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The record of cricetid rodents across the Eocene–Oligocene transition in Transylvania, Romania: implications for the "Grande Coupure" at European scale

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A number of localities in Transylvania (Romania) have yielded vertebrate microfossil remains. Two localities have been stratigraphically and biochronologically dated to the late Eocene: i.e., Treznea and Bociu. The remaining three localities are dated to the early Oligocene: Mera, Cetăţuie, and Suceag. The study of cricetid rodents corroborates the presence of this family in Eastern Europe during the late Eocene, as evidenced by the species *Witenia* sp., *Bustrania* cf. *B. dissimile* , and *Eocricetodon* cf. *Eo. meridionalis*. The cricetids identified in the sites of the early Oligocene age show a complete turnover and a notable increase in species richness following the Eocene/Oligocene boundary, with: *Eucricetodon* aff. *Eu. huerzeleri, Tenuicricetodon arcemis* gen. et sp. nov., *Pseudocricetodon* cf. *Ps. montalbanensis, Paracricetodon* cf. *Pa. walgeri, Paracricetodon kavakderensis, Paracricetodon* aff. *Pa. stojonovici*, and *Paracricetodon wentgesi*. In the context of the wider biogeographic history of Europe, these new discoveries indicate that Cricetidae arrived in Europe during at least two successive migrations from Asia in the late Eocene and earliest Oligocene. These migrations may have occurred via two different migration pathways through the north and south of Europe. In a second phase, Cricetidae arriving by the northern passway spread throughout Europe, whereas Cricetidae that arrived by the southern passway remained restricted to the central and southeastern Europe. The observations made on the Cricetidae allow for the proposal of a new, more general, scenario for the Eocene–Oligocene transition on a European scale, which is more complex than the "Grande Coupure" sensu stricto as initially proposed by Stehlin in 1909.

Key words: Rodentia, Eocene–Oligocene transition, Grande Coupure, Eastern Europe.

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