



## A preliminary assessment of the *Nactus pelagicus* species group (Squamata: Gekkonidae) in New Guinea and a new species from the Admiralty Islands

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### Abstract

The Slender-toed Geckos (*Nactus*) currently have four recognized species in New Guinea, and these species divide into two sister clades: a *pelagicus* clade and a *vankampeni* clade (Heinicke *et al.* 2010). The latter contains three dwarf species. The former consists of five bisexual populations, of which numerous New Guinea populations are uncharacterized nomenclaturally and lumped under the epithet ‘*pelagicus*.’ This report and description of a new species of the *pelagicus* group from Manus Island in the Admiralty Islands encourages us to offer a preliminary assessment of morphology and diversity in New Guinea ‘*pelagicus*’ populations.

**Key words:** *Nactus pelagicus* group, New Guinea, Admiralty Islands, morphology, geographic variation, new species

### Introduction

The Slender-toed Geckos, *Nactus*, are small to modest-sized, forest-floor geckos of the west Pacific islands and northeastern Australia. A muted color pattern of dark shades of brown hides them from visual predators and similarly has given them a low profile with field naturalists and museum taxonomists. For much of the 20<sup>th</sup> century, two species were recognized: *Nactus vankampeni*, a dwarf morph from the northern coast of Papua New Guinea; and *Nactus pelagicus*, a modest-sized morph from New Guinea and adjacent islands westward into Oceania. Actually, both resided in the genus *Gymnodactylus* or *Cyrtodactylus* for three-quarters of the century. Field and genetic studies began to change the concept of *N. pelagicus* as a single species when Schwaner (1980) discovered that all members of his large sample from Samoa were females. Subsequently, Moritz’s (1987) genetic study (karyotypes and allozymes) of numerous Southwest Pacific populations confirmed the parthenogenetic nature of the Oceania populations and uncovered a greater diversity among the bisexual populations than anticipated. He defined the geographical distribution of the parthenogenetic populations and demonstrated that the genetic differences among the bisexual populations were large and each genotype likely represented a different species.

In 1995, Zug and Moon assessed the morphology of the Solomons, Vanuatu, and oceanic populations. They recognized *Nactus pelagicus* as the asexual species for the populations in southern Vanuatu and elsewhere in Oceania, and *N. multicarinatus* for the bisexual species from Vanuatu and the southern Solomon Islands. Also in 1995, Donnellan and Moritz presented additional genetic evidence of the molecular diversification within this group. They determined that their Australian, New Guinea, and Oceania samples minimally contained four (likely six) bisexual species that were genetically divergent from each other (see final section “Emerging relationships” for the significance of their discoveries) and, in part, led Zug (1998) to examine Australian populations and resurrect *N. cheverti* and *N. eboracensis*. One of the bisexual species included in the Donnellan’s and Moritz’s (1995) analysis was the Vanuatu populations that Zug and Moon had designated as *N. multicarinatus*. *N. multicarinatus* was a member of their Group IV, whose populations occurred from the central-north coast of Papua New Guinea through