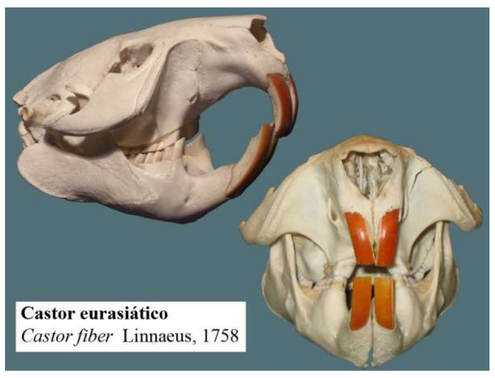
THE FOSSIL BEAVERS FROM THE PLEISTOCENE—HOLOCENE SITES OF ATAPUERCA

Gloria Cuenca-Bescós, cuencag@unizar.es, University of Zaragoza; Jordi Rosell Ardévol, IPHES/URV; Alvaro Morcillo-Amo, Madrid; Maria Angeles Galindo-Pellicena and Elena Santos, UCM-ISCIII

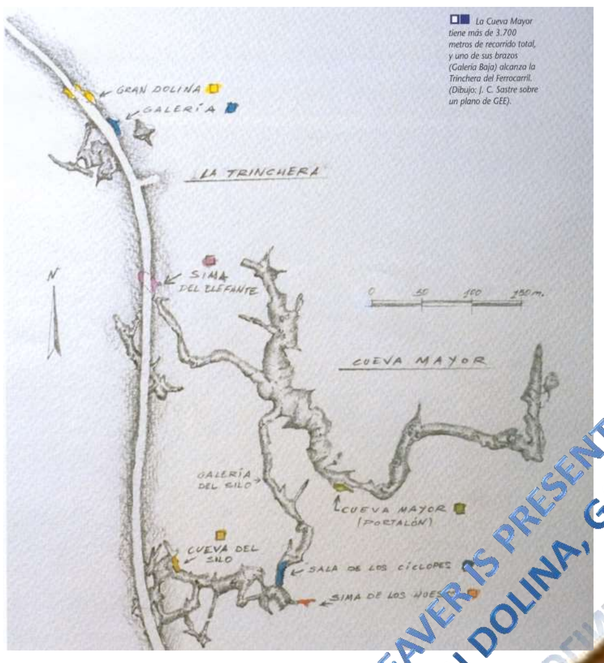


The extant beaver, genus *Castor* is present in Eurasia since the Miocene. It is at the present time, the unique representative of a previously more diverse rodent family, the Castoridae, that appeared during the lower Oligocene, being restricted to the Northerm Hemisphere.

They are specialized mammals with concrete ecological preferences, so this group presents a great interest for paleoecological reconstructions. The extant European beaver, *Castor fiber* lives in semiaquatic habitats, therefore semiaquatic preferences are attributed to the fossil remains.

The oldest record of Castor in Spain, *Castor* sp., is from the Ruscinian of the Guadix-Baza basin, when the wet conditions increased after the aridity maximum of the Turolian. Then it disappears again during the end of the Pliocene, with several aridity peaks such as recorded in i.e. the Zújar section, and never reappears again in Southern Spain.

The beavers reappear again only in the north of the Iberian Peninsula, at the end of the Early Pleistocene, in the localities of Atapuerca. In view of the very complete fossil record from the paleontological localities from the south of Spain, in the Guadix-Baza and the Granada basins, we interpret that the absence of Castoridae in the south of Spain is real, and not due to a bias.



The specimens of *Castor* studied from the Atapuerca localities reveal the presence of beavers near the caves of Atapuerca during the end of the
Early Pleistocene (Lower levels of Sima del Elefante and Gran Dolina), and during the Upper Pleistocene to Holocene.
Surprisingly, they do not appear in the Middle Pleistocene layers of the sites such as TD10 in Gran Dolina, the site of Galería or Zarpazos, or in the upper red unit of the Sima del Elefante.

The open, woodland, rocky and water habitats from Gran Dolina expresed in % of MNI of rodents and insectivores.

The beaver remains found in Atapuerca are attributed to the species *Castor fiber.* They are nearly identical to the extant species in size and morphology.

m2d TD4B

Given its meso-size, beavers are found digging as well as during the washing-sieving of the sediments from the excavations of Atapuerca.

Stratigraphic column of the Sima del Elefante Site. The presence of *Castor* sp. is indicated by the blue arrow.

We can conclude that the species *Castor fiber* is present in Spain since the early Pleistocene. It was living in aquatic environments, as their extant relatives do. Other proxies such as stratigraphy and sedimentology, fossils of small rodents, insectivores, anurans, and aves, show that the early Pleistocene levels of Sima del Elefante and Gran Dolina were formed under humid conditions, and that running water or ponds were near the entrances of the caves.

Aknowledgements: MICICINN Project CGL2012-38434-C03-01 GEOLOGIA, GEOCRONOLOGIA Y PALEOBIOLOGIA DE LOS YACIMIENTOS DE LA SIERRA DE ATAPUERCA V.