Herpetology Notes, Volume 18: 355–359 (published online on 5 June 2025)

First record of Kellogg's Coralsnake, *Sinomicrurus kelloggi* (Pope, 1928), from Nghe An Province, Vietnam

Shinya Okabe[1], Dung Van Tran[2,3], Kanto Nishikawa[3,4], Tao Thien Nguyen[5], Sinh Van Nguyen[6], Manh Van Nguyen[6], and Hai Tuan Bui[7,5,*]

The Asian coralsnake genus *Sinomicrurus* is characterised by having a protuberant sclerified tail tip, a well-developed medial fold bordering the basal pocket of the hemipenis, and a strongly bifurcated hemipenis ornamented only with spines and possessing a basal pocket (Slowinski et al., 2001). This genus currently contains ten species found in the Southeast and East Asian subtropics (Uetz et al., 2025) with three species known from Vietnam (*S. kelloggi* Pope, 1928, *S. peinani* Liu et al., 2020, and *S. macclellandii* Reinhardt, 1844). Both, *S. kelloggi* and *S. macclellandii* harbour cryptic species diversity owing to considerable intraspecies morphological variation and possessing few, unambiguous diagnostic morphological characters (Smart et al., 2021). Recently, new species have been described from populations previously considered to belong to either of these two species such as *S. houi* Wang, et al. (2018) in Peng et al. (2018) and *S. peinani* (Peng et al., 2018; Smart et al., 2021).

Currently, *S. kelloggi* includes three synonyms: *S. wongii* (Fan, 1931), *S. w. tonkinensis* (Bourret, 1935), and *S. houi*. Additionally, *S. houi* was also considered a junior synonym of *S. wongii tonkinensis* (Smart et al., 2021). In Vietnam, *Sinomicrurus kelloggi* has been recorded from Lai Chau, Son La, Cao Bang, Bac Kan, Thai Nguyen (formerly Bac Thai), Lang Son, Vinh Phuc, and Hai Duong provinces (Orlov et al., 2003; Ziegler et al., 2007; Nguyen et al., 2009; Fig. 1). Nguyen and Poyarkov (2020) reported *S. houi* (currently, *S. kelloggi*) from Quang Ninh and Nghe An provinces based on photographs.

On 23 October 2024 at 18:09 h, during a survey in Pu Hoat Nature Reserve (site 9; Fig. 1), Nghe An Province, Vietnam (19.6870°N, 104.7864°E; elevation 664 m), we collected an adult male *Sinomicrurus* sp. (Figs. 2 and 3). The snake was found on the ground near a bamboo bush surrounded by many small shrubs and a few small trees. We identified this snake as *S. kelloggi* based on scalation and colour pattern. The specimen was collected and deposited in the collection of the former Institute of Ecology and Biological Resources (IEBR), now the Institute of Biology, Hanoi, Vietnam (IEBR R.6336).

Morphology. The specimen has the following morphological characters (Table 1): snout–vent length, 490.5 mm; tail length, 74.0 mm; 15 dorsal scales at midbody; 177 ventrals; 35 paired subcaudals; seven supralabials; eight infralabials; one preocular; two postoculars; one anterior temporal, and two posterior temporals. The hemipenis is strongly bifurcated and horn-like, with spines around the bifurcations, and shorter and fewer spines on the base (Figs. 2 and 3).

Colour in life. Head colour transitioning from black on the snout to dark brown on the neck, with a thin cream-coloured transverse band on the snout, and a cream, forward-pointing chevron with an 80° angle in the neck region. The line forming the apex of the chevron is about one dorsal scale wide and starts at the posterior edge

[1] National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba, Ibaraki 305-0005, Japan.
[2] Vietnam National University of Forestry, Xuan Mai, Chuong My, Hanoi 13417, Vietnam.
[3] Graduate School of Global Environmental Studies, Kyoto University, Yoshida Honmachi, Sakyo, Kyoto 606-8501, Japan.
[4] Graduate School of Human and Environmental Studies, Kyoto University, Yoshida Nihonmatsu, Sakyo, Kyoto 606-8501, Japan; and Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia, UKM Bangi, Selangor 43600, Malaysia.
[5] Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Cau Giay, Hanoi 10072, Vietnam.
[6] Pu Hoat Nature Reserve, Que Phong, Nghe An, Vietnam.
[7] Department of Zoology & Conservation, Faculty of Biology, VNU University of Science, 334 Nguyen Trai, Thanh Xuan, Hanoi, Vietnam.
[*] Corresponding author. E-mail: tuanhai@eulipotyphla.com

