

**A NEW SPECIES OF *CYRTODACTYLUS* GRAY, 1827
(REPTILIA: SQUAMATA: GEKKONIDAE) FROM SOUTHERN LAOS**

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ABSTRACT. *DA* specimen of the gekkonid genus *Cyrtodactylus* Gray, 1827, collected in Xepian National Biodiversity and Conservation Area, Champasak Province, southern Laos, is here referred to a new species, *Cyrtodactylus buchardi* sp. nov. The holotype, a juvenile male, differs from other known species by the combination of a slender body, a barely visible lateral fold, a slender but short tail, only 12 subdigital lamellae beneath 4th toe, 25 rows of tuberculate dorsal scales, no preloacal groove, three series of enlarged preloacal scales, no enlarged femoral scales, no distinctly enlarged subcaudal scales, 13-14 supralabials, a dorsal pattern made of five transversal series of irregular blotches, and a nuchal collar not reaching the posterior margin of the eyes. The new species is compared with other species known from the Indo-Chinese Peninsula and Thailand. It appears to be related to *Cyrtodactylus angularis* (Smith, 1921) and *C. papilionoides* Ulber & Grossmann, 1991, both from central and eastern Thailand.

KEY WORDS. – *Cyrtodactylus*, *Cyrtodactylus buchardi* new species, Laos, Xepian NBCA, Gekkonidae.

INTRODUCTION

The gekkonid genus *Cyrtodactylus* Gray, 1827, is widely represented in the Indian Region, Southeast Asia and the Pacific Region, eastwards to the Solomon Islands, making it one of the most speciose genus of Gekkonidae (Bauer, 2002, 2003). Bauer (2002) provided a historical and taxonomic overview of the genus *Cyrtodactylus* and a discussion of its relationships. Furthermore, in considering only mainland Southeastern Asia, 17 new species have been described in the recent years, especially from Myanmar (Bauer, 2002, 2003), but also from Vietnam (Darevsky & Szczerbak, 1997; Ziegler & al., 2002) and Thailand (Ulber & Grossmann, 1991; Ulber, 1993; Bauer et al., 2002, 2003). On the basis of Kluge (2001) and of the authors cited above, the genus currently includes about 77 species. Several of the recently described species have a very limited range and are distinguished by subtle differences in morphological characters, making this genus taxonomically challenging.

A collection of amphibians and reptiles was recently obtained in Champasak Province, southern Laos. This collection, described in Teynié et al. (submitted), contains 17 species new to Laos and a new species of amphibian (Ohler et al., 2004). Among the 31 specimens of lacertilians, a juvenile specimen of gekkonid was assigned to the genus *Cyrtodactylus* on the basis of its slender fingers, lacking expanded toe pads, and the characteristic bent toes. However, it could not be referred to any known species. On the basis of peculiar morphological features, it is here described as a new species and compared with other species of the Indo-Chinese Peninsula and Thailand.

MATERIAL AND METHODS

The description is based on external morphological characters regarded as taxonomically significant in the genus *Cyrtodactylus* (see the references cited above). Data used for

comparison originate from specimens that we examined ourselves (see Comparative Material Examined) and from literature (Smith, 1935; Taylor, 1963; Ulber, 1993; Bauer, 2002, 2003; Bauer et al., 2002, 2003; Ziegler et al., 2002).

However, as our specimen is a juvenile, we considered the possibility of ontogenetic variation in some characters regarded as diagnostic. Hence, we included juveniles in the examined material of other species. Three points were especially checked:

- (1) Upon comparison with juvenile specimens of *Cyrtodactylus angularis* (BMNH 1946.8.23.21) and *Cyrtodactylus intermedius* (BMNH1931.6.12.1; BMNH1946.8.23.15), we found that both the patterns of the dorsum and the nape do not undergo age-related variation. Colouration may differ greatly between young and adult specimens, but the structure of the pattern remains unchanged by ontogeny.
- (2) The presence or absence of femoral pores, always absent in juveniles, could not be considered for comparing our new species with other known taxa. Preloacal and femoral pores may eventually be present in adults. This restriction does not apply to the condition of enlarged preloacal and femoral scales, which do not undergo ontogenetic variation (condition checked on juvenile specimens of *Cyrtodactylus angularis* and *C. intermedius*).
- (3) There is a strong growth allometry in this genus (tested on several specimens of *Cyrtodactylus intermedius*, from SVL 50.7 mm to SVL 87.0 mm). The ratio HL/HW can be compared only for specimens of same sizes. In the results below, we only give the known limits.

