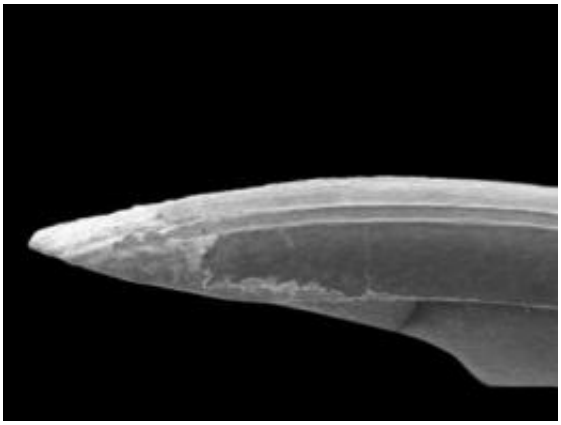
Extinct rodent species discovered

July 28 2009



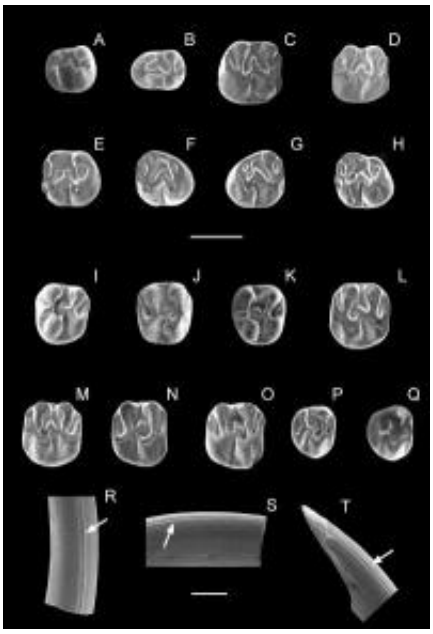
This is a lower incisor. Credit: Francisco Javier Ruiz-Sánchez et al. / SINC

An international team of scientists has discovered an extinct rodent species, based on fossil tooth remains found in Alborache, Valencia. *Eomyops noeliae*, from the *Eomyidae* family, represents the oldest find within this genus in the world.

The small number of fossils found has prevented the scientists from the University of Valencia (UV), who have led this research study, from being able to gain a full picture of this "new" rodent. However, they have been able to prove - on the basis of just the teeth, the only fossil remains discovered - that *Eomyops noeliae* was morphologically and biometrically different from other rodents of the Eomyops genus. The new species provides valuable evolutionary, biostratigraphic and paleoenvironmental information related to this rodent, which was of

average size within the group.

"Until now, the Eomyops genus was made up of a group of small species and one large one, but no intermediately-sized kinds such as *Eomyops noeliae* had been found", Francisco Javier Ruiz-Sánchez, lead author of the study published in the French journal *Comptes Rendus Palevol* and a researcher in the UV's Department of Geology, tells SINC.



Here, the fossil teeth are studied. Credit: Francisco Javier Ruiz-Sánchez et al. / SINC

The palaeontologists have also confirmed the age of the find. "The fossils found in the Morteral 20A deposit in Valencia show that this is the oldest species within the genus known in the world with absolute certainty", points out Ruiz-Sánchez. According to this data, *Eomyops noeliae* would have lived during the Aragonese period "perhaps between the Lower and Middle Miocene (around 16 million years ago)",

underscores the researcher.

The rodent's wet environment

The varied fauna of micro-mammals and the new species found in the Valencian deposit provide information about the environmental conditions in which these animals would have lived at the time. "The rodent taxa found show evidence that the environment was very wet", says Ruiz-Sánchez, even though the full study on all the fossil rodent remains, begun with this new eomyid, has still not been completed.

According to the study, the environment was "relatively thickly wooded, and the climate was wet", although other factors such as temperature have not yet been defined.

The biogeographical data also show that *Eomyops noeliae* lived throughout the east of the Iberian Peninsula during the Lower-Middle Miocene. This has been confirmed from the Eomyops species remains excavated from the "most recent" Morteral 22 deposit, which is very close to Morteral 20A.

Ruiz-Sánchez says the finds of this species' teeth in deposit strata separated by just a few metres show that "how this species survived in the east of the peninsula over a specific time period that is currently hard to define, but which must have gone on for several tens of thousands of years".

More information: Ruiz-Sánchez, Francisco Javier; Lázaro Calatayud, Belén; Freudenthal, Matthijs. "Eomyops noeliae sp nov., a new Eomyidae (Mammalia, Rodentia) from the Aragonian of Spain" Comptes Rendus Palevol 8(4): 375-384 may-june 2009.

Source: FECYT - Spanish Foundation for Science and Technology