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A new leaf-toed gecko (Gekkonidae: *Dixonius*) from the city of Ranong, southwestern Thailand

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Abstract

We describe *Dixonius dulayaphitakorum* sp. nov. from Ranong city, Ranong Province, southern peninsular Thailand. The new, ground-dwelling species differs from all currently recognized *Dixonius* by a combination of morphological characters and pattern: maximal known SVL of 47.8 mm, 22 longitudinal rows of dorsal tubercles; 33 to 35 paravertebral scales; 22 longitudinal rows of ventrals across the abdomen; six or seven precloacal pores in males, no pores in females; no distinct canthal stripe; and a spotted dorsal pattern. Based on dorsal pattern, the new species seems related to *Dixonius siamensis*. This description brings to 11 the number of *Dixonius* species, and to five the ones endemic to Thailand.

Key words: Gekkota, Thai-Malay Peninsula, *Dixonius dulayaphitakorum* sp. nov.

Introduction

The genus *Dixonius* Bauer, Good & Branch was long believed to include only two species, the central Thai endemic *D. melanostictus* and the presumably widespread *D. siamensis* (Taylor 1963). More and more species with restricted geographical distributions were however described during the last two decades from Laos and Vietnam (see among others Ziegler *et al*. 2016; Nguyen *et al*. 2020). We described ourselves three micro-endemic species from Thailand: *Dixonius hangseesom* Bauer, Sumontha, Grossmann, Pauwels & Vogel, 2004 from Sai Yok in western Thailand near the border with Myanmar, and *D. kaweesaki* Sumontha, Chomngam, Phanamphon, Pawangkhanant, Viriyapanon, Thanaprayotsak & Pauwels, 2017 and *D. pawangkhananti* Pauwels, Chomngam & Sumontha, 2020 from coastal hills along the Gulf of Thailand. These descriptions have demonstrated a certain diversity within the genus, with ten recognized species globally distributed from Myanmar to Vietnam and southern Thailand (Uetz *et al*. 2020), and have stressed that the diversity is certainly higher, with the possible need to revalidate synonyms and to describe more taxa. Progressing further in our revision of *Dixonius* in Thailand, we noticed constant morphological differences between a population inhabiting the city of Ranong in the Thai-Malay peninsula, and all Thai and other representatives of the genus. We describe it here as a new species.

Material and methods

Voucher specimens were fixed in 90% ethanol and subsequently transferred into 70% ethanol for permanent storage. Measurements and meristic counts followed Sumontha *et al*. (2017) and Pauwels *et al*. (2020). Paired meristic characters are given in the format 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 of the dorsum. The number of longitudinal rows of ventral scales was counted transversely across the center

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of the abdomen between the lowest rows of dorsal tubercles. The numbers of subdigital lamellae beneath the toes were counted from the distalmost one at the claw base (claw not counted) to the basal one that broadly contacts the adjacent fragmented scales (fragmented scales not counted).

The following measurements were taken with a digital caliper to the nearest 0.1 mm: BW: Body width, greatest width of torso, taken at level of midbody; EarL: ear length, the greatest horizontal distance of the ear opening; FAL: forearm length, taken on the dorsal surface from the posterior margin of the elbow while flexed 90° to the inflection of the flexed wrist; HD: head depth, the maximum depth of head from the occiput to the throat; HL: head length, from the posterior margin of the retroarticular process of the lower jaw to the tip of the snout; HW: head width, measured at the angle of the jaws; InterN: internarial distance, measured between the nares across the rostrum; InterOrb: interorbital distance, measured between the anterior edges of the orbits; NosOrb: nostril to orbit distance, from the posterior margin of the external nares to the anterior margin of the orbit; OrbD: orbit diameter, the greatest horizontal diameter of the orbit; OrbEar: orbit to ear distance, from the anterior edge of the ear opening to the posterior edge of the orbit; SnOrb: snout to eye distance, from the tip of the snout to the anteriormost margin of the orbit; SVL: snout-vent length, taken from the tip of snout to the vent; TailL: tail length, taken from the vent to the tip of the tail, original or regenerated; TailW: tail width, taken at the base of the tail immediately posterior to the postcloacal swelling; TibL: tibia length, taken on the ventral surface from the posterior surface of the knee while flexed 90° to the base of heel; TrunkL: axilla to groin length (trunk 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 insertion point on the body. Meristic characters abbreviations: DTR: longitudinal rows of dorsal tubercles; FemPo: femoral pores; ICS: interciliary scales, counted between supraciliaries at midpoint of orbit; IL: infralabial scales; InterOrb: interorbital scales, counted across the narrowest point of the frontal bone; PrePo: precloacal pores; PV: paravertebral scales, number of scales in a paravertebral row from first scale posterior to parietal scale to last scale at the level of vent opening; PV': paravertebral scales in a row between limb insertions; SL: supralabial scales; SLMOrb: number of supralabial scales at mid-orbital position; SubLT4: number of subdigital lamellae beneath 4th toe; Ven: ventral scales.