All measurements were taken with a slide-caliper to the nearest 0.05 mm. Values for symmetric head characters are given in left/right order. Numbers of subdigital lamellae do not include ventral claw sheath; distal scales of digits are counted after the raised scale at digital inflection. Abbreviations of measures and meristic characters used in the text are:

Measures and ratios. CrusL: tibia length (from middle of knee to base of heel); EarL: longest dimension of ear; ForeAL: forearm length; HL: head length (from retroarticular process of jaw to snout tip); HW: head width (measured at the level of ears); SnED: snout to eye distance (distance between anterior margin of eye to snout tip); SVL: snout-vent length (from snout tip to vent); TaL: tail length; TL: total length; TrunkL: trunk length (distance measured between posterior edge of forelimb and anterior hedge of hindlimb).

Meristic characters: Cep: cephalic scales; DSR: dorsal scales (scales on dorsum between lateral folds); IL: infralabials; SL: supralabials; SpO: supraoculars; TSR: tuberculate dorsal scales; VEN: ventral scales (scales on belly between lateral folds).

Museum abbreviations are as follows:

BMNH: The Natural History Museum, London, United Kingdom; MNHN: Muséum National d'Histoire Naturelle, Paris, France.

TAXONOMY

Cyrtodactylus buchardi, new species (Figs. 1-4)

Material examined. ♂ Holotype - juvenile male (MNHN 2003.3301), Northwest of Kiatgong, Xepian National Biodiversity and Conservation Area (Xepian NBCA), Champasak Province, Lao People's Democratic Republic (Laos), coll. Thomas Calame, 30 Nov. 2003.

Diagnosis. ♂ A species of the genus *Cyrtodactylus*, characterized by: (1) a slender body; (2) thick digits, long, slender outer toes; (3) a faint, barely visible lateral fold; (4) a slender but short tail, shorter than body; (5) a low number (total 12) of subdigital lamellae beneath 4th toe; (6) 25 rows of tuberculate dorsal scales; (7) no preloacal groove; (8) three series of enlarged preloacal scales, without visible pore (but maybe present in adults, see above); (9) no enlarged femoral scales; (10) no distinctly enlarged subcaudal scales; (11) a high number of SL (13-14); (12) dorsal pattern made of five transversal series of irregular blotches, not forming stripes but more or less arranged as three longitudinal series; (13) a contrasted nuchal collar, not reaching the posterior margin of the eyes. This new species is compared with other members of the genus *Cyrtodactylus* below in the "Discussion".

Etymology. ♂ This species is named in honour of Mr. Michel Buchard, General Manager of *Etablissements E. Leclerc* in Clermont-Ferrand (France), who, through his generous patronage of natural history, made feasible the trips to Laos which allowed the collection of the type specimen, as well as numerous other missions.

Description of the holotype. ♂

Habitus. ♂ Juvenile male; SVL: 33.35 mm; Trunk L: 14.30 mm; TaL: 30.85 mm; TL: 64.20 mm; HL: 9.75 mm; HW:



Fig. 1. *Cyrtodactylus buchardi*, new species. Holotype (MNHN2003.3301). Lateral view of the head (left side).

6.75 mm. Body slender (ratio TrunkL/SVL 0.43). Head rather short (HL/SVL 0.29) and wide (HW/HL 0.69), clearly depressed between eyes, distinct from the neck, inflated in the lores region, canthus rostralis indistinct; snout rather elongate (SnED/HL 0.39), depressed in front of the eyes, blunt at its tip, longer than eye diameter (SnED/ED 1.54); eye moderate (ED/HL 0.26), with a vertical pupil; ear opening vertically elongated, average (EarL/HL 0.053). No precloacal groove. Tail (not regenerated; subsequently broken after preservation) slender but short (TaL/SVL 0.92).

