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Cyrtodactylus saiyok sp. nov., a new dry evergreen forest-dwelling Bent-toed Gecko (Squamata: Gekkonidae) from Kanchanaburi Province, western Thailand

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Abstract

We describe *Cyrtodactylus saiyok* **sp. nov.** from a dry evergreen forest on a limestone hill in Khao Krajae, Sai Yok District, Kanchanaburi Province, western Thailand. It is characterized by a maximal known SVL of 61.0 mm; 18–19 longitudinal rows of dorsal tubercles; 23 or 24 ventral scale rows between ventrolateral skin folds; a continuous series of enlarged femoro-precloacal scales, including 5 pore-bearing precloacal scales (males); no precloacal groove or depression; transversely enlarged subcaudal scales; a complete black nuchal loop; a W-shaped band above shoulders and 3–5 irregular, medially interrupted or not, black dorsal bands between limb insertions. *Cyrtodactylus saiyok* **sp. nov.** is the sixth reptile species that is possibly endemic to Sai Yok District.

Key words: *Cyrtodactylus saiyok* sp. nov., new species, taxonomy, limestone

Introduction

Sai Yok District, located in Kanchanaburi Province, western Thailand, along the border of Myanmar, is an extraordinary area for zoologists, and in particular for herpetologists. Besides having been during World War II the theater of some cryptozoological events that presumably involved man-eating monitors (Winn 1986), it houses several peculiar and colorful reptile species that have never been confirmed to occur anywhere else: the yellow-headed *Cnemaspis huaseesom* Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya, 2010, the bold-banded *Cyrtodactylus tigroides* Bauer, Sumontha & Pauwels, 2003, the orange-tailed *Dixonius hangseesom* Bauer, Sumontha, Grossmann, Pauwels & Vogel, 2004, the red-eyed *Gekko nutaphandi* Bauer, Sumontha & Pauwels, 2008 (Gekkonidae) and the rare *Trimeresurus kanburiensis* Smith (Viperidae) (Bauer *et al*. 2003, 2004, 2008; David *et al*. 2004; Grismer *et al*. 2010; Ellis & Pauwels 2012). Such a level of endemism has motivated us to examine additional herpetological material from Sai Yok, including a *Cyrtodactylus* that is clearly distinct from the Sai Yok endemic *C. tigroides*, but also from all congeneric species, and that we hence described hereafter as a new species.

Material and methods

Measurements and meristic counts follow Sumontha *et al*. (2012) and Pauwels *et al*. (2013, 2014). Paired meristic characters are given left/right. Numbers of supralabial and infralabial scales were counted from the largest scale immediately posterior to the dorsal inflection of the posterior portion of the upper jaw to the rostral and mental scales, respectively. The number of longitudinal rows of body tubercles was counted transversely across the center

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brevidactylus (eight), *C. bugiamapensis* (7–11 in one or two rows), *C. cattienensis* (6–8), *C. chauquangensis* (six or seven), *C. chrysopylos* (10+1), *C. cryptus* (9–11), *C. hontreensis* (7–8), *C. intermedius* (8–10), *C. martini* (four), *C. nigriocularis* (0–2), *C. oldhami* (0–4), *C. pageli* (four), *C. paradoxus* (0–4), *C. peguensis* (7–9), *C. phuquocensis* (7–9), *C. quadrivirgatus* (0–4), *C. sanook* (three or four), *C. sumonthai* (two), *C. surin* (four), *C. teyniei* (14 - female), *C. wakeorum* (12 - female), *C. wayakonei* (6–8) and *C. yangbayensis* (6–8) (character state unknown in *C. buchardi*). Among all Burmese, Indo-Chinese and Thai species listed above, the one showing the closest pattern and coloration to *Cyrtodactylus saiyok* **sp. nov.** is *C. wakeorum* from Rakhine State in Myanmar; they indeed share the absence of pattern on the dorsal surface of head, a grayish dorsal background color, and thin dorsal bands edged with a light stripe, that do not extend to lower flanks. However, the important meristic differences listed above, plus a lower number of ventral scale rows (23–24, versus 31 in *C. wakeorum*), seem to indicate that they are not closely related.

Cyrtodactylus saiyok **n. sp.** is the sixth reptile species that is possibly endemic to Sai Yok District. No particular geographical or environmental features seem to explain why the level of endemism in that small geographical area is so exceptional, affecting diverse squamate genera across two families, several of them with color peculiarities that are remarkable within their respective genera. In an extensive discussion of the zoogeography of the reptiles along the Thai-Malay Peninsula, Pauwels *et al*. (2003) suggested that, while the Isthmus of Kra plays a role as a filter, impeding movement of lineages between the Indo-Chinese and the Malayan Subregions of the Oriental Region, a biogeographic boundary separating these faunas seems to occur north of the Isthmus of Kra, following a line from western Thailand and North of the Central Plain of Thailand, north of Bangkok, to southern Vietnam, including, from west to east, the discontinuity in Tanen Taunggyi Range near Kanchanaburi, the Central Plain of Thailand, the Khorat Plateau, eastwards through the central plains of Cambodia up to the northern limit of the lowlands of southern Vietnam north of Saigon. This transition line corresponds well with the four month limit of duration of the dry season; north of this line, except in the west-facing slopes of the western hill and mountain range, the dry season increases significantly (Pauwels *et al*. 2003). New reptile records made by Pauwels and Chan-ard (2006) and Pauwels *et al.* (2009) support this hypothesis. Sai Yok is the northwesternmost locality for the genus *Cnemaspis*, where it is represented by *C. huaseesom* (Grismer *et al*. 2010). It should be noted that the presumably closest relative to *Trimeresurus kanburiensis* is *T. venustus* Vogel, which is found in the Thai-Malay Peninsula as far north as Chumphon province (David *et al*. 2004, Pauwels *et al*. 2013). We postulate that there is a link between the high level of endemism in Sai Yok District and the discontinuity of the Tanen Taunggyi Range, on the limit between the Indo-Chinese and the Malayan zoogeographical Subregions.

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APPENDIX. Comparative material examined.

Cyrtodactylus intermedius: IRSNB 17011, Nakhon Ratchasima, Thailand; *C. oldhami* complex: see material listed in Pauwels and Chan-ard (2006: 93) and Pauwels *et al*. (2000: 129); *C. peguensis*: see Pauwels *et al.* (2000: 129); *C. samroiyot*: see Pauwels & Sumontha (2014); *C. sanook*: see Pauwels *et al*. (2013); *C. sumonthai:* see Bauer *et al.* (2002).