Comparisons were made using the original descriptions of all currently recognized *Dixonius* species and their synonyms (Boulenger 1898; Mocquard 1904; Annandale 1905a-b; Taylor 1962, 1963; Bauer *et al*. 2004; Das 2004; Ngo & Ziegler 2009; Botov *et al*. 2015; Ziegler *et al*. 2016; Sumontha *et al*. 2017; Nguyen *et al*. 2020; Pauwels *et al*. 2020; and references therein) and museum preserved specimens (see Appendix).

Museum and other acronyms: AUP: Agriculture University of Phayao, Phayao; CUMZ-R: Chulalongkorn University Museum of Zoology, Reptile Collection, Bangkok; MNHN: Muséum national d'Histoire naturelle, Paris; MS: Montri Sumontha's field number series; PSUZC, Prince of Songkhla University Zoological Collection, Songkhla; RBINS: Royal Belgian Institute of Natural Sciences, Brussels; THNHM: Thailand Natural History Museum, National Science Museum, Technopolis, Pathum Thani; and ZMKU Rep: Zoological Museum of Kasetsart University, Reptile Collection, Bangkok.

Systematics

Dixonius dulayaphitakorum **sp. nov.**
(Figs 1–5)

Holotype. AUP-02002 (field nr MS 626); adult male collected by Montri Sumontha on 20 February 2015 in the garden of the Ranong Marine Fisheries Research and Development Station, Ban Ring Subdistrict, Ranong city, Muang District, Ranong Province, peninsular Thailand.

Paratypes. (4) PSUZC-R 729 (field no. MS 621) and PSUZC-R 730 (field no. MS 622), adult males. AUP-02003 (field no. MS 623) and PSUZC-R 731 (field no. MS 706), adult females. All paratypes with the same locality, collector and collecting date as the holotype, except PSUZC-R 731 (field no. MS 706), collected at the same site but in December 2016.

Diagnosis. *Dixonius dulayaphitakorum* **sp. nov.** can be distinguished from all other congeneric species by its maximal known SVL of 47.8 mm, 22 longitudinal rows of dorsal tubercles; 33 to 35 paravertebral scales; 22 longitudinal rows of ventrals across the abdomen; six or seven precloacal pores in males, no pores in females; no distinct canthal stripe; and a spotted dorsal pattern.

FIGURE 1A–B. Live adult male holotype (AUP-02002) of *Dixonius dulayaphitakorum* **sp. nov**. A: General dorsal view. B: Venter and precloacal pores. Photos. by M. Sumontha.

Description of holotype. Adult male (Figures 1–2). SVL 46.2 mm. Head relatively long (HL/SVL ratio 0.30), wide (HW/HL ratio 0.66), not markedly depressed (HD/HL ratio 0.37), distinct from neck. Lores and interorbital region weakly inflated. Canthus rostralis relatively prominent. Snout moderately short (SnOrb/HL ratio 0.34), rounded, longer than orbit diameter (OrbD/SnOrb ratio 0.69). Scales on snout and forehead small, hexagonal to rounded, flattened, with smooth or slightly rugose surface. Scales on snout larger than those on occipital region. Eye of moderate size (OrbD/HL ratio 0.24). Pupil vertical with crenelated margins. Supraciliaries short, without spines. Ear opening rounded, moderate (EarL/HL ratio 0.09); orbit to ear distance greater than orbit diameter. Rostral about twice wider than high. Two enlarged supranasals in contact, separated posteriorly by a small scale. Rostral in contact with supralabial I on each side, nostrils and both supranasals. Nostrils round, each surrounded by supranasal, rostral, supralabial I and two postnasals. Mental triangular, about as long as deep. Two pairs of enlarged postmentals, anteriormost approximately three times larger than posterior. Each anterior postmental bordered anteriorly by mental, medially by the other anterior postmental, anterolaterally by infralabial I, posterolaterally by the second postmental; the pair collectively bordered posteromedially by a row of five throat scales. Supralabials to mid-orbital position 6/6; enlarged supralabials to angle of jaws 8/8. Infralabials 7/7. Interorbital scales 10.