Fore and hindlimbs short, thick, without webbing between digits and toes; forearm short (3.50 mm, ratio ForeAL/SVL 0.10); tibia short (3.75 mm; CrusL/SVL 0.11); digits rather thick, inflected at interphalangeal joints, all bearing a curved claw; subdigital lamellae of digits: proximal: large, broad, subrectangular or rounded, distal: subrectangular, narrow, no granule between proximal and distal lamellae; toes thick (I, II) or moderately slender (III-V); subdigital lamellae of toes: proximal: enlarged, rounded or subrectangular, distal rectangular, narrow, separated by 2 rounded scales at inflection point; lamellae of 4th toe (proximal + inflection point + distal): 4 + 2 + 8; Formula of distal subdigital lamellae (from I to V): *manus*: 4-7-8-9-7; *pes* 4-6-8-8-8. Relative lengths of digits: *manus*: IV ≈ III > II > V > I, *pes*: IV ≈ III > II > V > I.

Scalation. D Dorsal scalation heterogeneous; dorsal scales rounded, conical or weakly tuberculate, more subrectangular on lower parts of sides, juxtaposed, interspersed with distinctly enlarged, conical tuberculate scales, rather low on the lower flanks then distinctly tuberculate but not keeled on the upper half of flanks and back, extending from posterior border of eye and neck on to back and anterior half of the tail; about 69 DSR between the lower rows of tuberculate scales; 25 rows of TSR at midbody, not regularly arranged. Scales on dorsal surfaces of limbs similar to dorsal scales, interspersed with enlarged tuberculate scales. Scales on palm and sole smooth, more or less rounded, juxtaposed, swollen but not keeled.

Tail covered with scales similar to dorsal surfaces, interspersed with tuberculate scales on its anterior half about;

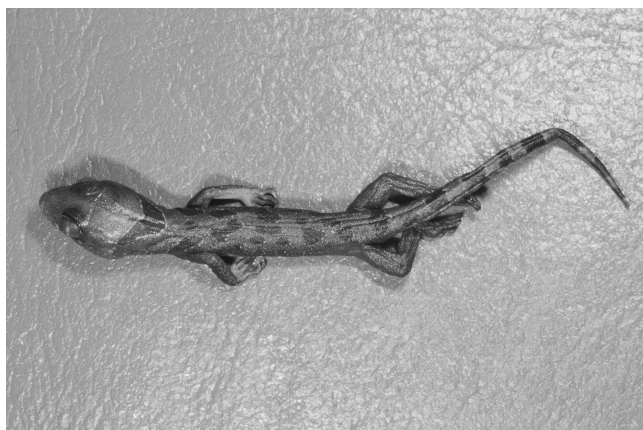


Fig. 2. *Cyrtodactylus buchardi*, new species. Holotype (MNHN2003.3301). General view (dorsum).

lower surface with 4-6 parallel series of regular, slightly enlarged, subrectangular scales (no series of distinctly enlarged scales).

Ventral scales distinctly larger than dorsals, flat, juxtaposed; 30 rows of VEN across the belly at midbody between the lateral folds, 38 scale rows between the lower rows of enlarged scales. A single series of 9 enlarged precloacal scales; scales immediately posterior to these scales enlarged, arranged in three series (from front to rear: 6 much enlarged scales / 5 scales / 1 scale) producing a triangle-like shape; no femoral pores (see above) nor enlarged femoral scales.

