

FIRST CONFIRMED RECORD OF THE STREAM-DWELLING SNAKE *Amphiesma leucomystax* (SQUAMATA: NATRICIDAE) IN THAILAND

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In the course of our zoogeographical and taxonomical studies on the Natricidae of Thailand (Pauwels et al., 2009a, 2009b), we re-examined material housed in the Thailand Natural History Museum (THNHM) in Pathum Thani. The paper label of a specimen's jar indicated "Sci. Name: *Rhabdophis chrysargos*; Locality: Nok [sic] Prok, Roi Et; Date: 26 May 1990; collector Jarujin Napetapata," the specimen itself bearing two labels: "THNHM 22201" and "JN 7929" (JN refers to the late Thai herpetologist Jarujin Nabhitabhata's field numbers; Napetapata and Nabhitabhata are two transliterations of the same patronym). Showing subequal small teeth followed by two slightly enlarged posterior teeth, round pupils, lateral nostrils, and keeled dorsal scale rows, this specimen however clearly belongs to the genus *Amphiesma* Duméril, Bibron and Duméril, 1854 (David et al., 2007). It can be described as follows (paired meristic characters and measurements are given left/right; head measurements taken to the nearest 0.1 mm with a digital caliper; body measurements made to the nearest mm):

Male, hemipenis everted. Snout-vent length 323 mm. Tail complete, tail length 144 mm. Head length 15.9 mm; horizontal eye diameter 2.4/2.4 mm; vertical eye diameter 2.4/2.4 mm. Two prefrontals, subrectangular, broader than long; two internasals, anteriorly narrowed; frontal hexagonal with apex directed posteriorly, frontal length 4.2 mm, frontal width 2.9 mm; 8/9 supralabials, 4th – 5th/4th – 6th contacting the orbit; 1st and 2nd/1st and 2nd supralabials in contact with nasal scale; 2nd and 3rd/2nd and 3rd supralabials in contact with loreal; loreal

subrectangular in broad contact with the nasal, loreal height 1.0/1.0, loreal length 1.5/1.4 mm; 1/1 preocular; 1/1 supraocular; no subocular; 3/3 postoculars, upper largest; 1/1 anterior temporal; 10/10 infralabials whose 5/5 first contact the anterior sublingual; first pair of infralabials in contact behind the mental. Dorsal and supracaudal scales slightly keeled, except first row which is smooth; 19 dorsal scale rows at one head length behind head, 19 dorsal scale rows at midbody (i.e., above the ventral scale corresponding to half of the total number of ventral scales), 17 dorsal scale rows at one head length before vent. Dorsal scale row reduction from 19 to 17 rows by fusion of rows 3 and 4 at the level of ventral scales 106 (left) and 111 (right). Ventrals smooth; one preventral scale + 168 ventral scales, plus a half ventral scale on the left side between the last ventral scale and the cloacal scale. Cloacal scale divided; 4 divided + 8 single + 95 divided subcaudal scales; i.e., a total of 107 subcaudal scales. Coloration in preservative (Figs. 1 and 2): dorsal surface of head dark brown with scattered beige dots and vermiculations; a broad, continuous, white stripe from snout tip to corner of the mouth, continuing to neck, forming a V-like chevron on nape; infralabials spotted with brown near the edge of the lip; dorsum brown, slightly darker above than on sides; dorsolateral stripe absent; dorsolateral series of beige spots on dorsal rows 6 – 7, spots transversally elongated or divided; venter cream, tip of each ventral brown.

Its broad white labial stripes, V-like chevron on nape, dorsolateral spots, dark ventral scales tips, 19 – 19 – 17 dorsal scale rows with enlarged first row, anteriorly narrowed internasals, 1/1 anterior temporal, 1/1 preocular, 3/3 postoculars and moderately sized eyes are diagnostic of *Amphiesma leucomystax* David, Bain, Nguyen, Orlov, Vogel, Vu and Ziegler, 2007. Its 168 ventral scales slightly extend the variation known for this character in the species (154 – 166) (David et al., 2007). Probably in relation with this slightly higher number of ventral scales, the scale row reduction occurs slightly more posteriorly than

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Fig. 1. General dorsolateral view of *Amphiesma leucomystax* THNHM 22201 from Nak Prok, Roi Et Province, northeastern Thailand (photograph by O. S. G. Pauwels).

observed in the specimens known so far (106 vs. 92 – 99 on left side, 111 vs. 96 – 102 on right side) (David et al., 2007). The Thai specimen shows 8/9 supralabials, while all known specimens so far showed 9, exceptionally 10, supralabials.

Nak Prok is located in Muang Phrai Subdistrict, Selaphum District (16°1'59" N 103°57'0" E), in the eastern part of Roi Et Province, bordering Yasothon Province, in northeastern Thailand. The record of *Rhabdophis chrysargos* from “Roi Et: Nak Prok” by Nabhitabhata et al. (2004: 126) and Nabhitabhata and Chan-ard (2005: 147) is based on the specimen re-examined here, and the presence of that species in Roi Et Province consequently requires confirmation.

