

# A Porcupine find from Roman Africa with a review of Archaeological data from circummediterranean sites

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**ABSTRACT:** The retrieval of a porcupine mandible from the Roman city of Ceuta is used to explore the putative introduction of *Hystrix cristata* into Europe through a review of the archaeozoological record of the genus *Hystrix* in circummediterranean sites during the Pleistocene and Holocene. Although scarce, the evidence indicates that porcupines were alien to the European Holocene fauna and that their appearance in Italy does not occur prior to the 12<sup>th</sup> - 13<sup>th</sup> centuries A.D. On the basis of ethnographical and taphonomical data we maintain, as a working hypothesis, that porcupines were introduced into Europe as game animals.

**KEYWORDS:** PORCUPINE, *Hystrix cristata*, EUROPE, ITALY, INTRODUCTION, ARCHAEOZOOLOGY, MEDIEVAL, ROMAN

**RESUMEN:** La recuperación de una mandíbula de puercoespín en la Ceuta romana impulsa un estudio acerca de la posible introducción de *Hystrix cristata* en Europa gracias a un repaso del registro arqueozoológico de yacimientos circummediterráneos del Pleistoceno y Holoceno. Aunque escasa, la evidencia parece apuntar a que la especie es ajena a la fauna holocénica europea y que su aparición en Italia es un fenómeno tardío, nunca romano, posterior a los siglos XII-XIII d.C. Sobre la base del registro tafonómico y etnográfico, avanzamos, como hipótesis de trabajo, que los puercoespines fueron introducidos en suelo europeo como especie cinegética.

**PALABRAS CLAVE:** PUERCOESPÍN, *Hystrix cristata*, EUROPA, ITALIA, INTRODUCCIÓN, ARQUEOZOOLOGÍA, EDAD MEDIA, ÉPOCA ROMANA

## INTRODUCTION

The crested porcupine (*Hystrix cristata*) is one of those species of mammals whose presence in Europe «...suggests the possibility...(of)...an artificial introduction» (Miller, 1912: 543). This claim has been made more explicitly by Brehm (1916) who states that the Romans imported the animal from northern Africa into Italy. In fact, many authors apparently accept this hypothesis as established dogma, notwithstanding the fact that, to this day, nobody has specified either the place and date of this event or its causal agent, whether natural or anthropic (Toschi, 1965; van den Brink & Barruel, 1971; Kingdom, 1974; Corbert, 1978). As is demonstrated below, reviews of archaeozoological evidence are equally scarce and dubious.

## THE PORCUPINE MANDIBLE FROM CEUTA

A left mandible of a porcupine was retrieved in the 1996 urban excavations carried out in the Paseo de las Palmeras in the Spanish city of Ceuta (northern Africa) (Figure 1). The artifactual evidence dated this level as Roman Imperial (2<sup>nd</sup> - 3<sup>rd</sup> centuries A.D.). The remaining levels at the site were either Late Imperial (4<sup>th</sup>-5<sup>th</sup> centuries A.D.) or Byzantine (6<sup>th</sup> century A.D.) (Bernal & Pérez, 1996).

The piece was fractured into two portions, one corresponding to the vertical ramus (Figure 2A) and the other to the mandibular ramus (Figure 2B). The incisor was likewise fractured at the apex, although the molariform toothrow was complete (length at crown level of M1-M3: 27 mm). The emerging premolar (P4) identifies the specimen as a subadult.



FIGURE 1

Location of the city of Ceuta (N. Africa, Spain) and distribution of crested porcupine (*Hystrix cristata*) in Europe at present (Southern Italy and Sicily) (after several authors).

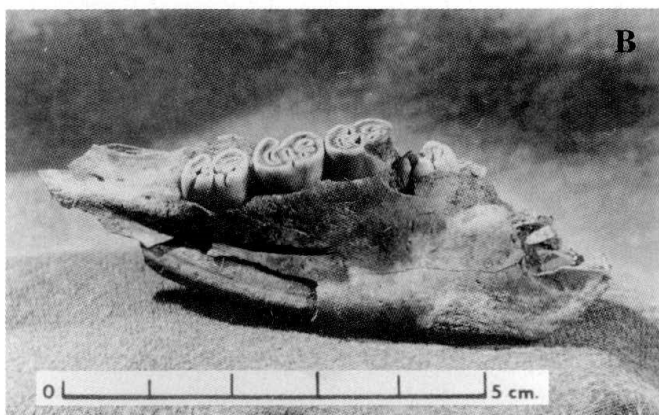
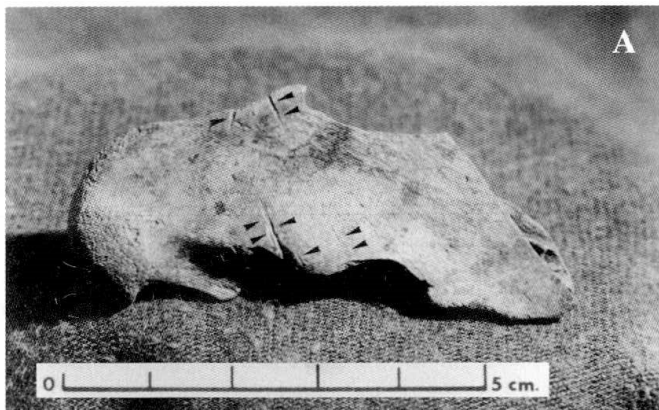