Rostral triangular, about 0.6 time high as wide, partly divided by a faint groove dorsally, in contact with 1st SL, both supranasals and internasal; nostril heart-shaped, surrounded by rostral, supranasals, 1st SL, nasal and postnasal; 2 enlarged rectangular supranasals, separated by a single pentagonal internasal; nasal bordered by 3 small postnasals; 13/14 SL, 8/8 SL to midorbital position, separated from orbit by 3 rows of small granular scales; cephalic scales small, rounded, conical, juxtaposed, with 38 Cep between middle of supraoculars and 32 Cep across narrowest distance between supraoculars; mental subtriangular, 1.4 times longer than

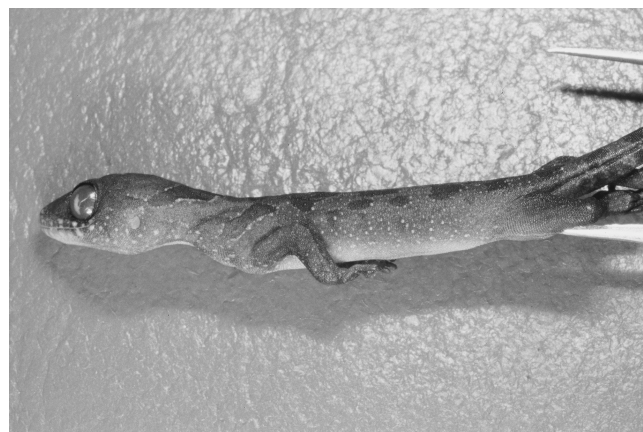


Fig. 3. *Cyrtodactylus buchardi*, new species. Holotype (MNHN2003.3301). Lateral view of the body (left side).



Fig. 4. *Cyrtodactylus buchardi*, new species. Holotype (MNHN2003.3301). Ventral view.

Table 1. Comparison of main morphological characters in some blotched species of *Cyrtodactylus* from Indochina and Thailand. Abbreviations: DSR: dorsal scales (between lateral folds); HL: head length; HW: head width; IL: infralabials; SL: supralabials; SVL: snout-vent length (from snout tip to vent); TaL: tail length.

Characters	<i>Cyrtodactylus</i>					
	<i>buchardi</i>	<i>angularis</i>	<i>brevipalmatus</i>	<i>jarujini</i>	<i>papilionoides</i>	<i>variegatus</i>
Tal/SVL	0.9	1.0-1.2	1.1-1.3	1.1-1.3	0.85-1.0	1.35
HL/HW	1.45	1.3-2.0	0.95-1.00	1.35-1.40	1.40-1.50	-
Lateral fold	Faint	Faint	Large	Large	Faint	Large
Ventrals	30	26-40	37-44	32-38	30-34	22
DSR	69	54	-	-	-	-
Tuberculate-DSR	25	18-24	18	18-20	12-14	-
Lamellae 4 th toe (basal + distal)	4 + 8	3-5 + 6-8	8 + 6	6-7 + 11-12	3-5 + 7-9	-
Preloacal groove	No	No	No	No	No	No
Enlarged femoral scales	No	Yes	Yes	Yes	Yes	Yes
Enlarged scales beneath tail	No	No	No	1 row	No	1 row
Interorbital scales	38/32	42/34	-	-	-	-
SL	14/13	9-11	12-14	12-14	10-11	10-11
IL	11/10	8-10	10-11	10-12	8-10	10-11
Dorsal pattern	Blotches	Blotches	Blotches	Blotches	Blotches	Blotches
Nuchal collar/eye	No	Yes	No	No	No	Yes

wide; 1 pair of enlarged postmentals, followed on each side by a pair of enlarged postmentals not in contact each with the other; postmentals bordered by mental, 1st IL, postmentals and, in the middle of the throat, by a group of scales larger than other gular scales; 11/10 infralabials, bordered by 2 rows of scales larger than throat granular scales; scales beneath throat minute, rounded.