Amphiesma leucomystax was originally described on the basis of 24 specimens from eight provinces in Vietnam, plus one non-type specimen from “Thailand” without more precise locality data. David et al. (2007) stressed that the geographic origin of the latter specimen was questionable. The species was later recorded from Laos (Stuart and Heatwole, 2008) and northeastern Cambodia, but Thailand was not regarded as part of the species’ distribution, including in its IUCN Red List account (Stuart et al., 2010, 2012). The present new record is thus the first confirmation of the species’ presence in Thailand. The Thai locality is situated about 230 km (by air) south – southwest of the species’ record from Phou Hin Poun National Biodiversity Conservation Area in Laos’ Khammouane Province, and about 320 km (by air) west of the record from Xe Sap National Biodiversity Conser-



Fig. 2. Lateral view of head and forebody of *Amphiesma leucomystax* THNHM 22201 from Nak Prok, Roi Et Province, northeastern Thailand (photograph by O. S. G. Pauwels).

vation Area in Laos’ Xe Kong Province. This new range extension reinforces the “Least Concern” status of the species in the IUCN Red List. As far as we know, the species does not face any specific threat in Thailand, is not collected for food or medicinal purposes, and has never been found in the pet trade.

Guo et al. (2014) tentatively placed *A. leucomystax* in the genus *Hebius* Thomson, 1913. However, pending a molecular and additional morphological comparisons, we provisionally maintain it in the genus *Amphiesma*. With the addition of *Amphiesma bitaeniatum* (Wall,

1925) by David and Pauwels (2000) and *A. khasiense* (Boulenger, 1890) by Chanhom et al. (2001), the present record brings to eight the number of *Amphiesma sensu lato* in Thailand: *A. bitaeniatum*, *A. boulengeri* (Gressitt, 1937), *A. deschauenseei* (Taylor, 1934), *A. groundwateri* (Smith, 1921), *A. inas* (Laidlaw, 1901), *A. khasiense*, *A. leucomystax*, and *A. stolatum* (Linnaeus, 1758).

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REFERENCES

- Chanhom L., Pauwels O. S. G., Jintakune P., and David P.** (2001), "Catalogue of the herpetological collection of the Queen Saovabha Memorial Institute, Thai Red Cross Society, Bangkok. Part I. Snakes (except Elapidae and Viperidae)," *Bull. Maryland Herpetol. Soc.*, **37**(2), 49 – 72.
- David P., Bain R. H., Nguyen Q. T., Orlov N. L., Vogel G., Vu N. T., and Ziegler T.** (2007), "A new species of the natricine snake genus *Amphiesma* from the Indochinese Region (Squamata: Colubridae: Natricinae)," *Zootaxa*, **1462**, 41 – 60.
- David P. and Pauwels O. S. G.** (2000), "Book review. T. Chan-ard, W. Grossmann, A. Gumprecht and K.-D. Schulz. *Amphibians and reptiles of Peninsular Malaysia and Thailand. An illustrated checklist. — Amphibien und Reptilien der Halbinsel Malaysia und Thailand. Eine illustrierte Checkliste*," *Russ. J. Herpetol.*, **7**(1), 87 – 90.
- Guo P., Zhu F., Liu Q., Zhang L., Li J. X., Huang Y. Y., and Pyron R. A.** (2014), "A taxonomic revision of the Asian keelback snakes, genus *Amphiesma* (Serpentes: Colubridae: Natricinae), with description of a new species," *Zootaxa*, **3873**(4), 425 – 440.
- Nabhitabhata J. and Chan-ard T.** (2005), *Thailand Red Data: Mammals, Reptiles and Amphibians*, Office of Natural Resources and Environmental Policy and Planning, Bangkok.
- Nabhitabhata J., Chan-ard T., and Chuaynkern Y.** ("2000" 2004), *Checklist of Amphibians and Reptiles in Thailand*, Office of Environmental Policy and Planning, Bangkok.
- Pauwels O. S. G., Kunya K., David P., and Sumontha M.** (2009a), "First record of the Yunnan Keelback *Sinonatrix yunnanensis* Rao & Yang, 1998 (Serpentes: Natricidae) from Thailand," *Salamandra*, **45**(3), 165 – 169.
- Pauwels O. S. G., Kunya K., David P., Waengsothorn S., and Sumontha M.** (2009b), "On the occurrence of *Amphiesma khasiense* (Serpentes: Natricidae) in Thailand," *Hamadryad*, **34**(1), 75 – 79.
- Stuart B. L. and Heatwole H.** (2008), "Country records of snakes from Laos," *Hamadryad*, **33**(1), 97 – 106.
- Stuart B. L., Rowley J. J. L., Thy N., Emmet D. A., and Sitha S.** (2010), "Significant new records of amphibians and reptiles from Virachey National Park, northeastern Cambodia," *Cambodian J. Nat. Hist.*, **1**, 38 – 47.
- Stuart B. L., Thy N., and Nguyen T. Q.** (2012), "*Amphiesma leucomystax*," in: *The IUCN Red List of Threatened Species*, Version 2014.2, URL: <http://www.iucnredlist.org>