



A spectacular new leaf-tailed gecko (Carphodactylidae: *Saltuarius*) from the Melville Range, north-east Australia

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Abstract

Leaf-tailed geckos are a distinctive group of carphodactyline geckos of rainforests and rocky habitats of eastern Australia. Three genera are recognized: *Phyllurus* (9 species), *Saltuarius* (6 species) and *Orraya* (1 species). Leaf-tailed geckos have been the subject of much survey and taxonomic work because they are large, impressive geckos and generally have highly localized distributions. The six species comprising *Saltuarius* are distributed in rock outcrops and rainforests along the ranges from northern New South Wales to the Wet Tropics region of north-east Queensland. Here we report the discovery of a new *Saltuarius* species at Cape Melville, a rainforest outlier on Cape York Peninsula in north-east Queensland. The new species is assigned to *Saltuarius* based on morphological and genetic data. *Saltuarius eximius* **sp. nov.** is highly distinct from all congeners in many aspects of morphology. It has a very long slender form, with relatively longer limbs, longer body, narrower body and narrower neck than all congeners. It also has a highly distinct head that is relatively smaller than that of all other *Saltuarius*, with very large eyes that are grey rather than patterned. The tail is large but with a relatively short attenuated tip. *Saltuarius eximius* **sp. nov.** appears to be highly localized to upland rainforest associated with boulder habitat in the Cape Melville Range. The unusual elongate form and large eyes of *S. eximius* **sp. nov.** likely reflect adaptation to deep boulder habitat. Two other new vertebrate species (a skink and a frog) were discovered in the rainforest and boulder-fields of Cape Melville during recent surveys, bringing the number of vertebrates known to be endemic to the Cape Melville Range to six (three frogs, two skinks and one gecko).

Key words: *Saltuarius eximius*, *Orraya*, Cape York, boulder-field, rainforest, lithoreugia

Introduction

The Australian leaf-tailed geckos fall within the family Carphodactylidae and consist of three genera: *Phyllurus* Goldfuss 1820, *Saltuarius* Couper *et al.* 1993 and *Orraya* Couper *et al.* 2000. Leaf-tailed geckos are large, impressive geckos that are highly camouflaged against rocks and tree trunks. Most species are rainforest dependent but some occur in drier (sclerophyll forest) habitats in association with rock. Leaf-tailed geckos are restricted to eastern Australia, with species generally having highly localized distributions, including some found on a single mountain or range (e.g., *Orraya occultus* (Couper *et al.* 1993), *Phyllurus amnicola* Hoskin *et al.* 2000 [in Couper *et al.* 2000], *Phyllurus gulbaru* Hoskin *et al.* 2003). The distribution of leaf-tailed geckos is interesting in that each species is generally localized to an isolated rainforest or rocky region, but in total the species cover much of the coastal ranges of eastern Australia. Only two sites have more than one leaf-tailed gecko species (Many Peaks Range: *P. caudiannulatus* Covacevich 1975, *S. salebrosus* (Covacevich 1975); Pattersons Gorge: *P. gulbaru*, *S. cornutus* (Ogilby 1892)). The habitat restriction, persistence and low vagility of leaf-tailed geckos has made them a key group in biogeographic analyses of the mesic forests of north-eastern Australia (e.g. Mortiz *et al.* 2005).

There are six *Saltuarius* species described, ranging from north-east Queensland to north-east New South Wales (Couper *et al.* 2008). The genus *Saltuarius* was erected to accommodate a monophyletic group of larger species with unique internal and external morphological characteristics and different chromosome number compared to *Phyllurus* (Couper *et al.* 1993). At this time four species were included: *S. cornutus*, *S. salebrosus* (Covacevich