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Systematic revision of the *Parvosцинus decipiens* (Boulenger, 1894) complex of Philippine forest skinks (Squamata: Scincidae: Lygosominae) with descriptions of seven new species

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Abstract

Analysis of external morphological characters, color pattern, and DNA sequence data, plus consideration of biogeographical patterns, leads us to the hypothesis that the *Parvosцинus decipiens* complex of Philippine forest skinks consists of a minimum of eight highly divergent, phenotypically distinct, cohesive evolutionary lineages. We rectify this taxonomic underestimation of species diversity with formal descriptions of seven new species (*P. abstrusus* sp. nov., *P. agtorum* sp. nov., *P. arvindiesmosi* sp. nov., *P. aurorus* sp. nov., *P. banahaoensis* sp. nov., *P. jimmymcguirei* sp. nov., and *P. palaliensis* sp. nov.) and highlight geographical sampling deficiencies, which, if addressed with additional fieldwork, should lead to additional new species discoveries. Due to the difficulty of identifying non-overlapping differences in scalation on similarly sized, small-bodied skinks, species level diversity in diminutive Philippine forest skinks is undoubtedly substantially underestimated.

Key words: biodiversity hot spot, conservation, cryptic diversity, lizard, Luzon Island, montane, reptile, Southeast Asia, *Sphenomorphus* group

Introduction

The first major synthetic revision of lizards in the Philippines (Taylor 1922a) included descriptions of numerous species in the family Scincidae Gray, 1825, including 19 native species in the genera *Otosaurus* Gray, 1845, *Insulasaurus* Taylor, 1925, and *Sphenomorphus* Fitzinger, 1843 (Taylor 1922a,b,c, 1923, 1925). Subsequent revisionary work (Smith 1935, 1937; Mittleman 1952; Greer 1970) focused on clarifying subfamilial and generic boundaries defined by earlier workers (eg. Boulenger 1887; de Rooij 1915; Taylor 1922a) but no additional summaries of the Philippine fauna were published until Brown and Alcalá (1980) enumerated 23 species of *Sphenomorphus*, and followed Greer (1970) in no longer recognizing *Otosaurus* and *Insulasaurus*.

Since Brown and Alcalá (1980), inferences of morphological character state polarity and molecular phylogenies have been employed to resurrect the endemic Philippine genera *Otosaurus* and *Insulasaurus*, and define three new genera: *Parvosцинus* Ferner, Brown, Greer, 1997, *Pinoyscincus* Linkem, Diesmos, Brown, 2011, and *Tytthoscincus* Linkem, Diesmos, Brown, 2011. *Parvosцинus*, *Pinoyscincus*, *Otosaurus* and *Insulasaurus* are now recognized as endemic to the archipelago, whereas *Tytthoscincus* is shared with neighboring Sundaic landmasses to the west (Borneo, Peninsular Malaysia, and small intervening islands; Linkem *et al.* 2011; Grismer 2011).

In addition to this phylogeny-based restructuring of forest skink classification, new species have been described on Luzon, Mindanao, Palawan, and Panay Islands (Brown 1995; Brown *et al.* 1995, 1999; Ferner *et al.* 1997; Linkem *et al.* 2010; Brown *et al.* 2010) bringing the total number of Philippine forest skink species to 29.

Parvosцинus decipiens has troubled taxonomists for nearly a century. The species was originally described by Boulenger (1894) based on two specimens collected in Isabela Province of the Sierra Madre Mountain Range of Luzon (Fig. 1). *Sphenomorphus curtirostris* Taylor, 1915 was described from Mindanao based on differences in