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Catalogue of the Herpetological Collection of the Queen Saovabha Memorial Institute, Thai Red Cross Society, Bangkok. Part I. Snakes (except Elapidae and Viperidae)

Lawan Chanhome, Olivier S.G. Pauwels, Piboon Jintakune and Patrick David

Abstract

An overview of the Queen Saovabha Memorial Institute (Thai Red Cross Society, Bangkok) involvements in snake venom research and other herpetological activities is presented. A catalogue of all snake specimens (except Elapidae and Viperidae) deposited to date in the herpetological collections of the Institute is provided, with locality data when available. The collection notably includes an albino Cylindrophis ruffus (Laurenti, 1768), a specimen of the Natricine species Amphiesma khasiense (Boulenger, 1890), which was not yet recorded from Thailand, several specimens of *Pareas macularius* Theobald, 1868 from Nakhon Si Thammarat Province, which represent a major range extension southwards for this species, and several record-sized Xenochrophis flavipunctatus (Hallowell, 1860).

Key words: Red Cross, Thailand, Serpentes, catalogue, Cylindrophis ruffus, Amphiesma khasiense, Pareas macularius, Xenochrophis flavipunctatus.

Introduction

The history of the Queen Saovabha Memorial Institute (QSMI) Snake Farm dates back through the initiative of Dr Leopold Robert, the first director of the QSMI during 1917-1925, who received financial contribution from foreigners residing in Thailand for the construction of the first buildings. H. M. Queen Sawang Vadhana, then president of the Thai Red Cross Society, inaugurated the Snake Farm on 22nd November 1923. It is now the second largest such facility in the world (next to that in Sao Paulo, Brasil).

The Snake Farm serves for the public education about Thai snakes and their biology. The daily live snake shows at the Snake Farm attract every year thousands of visitors and is worldwide known. The Snake Farm moreover includes a Snake Museum in which miscellaneous Thai snake species are represented; illustrations of the Museum were given notably by Yodsuksa (1995).

Since the 1920's the main mission of the Snake Farm is to keep Thai venomous snakes for extracting their venom for the production of antivenom (see Purananda, 1956). For the needs of the production of antivenom, the QSMI currently operates a large horse farm located near Hua Hin in Prachuap Khiri Khan Province. The horses are immunized with specific snake venom from King Cobra *(Ophiophagus hannah)*, Monocled Cobra *(Naja kaouthia)*, Banded Krait *(Bungarus fasciatus)*, Siamese Russell's Viper *(Daboia russelii siamensis)*, Malayan Pit Viper *(Calloselasma rhodostoma)*, and White-lipped Green Pit Viper *(Trimeresurus albolabris)*, and then regularly provide plasma for purified monovalent antivenom. The efforts of the QSMI to produce and improve snake antivenoms have been recognized internationally.

Dr Chaloem Purananda, director of the QSMI from 1945 to 1970, was actively working on venomous snakes (see Purananda, 1956, 1957), as does the present director, Prof. Visith Sitprija (see bibliography). QSMI scientists always used to provide working facilities to Thai students working on their degrees (see Panichayakul, 1967; Cherdchu, 1975; Mahantasanapong, 1991; Noonarong, 1995; Niyomwan, 1997, 1999; Sakwiwatkul, 1999).

The scientific team of QSMI has actively published, and often worked in close cooperation with other institutions and universities on snake venom research (see notably Ganthavorn, 1969; Tu & Ganthavorn, 1968; Tu et al., 1967; Chaiyabutr & Sitprija, 1999; Chaiyabutr et al., 1994, 1996a&b; Chanhome et al., 1998, 1999; Khow et al., 1996a&b, 1997a&b; Onrat et al., 1993; Pakmanee et al., 1993, 1996, 1997a&b, 1998a&b; Patanaargson et al., 1998; Pratanaphon et al., 1997; Pochanugool et al., 1996; Sitprija & Chaiyabutr, 1999; Warrell et al., 1986; Wilde et al., 1996), snake bite treatment (Benyajati & Purananda, 1963; Chaiyabutr et al., 1985; Pochanugool et al., 1994, 1997a&b, 1998; Sitprija, 1980; Sitprija & Boonpucknavig, 1977, 1980, 1983; Sitprija et al., 1971, 1982, 1987; Thamaree et al., 1994, 2000; Wilde, 1987), and venomous snake systematics (W ster et al., 1995, 1997). In October 1999, the fifth Asia-Pacific Congress on Animal, Plant and Microbial Toxins, held at Pattaya, Thailand, was organized jointly by the QSMI and the Chulalongkorn University (Bangkok); numerous contributions to snake toxinology were presented by QSMI staffs and collaborators (Chaiyabutr, 1999; Chanhome et al., 1999a&b; Khow et al., 1999; Laothong & Sitprija, 1999; Ratanabanangkoon et al., 1999; Sakwiwatkul et al., 1999; Sapsutthipas et al., 1999; Suteparuk & Pakmanee, 1999; Tantawichien et al., 1999; Thamaree et al., 1999a&b).

The most recent activity of the QSMI Snake Farm is the snake breeding

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program which was initiated in 1994. Its main purpose is to cease purchasing wild-caught snakes and to breed healthy snakes in captivity for good quality venom production. This activity naturally led to research concerning husbandry, diet and diseases of snakes (Chanhome, 1998; Chanhome & Jintakune, 1993, 1997; Chanhome et al., 2000; Cox & Chanhome, 1996; Salakij et al., 2000). This breeding facility currently maintains about 500 specimens representing 20 species of poisonous and non-poisonous snakes.