Figure 1. Map of Indochina, with Vietnamese provinces where *Sinomicrurus kelloggi* occurs indicated by numbered red circles. Localities include Lai Chau (1), Son La (2), Cao Bang (3), Bac Kan and Thai Nguyen (4), Lang Son (5), Quang Ninh (6), Vinh Phuc (7), Hai Duong (8), and Nghe An (9). The new record is the southernmost locality for the species in Vietnam.

of the frontal, from where the lines widen to about two dorsal scales wide and continue dorsolaterally towards the neck. The dorsal surface from the neck to the tail is reddish-brown with 24 black, thin (slightly less than one scale or same size as one scale) transverse bands, each extending laterally to the ventrals (not on the ventrals), which is edged faintly with white bands, as well as, with small paired black spots about 1/8 the size of a scale at dorsolateral around mid-body, and small black spots about equal to, or smaller than 1/10 of a scale along the vertebral scale (Fig. 3C). The ventral surface is yellowish white with 45 black bands or blotches. Based on the morphology and colouration, the specimen (IEBR R.6336) was identified as *S. kelloggi* (Table 1). Among the three species of *Sinomicrurus* found in Vietnam, *S. kelloggi* differs from both *S. peinani* and *S. macclellandi* by having 15 midbody scale rows (13 in *S. peinani* and *S. macclellandi*; Smart et al., 2021) and by having a white chevron mark on the head (broad white band in *S. peinani* and *S. macclellandi*; Liu et al., 2020).

This specimen (IEBR R.6336) differed from the other examined specimens of *S. kelloggi* mainly by possessing eight infralabials instead of six (Table 1). Variation in the head chevron mark "∧" involved three features: whether the arms were connected at the anterior apex, the size of the arms, and how widely they opened posteriorly (Table 1). Also, the specimen possessed 38 ventral blotches on the body compared to 44 in AMNH33744, 0 in 1039 and 2041, 34 in HUM 20170001, 36 in HUM 20170004, 36 in CIB108251 and 29 in Re5410 (see Peng et al., 2018).

Sinomicrurus kelloggi specimen IEBR R.6336 represents the first record of this species from Nghe An Province (Pope, 1928, Fan, 1931, Bourret, 1936, Peng et al., 2018, Smart et al., 2021), indicating that the range of *S. kelloggi* extends to Truong Son Range in central Vietnam. The new locality is approximately 224 km south of Hai Duong Province and represents

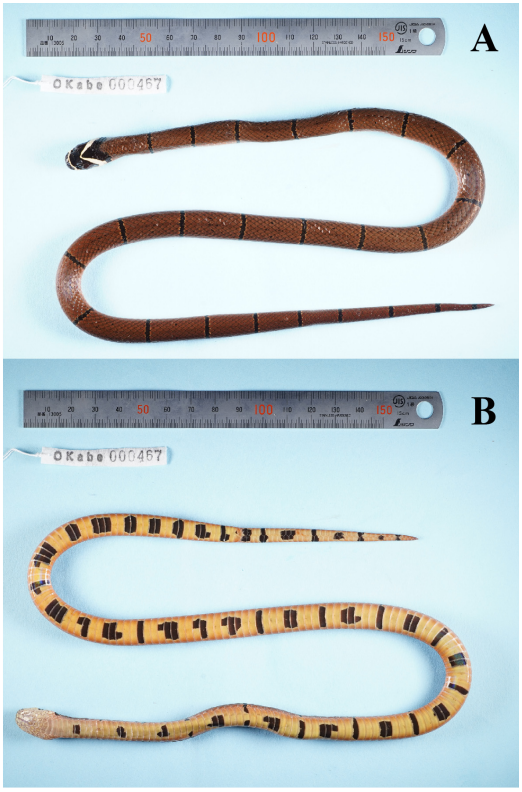

Figure 2. New individual of *Sinomicrurus kelloggi* from Nghe An Province, Vietnam (IEBR R.6336 [Field Number: OKabe 467]). Photos showing (A) dorsal and (B) ventral body. Photos by Shinya Okabe.

