The phylogenetic relationships of three new species of the *Cyrtodactylus pulchellus* complex (Squamata: Gekkonidae) from poorly explored regions in northeastern Peninsular Malaysia

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Abstract

An integrative taxonomic analysis of three newly discovered populations of the gekkonid genus *Cyrtodactylus* Gray from Merapoh, Pahang; Gunung Stong, Kelantan; and Gunung Tebu, Terengganu indicate they are part of the *C. pulchellus* complex and each is a new species and thusly named *Cyrtodactylus sharkari* sp. nov., *C. jelawangensis* sp. nov., and *C. timur* sp. nov., respectively. Each species bears a unique suite of morphological and color pattern characters separating them from each other and all other nominal species in the *C. pulchellus* complex. Their phylogenetic relationships to each other and other species in the *C. pulchellus* complex were unexpected in that they are not in accordance with the general distribution of the species in this complex, underscoring the intricate historical biogeography of the Thai-Malay Peninsula. These descriptions highlight our current lack of knowledge concerning the herpetological diversity and distribution of species in northeastern Peninsular Malaysia.

Key words: Conservation, Integrative taxonomy, Molecular systematics, Southeast Asia, Sundaland, Conservation

Introduction

Recent taxonomic revisions (Grismer & Norhayati 2008; Grismer et al. 2012; Sumontha et al. 2012) of the Banded Bent-toed Gecko *Cyrtodactylus pulchellus sensu lato* demonstrated that this taxon was a complex of 10 morphologically and molecularly diagnosable species and that each occupied a specific biogeographic region (i.e., an upland area, an island, a cismontane lowland, etc.). Collectively, the species of this complex range from the Isthmus of Kra in southern Thailand southward through the Thai-Malay Peninsula to southern Peninsular Malaysia (Grismer & Norhayati 2008; Grismer et al. 2012; Sumontha et al. 2012) but have never been found east of the Banjaran Titiwangsa—the main mountain range separating the western one-third of Peninsular Malaysia from the eastern two-thirds. As such, this area represented a potentially significant sampling gap in the integrative analysis of Grismer et al. (2012).
References


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