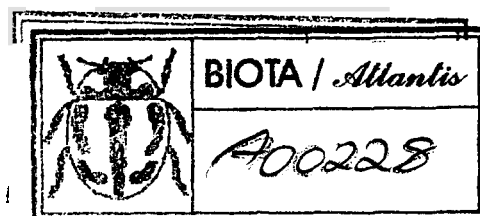
According to I.G.M.E. (1978), the neighbouring La Caldera volcano only ejected indifferenciated, pyroclastic lavas and was not responsible of the formation of Cueva del Bucio, so the origin of the cave is quite uncertain. It is located in a basaltic lava flow belonging to the so called Recent Series (ANCOCHEA et al., 1990).

There is no information about the precise age of the cave. CARRACEDO (1979) dated the area of no more than 0.69 Ma. Later, ANCOCHEA et al. (1990) postulate in its geological history of Tenerife island, that this terrain is about 0.06 Ma old.

## MATERIAL AND METHODS

The survey was made following the U.N.E. norms and corresponds to a V level precision, according to the scale accepted by the U.I.S..

Environmental features were measured using a Thies thermohygrometer set in the cave for 3 periods of 20 days each



We have been collecting in the cave between november 1990 and may 1992. During the visits we set pitfall traps as well in the ground as in crevices of the walls and roof. The traps contained a combination of a solid bait (blue cheese or liver) and a liquid one (Turquin). Careful searching was performed in all the visits, especially in the deeper parts of the cave.

## RESULTS AND DISCUSSION

A total of 27 different invertebrates were found, 14 of them being considered as troglobitic species. In table I are listed all the species, with indication on their adaptation to cave life.

Cueva del Bucio is surprising for holding a community with such a high percentage of troglobitic species (Table II). This abundance is maybe a consequence of the good isolation of the cave due to the presence of a mature soil on the surface, and of the excellent status of conservation.

Taking in account the distribution of species along the cave, we can divide it in two different sectors. Sector 1 includes the entrance and the twilight zone, more influenced by the outside environment in spite of the presence of a rather stanch metallic door. Just here were found most of the troglone species, but also the troglobitic *Tachycivius lavatubus* occurred; this is a frequent species also present in many caves of Tenerife, which distribution is associated with the existence of roots. Sector 2 is the deepest part of the cave, with constant environmental features (Table III) which facilitates the establishment of troglobitic species. In this part of the cave appeared *Domene vulcanica*, a rare troglobitic species only known from Cueva del Viento system, also in Tenerife.

## REFERENCES

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**Table 1.** Species list from Cueva del Bucio

<b>SPECIES</b>	<b>ADAPTATION</b>
<b>GASTROPODA</b>	
F. Zoiitidae	
<i>Oxychilus</i> sp.	troglophile
<b>ARASEAE</b>	
F. Dysderidae	
<i>Dysdera ambulotenta</i> Ribera, Ferr. & Blasco	troglobite
<i>Dysdera unguimmanis</i> Ribera, Ferr. & Blasco	troglobite
<i>Dysdera labradensis</i> Wunderlich	troglobite
F. Linyphiidae	
<i>Troglohyphantes oromii</i> (Ribera & Blasco)	troglobite
<b>PSEUDOSCORPIOSES</b>	
F. Chthoniidae	
<i>Tyrannochthonius superstes</i> Mahnert	troglobite
<b>ISOPODA</b>	
Gen. sp. indet.	unknown
F. Arniadillidae	
<i>Eluma purpurascens</i> Budde-Lund	troglophile
F. Armadillidae	
<i>Venezillo tenerifensis</i> Dalens	troglobite
<b>DIPLOPODA</b>	
F. Iulidae	
<i>Dolichoiulus</i> sp.	troglobite
<b>SYMPHYLA</b>	
<i>Scutigera armata</i> Hansen	trogloxene
<b>COLLEMBOLA</b>	
F. Entoniobryidae	
Gen. sp. indet.	unknown
<i>Pseudosinella canariensis</i> Da Gama	troglophile
<i>Lepidocyrtus curvicollis</i> Bourlet	trogloxene
F. Cyploderidae	
<i>Cyphoderus</i> sp.	unknown
<b>BLATTARIA</b>	
F. Blattellidae	
<i>Loboptera troglobia</i> Izquierdo & Martín	troglobite
<i>Loboptera</i> sp.	troglobite
<b>HOMOPTERA</b>	
F. Cixiidae	
<i>Tachycixius lavatubus</i> Remane & Hoch	troglobite
<b>COLEOPTERA</b>	
F. Carabidae	
<i>Wolltinerfia tenerifae</i> (Machado)	troglobite
<i>Canarobius chusyae</i> Machado	troglobite
<i>Canarobius oromii</i> Machado	troglobite
F. Staphylinidae	
<i>Aloconota philontoides</i> (Wollaston)	trogloxene
<i>Apteranopsis outerelei</i> Gamarra & Hdez.	troglobite
<i>Domene vulcanica</i> Oromí & Hernández	troglobite
F. Curculionidae	
<i>Laparocerus</i> sp.	trogloxene
<b>DIPTERA</b>	
F. Trichoceridae	
<i>Trichocera maculipennis</i> Meigen	troglophile
F. Phoridae	
<i>Megaselia</i> sp.	troglophile
<b>HYMENOPTERA</b>	
Gen. sp. indet.	trogloxene

Table II. Ecological characterization of animal community in Cueva del Bucio

	N° species	%
Troglobites	15	53.5
Troglophiles	5	17.8
Trogloxenes	5	17.8
Unknow	3	10.7
TOTAL	28	-

Table III. Environmental features of Cueva del Bucio.

Date	Temp. °C	R. Humidity
24.XI.90/ 14.XII.90	13	93 %
15.III.91 / 1.IV. 91	12.5	94 %
4.III.92 / 23.III.92	13	92 %