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Redescription of the rare Philippine false gecko *Pseudogekko brevipes* (Reptilia: Squamata: Gekkonidae) and description of a new species

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Abstract

Recent investigations into the species diversity of false geckos (genus *Pseudogekko* Taylor) have revealed several cryptic species, highlighting the need for a more thorough understanding of diversity within this enigmatic genus of endemic Philippine geckos. Newly available genetic data reveal that two of the four currently recognized species are complexes of multiple deeply divergent evolutionary lineages. In this paper we evaluate species diversity in one of these complexes, *P. brevipes* Boettger, and describe one additional new species. For nearly a century, *P. brevipes* has been recognized as a single, “widespread” species with a geographic range spanning two major faunal regions and several island groups. Poor understanding of this species has persisted due to both limited sampling and its apparent rarity. We evaluate both morphological and genetic data to define species limits in *P. brevipes*, and find character-based evidence to justify the recognition of two unique evolutionary lineages, one of which we describe as a new species (*P. atiorum* sp. nov.). The species included in this study have allopatric distributions and differ from congeners by numerous diagnostic characters of external morphology, and therefore should be recognized as full species in accordance with lineage-based species concepts. This newly described species increases the total number of species of *Pseudogekko* to seven.

Key words: biodiversity, conservation, endemism, faunal region, obligate forest species, rare species, taxonomy

Introduction

The Philippines is home to a remarkable diversity of amphibians and reptiles, the majority (75%) of which are endemic to this island archipelago. Recent studies of the archipelago’s terrestrial biodiversity have dramatically increased the number of recognized species, often as the result of identification of unique genetic lineages with minimal corresponding morphological variability, suggesting cryptic speciation. Species once considered to have wide distributions that spanned multiple faunal regions (Brown & Guttman, 2002; Brown & Diesmos, 2009) have more recently been revealed to constitute complexes of multiple species, each of which is typically restricted to a specific faunal region, island group, or complex geographic regions across islands (i.e., Sierra Madre versus Cordillera mountain ranges, Luzon Island; Brown *et al.*, 2013a). These endemic species often have specific microhabitat requirements that are threatened by extensive habitat degradation and destruction throughout the archipelago (Liu *et al.*, 1993; Lasco *et al.*, 2001; Stenberg & Siriwardana, 2008; Polidoro *et al.*, 2010; Siler *et al.*, 2014a). All species of *Pseudogekko* Taylor are obligate primary forest taxa and many exhibit microhabitat preferences for *Pandanus* Parkinson plants (Brown & Alcalá, 1978). Identification of these unique lineages is a