

A SYNTHESIS OF KNOWLEDGE ON THE LARGE PLEISTOCENE MAMMALIAN FAUNA FROM CORSICA

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Resum

Durant els darrers deu anys, el coneixement sobre la fauna de grans mamífers del Pleistocè de Còrsega s'ha incrementat significativament gràcies a l'estudi de vuit conjunts fossilífers provinents de 6 jaciments fossilífers: Castiglione 1 et 3 (Oletta/Haute-Corse), La Coscia abri sud, abri nord-oeust (Rogliano, Cap Corse, Corte (Haute-Corse), Punta di Calcina (Corse du Sud). Divuit espècies extingides (6 micromamífers i 12 macromamífers) es troben distribuïdes en un interval de temps que abasta des del Pleistocè Mitjà fins a la fi del Pleistocè Superior. Aquests taxa, o bé són endèmics de Còrsega i Sardenya, o bé només de Còrsega i fins a la data no es coneixen de nivells sards d'edat similar o més primerenca. Els estudis revelen una fauna disharmònica, i no il·lustren cap cas de nanisme o gegantisme insular durant aquest interval temporal. Durant el Pleistocè Mitjà, els membres d'aquesta fauna ja havien adquirit les característiques de les espècies evolucionades sota condicions d'insularitat. D'ençà del Pleistocè Mitjà, la fauna no va sofrir cap renovació d'espècies, si bé va perdre alguns dels seus elements durant el Pleistocè Mitjà o a la fi d'aquest període, o al límit Tardiglacial/Holocè. En comparació i contrastant amb el que esdevé a altres illes mediterrànies, la diversitat de la macrofauna de mamífers de Còrsega és notable i cal emfatitzar que els carnívors es troben relativament ben representats al Pleistocè Mitjà, amb dues famílies (Canidae, Mustelidae) i cinc taxa reconeguts (*Canis* sp., Cuoninae indeterminat, *Cynolutra castiglionis*, dos Mustelidae indeterminats). Respecte als artiodàctils, hi ha dues famílies (Cervidae, Suidae) i tres gèneres (*Megaloceros*, *Cervus*, *Sus*). Aquesta contribució tracta de representar algunes dades sobre la morfologia i la distribució estratigràfica dels macromamífers de Còrsega i tracta d'indicar els problemes relacionats amb les migracions i extincions d'espècies al Pleistocè.

Paraules clau: Còrsega, Pleistocè, Mamífers, Insularitat, Endemisme, Biodiversitat.

Abstract

During the past ten years, the knowledge about the Corsican Pleistocene large mammalian fauna has significantly increased owing the study of eight assemblages extracted from six fossiliferous deposits: Castiglione 1 et 3 (Oletta/Haute-Corse), La Coscia abri sud, abri nord-oeust (Rogliano, Cap Corse, Corte (Haute-Corse), Punta di Calcina (Corse du Sud). Eighteen extinct species (6 small mammals and 12 large ones) are distributed in a time interval extending from the Middle Pleistocene up to the end of Upper Pleistocene. These taxa are either endemic to Corsica and Sardinia or only known in Corsica and up to now unknown from Sardinia levels of similar age or earlier. Studies indicate an unbalanced fauna, without any illustration of island dwarfism or gigantism during the involved time interval. At the time of the Middle Pleistocene, the members of this fauna already acquired characteristics of species having evolved under conditions of isolation. Since the Middle Pleistocene, the fauna underwent no species renewal but lost some of its members during the Middle Pleistocene or at the end of this period, or at the Tardiglacial/Holocene boundary. In comparison with and by contrast to some other Mediterranean islands, the diversity of the Corsican large mammal fauna is worth to be emphasised even if carnivores are rather well represented in the Middle Pleistocene with two families (Canidae, Mustelidae) and five recognised taxa (*Canis* sp., Cuoninae indet., *Cynolutra castiglionis*, two Mustelidae indet.). With respect to artiodactyls, there are two families (Cervidae, Suidae) and three genera (*Megaloceros*, *Cervus*, *Sus*). This contribution intends to present some data on the morphology and the stratigraphical distribution of the members of the Corsican large mammal fauna and to point out the problems connected with Pleistocene migration and extinction of species.

Keywords: Corsica, Pleistocene, Mammals, Insularity, Endemism, Biodiversity.

