

An Early Miocene microtoid cricetid rodent from the Junggar Basin of Xinjiang, China

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Microtoid cricetids are widely considered to be the ancestral form of arvicoline rodents, a successful rodent group including voles, lemmings and muskrats. The oldest previously known microtoid cricetid is *Microtocricetus molassicus* from the Late Miocene (MN9, ca. 10–11 Ma) of Europe. Here, we report a new microtoid cricetid, *Primoprismus fejfari* gen. et sp. nov., from the Junggar Basin of Xinjiang, northwestern China. The rodent assemblage found in association with this specimen indicates a late Early Miocene age, roughly estimated at 18–17 Ma, and thus more than 6 million years older than *M. molassicus*. While morphological comparisons suggest that the new taxon is most closely related to *M. molassicus*, it differs from the latter in a striking combination of primitive characters, including a lower crown, smaller size, a differentiated posterolophid and hypolophid, a faint anterolophid, the absence of an ectolophid, and the presence of a stylid on the labial border of the tooth. Arid conditions prevailing across the mid-latitude interior of Eurasia during the Early Miocene, enhanced by the combined effects of the Tibetan uplift and the gradual retreat of the Tethys Ocean, likely played a role in the appearance of grasslands, which in turn triggered the evolution of microtoid cricetids and, ultimately, the origin of arvicoline rodents.

Key words: Mammalia, Rodentia, Cricetidae, Arvicolinae, Miocene, Junggar, China, Central Asia.

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