

## Revision in the diprotodontid marsupial genus *Neohelos*: Systematics and biostratigraphy

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*Neohelos* is a geographically and temporally widespread genus of Cenozoic diprotodontid marsupials commonly used to biocorrelate otherwise undated Australian fossil deposits. Here, we revise the genus and describe two new species from the Riversleigh World Heritage Area of northwestern Queensland. *Neohelos solus* sp. nov. is a small, relatively abundant, plesiomorphic form, while the rarer, larger *Neohelos davidridei* sp. nov. is the most derived species of the genus with an upper premolar morphology that is structurally antecedant to members of the Late Miocene genus *Kolopsis*. Additional material of *Neohelos tirarensis* and *Neohelos stirtoni* is described. A chronological morphocline is evidenced by a gradual change in morphology accompanied by an increase in size from *Ne. tirarensis* through *Ne. stirtoni* to *Ne. davidridei*, and is generally consistent with the biostratigraphic distribution of *Neohelos* species throughout Riversleigh's faunal zones A to D. Stage of evolution biocorrelation of *Neohelos* species confirms that some of Riversleigh's Faunal Zone A deposits are Late Oligocene in age and predate the Wipajiri Formation of South Australia. Strong faunal correlations exist between Riversleigh's topographically low to middle Faunal Zone C deposits and the Northern Territory's Middle Miocene Bullock Creek Local Fauna. The presence of the highly derived *N. davidridei* in the Jaw Junction Local Fauna of Riversleigh's Upper Faunal Zone C suggests a later Middle Miocene (post-Bullock Creek) age for this deposit.

**Key words:** Mammalia, Marsupialia, Vombatomorpha, Diprotodontidae, Zygomaturinae, biocorrelation, systematics, Oligocene, Miocene, Riversleigh, Australia.

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