INTRODUCTION

For a long time islands have held a particular interest to naturalists, biologists and paleontologists. Island environments have an original, impoverished fauna which is often endemic and unbalanced, with particularities due to ancient or recent geographic or genetic isolation, and

also to the island's own peculiarities. Each island thus has its own particular fauna, and each fauna has its own history. A study of these environments provides data as to establish the adaptive capacities of the faunas and human groups present in these restrictive environments and always allows us to expect a better understanding of the evolutionary processes linked to the effects of insula-

riety (migration routes and data, variations in size and/or morphofunctional variations, interactions between animals, interactions between humans and animals, data about and causes of extinctions). Corsica is part of the large Mediterranean islands which have yielded an original fauna of Quaternary vertebrates, the representatives of which are well known nowadays. The geological nature of Corsica partly explains the scarcity of bone remains from the Plio-Pleistocene or earlier, and, consequently, the scarcity of previous works. Actually, contrary to what happens in Sardinia (de Bruijn & Rümke, 1974; Pecorini *et al.*, 1974; Esu & Kotsakis, 1983; Cordy & Ginesu, 1994), there is no known site in Corsica with terrestrial vertebrates from the Tertiary (Miocene) or from the beginning of the Quaternary (Pliocene and Lower Pleistocene). Cenozoic fossil vertebrate fauna is practically unknown on the island and it was necessary to wait until the year 2000 to discover, in Tertiary terrains from the end of the Oligocene (Ferrandini *et al.*, 2000), the traces of a small mammal, the oldest known one in Corsica, of the order of the Artiodactyls, *Pomelomeryx boulangeri*, Pomel, 1853.

The most ancient paleontological discoveries date back to the XVIII century, the XIX century, and the beginning of the XX century, and consist of scarce "Pleistocene" Quaternary sites or breaches situated essentially in Haute-Corse ex. Grotta al Margine (Forsyth-Major, 1880); Brietta, Funtaneddu, Teppa di u Lupino (Tobien, 1935); La Coscia sud (Depéret, 1897; Sigogneau, 1960; Bonifay, 1976). Until the beginning of the 90s, due to the scarcity of the Corsican sites and their imprecise datings, works on the Pleistocene paleofauna of Corsica were clearly behind in comparison with the numerous works existing for other Mediterranean islands (e.g., Balearic Islands and Sardinia: Kotaskis, 1980; Alcover *et al.*, 1981; Caloi & Palombo, 1990; Sondaar *et al.*, 1995; van der Made, 1999; Sondaar, 2000). The works were essentially carried out on the study of Holocenic archaeological locations, which are very abundant on the island, often dated in the Neolithic, the faunas of which were widely studied by JD Vigne (Vigne, 1992; Vigne *et al.*, 1997). Nowadays this lag has been partially overcome, thanks to the results of research carried out in the last ten years. The discovery of new fossil sites -such as La Coscia nord-ouest (Rogliano, Cap Corse; Bonifay *et al.*, 1998; Bonifay, 2001), Castiglione (Oletta, Haute-Corse; Salotti *et al.*, 2000, 2001), Gritulu (Luri, Haute-Corse; Vigne *et al.*, 2000)- but also the re-excavations of old sites -such as Corte (Haute-Corse) and Punta di Calcina (Conca, Corse-du Sud), see Pereira *et al.* (2001)- have produced an important advance in the knowledge of the Corsican Pleistocene paleofauna, which was only known in part. Moreover, thanks to the obtention of absolute and/or relative datings, these sites are well dated and cover a period of time comprising between the Middle Pleistocene and the beginning of the Holocene. A collective research programme coordinated by M.F. Bonifay was carried out entitled «*Les gisements pléistocènes corses dans le contexte des îles méditerranéennes*», which has made it possible to study the Castiglione, La Coscia, Corte and Punta di Calcina sites. Within the framework of an international research project coordinated by JD Vigne entitled «*Paysages, Renouvellements de Faune et Anthropisation de la Corse au Tardiglaciaire et au début de l'Holocène*», Gritulu was studied.

