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Taxonomy and redescription of the Fawn Antechinus, *Antechinus bellus* (Thomas) (Marsupialia: Dasyuridae)

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Abstract

We provide a taxonomic redescription of the Fawn Antechinus, *Antechinus bellus* (Thomas). *A. bellus* is the only member of its genus to occur in Australia's Northern Territory, where it can be found in savannah woodlands of the Top End. It is perhaps the most distinctive antechinus, and clearly distinguishable from the other 10 extant species of antechinus found in Australia: externally, *A. bellus* has pale body fur, white feet and large ears; *A. bellus* skulls have large auditory bullae and narrow interorbital width, while broadening abruptly at the molar row; mitochondrial and nuclear genes clearly distinguish *A. bellus* from all congeners, phylogenetically positioning the Fawn Antechinus as sister to Queensland's *A. leo* Van Dyck, 1980, with which it shares a curled supratragus of the external ear and a similar tropical latitudinal range.

Key words: Northern Territory, Australia, morphological, genetic, evolutionary, carnivorous marsupial

Introduction

For a remarkably distinct species, the Fawn Antechinus *Antechinus bellus* was described relatively late in antechinus history. However, according to Calaby and Keith (1974), it had been collected long before its description in 1904 based on one of a number of specimens taken by J.T. Tunney in 1903 near the South Alligator River. Calaby and Keith (1974) suggest it is likely that John Gilbert collected the first specimens of *A. bellus* from Port Essington in the Northern Territory around 1840, and that Thomas (1888) listed them under *Phascogale flavipes* var. *leucogaster*. Tate (1947) was struck by the highly derived nature of *A. bellus* "...the most divergent of all the groups now assigned to *Antechinus*", and designated it to one of the four "principal species" groups he created for the genus.

Yet today, Tate's construct of the genus is unrecognisable; in addition to the inclusion of five new species since 1980, the diverse New Guinea component of his 'flavipes group' has been reassigned to various endemic genera (Van Dyck 2002), and the '*Antechinus maculatus* group' assigned to *Planigale* (Archer 1976a). Van Dyck's (2002) reassessment of the genus *Antechinus* recognised ten extant species: *A. minimus* (Geoffroy); *A. flavipes* (Waterhouse); *A. stuartii* Macleay; *A. swainsonii* (Waterhouse); *A. bellus* (Thomas); *A. adustus* (Thomas); *A. godmani* (Thomas); *A. leo* Van Dyck; *A. agilis* Dickman, Parnaby, Crowther and King and *A. subtropicus* Van Dyck and Crowther. A further species has been added since Van Dyck's (2002) reassessment, *A. mysticus* Baker, Mutton and Van Dyck.

For many of these species, taxonomic relationships have never been discussed in a contemporary sense that incorporates both morphology (with particularly reference to the holotype) and genetic evidence. Here, we present the first in a series of studies that reassesses the taxonomy and relationships of understudied members of the genus *Antechinus*, beginning with *A. bellus*. We provide a full description of the holotype specimen, morphometric comparison of *A. bellus* to all 10 of its extant congeners, and a discussion of its genetic relationships within the group.