Body slender, elongate (TrunkL/SVL ratio 0.43), without ventrolateral folds. Dorsal scales heterogeneous, small, irregular, flattened to conical, distributed among large, strongly keeled tubercles arranged in 22 more-or-less regular longitudinal rows at midbody. Flanks covered with irregular, smooth to slightly conical scales. Gular region with relatively homogeneous, granular scales. Ventral scales smooth, imbricate, their free margin rounded. Ventrals increasing in size from throat to chest to abdomen, somewhat smaller in precloacal region. Midbody scale rows

across belly to lowest rows of tubercles 22. Seven precloacal pores in a continuous series. Pore-bearing scales not enlarged relative to adjacent scale rows. Scales in the row immediately posterior to the pore-bearing row about two times the size of other scales in precloacal region. No femoral pores or enlarged femoral scales.

Fore- and hind limbs short, slender (FAL/SVL ratio 0.10; TibL/SVL ratio 0.17). Digits slender, dilated distally, all bearing robust, slightly recurved claws. Basal subdigital lamellae narrow, without scansorial surfaces (8-9-11-11-10 right manus; 6-9-13-14-11 right pes); setae-bearing lamellae restricted to enlarged, distal, ''leaf-like'' scansors. Scales on palm and sole small, smooth, rounded to oval. Interdigital webbing absent. Relative length of digits: III>IV>II>V>I (manus), IV>III>V>II>I (pes). Tail original; total length of tail 56.6 mm. Tail original, slender, tapering to tip, longer than snout-vent length (TailL/SVL ratio 1.23). Supracaudals markedly keeled in the anterior portion of the tail. Ventral tail scales enlarged into transverse plates.

Coloration in life. Dorsal surface of head brown with poorly contrasting, irregular dark brown spots. No distinct canthal stripe. The supralabials are white with each a brown spot. The background color of the neck and dorsum is brown, with irregular dark brown spots, similarly to the head, and two regularly disposed whitish tubercles on each side. Each flank shows four regularly aligned whitish tubercles, pursuing the series on the neck. The upper part of the tail shows the same background color as the dorsum and head, with irregular brown marks, and eight regularly arranged, poorly defined, whitish bands, the tail ending with a whitish tail tip. The upper surface of the legs is light brown with irregular small dark brown spots. Ventral surfaces of head, body, members and tail whitish, with gray palms and soles. In preservative the colors strongly fade and become less contrasted (Figure 2).

FIGURE 2. Preserved type-series of *Dixonius dulayaphitakorum* **sp. nov**. in dorsal view. Photo. by M. Sumontha.

Variation. In addition to the type-series, two adult individuals, including a gravid female, were measured but not preserved. Main morphometric and meristic characters of the type-series and these two specimens are provided in Table 1. Morphology and coloration characters of the paratypes and additional specimens agree in most respects with the holotype. The ratio TaiL/SVL among four males (all with an original tail) varies between 1.17 and 1.23; in the only female paratype with an original tail the ratio is 1.12, indicating that females might have a relatively shorter tail. There are four of five regularly aligned pairs of white tubercles on dorsum between limb insertions. The dorsal pattern does not seem to be sexually dimorphic (Figures 1, 3–4). Hatchling individuals have chocolate brown dorsal surfaces, with four or five beige tubercles on each flank, and beige, regularly arranged, interrupted rings on tail (Figure 4B).

TABLE 1. Meristic and morphometric (in mm) data for the type series and two unvouchered specimens of *Dixonius dulayaphitakorum* **sp. nov.** Paired meristic characters are given left/right.

	Holotype, AUP-02002	Paratype PSUZC-R 729	Paratype PSUZC-R 730	Paratype AUP-02003	Paratype PSUZC-R 731	Unvouchered specimen 1	Unvouchered specimen 2
Sex	Male	Male	Male	Female	Female	Male	Female (gravid)
SVL	46.2	39.6	37.6	40.1	46.0	47.8	46.5
TailL	56.6	46.9	43.9	44.8	>29.5	57.5	>20.3
TrunkL	20.0	18.8	15.5	17.5	21.7	22.2	22.0
TailW	4.5	4.5	4.5	4.2	5.0	4.7	3.2
BW	9.6	9.9	9.0	10.1	10.6	9.2	8.4
HL	14.0	12.3	12.2	12.0	13.5	14.8	13.7
HW	9.3	8.0	7.9	7.8	8.6	8.9	7.8
HD	5.2	4.3	4.6	4.5	6.0	5.7	5.0
EarL	1.3	1.0	1.0	1.2	1.3	1.0	0.9
TibL	7.9	6.5	6.2	6.4	7.6	8.0	7.0
FAL	4.6	4.6	4.4	4.5	5.6	6.8	6.0
OrbD	3.3	2.8	2.7	2.5	3.0	3.3	2.9
NosOrb	3.7	3.2	3.1	3.2	3.8	4.1	3.8
SnOrb	4.8	4.4	4.3	4.1	4.8	5.6	4.8
OrbEar	3.9	3.3	3.1	3.3	4.1	4.3	3.9
InterN	2.1	1.7	1.6	1.7	2.0	2.1	2.0
InterOrb	2.2	1.9	1.7	1.9	2.3	2.4	NA
Ven	22	22	22	22	22	22	22
DTR	22	22	22	22	22	22	22
PV	35	34	33	34	34	NA	NA
PV’	22	25	20	24	24	NA	NA
SubLT4	14/13	14/13	14/14	15/15	12/12	NA	NA
InterOrb	10	9	10	10	9	NA	NA
ICS	30	30	30	33	31	NA	NA
SL	8/8	8/8	8/8	8/8	8/8	8/8	8/8
IL	7/7	7/6	7/7	7/7	7/7	7/7	7/7
SLMOrb	6/6	6/6	6/6	6/6	6/6	6/6	6/6
PrePo	7	6	6	0	0	6	0
FemPo	0	0	0	0	0	0	0