This research all together has enriched the collections of Pleistocene fossil vertebrates (Table 1), has renewed the knowledge on these paleofaunas and has considerably recorded their history and evolution on the island with time. Numerous paleontological syntheses currently give credit to the originality of this paleofauna with an elevated ratio of endemism and with several new species or subspecies (Hervet & Salotti, 2000; Pereira & Salotti, 2000; Bailon, 2001; Bonifay, 2001; Hervet, 2001; Louchart, 2001; Mourer *et al.*, 2001; Pereira & Michaux, 2001; Louchart, 2002). According to Bonifay (2001), this paleofauna is an endemic fauna typical of a temperate climate, with weak biodiversity, which unquestionably differs quantitatively and qualitatively from that found at the same time on the continent, thus reflecting an evident disharmony. Within the framework of this work we aim only to present a balance of the knowledge available on the fauna of the large Pleistocene mammals in Corsica. Two sites, Castiglione and La Coscia, which stand out for the quality and also the quantity of their faunistic assemblage, have profoundly modified our knowledge on this megafauna, yielding dental or bone remains from six new species, amongst which there are several carnivores.

Reptiles <i>Lacerta</i> nov. sp.
Mammals <i>Episoriculus corsicanus</i> Bate, 1945 <i>Talpa tyrrhenica</i> Bate, 1945 <i>Microtus (Tyrrhenicola) henseli</i> Forsyth-Major, 1882 <i>Rhagamys orthodon</i> Hensel, 1856 <i>Rhagamys minor</i> Brandy, 1978 <i>Prolagus sardus</i> Wagner, 1829 <i>Cynotherium sardous</i> Studiati, 1857 <i>Canis</i> sp. Cuoniné indét. Mustelidé indét. Mustelidé indét. <i>Lutra</i> sp. ? <i>Algarolutra majori</i> Malatesta, 1978 <i>Cynolutra castiglioni</i> Pereira & Salotti, 2001 <i>Megaloceros (Nesoleipoceros) cazioti</i> Depéret, 1897 <i>Cervus elaphus rossii</i> Pereira, 2002 <i>Sus</i> sp. ?
Oiseaux <i>Gyps melitensis</i> Lydekker, 1890 <i>Buteo rufinus jansoni</i> Mourer-Chauviré, 1975 <i>Aquila chrysaetos</i> <i>Aquila</i> nov. sp. <i>Falco peregrinus cyrneus</i> <i>Tyto balearica cyrneichnusae</i> <i>Bubo insularis</i> Mourer-Chauviré & Weesie, 1986 <i>Athene angelis</i> Mourer-Chauviré <i>et al.</i> , 1997 <i>Turdus</i> nov. sp. <i>Pyrhhorcorax graculus castiglioni</i> <i>Pyrhhorcorax pyrhorcorax macrorhynchos</i>

Table 1. Extinct Pleistocene vertebrate of Corsica.

Taula 1. Vertebrats pleistocènics extingits de Còrsega.

CONTRIBUTION OF THE CASTIGLIONE AND LA COSCIA SITES TO THE KNOWLEDGE OF THE FAUNA OF LARGE MAMMALS

Castiglione

The Castiglione site (Oletta, Haute-Corse, Fig. 1) is situated to the south of the city of Saint-Florent, to the west of the river Alisu, on the east side of a hill, la Cima di Buttogio (206 m snm). Discovered in 1991 by speleologists from two Corsican associations, it is quite well known nowadays (Pereira *et al.*, 1999; Salotti *et al.*, 2001). With a surface of around 3 km², the hill is made up of cipolins from the Late Jurassic and the Lower Cretaceous which rest on calcareous schist and shiny schist. The hill is affected by numerous vertical fractures, of tectonic origin, running north-south and west-east, which can form large subterranean networks. These networks, with a development which can reach over 1000 metres, contain numerous fossil-bearing places rich in bones belonging to terrestrial and flying vertebrates. Actually, sixteen open caverns have been catalogued, but only four provide access to a subterranean network of variable length. To date, only cavities 1 and 3 have been the object of systematic excavations and paleontological studies. The contribution of this site to the knowledge of the fauna of large mammals has been evidenced from the paleontological study of the bones taken from one of the deposits in cavity 3, situated between -33 and -39 m in depth, the so-called Cast.3CG deposit. It is a deposit of natural origin which is presented under the form of a landslide. Dated in the Middle Pleistocene, it has yielded a homogeneous assemblage which has been interpreted as the result of an accumulation of owl pellets, and also of bone remains left in nests of birds of prey, nests which would probably have been located on a cliff that has now disappeared; a cliff made up of cipolins, which nowadays, on the surface, no more than a few pieces can be found (Salotti *et al.*, 2003). Nine land mammals have been extracted from this deposit; there are four new endemic forms, *Canis* sp., *Cuoninae* indet., *Cynolutra castigionis* Pereira & Salotti, 2000 and *Cervus elaphus rossii* Pereira, 2001.

