



Defining the diversity of Australia's micro marsupials (*Dasyuridae: Planigale*).

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Defining diversity is critical for conservation planning and the taxonomy of most Australian mammals is thought to be well resolved. Enter planigales—Australia's smallest mammals. Previously, only four species were recognised in Australia with multiple molecular studies suggesting additional undescribed forms. We recently resolved part of this by describing two morphologically and genetically unique species from the Pilbara, Western Australia, as part of a generic revision of *Planigale*. We take an integrative taxonomic approach by combining molecular and morphological data from all planigale species throughout Australia. Thus far, with our expanded genetic sampling we have corroborated the findings of previous studies, which have identified multiple lineages within *Planigale*, but can now better define the geographic boundaries of the genetic clades. We will match morphotypes to various genetic clades and propose new species hypotheses for the genus. This work will result in drastically increasing the known species of Australia's smallest mammals with implications for how these species are managed during a time when mammal species continue to decline.

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