Table 1. Morphological characters of *Sinomicrurus kelloggi* (IEBR R.6336) from Nghe An Province, Vietnam, and from past studies. Snout–vent length and tail length of AMNH33744 were calculated from the description given by Pope (1928). See the Appendix for more details on the individual snakes examined. Scale numbers were shown right/left, and the mark "-" shows data not available from publications. The abbreviations for each character correspond to the respective descriptions provided in the Morphology section.

Character	Specimen Number									
	IEBR R.6336	**AMNH33744**	**1039**	**2041**	**Sp. M. 420**	**HUM 20170001**	**HUM 20170004**	**CIB 108251**	**Re5410**	**No number (*n* = 12)**
Reference	This Study	Pope (1928);	Fan (1931)	Fan (1931)	Bourret (1936)	Peng et al. (2018)	Peng et al. (2018)	Peng et al. (2018)	Peng et al. (2018)	Peng et al. (2018)
Sex	M	F	M	M	-	M	F	F	M	-
SVL	490.5	704*	410	443	581	556	499	500	476	412–557
TL	74.0	70*	44	48	71	73	71	57	60	43–73
DSR	15	15	15	15	-	15	15	15	15	15
VEN	177	203	192	194	184	173	183	178	175	177–197
SC	35	28	29	30	31	35	34	32	28	27–36
SPL	7/7	7/7	7/7	7/7	-	7/7	7/7	7/7	7/7	7/7
IFL	8/8	6/6	7/7	7/7	7	7/7	7/7	7/7	7/7	6/6
PrO	1/1	1/1	1	1	-	1/1	1/1	1/1	1/1	1/1
PO	2/2	2/2	2	2	-	2/2	2/2	2/2	2/2	2/2
aTMP	1/1	1/2	1	1	1	1	1	1	1	1
pTMP	2/2	2	2	2	2	2	2	2	2	2
Bands	19+5	22+3	19+4	20+4	17+8	16+4	18+3	19+3	16+2	19–24 + 3–5
Blotches	38+8	44+5	-	-	-	34+7	36+6	36+6	29+5	37–48 + 5–9
Chevron	connected, long and thin	shallow V; connected, short and wide	connected, short and thin	interrupted, short and thin	connected, long and thin	separated, long and thin	separated, long and thin	separated, long and thin	separated, long and thin	-

the southernmost distribution of *S. kelloggi* in Vietnam. This species is poorly sampled throughout its range and seems to be found in montane rainforests near streams and ditches used for irrigating agricultural crops.

Acknowledgments. We would like to express our sincere thanks for the approval of the People's Committee of Nghe An Province (Official dispatch No. 8134/UBND-VX, dated 20/September/2024), the support of the Department of Foreign Affairs of Nghe An Province and IEBR, and the cooperation of the Management Board of Pu Hoat Nature Reserve. Special thanks to Prof. Masaharu Motokawa (Kyoto University Museum); Assoc. Prof. Nguyen Truong Son and Dr. Pham The Cuong (Institute of Biology); Mr. Vu Bao Minh (VNU University of Science); as well as the forest rangers and local people in Nam Giai Commune for their assistance in the field and laboratory. We thank Dr. Christine Kaiser (Kyoto University) and Prof. Hinrich Kaiser (Museum Koenig; Victor Valley College) for their kind help for the pre-peer review. We would also like to express our sincere thanks to Dr. Alex Figueroa of the editorial team for his insightful and constructive editing assistance during the manuscript preparation process. This study was supported by the Nagao Natural Environment Foundation and the Vietnam Academy of Science and Technology under grant numbers QTJP01.02/23-25.

References

Bourret, R.L. (1936): Les Serpents de l'Indochine, Tome II. Catalogue systematique descriptive, Henri Basuyau & Cie, Toulouse: 411–412.

Fan, T.H. (1931): Preliminary report of reptiles from Yaoshan, Kwangsi, China. Bulletin of the Department of Biology College of Science. Sun Yatsen University **11**: 128–132.