The first carnivore, *Canis* sp., can be distinguished from the Corsican-Sardinian endemic species *Cynotherium sardous* by the shape and dimensions of its molars. Its M¹ are much longer and above all wider. Even though the shape of the molars is reminiscent of *Canis* type molars, their taxonomic position within the European *Canis* of the Middle Pleistocene is as yet uncertain. Due to some morphological characteristics this fossil is near to *Canis etruscus* and *Canis arvensis*, whereas its very small dental dimensions place it near fossil and present day jackals (Pereira, 2001). The second carnivore is only known by its lower dentition. Its carnassial tooth (M₁) has three characteristics of the continental *Cuon* group, but the presence of a third molar places it far from these. With our current state of knowledge it is difficult to establish its genus and species denomination since it has morphological similarities to the *Cynotherium* (to the *sardous* species, the only species of the genus) and *Xenocyon* (to the *dubius* species, a Villafranchian form from China) genera.

As far as the otter *Cynolutra castigionis* is concerned, it is only actually known in Corsica. It is distinguished by its morphological characteristics and by its dimensions of the otters of the Pleistocene known in the Mediterranean basin (in Sardinia, Sicily and Malta) and of the common otter (*Lutra lutra*). It is a small otter, with robust bones, with strong muscular insertions. Its shortened limbs (especially the feet) and the morphology of its sacrum (flattened, with a very large sacral canal) suggest a tail with great mobility, and these seem to be characteristic of a form that was very adapted to aquatic life.

The remains of these three carnivores are associated with *Cynotherium sardous*, and also with a new subspecies of endemic deer, *Cervus elaphus rossii*. This is an original form which can be differentiated from present day and fossil continental deer by a reduction in bone length of its limbs (but not of its teeth), and also by the acquisition of the particular adaptive bone anatomic features, which affect the proximal and/or distal region of the limb bones and which concern the areas of muscular insertion, with the consequence of the acquisition of greater stability. This form bears no parentage with the Corsican-

Fig. 1. The Cima di Buttogio massif (Oletta, Haute-Corse).

Fig. 1. Vista de la Cima di Buttogio (Oletta, Haute-Corse).





Fig. 2. La Coscia nord-west deposit (Rogliano, Cap-Corse).

Fig. 2. Localitat de La Coscia nord-oest (Rogliano, Cap-Corse).

Sardinian variety present in Corsica nowadays, *Cervus elaphus corsicanus*, which it is clearly differentiated from because of its large dental and bone dimensions.

These four forms seem to be characteristic of the Middle Pleistocene in Corsica and, so far, no Sardinian sites have been documented for the same time (e.g., Capo Figari, Van der Made, 1999, or different karstic fissures from Monte Tuttavista, Cordy, 1997; Turmes, 2002). They are forms which had acquired their differential characteristics in the Middle Pleistocene – which allows us to suppose the great antiquity of their presence on the island – and which seem to have disappeared between the Middle Pleistocene and Late Pleistocene. The competition, on the one hand between the three canids (*Canis* sp., *Cuoniinae* indet. and *Cynotherium sardous*) present from the Middle Pleistocene and on the other hand between the two cervids (*C. e. rossii* and *Megaloceros (N.) cazioti*), may have influenced their disappearance.

Cavity 3 of the Castiglione site is not the only one to have provided new forms. In the Middle Pleistocene deposits of cavity 1 in Castiglione quite a large maxillary fragment of a yet to be determined Mustelidae has been found and also the molar of a Suidae (*Sus* sp.). Finally, the PL fracture of cavity 3, dated in the Late Pleistocene, also provides information as to the extinction date of *Cynotherium sardous* and of *Megaloceros cazioti*, the two only large mammal survivors at the end of the Late Pleistocene. At the same time a great number of island birds also disappear (Louchart, 2002).