Distribution and natural history. *Dixonius dulayaphitakorum* **sp. nov.** is currently known only from its type-locality in Muang District, Ranong Province (Figure 6). It is probably more widely distributed in the district and possibly in the neighboring Chumphon Province. It is a nocturnal ground-dweller, probably originally living in forest, and currently surviving in highly disturbed environments. By day it hides under tiles and wood debris (Figure 5). Amphibian and reptile species we found in the immediate surroundings included *Duttaphrynus melanostictus* (Schneider) (Bufonidae), *Hoplobatrachus rugulosus* (Wiegmann), *Fejervarya limnocharis* (Gravenhorst), *Occidozyga lima* (Gravenhorst) (Dicroglossidae), *Kaloula pulchra* Gray, *Microhyla mukhlesuri* Hasan, Islam, Kuramoto, Kurabayashi & Sumida and *M. heymonsi* Vogt (Microhylidae), *Hylarana erythraea* (Schlegel) (Ranidae), *Polypedates leucomystax* (Gravenhorst) (Rhacophoridae), *Calotes versicolor* (Daudin), *Draco maculatus* (Gray) and *D. taeniopterus* Günther (Agamidae), *Gekko gecko (Linnaeus)*, *Gehyra mutilata* (Wiegmann), *Hemidactylus frenatus* Duméril & Bibron, *H. platyurus* (Schneider) and *H. murrayi* Gleadow, *Hemiphyllodactylus typus* Bleeker (Gekkonidae), *Eutropis multifasciata* (Kuhl), *Lygosoma bowringii* (Günther), *Sphenomorphus maculatus* (Blyth) (Scincidae), *Chrysopelea ornata* (Shaw) and *C. paradisi* Boie, *Coelognathus radiatus* (Boie), *Gonyosoma oxy-*

cephalum (Boie), *Ptyas korros* (Schlegel) (Colubridae), *Cylindrophis* cf. *ruffus* (Laurenti) (Cylindrophiidae), *Naja kaouthia* Lesson (Elapidae), *Homalopsis semizonata* Blyth (Homalopsidae), *Rhabdophis subminiatus* (Schlegel), *Xenochrophis trianguligerus* (Boie) (Natricidae), *Indotyphlops braminus* (Daudin) (Typhlopidae) and *Xenopeltis unicolor* Reinwardt (Xenopeltidae).

Etymology. The specific epithet is a mark of friendship honoring Mr. Santisak and Mrs. Boonneam Dulayaphitak for their support to the herpetological field work of the first author, and who often drew his attention on interesting specimens. We suggest the following common names: *Djing-djok din Ranong* (Thai), Ranong leaf-toed gecko (English), *Dixonius de Ranong* (French), *Ranong-Blattfingergecko* (German).

