

## Remarks on a presumed record of *Felis margarita* from Tenerife, Canary Islands

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**ABSTRACT:** Some cat bones from the archaeological site Cueva de Don Gaspar (Tenerife) dating from the 6th century A.D. cannot be referred to the species *Felis margarita*, as suggested by SARRION MONTAÑANA (1985), but instead belong to a kitten of *Felis catus*, which makes it the earliest record of domestic cat in the Canary Islands.

**Key words:** *Felis catus*, archaeozoology, Tenerife.

**RESUMEN:** Algunos huesos de un gato encontrado en el yacimiento arqueológico de Don Gaspar (Tenerife) pertenecientes al siglo VI d.C., no corresponden a la especie *Felis margarita*, como SARRION MONTAÑANA (1985) toma en consideración, sino a un ejemplar joven de *Felis catus*. Este espécimen es la prueba más antigua de la presencia del gato doméstico en las Islas Canarias.

**Palabras clave:** *Felis catus*, arqueozoología, Tenerife.

### INTRODUCTION

Recently SARRION MONTAÑANA (1985) reported on some bone remains from the Prehistoric period of Tenerife, obtained during an archaeological excavation of the Cueva de Don Gaspar (ARCO AGUILAR 1985), which he assigned to rabbit (*Oryctolagus cuniculus*) and to a species of cat different from the domestic cat (*Felis catus*). He referred the cat bones (one left mandible with canine and an isolated lower canine tooth) to the sand cat, *Felis margarita*, based on the very small size of the mandible and on three qualitative characters different from mandibles of domestic cats. Although SARRION MONTAÑANA (1985) emphasized that his conclusions were tentative, due to lack of comparative material, soon after they were quoted as warranted in a textbook on the archaeology of the Canary Islands (NAVARRO MEDEROS & ARCO

AGUILAR 1987). It seems therefore appropriate to reconsider this small problematical cat, the more because a reliable record of the sand cat would represent a remarkable addition to the mammal fauna of the archipelago.

#### IDENTITY OF THE MANDIBLE FROM CUEVA DE DON GASPAR

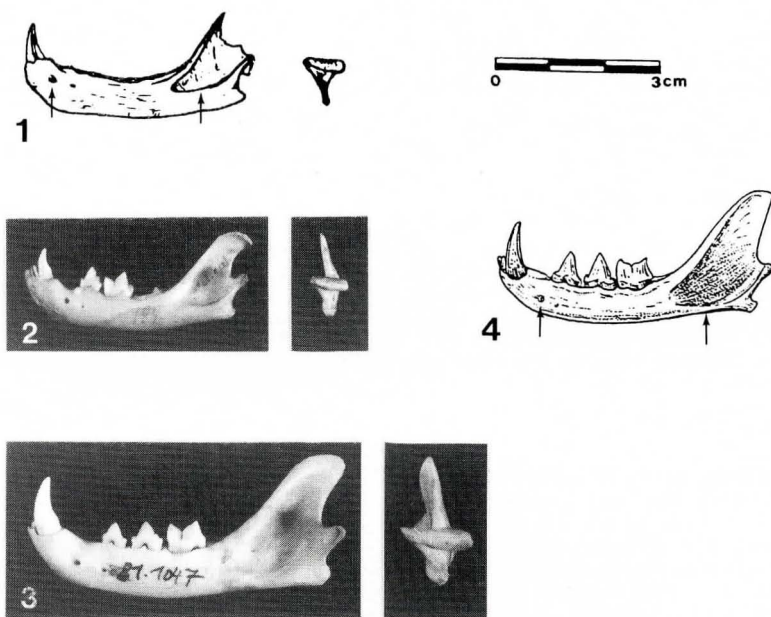
SARRION MONTAÑANA (1985) compared the subfossil mandible with 10 domestic cat skulls and, apart from small size, noticed differences in (a) the shape of the coronoid fossa, (b) the size and form of the condyloid process, and (c) the size of the alveoli. However, all these characters are also perfectly expressed in mandibles of kittens of Felis catus. Fig. 2 shows the mandible of a young cat of a few months of age, which is almost identical with the subfossil mandible from Tenerife, reproduced in Fig. 1. Even details like the position of the mental foramina agree very well. The dimensions of both mandibles are very close (Tab. 1). A kitten skull figured by CROUCH & LACKEY (1969, pl. 5) exemplifies the dramatic differences between young and adult skulls of domestic cats. The specimen shown in Fig. 2 possesses milk dentition. Using the tooth replacement data of BROWER-RABINOWITSCH (1976), its age can be estimated at around 90 days. The most likely identification of the subfossil mandible from Cueva de Don Gaspar is therefore a kitten of Felis catus.