FIGURE 2

**A:** vertical ramus of crested porcupine left mandible (labial view) with cutmarks (arrows) on the oral and aboral margins of the ascending process. **B:** horizontal ramus (lingual view) of the same bone with three permanent molars, the emerging P4 and the root of the incisor.

A prominent feature of the vertical ramus was a series of cutmarks in both the oral and aboral margins (Figure 2A, arrows). Although the meaning of such marks is not totally clear, those on the aboral margin could even be indicative of skinning whereas the ones on the oral side could have been aimed at separating the jaw from the skull (by sectioning the masseter muscles; McNeill Alexander, 1975) or, eventually, at extracting the tongue (Figure 3). In both cases, such butchering can be taken as evidence pointing to the consumption of the animal.

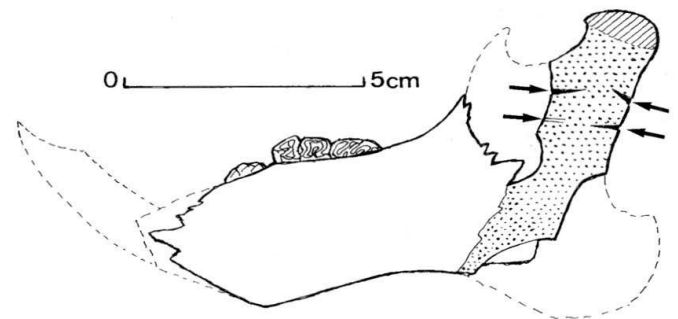


FIGURE 3

Reconstruction of the Ceuta mandible to evidence the nature of the cutmarks (arrows). The areas for the insertion of the masseter and temporal muscles are shown dotted and striped respectively.

## DISCUSSION

Although the taxonomic status of this find has not been certified on the basis of reference specimens, both pictorial (eg., Chaline, 1966; Chaline & Mein, 1979: 121) and corological data (Kingdom, 1974; Corbet, 1978) point to the presence of *Hystrix cristata*, the crested porcupine. The distribution of this species ranges through a large part of Africa north of the Congo river and as far south as the southern Highlands of east Africa. Two vicariant forms occur in southern Africa (*H. africa-australis*) and the Near East (*H. indica* = *H. hirsutirostris*) the latter spreading eastwards to India and westwards into Turkey (Corbet, 1978: 258). Still, the precise boundaries for each species are open to discussion (Figure 4). In Europe, in particular, Smit & Wijngaarden (1976: 40) were the first ones to deny the presence of porcupines (whether *H. cristata* or *H. indica*) in the Balkan

peninsula, a claim repeatedly made by various handbooks and field guides (eg. Kurtén, 1968; van den Brink & Barruel, 1971).



FIGURE 4

Distribution of three vicariant species of porcupines: *Hystrix cristata* (vertical stripes), *H. africa-australis* (horizontal stripes) and *H. indica* (black) (Data taken from Kingdom, 1974; Corbert, 1978).

The historical distribution of porcupines in the Old World is obviously much wider. The group seems to have originated in Asia (Oligocene of Siwalik) but migrated into Africa and Europe as early as the lower Miocene (*Myohystrix parvae*, Vallesian of Hungary) (Chaline, 1966; Lavocat, 1973, 1978; Chaline & Mein, 1979). The genus *Hystrix* is present in Europe since Vindobonian (ie., Miocene) times (*H. primigenia*) and all throughout the Pleistocene with various species of uncertain affinities (small species like *H. vinogradovi* are common in the late Pleistocene whereas the Villafranchian harbours taxa of much larger size like *H. refossa* and *H. etrusca*) (Kurtén, 1968). Most of these finds are restricted to east-central Europe and to the Italian peninsula. In Iberia, the Pleistocene record is restricted to Gibraltar and to 5 Mindel/Riss - Riss French Pyrenean sites (Kurtén, 1968; Clot & Durathon, 1990). The relationships of these species to Holocene and present day *H. cristata* remain unclear.