Coloration. ♂ In life and preservative, background color of head and body dark tan, the sides subfused with darker hues, with 15 irregular dark chocolate brown blotches, irregularly edged by small white scales, arranged in one or two rows on each side of the back; these blotches are disposed in six series as follows (from head to vent): 1st transversal series of 3 large blotches (one on each side, each reaching the level of anterior edge of forelimb insertion plus one vertebral blotch), 2nd series made of 2 blotches in contact on the vertebral line, 3rd series made of 2 small blotches on left side, one elongated vertebral blotch and a single elongated blotch on right side, 4th and 5th series, including each of 3 small blotches obliquely aligned; and 6th series reduced to a single blotch on the base of the tail; the white edge is more visible on anterior, larger blotches; back and sides heavily dotted with white small spots, mainly disposed on enlarged dorsal scales, more numerous on the lower parts of sides; a prominent dark chocolate brown nuchal blotch, more or less like an inverted V or looking like a bat, edged with a very narrow white line made of minute dots, not reaching the posterior margin of the orbit, but connected to the latter by a distinct although confluent, much fainter, elongated dark brown streak. Limbs like body, with white or pale grey spots on enlarged scales. Tail tan like body or slightly darker, with 8 dark brown rings, the first four broken and irregular beneath the tail, others behind more regular, with pale grey blotches irregularly spaced on tail sides between the rings.

Upper head surface dark tan as body, uniform except a darker area in the region above the eyes, slightly paler on the snout; neck sides dotted with bright, small white spots; supralabials greyish-tan, strongly speckled with dark brown dots, with on each scale 1 or 2 small irregular cream spots, either in the middle or on top and bottom of the scale; infralabials strongly speckled with dark brown dots, except a small area devoid of dots and producing a larger, irregular white spot.

Venter and throat uniformly ivory cream, heavily dotted with both rounded (“normal”) or star-like black dots; these dots are usually arranged as 2 or 3 normal dots or 1 star-like, or a combination of 1 to 3 dots per scale. Beneath the throat, scales bear usually 1 or 2 dots.

Distribution and biology. ♂ *Cyrtodactylus buchardi* is currently known only from its type locality, the Xepian National Biodiversity and Conservation Area, in southern Laos. The holotype was collected at daytime under a stone on the ground of a lowland monsoon evergreen forest, at an elevation between 90 and 300 m.

DISCUSSION

Besides *Cyrtodactylus buchardi*, 16 species of the genus *Cyrtodactylus* are currently known from the mainland of Thailand, Cambodia, Laos and Vietnam (Chan-ard et al., 1999; Stuart, 1999; Bauer et al., 2002, 2003): *Cyrtodactylus angularis* (Smith, 1921), *C. brevipalmatus* (Smith, 1923), *C. chanhomeae* Bauer, Sumontha & Pauwels, 2003, *C. interdigitalis* Ulber, 1993, *C. intermedius* (Smith, 1917), *C. irregularis* (Smith, 1921), *C. jarujini* Ulber, 1993, *C. oldhami* (Theobald, 1876), *C. papilionoides* Ulber & Grossmann, 1991, *C. peguensis* (Boulenger, 1893), *C.*

Table 2. Comparison of main morphological characters in some non blotched species of *Cyrtodactylus* from Indochina and Thailand. Abbreviations: DSR: dorsal scales (between lateral folds); HL: head length; HW: head width; IL: infralabials; SL: supralabials; SVL: snout-vent length (from snout tip to vent); Tal: tail length.

Characters	<i>Cyrtodactylus</i>							
	<i>irregularis</i>	<i>phongnhakebangensis</i>	<i>oldhami</i>	<i>intermedius</i>	<i>interdigitalis</i>	<i>chanhomeae</i>	<i>tigroides</i>	<i>sumonthai</i>
Tal/SVL	1.0-1.1	1.25-1.35	1.1-1.2	1.3	1.00-1.2	-	1.4-1.5	1.3
HL/HW	1.70	1.4-1.5	-	1.5-1.6	1.35-1.55	1.65	1.50-1.65	1.50-1.70
Lateral fold	Large	Large	Large	Large	Large	Large	Large	faint
Ventrals	38-46	32-42	34-38	40-50	37-42	36-38	34	36
DSR	63	-	-	65-77	-	-	-	-
Tuberculate-DSR	17	11-20	20-28	18-19	18-22	16-18	13	12
Lamellae 4 th toe (basal + distal)	5 + 9	Total: 18-26	4-5 + 5-8	9-10 + 7-8	8-11 + 4-6	7-9 + 14	7-8 + 12-15	6 + 12
Preclacal groove	No	No	No	No	No	No	No	No
Enlarged femoral scales	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Enlarged scales beneath tail	Slightly	1 row	1 row	1 row	Slightly	1 row	1 row	2 rows
Interorbital scales	45/30	-	-	37-46/30-33	-	-	-	-
SL	11	10-13	9-13	11-12	12-14	12-13	11-12	12
IL	9	8-11	8-11	9-10	10-12	9-10	10-11	10
Dorsal pattern	Spots	Crossbands	Spots	Crossbands	Spots	Crossbands	Crossbands	Crossbands
Nuchal collar/eye	Yes	Yes	Yes	(No) Yes	Yes	Yes	Yes	Yes