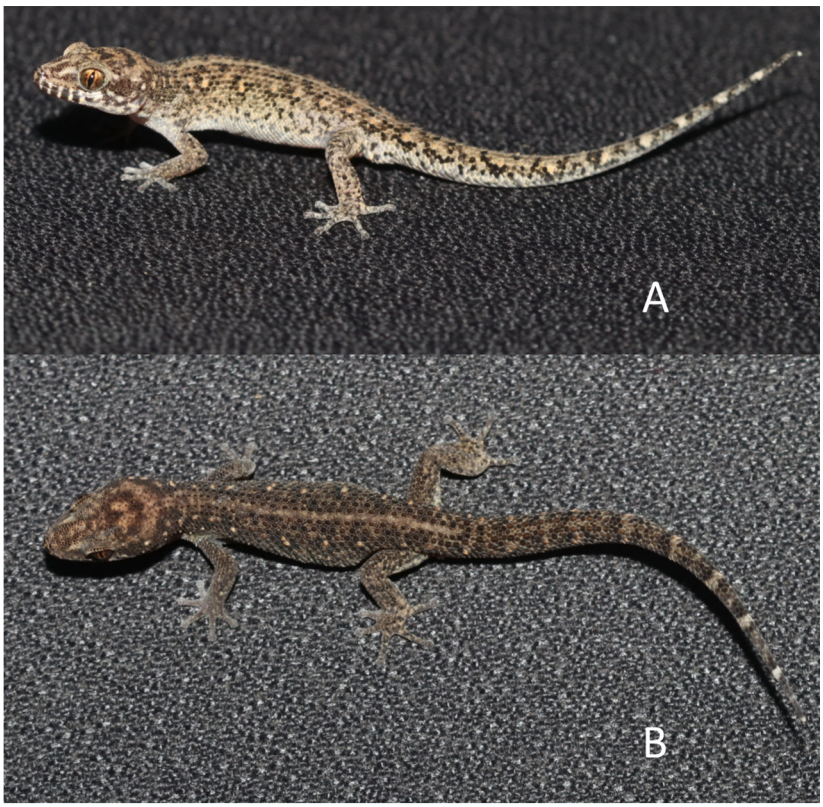

FIGURE 3A–B. Live male paratypes (A: PSUZC-R 729; B: PSUZC-R 730) of *Dixonius dulayaphitakorum* **sp. nov**. Photos. by M. Sumontha.

Comparison to other species. *Dixonius dulayaphitakorum* **sp. nov.** is distinguished from *D. aaronbaueri* from southeastern Vietnam based on its larger size (SVL 47.8 vs. 38.6 mm), higher Ven number (22 vs. 18–19), much higher DTR number (22 vs. 11), much lower PV number (33–35 vs. 45–50), lower PV' number (20–25 vs. 29–32), higher PrePo number (6 or 7 vs. 5), poorly marked canthal stripe, and dorsal pattern (Sp vs. U). It can be differentiated from the western Thai *Dixonius hangseesom* by its much higher DTR number (22 vs. 12–14), lower IL number (6 or 7 vs. 8), poorly marked canthal stripe, and dorsal pattern (Sp vs. Ba or Bl). It differs from the Thai peninsular endemic *Dixonius kaweesaki* by its larger size (SVL 47.8 vs. 41.6 mm), lower Ven number (22 vs. 24), much higher DTR number (22 vs. 13 or 14), higher InterOrb number (9 or 10 vs. 6 or 7), lower SL number (8 vs. 10 or 11), lower SLMOrb (6 vs. 7 or 8), lower PrePo number (6 or 7 vs. 9–11), its poorly marked canthal stripe, and its dorsal pattern (Sp vs. St). From *Dixonius lao* it differs by its smaller size (SVL 47.8 vs. 55.4 mm), lower Ven number (22 vs. 23 or 24), lower PV number (33–35 vs. 40–43), lower SLMOrb (6 vs. 7 or 8), lower PrePo number (6 or 7 vs. 8), and dorsal pattern (Sp vs. U). It can be distinguished from the central Thai *Dixonius melanostictus* by its much higher DTR (22 vs. 10 or 11), lower SL number (8 vs. 9), lower SLMOrb number (6 vs. 7), lower PrePo number (6 or 7 vs. 9), poorly marked canthal stripe, and dorsal pattern (Sp vs. St). From the southern Vietnamese *Dixonius minhlei* it can be separated based on its much higher DTR number (22 vs. 14 or 15), lower PV number (33–35 vs. 38–44), and poorly marked canthal stripe. From the Thai peninsular endemic *Dixonius pawangkhananti*, it differs by its much higher Ven number (22 vs. 16), much higher DTR number (22 vs. 16), higher PV number (33–35 vs. 30–32), higher InterOrb number (9–10 vs. 7), poorly marked canthal stripe, and dorsal pattern (Sp vs. Ba or Bl).

