

Evidence for parallel development of ever-growing molars in Early Pleistocene rodents from southern Spain and their paleoenvironmental implications

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In this paper, we present a detailed survey on the rodent fauna from the site of Barranco de los Conejos (Guadix-Baza Basin, southern Spain). Its rodent fauna is composed of three arvicolines (*Orcemys giberti*, *Manchenomys oswaldoreigi*, and *Tibericola vandermeuleni*) and two murids (*Castillomys rivas* and *Apodemus atavus*). The three arvicoline species present ever-growing molars. *Orcemys giberti* and *Manchenomys oswaldoreigi* can be considered as descendants of local *Mimomys* species (*Mimomys medasensis* and *Mimomys tornensis*, respectively), while *Tibericola vandermeuleni* is an eastern immigrant. Loosening of roots in *Orcemys giberti* and *Manchenomys oswaldoreigi* is explained as an adaptation to a fossorial way of life, in relation to the Early Pleistocene glacial–interglacial dynamics, which led to cooler and drier conditions. This environmental change would also explain the dispersal of *Tibericola* from the eastern Mediterranean.

Key words: Mammalia, Rodentia, Muridae, Arvicolinae, Early Pleistocene, Guadix-Baza Basin, Spain.

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