

## Systematic review of *Neocavia* from the Neogene of Argentina: Phylogenetic and evolutionary implications

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Caviidae is one of the groups of rodents with the greatest ecomorphological disparity, and with currently three known lineages: Caviinae (cuis), Dolichotinae (maras), and Hydrochoerinae (capybaras). Caviinae include small caviids represented by three extant genera (*Microcavia*, *Cavia*, and *Galea*) and three fossil forms (*Dolicavia*, *Palaeocavia*, and *Neocavia*). In Argentina, the fossil record of Caviinae is continuous and abundant since the late Miocene. *Neocavia*, specifically, is represented by different species recorded in the late Miocene–Pliocene. Here, we describe a new species of *Neocavia* from the late Miocene–early Pliocene of the Cerro Azul Formation (La Pampa Province, Argentina), and provide a re-description of already known species (*Neocavia lozanoi* and “*Neocavia depressidens*”). Also, we perform a more comprehensive review of the genus and include the *Neocavia* species in a phylogenetic context within Caviinae. We analyze the main patterns of the evolution of the tympanic bullae within Caviidae, and infer about a possible occasional fossorial habit of *Neocavia*. The morphological and phylogenetic analyses indicate that *Neocavia* is more closely related to *Dolicavia* and *Microcavia* than to the other Caviinae, and confirm the monophyly of the genus, with at least two clearly differentiable species. Since this study cannot confirm the systematic position and validity of “*N. depressidens*”, we suggest not to use this taxon as a biostratigraphic indicator.

**Key words:** Rodentia, Caviidae, *Neocavia*, phylogeny, evolution, Miocene, Pliocene, Argentina.

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