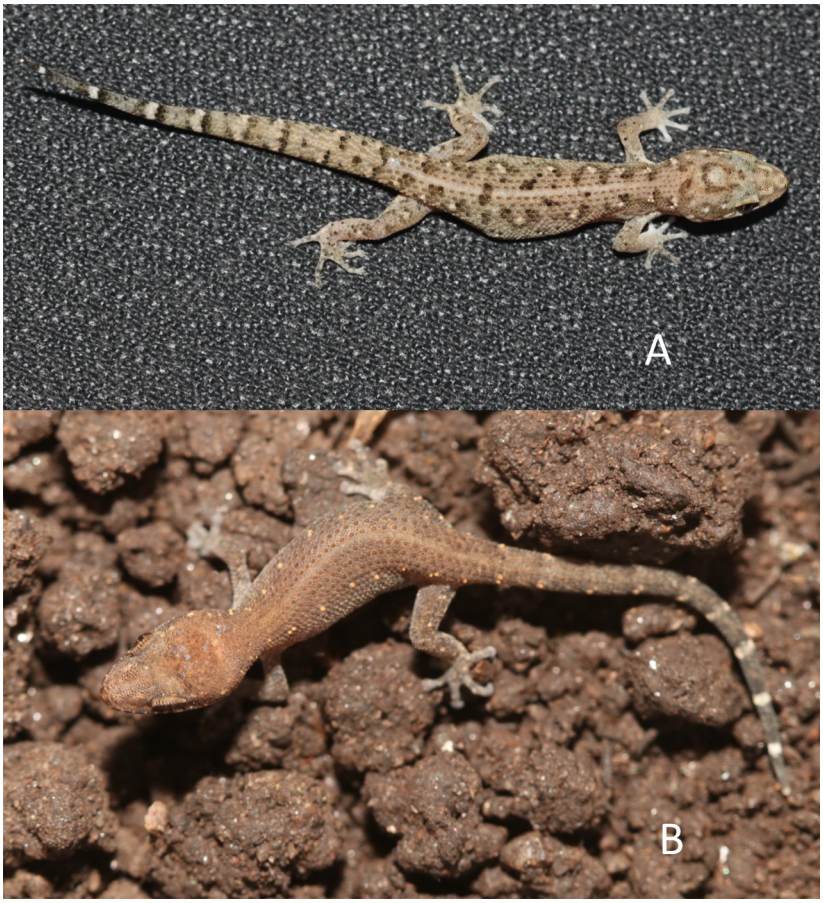

FIGURE 4A–B . Live paratype female (A: AUP-02003) and live hatchling (B; not preserved) of *Dixonius dulayaphitakorum* **sp. nov**. Photos. by M. Sumontha.

FIGURE 5. Biotope of *Dixonius dulayaphitakorum* **sp. nov.** at its type-locality. Photo. by Phongsiri Sumontha.