La Coscia

The location of La Coscia is by the sea, at the tip of Cap Corse. It is made up of two caves which were discovered in 1954 (Coscia south) and in 1992 (Coscia north) respectively; caves which are excavated in the metamorphosed calcareous and dolimitic rocks of the Triassic-Liassic (Bonifay *et al.*, 1998, Bonifay, 2001). It is in the “Coscia north-west” cave, a large cavern 25 metres in diameter and 8 metres high, that the excavations carried out since 1992 in one of the sectors, the north-west sector, have yielded an original faunistic assemblage from the

Wurmian Period. It is made up essentially of remains (fallen antlers; cranium and postcranium remains) of *Megaloceros (Nesoleipoceros) cazioti* Depéret, 1897, one of the endemic forms characteristic of the Corsican-Sardinian Middle and Late Pleistocene. Actually, the deer represents around 80% of the remains extracted from the stratigraphic sequence of this sector (20179 remains had been catalogued in 2003, and there were 17633 determinable ones). The taphonomic study of this assemblage is in the press. The first results (Pereira & Brugal, 2003; Fig. 2) indicate that the assemblage records a frequentation of the place by cervids (above all by males and to a lesser extent by females) during all the seasons of the year, although the summer is the time of lowest frequentation. The origin of the accumulation of *M. cazioti* remains in the cave in the La Coscia north-west cave is a fact which is probably related to the unknown eco-ethology of the species. Other spectacular accumulations of ungulates are equally known in different insular Mediterranean Quaternary sites: megacerine deer (in Sardinia, Klein-Hofmeijer, 1996; Sicily, Gliozzi & Malatesta, 1982), hippopotamuses (e.g., Cyprus, Simmons, 1999), bovids (e.g., Balearic Islands, Encinas & Alcover, 1997; Seguí *et al.*, 1998). Carrying out comparisons between locations should enable us to find out the causes of these important concentrations, perhaps due to environmental restrictions.

The La Coscia north-west cave can thus be presented, like cavities 1 and 3 in Castiglione, as a main location to find out about the Corsican Pleistocene. It has mainly allowed us, as far as the fauna of mammals is concerned, to better characterise morphologically the Caziot deer and to discover the remains of another, so far undetermined, carnivore belonging to the Mustelidae family. This is a carnivore with a rectilinear shaped tibia which, without doubt, is reminiscent of present day species with terrestrial habits, like the wolverine, marten or badger, or the fossil Mustelidae *Enhydriactis galictoides* (Forsyth-Major, 1901) from the Middle Pleistocene of the Sardinian site of San Giovanni, near Grisons. Coscia north-west will equally contribute to enriching the knowledge of the endemic avifauna of the island.

We must not, however, forget the contribution of the La Coscia south cave, with a Wurmian stratigraphic sequence which has provided a suid tooth of a status yet to be clarified and the remains of a small-sized fox, near the size of present day foxes *Vulpes vulpes ichnusae* (Salotti, 1990; Bonifay, 1994). This discovery entails the problem of the arrival date for this carnivore, which is absent from the oldest Pleistocene deposits, on the island.

CONCLUSION

Thanks to the discoveries made in the Corsican Pleistocene sites, the fauna of mammals is now better documented. Eighteen species (6 micro- and 12 macro-mammals) are thus distributed between the Middle and Late Pleistocene; there are eight new ones (Table 1). Thus, in the Middle Pleistocene the mammalian fauna is relatively homogeneous with 8 taxons (*Cynotherium sardous*, *Canis* sp., *Cuoninae* indet., *Cynolutra castiglioni*, Mustelidae indet., *Megaloceros (N.) cazioti*, *Cervus elaphus rossii*, *Sus* sp.), among which there are 5 carnivores. This changes the image we normally have of insular faunas which are poor in predators and which have a temporary disharmony in the food chains. Nevertheless, at the end of the Late Pleistocene, the mammalian fauna present in Corsica is an impoverished fauna with 6 taxons (a shrew *Episoriculus corsicanus* Bate, 1944, a mouse *Rhagamys orthodon* Hensel, 1856, a vole *Microtus (Tyrrhenicola) henseli* Forsyth-Major, 1882, a pika *Prolagus sardus* Wagner, 1829, a cuon *Cynotherium sardous* Studiati, 1857 and the Caziot's deer *Megaloceros (N.) cazioti* Depéret, 1897. Of these taxons only the micromammals will survive beyond the Pleistocene/Holocene boundary, and have a long period of cohabitation with Mesolithic and Neolithic humans. As far as the two large mammals are concerned, current datings document their presence in Corsica to 10000 AC (Salotti *et al.*, 2000; Vigne *et al.*, 2000). Their disappearance could be linked, like that of different insular birds, to the short, very cold, glacial episode at the end of the Late Glacial (Younger Dryas Episode, 10.500 years ago, Vigne, 2000). Actually, these two taxons are absent in the levels dated in the VIII millennium AC of the main Mesolithic Holocene stratigraphies.