Liu, Q., Yan, J.W., Hou, S.-B., Wang, P., Nguyen, S.N., Murphy, R.W., Che, J., Guo, P. (2020): A new species of the genus *Sinomicrurus* (Serpentes: Elapidae) from China and Vietnam. Zoological Research **41**: 194–198.

Nguyen, S.V., Ho, C.T., Nguyen, T.Q. (2009): Herpetofauna of Vietnam. Frankfurt am Main, Germany, Edition Chimaira.

Nguyen, T.V., Poyarkov, N.A. (2020): Geographic Distribution: *Sinomicrurus houi*. Herpetological Review **51**: 548–549.

Orlov, N.L., Ryabov, S.A., Nguyen, V.S., Nguyen, Q.T. (2003): New records and data on the poorly known snakes of Vietnam. Russian Journal of Herpetology **10**: 217–240.

Peng, L., Wang, L., Ding, L., Zhu, Y., Luo, J., Yang, D., et al. (2018): A new species of the genus *Sinomicrurus* Slowinski, Boundy and Lawson, 2001 (Squamata: Elapidae) from Hainan Province, Chinna. Asian Herpetological Research **9**: 65–73.

Pope, C.H. (1928): Seven new reptiles from Fukien Province, China. American Museum Novitates **320**: 1–6.

Slowinski, J.B., Boundy, J., Lawson, R. (2001): The phylogenetic relationships of Asian coral snakes (Elapidae: *Calliophis* and *Maticora*) based on morphological and molecular characters. Herpetologica **57**: 233–245.

