



## A new cryptic species of *Acanthosaura* Gray, 1831 (Squamata: Agamidae) from Thailand and Cambodia

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### Abstract

A new species of *Acanthosaura* (Gray 1831), *A. cardamomensis* **sp. nov.** from eastern Thailand and western Cambodia is described based on having a combination of unique morphological characteristics. It most closely resembles *A. crucigera* but differs in having significantly longer postorbital spines, occipital spines, nuchal spines, and dorsal spines; more scales between the fifth canthals; longer maximum dorsal scale length; longer maximum nuchal scale length; a significantly smaller diastema between the nuchal and dorsal crest spines; and significantly more supralabials. Mitochondrial DNA was used to calculate percent sequence divergence between samples of *A. crucigera* from southern Myanmar and western Thailand and samples of *A. cardamomensis* **sp. nov.** from eastern Thailand and western Cambodia. The uncorrected pairwise sequence divergence between populations of *A. cardamomensis* ranged from 1.2–3.1% and the range between populations of *A. crucigera* was 3.8%. The percent sequence divergence between *A. cardamomensis* **sp. nov.** and *A. crucigera* ranged between 10.0–14.6%.

**Key words:** *Acanthosaura*, *armata*, *cardamomensis*, *crucigera*, Cardamom Mountains

### Introduction

Species of the Southeast Asian agamid genus *Acanthosaura* (Gray 1831) are diurnal, arboreal, insectivores ranging in elevation from sea level to 1450 m a.s.l. (Ananjeva 2008). Currently, the genus contains eight species ranging from northeastern India, east through Myanmar, Thailand, Cambodia, Laos, Vietnam, southern China (including Hainan island), and southward through the Malay Peninsula and adjacent archipelagos (Grismer *et al.* 2006) to Sumatra, and the Anambas and Natunas Archipelagos (Grismer *et al.* 2008a,b; Leong *et al.* 2002; Taylor 1963; Manthey & Grossmann 1997; Manthey 2008). Recent molecular investigations of the relationships within *Acanthosaura* have established that some of the wide-ranging species were composed of multiple species (Kalybina-Hauf *et al.* 2004; Ananjeva *et al.* 2008). *Acanthosaura crucigera* is one of these wide-ranging species, which extends from Myanmar east through Thailand, Cambodia, and southward to Northern Peninsular Malaysia (Boulenger 1912; Grismer *et al.* 2006b; Manthey & Grossmann 1997; Manthey 2008; Pauwels *et al.* 2003; Taylor 1963). Wood *et al.* (2009) demonstrated that the montane population from Bukit Larut, Perak in Peninsular Malaysia referred to as of *A. crucigera* (Boulenger 1912; Manthey 2008) was a different species, *A. bintangensis*.

Within Cambodia, there are three species of *Acanthosaura*: *A. capra* (Günther 1861), *A. coronata* (Günther 1861) and *A. crucigera* (Boulenger 1885). *Acanthosaura capra* and *A. coronata* are found in hilly