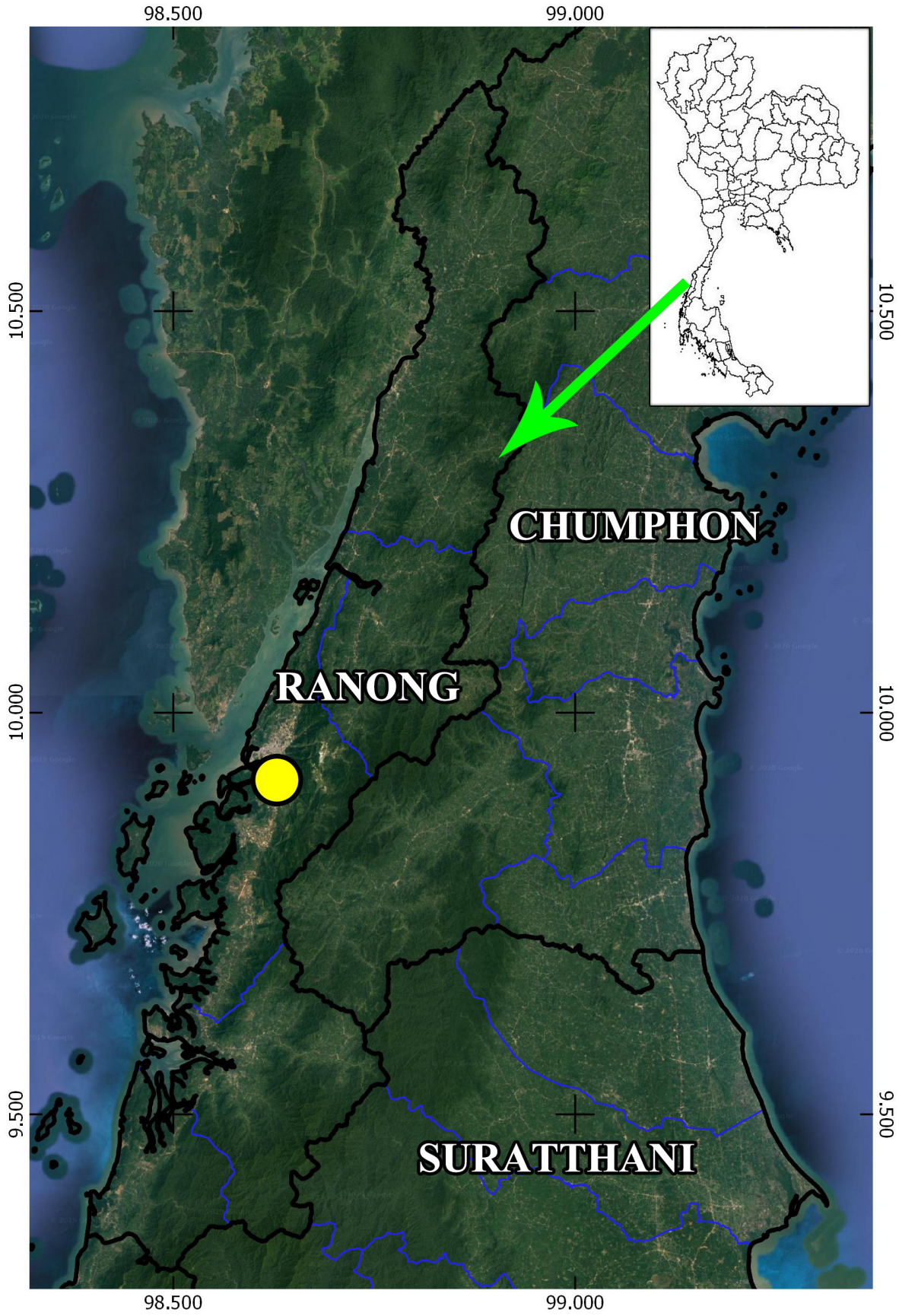

FIGURE 6. Map of Thailand showing the position of the type locality of *Dixonius dulayaphitakorum* **sp. nov.** Map by W. Sodob.

TABLE 2. Comparison of selected diagnostic characters of *Dixonius* spp. Ba = banded; Bl = blotched; Sp = spotted; St = striped; U = uniform. NA = not available.

Character	*D. aaronbaueri*	*Dixonius dulayaphitakorum* **sp. nov.**	*D. hangseesom*	*D. kaweesaki*	*D. lao*	*D. melanostictus*	*D. minhlei*	*D. pawangkhananti*	*D. siamensis*	*D. taoi*	*D. vietnamensis*
Max. SVL	**38.6**	47.8	42.1	**41.6**	**55.4**	50.0	47.5	42.6	**57**	43.9	42.4
Ven	**18–19**	22	22–26	**24**	**23–24**	22	20–23	**16**	18–25	21–23	**15–21**
DTR	**11**	22	**12–14**	**12–13**	20–23	**10–11**	**14–15**	**16**	**10–14**	**11–12**	**13–17**
PV	**45–50**	33–35	NA	NA	**40–43**	NA	**38–44**	**30–32**	NA	31–42	**36**
PV’	**29–32**	20–25	NA	NA	24–25	NA	23–26	18–21	NA	18–25	NA
SubLT4	13–15	12–15	NA	15	15	15	12–15	14–15	12–16	12–14	12–15
InterOrb	8–10	9–10	10	**6–7**	8–9	NA	7–10	**7**	NA	7–10	8–10
SL	8–9	8	8	**10–11**	8–10	**9**	7–9	7–8	7–8	7–8	**7**
SLMOrb	6–7	6	6	**7–8**	**7–8**	**7**	5–6	5–6	NA	5–6	5–6
IL	6–8	7	**8**	6–8	7–8	7	6–7	6–7	6–7	5–7	6–7
PrePo	**5**	6–7	6–8	**9–11**	**8**	**9**	7–8	6	6–7	5–6	5–7
FemPo	0	0	0	0	0	0	0	0	0	0	0
Marked canthal stripe	**1**	0	**1**	**1**	0	**1**	**1**	**1**	0	**1**	**1**
Dorsal pattern	**U**	Sp	**Ba / Bl**	**St**	**U**	**St**	Sp	**Ba / Bl**	Sp	**Bl**	Sp

It can be separated from *Dixonius siamensis* by its much smaller size (SVL 47.8 vs. 57 mm) and its much higher DTR number (22 vs. 10–14). *Phyllodactylus burmanicus* Annandale, 1905, currently regarded as a subjective junior synonym of *D. siamensis*, has its type-locality in Tavoy, i.e., in what is now known as Dawei, in southern Myanmar, at about 450 km north of Ranong. It differs from *Dixonius dulayaphitakorum* **sp. nov.** by its smaller size (SVL 35 vs. 47.8 mm), lower SL number (6 vs. 8), lower SubLT4 number (8 or 9 vs. 12–15) and the male dorsal pattern (Sp vs. Ba). From the southern Vietnamese *Dixonius taoi*, *Dixonius dulayaphitakorum* **sp. nov.** can be distinguished by its much higher DTR number (22 vs. 11 or 12), weakly marked canthal stripe, and dorsal pattern (Sp vs. Bl). And from *Dixonius vietnamensis* it differs by its higher Ven number (22 vs. 15–21), higher DTR number (22 vs. 13–17), lower PV number (33–35 vs. 36), higher SL number (8 vs. 7), and poorly marked canthal stripe.