phongnhakebangensis Ziegler, Rösler, Herrmann & Vu, 2002, *C. pulchellus* Gray, 1827, *C. quadrivirgatus* Taylor, 1962, *C. sumonthai* Bauer, Pauwels & Chanhome, 2002, *C. tigroides* Bauer, Sumontha & Pauwels, 2003, and *C. variegatus* (Blyth, 1859). A comparison with 13 of these species appears in Tables 1 (species with a blotched dorsum) and 2 (non blotched species). The remaining three species, *C. peguensis*, *C. pulchellus*, and *C. quadrivirgatus* are known only from southern Thailand (and, depending on species, southern Myanmar and West Malaysia).

The condition of preloacal and femoral pores and enlarged scales in males has recently been widely used to distinguish species of the genus *Cyrtodactylus* (see, for example, Bauer et al., 2002, 2003). By the absence of a preloacal groove, *Cyrtodactylus buchardi* differs from *C. pulchellus*. As we have only a juvenile available, we cannot compare the absence of femoral pores in *C. buchardi* with the condition in other species. However, in the holotype of *C. buchardi*, 9 enlarged preloacal scales are arranged in a single series arranged as a sharp V-like pattern, making this species different from *C. angularis*, *C. chanhomeae*, *C. intermedius*, *C. jarujini*, *C. papilionoides*, *C. sumonthai*, *C. tigroides*, but broadly similar to that found in *C. brevipalmatus*, *C. interdigitalis*, *C. irregularis*, *C. oldhami* and *C. phongnhakebangensis*. By the absence of enlarged femoral scales, *C. buchardi* differs from *C. angularis*, *C. brevipalmatus*, *C. chanhomeae*, *C. interdigitalis*, *C. intermedius*, *C. irregularis*, *C. jarujini*, *C. oldhami*, *C. papilionoides*, *C. peguensis*, *C. quadrivirgatus*, *C. tigroides* and *C. variegatus*.

Cyrtodactylus buchardi differs from all other species by several characters listed in Table 1. The condition of the scales beneath the tail (not distinctly enlarged in *C. buchardi*) and the high number of dorsal tuberculate scales are especially diagnostic. Among other characters, *C. buchardi* differs by its short tail from all species cited above but *C. angularis*, *C. interdigitalis*, *C. irregularis* and *C. papilionoides*, especially the latter species. By the absence of basally webbed digits, it is distinguished from *C. brevipalmatus* and *C. interdigitalis*. Lastly, the dorsal pattern of the new species differs markedly from most other species considered for comparison but *C. jarujini* and, especially, *C. papilionoides*. The pattern of the holotype of *C. buchardi* is rather similar to a specimen depicted in Ulber & Grossmann (1991: 21, bottom).

