



## **Biosystematics of Australia's native dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae).**

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Australia's native dung beetles are unique and diverse, representing ~5% of the global dung beetle fauna. The comprehensive revisions of the Australian Scarabaeinae by Matthews (1972, 1974 & 1976) documented 284 native species and provided a framework for subsequent revisions. Since then, just over 100 additional species have been described but estimates suggest the total diversity may exceed 500 species. With support of the US National Science Foundation, Australian dung beetles have been developed as a model to examine how biogeographic history influences species distribution. The fauna is divided into two evolutionarily distinct lineages: one with Gondwanan origins referred to as the Australasian Endemic Clade, and the other comprised of native *Onthophagus* that colonized via Indo-Malaya in the Miocene. To date, over 1000 species-locality combinations have been barcoded to examine potential species complexes, while UCE have been generated for over 40% of Australian species to explore evolutionary relationships in a global context. These data will be used to guide future taxonomic research and unravel drivers of diversification across the Australian continent and beyond.

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