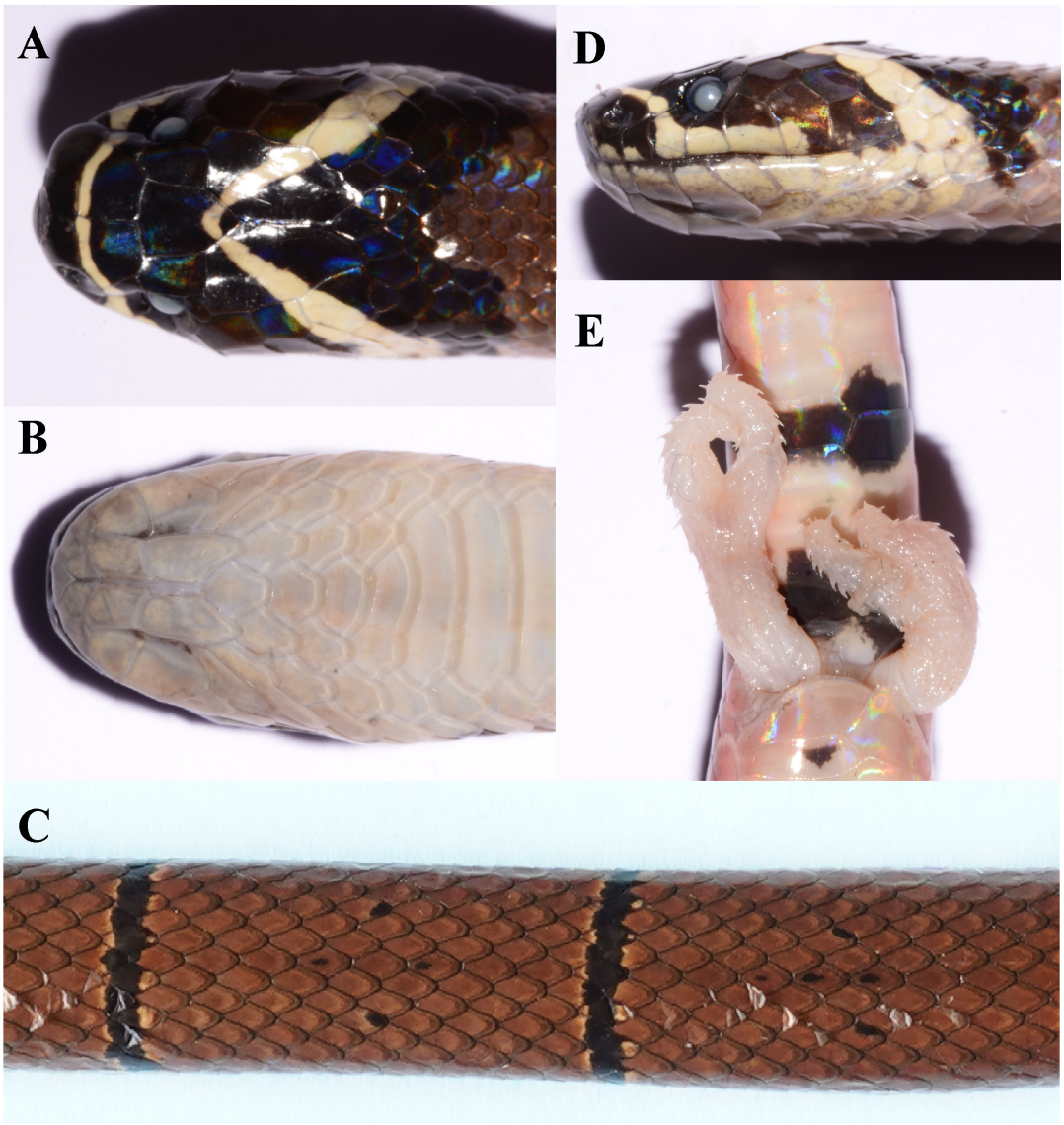

Figure 3. New individual of *Sinomicrurus kellogg*i from Nghe An Province, Vietnam (IEBR R.6336 [Field Number: OKabe 467]). Photos include views of the (A) dorsal head, (B) ventral head, (C) dorsal body, (D) left lateral head, and (E) hemipenes. Photos by Shinya Okabe and Hai Tuan Bui.

Smart, U., Ingrasci, M.J., Sarker, G.C., Lalremsanga, H., Murphy, R.W., Ota, H., et al. (2021): A comprehensive appraisal of evolutionary diversity in venomous Asian coralsnakes of the genus *Sinomicrurus* (Serpentes: Elapidae) using Bayesian coalescent inference and supervised machine learning. Journal of Zoological Systematics and Evolutionary Research **59**: 2212–2277.

Uetz, P., Freed, P., Aguilar, R., Reyes, F., Kudera, J., Hosek, J., Eds. (2025): The Reptile Database. Available at: http://www.reptiledatabase.org Accessed on 7 May 2025).

Ziegler, T., Hendrix, R., Vu, N.T., Vogt, M., Forster, B., Dang, N.K. (2007): The diversity of a snake community in a karst forest ecosystem in the central Truong Son, Vietnam, with an identification key. Zootaxa **1493**: 1–40.

Appendix

All specimens are currently identified as *Sinomicrurus kelloggi*. Exact locality data, when available, can often be accessed online or by contacting museum collection staff. Therefore, we limit the list below to the follow information, with localities formatted as: **COUNTRY,** PROVINCE, specific locality, *toponym* (if any).

IEBR.6336 (New specimen of *S. kelloggi*).—**VIETNAM**, NGHE AN, Pu Hoat Nature Reserve (this study).

AMNH33744 (Holotype of *S. kelloggi*).—**CHINA**, FUJIAN, Ch'ungan Hsien (Pope, 1928).

1039 (Holotype of *S. wongii*).—**CHINA**, GUANGXI, Yaoshan Mountain (Fan, 1931).

2041 (Paratype of *S. wongii*).—**CHINA**, GUANGXI, Yaoshan Mountain (Fan, 1931).

Sp. M. 420 (Specimen of *S. w. tonkinensis*).—**VIETNAM**, VINH PHUC, Tam Dao (Bourret, 1936).

HUM20170001 (Holotype of *S. houi*).—**CHINA**, HAINAN, Jianfengling NNR, *Tianchi Lake* (Peng et al., 2018).

HUM2017004 (Paratype of *S. houi*).—**CHINA**, HAINAN, Diaoluoshan NNR (Peng et al., 2018).

CIB108251; Re5410 (Paratypes of *S. houi*).—**CHINA**, HAINAN, Jianfengling NNR, *Tianchi Lake* (Peng et al., 2018).

[No number (n = 12)] — Locality data is not available from publication (see Peng et al., 2018).

Accepted by Alex Figueroa