During the Holocene, *Hystrix* remains appear in several central African and northern African sites (Kurtén, 1968; van Neer, 1989), as well as all throughout the Levant since Paleolithic times (Hooijer, 1961). *H. indica* has been retrieved in the Mousterian layers of Qafzeh (Israel) (Rabinovitch & Tchernov, 1995) and Ksâr'akil (Lebanon) (Hooijer, 1961) and also in the Neolithic of Bouqras (Syria; 6400-5900 B.C.) (Clason, 1980). During historic times the species was recorded in Roman-Islamic Tell-Abu-Sarbut (van Es, 1995) and in the Islamic layers of Tell Hesban (Driesch & Boessneck, 1995), both in Jordan. In all cases porcupine remains seem to be casual finds (1-2 bones for the most part), some from non-adult animals. No data are provided on butchering practices. This situation seems to contrast with that of India where, according to Dr. P.K. Thomas (pers. com.), porcupines are a prominent taxa of faunal collections in sites dating from the Mesolithic to fully historic times.

There does not seem to be any Holocene record of porcupines in Europe prior to historic times. As expected, our search through the literature only yielded data from Italian sites. Thus, *H. cristata* has been reported at Settefinestre (King *et al.*, 1985) and Farnese (Wilkens, 1991). In both cases, the porcupines appeared in post-Medieval (ie., 15<sup>th</sup>-16<sup>th</sup> centuries) layers. An earlier, Medieval, find has recently been made by the team of de Grossi (pers. com.) in the Basilica di Santa Cecilia in Rome (12<sup>th</sup>-13<sup>th</sup> century layers), but remains unpublished. In the light of these data it seems evident that porcupines were not part of the recent mammal fauna of Europe but their introduction into the subcontinent may have been a phenomenon postdating the Romans. In relation to this last statement it is worthwhile to recall that the earliest known written record specifically stresses that porcupines had (sic.) «... an introduction at the time this work has been written» (Agricola 1614 in Cabrera, 1932: 289). Two further Italian finds deserve some comment. The first one is Apulia (SE Italy) an Iron Age (ie., 8<sup>th</sup>-7<sup>th</sup> centuries B.C.) site where U. Albarella identified a porcupine skull and a few other bones - some definitively belonging to a second, younger specimen. These finds were not radiocarbon dated and Albarella (pers. com.), despite the archaeologist's claim that the layer was «sealed and secure», is unsure about their validity.

The second find comes from the late Roman site of San Giovanni di Ruoti (Basilicata, S. Italy) and was made by Michael McKinnon but remains

unpublished (Albarella, pers. com.). The confirmation of this find would prove vital to determine whether the introduction of porcupines took place prior to or after Medieval times. Finally, Albarella (pers. com.) informed us about the presence of gnawing marks attributed to porcupines in an unspecified Neolithic site from southern Italy. The identification at this same site of black rat and dromedary dilutes, so to speak, this claim under the suspicion of either lack of rigour or, else, unreliable dating!

Ethnographical and bibliographical data, concerning the consumption of crested porcupines seem to agree on the palatability of its meat. Thus, Mbuti pygmies consider this animal a delicacy and the people of Morocco hold its meat in high esteem (Cabrera, 1932; Carpaneto & Germi, 1989). Indeed, this fondness of porcupine meat may be one of the reasons that explains the overhunting of the rodent in Italy to the point of extinction (Smit & van Wijngaarden, 1976; D. Albertini, pers. com.). From this standpoint, the cutmarks in the Ceuta specimen do seem to have been carried out with the intention of butchering and consuming the beast. One can even speculate if it was for this reason that porcupines were introduced into Europe.

Porcupines are dangerous prey. In East Africa, for example, «... *the porcupine has a reputation of being hard to kill and very considerable injuries often heal quickly.*» (Kingdom, 1974: 692). Mbuti pygmies hunt them with iron arrows, the same kind used to bring down large prey. Obviously, some of this reputation is rather straightforward to explain (eg. «...*The enormously swollen nasal sinuses must help protect vital centres as this outer casing of the skull can be broken without fatal results.*» (Kingdom, 1974: 693) but in many cases it has given rise to legends. Moroccans, for example, believe that the animal is actually able to shoot its quills some distance, as if they were arrows (Cabrera, 1932: 288). Porcupine quills are, in fact, a favourite ornament as well as a talisman in east Africa, where they are thought to provide protection against all sorts of ailments and diseases from febrile convulsions to smallpox (Kingdom, 1974). Eventually, in some regions, porcupines attained symbolic or religious status and one may wonder if this could be an alternative explanation for its introduction into Europe.

## CONCLUSIONS

In the light of the previous comments, it seems evident that our state of knowledge is still much too incomplete to settle matters concerning the particulars of the when and where of the introduction of porcupines onto European soil. Still, if our bibliographical quest is to be of any value, we have to admit that porcupines are a rare item in non-European sites throughout the circummediterranean Holocene that were most likely introduced in Medieval times, either by north African sailors or by European crusaders. From this standpoint one could also expect the Iberian peninsula, with its seven centuries of Muslim occupation, to be a target area for future research. The introduction being attributable to the romans, on the other hand, depends on a definite dating of the San Giovanni di Ruoti finds. As for the reasons behind the event itself, we can only speculate that ethnographical and bibliographical data lend support to the idea of an introduction of porcupines as game animals. This possibility will remain as a working hypothesis in need of future verification or refutation.

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