ACTA PALAEONTOLOGICA POLONICA

The Eocene South American metatherian *Zeusdelphys complicatus* is not a protodidelphidid but a hatcheriform: Paleobiogeographic implications

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Acta Palaeontologica Polonica 62 (3), 2017: 497-507 doi:https://doi.org/10.4202/app.00351.2017

Zeusdelphys complicatus is one of the most enigmatic metatherians from the Itaboraí Basin. The type and only known specimen was previously regarded as the upper dentition of Eobrasilia; an M4 of a new taxon; an M3 of a Kollpaniidae (now regarded as a group of "condylarths"); a probable M1 of an incertae sedis taxon; and as an M1 of a Protodidelphidae. Herein, we present a morphological review of the dental structures of *Zeusdelphys complicatus*, presenting new interpretations and comparing it with other North and South American taxa. We also perform a phylogenetic analysis in order to test the affinities of *Zeusdelphys* and the validity of most studied characters. The results recovered *Zeusdelphys complicatus* as more closely related to *Hatcheritherium alpha* than to any other metatherian. Glasbiidae were recovered as the sister lineage of Protodidelphidae within Didelphimorphia, as true marsupials. *Ectocentrocristus* was recovered as the sister taxon of *Zeusdelphys* + *Hatcheritherium*, as a Hatcheriformes. The analysis recovered this suborder as an independent lineage from Polydolopimorphia, being more closely related to "Alphadontidae". The affinities with Protodidelphidae are a result of convergent evolution, as *Zeusdelphys* is more closely related to *Hatcheritherium alpha* from the Late Cretaceous of North America. The results support a North American origin for Hatcheriformes. The presence of strong sea-level lowstands and islands in the Caribbean Plate during the Late Cretaceous provide valid data to support a faunal interchange between Americas during the latest Late Cretaceous. Based on the results, *Zeusdelphys* represents a South American early Eocene surviving Hatcheriformes.

Key words: Mammalia, Metatheria, Hatcheriformes, *Zeusdelphys*, paleobiogeography, systematics, Eocene, Itaboraí Basin.

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