Zootaxa 3821 (2): 253–264
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3821.2.5
http://zoobank.org/urn:lsid:zoobank.org:pub:803D24E1-2FA8-431E-B9D4-D20A0D53EBB0

Cyrtodactylus kunyai (Squamata: Gekkonidae), a new cave-dwelling Bent-toed Gecko from Loei Province, northeastern Thailand

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Abstract

We describe a new cave-dwelling *Cyrtodactylus* from Suan Hin Pha Ngam, Nong Hin District, Loei Province, northeastern Thailand, characterized by a maximal known snout-vent length of 87.9 mm, a banded dorsal pattern with a medially interrupted nuchal loop and four or five brown bands between nuchal loop and hind limb insertions and three bicolored band interspaces between limbs insertions, a dark orangeish iris, a continuous series of enlarged femoro-precloacal scales with 5–6 femoral pores on each side separated by a diastema from 3 precloacal pores in males (no pores in females), 19 irregularly arranged dorsal longitudinal tubercle rows at midbody, 34 ventral scale rows between ventrolateral skin folds, transversely enlarged subcaudal plates, and no precloacal groove.

Key words: *Cyrtodactylus kunyai* **sp. nov.**, taxonomy, limestone cave, Little Kunming

Introduction

The limestone hills of Suan Hin Pha Ngam (literally translating as the ‘‘Stone Garden of the Beautiful Cliff’’) are a famous tourist attraction in Loei Province. They were nicknamed ‘’Little Kunming’’ because they remind of the dramatic landscapes found in the southern Chinese Yunnan Province. In the course of fieldwork related to a systematic and phytogeographic review of the *Impatiens* (Balsaminaceae) of Thailand, two of us (KK and EP) found a population of *Cyrtodactylus* in a cave of Suan Hin Pha Ngam. They differ from all known species by a combination of color pattern and scalation features, and are consequently described here as a new species.

Material and methods

Measurements and meristic counts follow Sumontha *et al*. (2012) and Pauwels *et al*. (2013). Paired meristic characters are given left/right. Numbers of supralabial and infralabial scales are 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 of the dorsum from one ventrolateral skin fold to the other. The number of longitudinal rows of ventral scales was counted transversely across the center of the abdomen from one ventrolateral skin fold to the other. The numbers of subdigital lamellae beneath the toes were counted from the base of the first phalanx to the claw. The following measurements were taken with a digital caliper to the nearest 0.1 mm: AG: axilla to groin length, taken from the posterior margin of the forelimb at its insertion point on the body to the anterior margin of the hind limb at its

Accepted by A. Bauer: 28 May 2014; published: 20 Jun. 2014

thuongae; complete nuchal loop, four bi-colored band interspaces between limb insertions in *C. tigroides*; five or six irregular dark bands between limb insertions in *C. yangbayensis*; irregular banded-blotched dorsal pattern in *C. ziegleri*). In addition, the number of ventral scales of *Cyrtodactylus kunyai* **sp. nov.** (34) does not overlap with those of *C. aequalis* (24), *C. annandalei* (43), *C. auribalteatus* (38–40), *C. bichnganae* (30–31), *C. brevipalmatus* (35–44), *C. caovansungi* (38–44), *C. consobrinus* (58–65), *C. dumnuii* (40), *C. huongsonensis* (41–48), *C. huynhi* (43–46), *C. kingsadai* (39–46), *C. russelli* (35–41), *C. slowinskii* (27–32), *C. takouensis* (39–40) and *C. yangbayensis* (39–46). From *C. khelangensis* Pauwels, Sumontha, Panitvong & Varaguttanonda, 2014, which seems to be the closest species in terms of pattern and scalation, *C. kunyai* **sp. nov.** is distinguished by the absence of precloacal pores and femoral pits in females (Fig. 6) vs. their presence in *C. khelangensis*, its marbled caudal bands of the same length as the interspaces in the original tail (vs. immaculate bands two or three times longer than band interspaces in *C. khelangensis*), its longer dorsum band interspaces relative to the dorsal bands length, its light brown dorsal bands (vs. dark brown in *C. khelangensis*), the presence of longitudinally elongated dark marks within the band interspaces (absent in *C. khelangensis*) and a slightly smaller maximal known SVL (87.9 mm, vs. 95.3 mm for *C. khelangensis*) (see Pauwels *et al*. 2014).

The pace at which cave and karst-dwelling *Cyrtodactylus* are being discovered and described from Thailand does not seem to decrease, at the contrary (Pauwels & Sumontha 2014). Pursuing the inventory of the Thai cave and karst *Cyrtodactylus* and analyzing and mitigating their conservation threats has become a conservation priority. Most of these species are micro-endemics, facing a set of specific conservation threats (Ellis & Pauwels 2012; Panitvong *et al.* 2012), one of them being intensive, uncontrolled tourism – the main potential issue that might threat *Cyrtodactylus kunyai* **sp. nov.** for instance. The type locality is indeed a popular touristic site, with an easy access through paths to caves and limestone cliffs. A further development of touristic infrastructure or increase of visitor numbers would probably represent a conservation threat to the species. As far as we know it has not been offered so far in the pet trade.

Acknowledgements

We are grateful to Tanya Chan-ard (THNHM, Pathum Thani), Georges Lenglet and Sébastien Bruaux (IRSNB, Brussels) for providing access to the herpetological collections of their respective institutions, and to Watchira Sodoab for preparing the map.

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APPENDIX. Comparative material examined.

Cyrtodactylus astrum: see Grismer *et al.* (2012); *C. auribalteatus*: see Sumontha *et al.* (2010); *C. brevipalmatus*: see Pauwels & Chan-ard (2006); *C. chanhomeae*: see Bauer *et al.* (2003); *C. dumnuii*: see Bauer *et al*. (2010); *C. erythrops*: see Bauer *et al.* (2009); *C. intermedius*: IRSNB 17011, Nakhon Ratchasima, Thailand; *C. khelangensis*: see Pauwels *et al*. (2014); *C. lekaguli*: see Grismer *et al.* (2012); *C. oldhami* complex: see Pauwels & Chan-ard (2006) and Pauwels *et al*. (2000); *C. peguensis*: see Pauwels *et al.* (2000); *C. phuketensis*: see Sumontha *et al.* (2012); *C. samroiyot*: see Pauwels & Sumontha (2014); *C. sanook*: see Pauwels *et al.* (2013); *C. sumonthai:* see Bauer *et al.* (2002); *C. thirakhupti*: see Pauwels *et al*. (2004); *C. tigroides*: see Bauer *et al*. (2003).