In Corsica, studies of the mammalian fauna of the Pleistocene have made it possible to highlight the absence of dwarfism and gigantism phenomena found on other islands, such as the Greek ones (Tsoukala, 2001), even taking into account that *Microtus* and *Rhagamys* seem to be large in comparison with their ancestors. They also show, for the mammals which run through the whole Late Middle Pleistocene and Late Pleistocene without becoming extinct, great morphological and biometrical stability (Pereira & Salotti, 2002). What is more, with these taxons having already acquired their specific or subspecific insular characteristics in the Middle Pleistocene, they show their great antiquity on the island.

Is the history of this fauna in agreement with what is now known about the history of the population of the entirety of vertebrates in Corsica?

Eight main sea level oscillations are known from the

Late Miocene to nowadays. The greatest took place 5.8 Ma ago, at the end of the Miocene, in the Messinian, due to the partial drying up of the Mediterranean. During this salinity crisis, Corsica and Sardinia stopped being islands and connections between Sardinia, Corsica and Tuscany were established, even between Africa and Corsica via Sicily. This period played a role in the colonisation of Corsica, with the penetration and passage on foot over dry land of new European and/or African fauna. At the end of the Messinian (beginning of the Pliocene), the Mediterranean was refilled and the Corsican-Sardinian mass once again became an island. The species that had penetrated during that crisis continued their local evolution, in a closed environment, until the beginning of the Quaternary (Lower Pleistocene). This ancient fauna is generally known under the name of *Nesogoral* fauna (Ginesu & Cordy, 1997; van der Made, 1999; Sondaar, 2000; Turmes, 2002). The Sardinian site of Mandriola, for instance, from the Lower and Middle Pliocene, gives an idea of the taxons that entered during this crisis and of their evolution. Among mammals, a hedgehog (*Erinaceidae* indet.), a mole (*Talpa* sp.), a shrew (*Episoriculus cf. gibberodon*) a large pika (*Prolagus cf. figaro*), two large sized mice (*Rhagapodemus hautimagniensis*; *Apodemus mannu*), a dormouse (*Eliomys (Tyrrhenoglis) figarensis*) and a boar (*Sus* aff. *sondaari*).

The end of the Pliocene and the beginning of the Quaternary are characterised by a series of very large climatic variations. It is thanks to one of the great consecutive marine regressions of the most ancient glaciations of the Pleistocene (Gunz or Mindel) when an important migratory wave is placed, giving rise to the Corsican-Sardinian mammalian faunas of the Middle and Late Pleistocene. This step would have taken place around 800,000 years ago. Then we see the appearance of new taxons which come from well known Villafranchian species from Italy: this is the *Microtus (T.) henseli* fauna; among the newcomers, the megacerine deer (*Megaloceros (N.) cazioti*), the Sardinian cuon (*Cynotherium sardous*) and another pika (*Prolagus sardus*). Actually, it is at the beginning of the Middle Pleistocene when in Sardinia the replacement of *Nesogoral* fauna by *Microtus (Tyrrhenicola)* fauna is recorded (Ginesu & Cordy, 1997; Sondaar, 2000).

In the Middle Pleistocene, practically all the present day fauna of amphibians and reptiles can already be found in Corsica, and no new herpetological species appears during the Middle and Late Pleistocene (Vigne *et al.*, 1997; Bailon, 2001), thus suggesting the absence of migratory movements. In fact, the practical absence of new mammals in the Late Pleistocene also suggests the non-renovation of the mammalian fauna during this period.

Although the history and evolution of the Pleistocene population of vertebrates in Corsica is currently known in part, the issues related to the determinations of the continental ancestors of this paleofauna and the causes of the Pleistocene extinctions are yet to be answered. A better knowledge of the evolution of the marine beds between Corsica and its neighbouring continents coordinated with the discovery of new Corsican-Sardinian sites will enable us to finely hone the data and migratory routes, which as yet are hypothetical and essentially based on works about Sardinia. Thus, we will obtain answers to the queries we still have.

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