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Two new cryptic species of the *Cyrtodactylus irregularis* complex (Squamata: Gekkonidae) from southern Vietnam

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Abstract

We describe two new species of the *Cyrtodactylus irregularis* complex both based on phylogenetic analysis of 654 bp of COI mtDNA gene and morphological analyses of voucher specimens from Binh Phuoc and Lam Dong provinces, southern Vietnam. *Cyrtodactylus bugiamapensis* **sp. nov.** is described from the monsoon tropical forests of Bu Gia Map National Park, Binh Phuoc Province, and is distinguished from the remaining representatives of the *C. irregularis* complex by a combination of the following characters: (1) size medium, with a maximum SVL of 76.8 mm; (2) original tail relatively thin, longer than body; (3) presence of enlarged femoral scales without femoral pores; (4) preclocal groove lacking; (5) 36–46 longitudinal rows of ventral scales at midbody; (6) males with 7–11 precloacal pores in an angular continuous series; (7) absence of enlarged subcaudals; (8) dorsal pattern consisting of a dark neck band which can be medially divided, and irregular dark brown spots with bright white edges. *Cyrtodactylus bidoupimontis* **sp. nov.** is described from mountainous evergreen tropical forests of Bidoup – Nui Ba National Park, Lam Dong Province, and is most similar to *C. irregularis* sensu stricto from which it is distinguished by a combination of the following characters: (1) absence of enlarged, strongly keeled conical tubercles on the dorsal tail-base; (2) presence of flat rounded smooth to weakly keeled dorsal tubercles; (3) pallid dorsal head surface pattern lacking distinct dark brown irregular spots with light edges; and (4) elongated limbs. Phylogenetic analyses revealed the presence of a number of cryptic allopatric species within the *C. irregularis* complex. Long geological history and complicated relief of the Lang Bian plateau and surrounding areas might have shaped the present diversity within the *C. irregularis* complex. COI DNA-barcoding appears to be a useful tool to reveal cryptic diversity within the genus *Cyrtodactylus*.

Key words: Squamata, Gekkondidae, *Cyrtodactylus bugiamapensis* **sp. nov.**, *Cyrtodactylus bidoupimontis* **sp. nov.**, southern Vietnam, taxonomy

Introduction

Vietnam has been one of the regions of the most numerous discoveries of new *Cyrtodactylus*, the most speciose genus of gekkonids to date (e.g., Kluge 2001; Uetz *et al.* 2011). Twenty-five species are reported from that country to date, of which 22 have been described in the past decade: *C. badenensis* Nguyen, Orlov & Darevsky, *C. bichnganae* Ngo & Grismer, *C. cattienensis* Geissler, Nazarov, Orlov, Böhme, Phung, Nguyen & Ziegler, *C. caovansungi* Orlov, Nguyen, Nazarov, Ananjeva & Nguyen, *C. chauquangensis* Hoang, Orlov, Ananjeva, Johns,

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