Discussion

Dixonius dulayaphitakorum **sp. nov.** seems to thrive in small gardens within an urban environment in the suburbs of a large city. Its distribution most probably goes beyond the limits of Ranong city. It does not seem to be currently threatened, and we have never observed it in the pet trade or in traditional uses. Its dull colors do not make of it a good candidate for reptile dealers.

Although distinct based on size and scalation, *Dixonius dulayaphitakorum* **sp. nov.** bears an overall resemblance in pattern to *D. siamensis* whose type-locality lies about 700 km N-NE of Ranong city, on the other side of the Gulf of Thailand. *Dixonius dulayaphitakorum* **sp. nov.** is found on the Indian Ocean side of the Thai peninsula, while the two other Thai peninsula endemics, *D. kaweesaki* and *D. pawangkhananti*, are found on the Pacific Ocean side, along the Gulf of Thailand. *Dixonius siamensis sensu auctorum* is currently said to have a wide distribution, being found in Laos, Thailand, Vietnam, and possibly also in Cambodia and Myanmar according to the species account and the list of synonyms provided by Uetz *et al.* (2020). *Dixonius siamensis* is in fact probably comprises a multitude of taxa with limited to extremely restricted distributions, such as all ten other members of the genus without exception. The fact that many species are currently concealed under the name of *Dixonius siamensis* is supported by the pioneer chromosomal investigations by Ota *et al*. (2001), and by the molecular results obtained by Ziegler *et al*. (2016) and Nguyen *et al*. (2020). The pattern resemblance between the species described here and *Dixonius siamensis* might be due to a common ground-dwelling way of life. Although the ecology of most *Dixonius* species is still poorly known, there seems to be a link between the habitat and pattern of the various species, spotted patterns being mostly found in ground-dwellers (*Dixonius dulayaphitakorum* **sp. nov.**, *D. siamensis*, etc.), and striped patterns in the most specialized limestone-dwellers (*D. kaweesaki* and *D. melanostictus*).

This description brings to eleven the number of species recognized in the genus *Dixonius*, and to four the number of Thai endemic *Dixonius*, three of them being found in the Thai-Malay Peninsula, and one just north of the peninsula.

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APPENDIX.

Comparative material examined.

Dixonius hangseesom: see CUMZ-R and RBINS type material listed in Bauer *et al*. (2004).

Dixonius kaweesaki: see PSUZC, THNHM and ZMKU type material listed in Sumontha *et al*. (2017).

Dixonius pawangkhananti: see AUP, PSUZC and THNHM type material listed in Pauwels *et al*. (2020).

Dixonius siamensis: Cambodia: RBINS 18571-18572, Ou Krieng, Kratie Prov.; RBINS 18573, Chrouy Banteay, Kratie Prov. Thailand: CUMZ-R 2003.59, near Sai Yok Waterfall, Sai Yok District, Kanchanaburi Prov.; RBINS 15155, Ban Khao Kling, Kaeng Krachan District, Phetchaburi Prov.; RBINS 16642, Chiang Mai City, Muang District, Chiang Mai Prov.; RBINS 16643, Doi Saket, Doi Saket District, Chiang Mai Prov.; RBINS 16645, foot of Khao Loun, Ban Nong Ipho, Ban Lat District, Phetchaburi Prov.; RBINS 17015 (4 specimens), Hin Chang See, Ban Fang District, Khon Kaen Prov.; MNHN-RA 1998.0522, Ban Tham Rong, Ban Lat District, Phetchaburi Prov.; MNHN-RA 1998.0529, Doi Saket, Doi Saket District, Chiang Mai Prov.; MNHN-RA 1999.7606, Ban Salakern, Ban Lat District, Phetchaburi Prov.; MNHN-RA 1999.7627, Huay Kwang Jing, Tha Yang District, Phetchaburi Prov.; THNHM 1282, island in Kaeng Krachan Reservoir, Kaeng Krachan District, Phetchaburi Prov.; THNHM 1299–1305, Forestry Training Center, Cha-am, Cha-am District, Phetchaburi Prov.