However, how can Felis margarita be excluded by morphological characters of the mandible? Unfortunately there exists almost no published information on the mandible of this cat. PANOUSE (1957), ROSEVEAR (1974), HEMMER (1978) and OSBORN & HELMY (1980) illustrated mandibles but did not describe them. ROSEVEAR (1974) mentioned that the first lower molar was shorter than in African wild cats. Mandible length measurements of 4 adult African sand cats (POCOCK 1938) range from 58 to 65 mm, which is similar to the range of Felis catus (see Tab. 1). The available illustrations together with my own comparisons show that Felis margarita has several features that distinguish its mandible from Felis catus:

- (a) the diastema (distance between canine and p3) is considerably shorter,
- (b) the mental foramina are situated more ventrally,
- (c) the coronoid fossa is more expanded and reaches almost to the ventral margin of the mandibular ramus,
- (d) the dorsal contour of the mandibular ramus is more rounded and smooth - this structure is angular in F. catus (compare Figs. 2 and 4).

Characters b, c, d seem to distinguish the juvenile stages of both species very well. The subfossil fragment from Tenerife once again falls into the F. catus cluster.

There are also biological arguments to reject the possible existence of Felis margarita in Tenerife. The Cueva de Don Gaspar is situated in the north of the island which is densely vegetated and receives much rain. Throughout its range from Morocco to Pakistan the sand cat is always associated with sand dunes and dry climate (SCHAUBENBERG 1974).



**Plate I.** Left mandibles in external view and condyle in posterior view of *Felis catus* (1 - 3) and *F. margarita* (4, mandible only).- **Fig. 1.** Subfossil fragment from Tenerife, adopted from SARRION MONTAÑANA 1985, with the author's reconstruction of the mandibular ramus deleted.- **Fig. 2.** Mandible of a domestic kitten of about 3 months of age with milk dentition.- **Fig. 3.** Adult *Felis catus* from Lanzarote.- **Fig. 4.** Young *F. margarita* from Algeria, from PANOUSE 1957.- All figures brought to approximately the same scale. Arrows point to important differences.

Table 1. Mandible measurements (in mm) of domestic cats.

Specimen and origin	Condylo-incisive length	Alveolar length of cheek teeth	Height of mandible at p4/m1
<u>Felis catus</u> newborn Germany	35.2	-	7.0
<u>Felis catus</u> kitten Germany	42.2	17.4	7.5
Subfossil mandible Tenerife *	41.1	17.3	7.4
<u>Felis catus</u> subadult Gomera	56.8	17.9	10.0
<u>Felis catus</u> adult Lanzarote	60.0	19.7	10.0
<u>Felis catus</u> adult Gran Canaria	60.9	19.2	10.3

\* from SARRION MONTAÑANA 1985; other measurements from specimens in the Museum Alexander Koenig, Bonn.

#### SIGNIFICANCE OF THE PREHISPANIC CAT RECORD

The cat record from Tenerife is, despite its corrected identification to Felis catus, by no means ordinary. Until recently, felids did not appear in the archaeological record of the Canary Islands. As ZEUNER (1959) pointed out, "the prehistoric immigrants who imported domesticated animals into the Canary Islands brought with them only the dog, the goat and the pig." This general opinion was supported by a number of excavations in different islands: ZEUNER himself studied these three animals from the Prehistoric site of Guayadeque, Gran Canaria, DIEGO CUSCOY (1968, 1979) and ACOSTA MARTINEZ & PELLICER CATALAN (1976) recorded them from several sites in Tenerife, and LEON HERNANDEZ et al. (1987) and HERNANDEZ CAMACHO et al. (1987) from Fuerteventura and Lanzarote. According to the chronistas, sheep may have been also present before the conquest (ALVAREZ DELGADO 1944, ZEUNER 1966, HERNANDEZ PEREZ 1983).

As regards the cat, WEBB (1836) commented: «Le Chat a été amené aux Canaries par les Européens». The cat record from Cueva de Don Gaspar dates from the 6th century A.D. (AGUILAR 1985) which is almost 800 years before the conquest. The juvenile condition of the animal and the abundance of cereal grains in the same site (HOPF 1985) allow the supposition that domestic cats were kept by the Prehispanic population, as pets and/or as mouse-hunters.

The history of the domestication of the cat is largely unknown. One can only assume that the Canary Island cat populations

stem from the African lineage of the domestic cat (KRATOCHVIL & KRATOCHVIL 1976). The present-day Felis catus of the Canary Islands include also populations which have returned to the wild state, both in ecology and external morphology. Such feral populations were studied in the Montes de Pajonales, Gran Canaria (SANTANA et al. 1986) and in the juniper woodland of El Hierro (NOGALES et al. 1988), and were also reported by VERNEAU (1891) from the Montes de Anaga, Tenerife. Already LEDRU (1796) mentioned "wild cats" existing in the Canary Islands. Now we can assume that they had more than 1000 years to adapt to a life in the cold and wet evergreen forests of the islands. However, these considerations are only based on the few available bones reported by SARRION MONTAÑANA (1985). A careful study and identification of the rich animal bone collections brought together by Spanish archaeologist, as suggested by MECO CABRERA (1982), could provide significant new information about the history of domesticated animals in the Canary Islands.

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