On the basis of morphological data, *Cyrtodactylus buchardi* appears to be related to *C. angularis* and especially to *C. papilionoides*, two species known from central and eastern Thailand. The three species share (1) a short tail (compared with a juvenile in the case of *C. angularis*); (2) a very weak lateral fold; (3) no distinctly enlarged scales beneath the tail; (4) a comparatively low number of scales beneath 4th toe; (5) a dorsal pattern made of irregular blotches. *Cyrtodactylus buchardi* is distinguished from both *C. angularis* and *C. papilionoides* by (1) the structure of the enlarged preloacal scales (linear in these two species); (2) a higher number of supralabials. It is furthermore distinguished from *C. angularis* by (1) a higher number of DSR between the lower tuberculate scales (69 vs. 54, in both cases based on a single specimen);

(2) the absence of enlarged femoral scales; (3) much less regular dorsal blotches; from *C. papilionoides* by a higher number of dorsal tuberculate scales. These characters are considered sufficient to regard *C. buchardi* as a species distinct from the two other taxa, but it seems to be an eastern representative of this small subgroup of three species.

The status of the genus *Cyrtodactylus* in Laos is poorly known. Neither Smith (1935) nor Taylor (1963) specifically cited any species from this country. Stuart (1999) recorded from the country *Cyrtodactylus interdigitalis* (Centre) and *Cyrtodactylus jarujini* (North and Centre). *Cyrtodactylus buchardi* clearly differs from both species, and should be considered the third species definitely recorded from the country. *Cyrtodactylus intermedius* and *C. phongnhakebangensis* are, according to their range currently known, likely to be also found in Laos. Nevertheless, the lizard fauna of this country remains poorly known.

COMPARATIVE MATERIAL EXAMINED

- Cyrtodactylus angularis*. $\text{\textcircled{D}}$ BMNH1946.8.23.21 (syntype), Dong Rek Mts., eastern Thailand.
Cyrtodactylus intermedius. $\text{\textcircled{D}}$ BMNH1931.6.12.1, Bockor, Kamchay Mts., Cambodia. $\text{\textcircled{D}}$ BMNH1946.8.23.15, Khao Sebab, Chantabun Province, Thailand. $\text{\textcircled{D}}$ MNHN1988.3393_3419, Thailand (through the pet trade).
Cyrtodactylus irregularis. $\text{\textcircled{D}}$ BMNH1932.1.4.1, Sui Kat, Langbian Plateau, Vietnam.
Cyrtodactylus oldhami. $\text{\textcircled{D}}$ MNHN1999.7626, MNHN1999.7698, Phang-Nga Marine Wildlife Breeding Station, Muang District, Phang-Nga Province, Thailand.
Cyrtodactylus peguensis peguensis. $\text{\textcircled{D}}$ MNHN 1998.0544, Ban Kok Jaroen, Tap-Phut District, Phang-Nga Province, Thailand.
Cyrtodactylus pulchellus. $\text{\textcircled{D}}$ MNHN 1998.0600, Tham Phung Chang, Phang-Nga City, behind Provincial Hall, Muang District, Phang-Nga Province, Thailand; MNHN1999.7706, Tham Reusi, Muang District, Phang-Nga Province, Thailand.

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LITERATURE CITED

- Bauer, A. M., 2002. Two new species of *Cyrtodactylus* (Squamata: Gekkonidae) from Myanmar. *Proceedings of the California Academy of Sciences*, **53**(7): 73-86.
- Bauer, A. M., 2003. Description of seven new *Cyrtodactylus* (Squamata: Gekkonidae) with a key to the species of Myanmar (Burma). *Proceedings of the California Academy of Sciences*, **54**(25): 463-498.
- Bauer, A. M., O. S. G. Pauwels & L. Chanhom, 2002. A new species of cave-dwelling *Cyrtodactylus* (Squamata: Gekkonidae) from Thailand. *The Natural History Journal of the Chulalongkorn University*, **2**(2): 19-29.
- Bauer, A. M., M. Sumontha & O. S. G. Pauwels, 2003. Two new species of *Cyrtodactylus* (Reptilia: Squamata: Gekkonidae) from Thailand. *Zootaxa*, **376**: 1-18.
- Blyth, E., 1859. Report of Curator, Zoological Department, for February to May meetings, 1859. *Journal and Proceedings of the Asiatic Society of Bengal*, **28**(3): 271-298.
- Boulenger, G. A., 1893. Viaggio di Leonardo Fea in Birmania e regioni vicine. LII. Concluding report on the reptiles and batrachians obtained in Burma by Signor L. Fea, dealing with the collection made in Pegu and the Karin Hills in 1887-8. *Annali dell Museo civico di Storia naturale di Genova*, (2) **13**(33): 304-347, plates.
- Chan-ard, T., W. Grossmann, A. Gumprecht & K.-D. Schulz, 1999. *Amphibians and Reptiles of Peninsular Malaysia and Thailand. An illustrated checklist*. Bushmaster Publ., Wuerselen (Germany). 240 pp.
- Darevsky, I. S. & N. N. Szczerbak, 1997. A new gecko of the genus *Gonydactylus* (Sauria: Gekkonidae) with a key to the species of Vietnam. *Asiatic Herpetological Research*, **7**: 19-22.
- Gray, J. E., 1827. A synopsis of the genera of the saurian reptiles, in which some new genera are indicated, and the others reviewed by actual examination. *Philosophical Magazine*, London, (Ser. 2), **2**(7): 54-58.
- Kluge, A. G., 2001. Gekkotan lizard taxonomy. *Hamadryad*, **26**(1): 1-209.
- Ohler, A., A. Teynié & P. David, 2004. A green-eyed *Leptobrachium* (Anura: Megophryidae) from southern Laos. *Raffles Bulletin of Zoology*, **52**(2): XXX-XXX.
- Smith, M. A., 1917. Descriptions of new reptiles and a new batrachian from Siam. *Journal of the Natural History Society of Siam*, **2**(3): 221-224, Plate.
- Smith, M. A., 1921. New or little-known Reptiles and Batrachians from Southern Annam (Indo-China). *Proceedings of the Zoological Society of London*, **1921**(11): 423-440, Pls. 1-2.
- Smith, M. A., 1923. Notes on reptiles and batrachians from Siam and Indo-China. (No 2.). *Journal of the Natural History Society of Siam*, **6**(1): 47-53, Pl. 5.
- Smith, M. A., 1935. *The Fauna of British India, including Ceylon and Burma. Reptilia and Amphibia. Vol. II. Sauria*. Taylor & Francis, London. Pp. i-xii + 1-440, Pl. 1.
- Stuart, B., 1999. Amphibians and Reptiles. In: Duckworth, J. W., R. E. Salter & K. Khounbolin (eds.), *Wildlife in Lao PRD: 1999 Status Report*. IUCN - The World Conservation Union - Wildlife Conservation Society - Centre for Protected Areas and Watershed Management, Vientiane. Pp. 43-67, Pls. 8-10.
- Taylor, E. H., 1962. New Oriental Reptiles. *University of Kansas Science Bulletin*, **43** (7): 209-263.
- Taylor, E. H., 1963. The lizards of Thailand. *University of Kansas Science Bulletin*, **44**(14): 687-1077.
- Teynié, A., P. David, A. Ohler & K. Luanglath. Submitted. Note on a collection of Amphibians and Reptiles from Southern Laos, with a discussion of occurrence of Indo-Malayan species. *Hamadryad*.
- Theobald, W., 1876. *Descriptive catalogue of the reptiles of British India*. Thacker, Spink and Co., Calcutta. 238 + xxxviii + xiii pp.
- Ulber, T., 1993. Bemerkungen über cyrtodactyline Geckos aus Thailand nebst Beschreibung von zwei neuen Arten (Reptilia: Gekkonidae). *Mitteilungen aus dem Zoologischen Museum in Berlin*, **69**(2): 187-200.
- Ulber, T. & W. Grossmann, 1991. Ein weiterer neuer Gecko aus Zentral-Thailand: *Cyrtodactylus papilionoides* sp. nov. (Reptilia: Sauria: Gekkonidae). *Sauria*, **13**(1): 13-22.
- Ziegler, T., H. Rösler, H.-W. Herrmann & N. T. Vu, 2002. *Cyrtodactylus phongnhakebangensis* sp. n., ein neuer Bogenfingergecko aus dem annamitischen Karstwaldmassiv, Vietnam. *Herpetofauna* (Weinstadt), **24**(141): 11-25.