As an additional contribution to the knowledge of the Thai snake fauna, a systematic herpetological and batrachological collection, containing mainly snakes but also lizards, turtles and amphibians, was initiated at the QSMI by Mr Piboon Jintakune in the eighties. The collection includes numerous prepared snake hemipenes which were used in the work of Jintakune (1985), and the snakes served as a basis reference for the elaboration of the book of Jintakune & Chanhome (1995). Our aims in the present publication of the catalogue of this collection are twofold. The first one is to signal to Thai and foreign scientists, physicians and students involved in researches on snakes that an important reference collection is accessible to them at the QSMI. Second, this catalogue will also encourage them to deposit in this collection Thai specimens used in their studies, which will consequently remain available for further works and verifications. The attribution of collection numbers will allow searchers to specify in their published works the QSMI access numbers of the specimens used. Currently the QSMI collection contains about 1200 Reptile specimens, of which nearly 400 are listed in the present paper. All specimens were examined and reidentified by us. The next sections of the catalogue (Part II: Elapidae and Viperidae; Part III: Amphibia, Chelonii and Lacertilia) will be presented in forthcoming publications.

Synopsis of the collection

Until we initiated the cataloging in 1998, the specimens were unnumbered. We attached to all specimens a label with the abbreviation Q[SMI] followed by a number. However, many specimens were already accompanied by an original orange or yellow plastic label, hand written in Thai or English by P.J., which was attached to the neck of the jar. When such labels were present, their content is here reproduced in English between quotation marks; words added by ourselves, such as "Province", are placed in square brackets. When we reorganized the collection, the original label was attached to the specimen, or to one of the specimens included in the jar. New QSMI numbers were of course individually given to every specimen, even incom-

plete, except in a few cases duly mentioned. The dates written on the original labels often follow the Buddhist calendar; for the conversion, one should know that year 2000 in the Christian calendar corresponds to year 2543 in the Buddhist calendar. A detailed list and description of the originally labelled prepared hemipenes present in the collections are given in Jintakune (1985: 62-67). A selection of specimens among those listed hereafter is exhibited in the Snake Museum within the Snake Farm. Many specimens were secured by P.J. at the Siam Farm, a company of wildlife trade which has now disappeared. All specimens except those belonging to exotic taxa (here marked with an asterisk *) were either collected in Thailand or reported as such.

Abbreviations:

H=posterior part of the body and tail with everted hemipen(i)(e)s; N=newborn specimen.

Family Typhlopidae

Ramphotyphlops braminus: QSMI 1 "23/3/2541"), QSMU 2-5

Family Acrochordidae

Acrochordus granulatus: QSMI 51, QSMI 247 ("0523"), QSMI 364 ("Samut Prakan [Prov.], 10/2/2528"), QSMI 396 (H)

Acrochordus javanicus: QSMI 52-53, QSMI 370

Family Uropeltidae

Cylindrophis ruffus: QSMI 48 (only head and tail), QSMI 258, QSMI 361 (albinos, Nonthaburi, Nonthaburi Prov., 12/1998), QSMI 362 (Bang Khaen, Bangkok Prov., 16/10/1999), QSMI 363 (Nonthaburi, Nonthaburi Prov., 1999), QSMI 387-88 ("Siam Farm, 1/12/2527")

Family Xenopeltidae

Xenopeltis unicolor: QSMI 45 (with everted hemipenes), QSMI 46 (H, "Xe. uni. 2"), QSMI 47, QSMI 255-56 ("5/2527"), QSMI 315 (H), QSMI 394 (H)

Family Boidae*

*Constrictor constrictor**: QSMI 38

Gongylophis con

Liasis amethystin

*Morelia viridis**:

Python brongers
Farm"), QSMI 268-70 (
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Python molurus
7-23 (N), QSMI 49 (p
411 (skin in alcohol)

Python reticulat
33 (N), QSMI 39-44 (H
QSMI 266, QSMI 267

Ahaetulla nasut

Ahaetulla prasin

Amphiesma khas
Prov., 22/5/1998, roa

Amphiesma stol

Aplopeltura boa:
Si Thammarat [Prov.

Boiga cyanea: Q

Boiga cynodon: (
245-46, QSMI 371, Q

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*Gongylophis conicus**: QSMI 36 ("India, 12/2/1990")

Family Pythonidae

*Liasis amethystinus**: QSMI 37 ("Siam Farm, 24/9/2527, from Australia")

*Morelia viridis**: QSMI 392

Python brongersmai: QSMI 34-35 (adults), QSMI 50 (pelvic belt, "Siam Farm"), QSMI 268-70 ("Siam Farm, 10/2526", heads only); see Shine et al. (1999) for the status of this taxon previously regarded as a subspecies of *Python curtus*.

Python molurus bivittatus: QSMI 6 (egg with embryo, "4/2527"), QSMI 7-23 (N), QSMI 49 (pelvic belt, "Siam Farm"), QSMI 260-64 ("4/27"), QSMI 411 (skin in alcohol)

Python reticulatus: QSMI 24-28 (N), QSMI 29-30 (heads only), QSMI 31-33 (N), QSMI 39-44 (heads only), QSMI 88 (11 eggs, "Snake Farm, 21/3/40"), QSMI 266, QSMI 267 (head only), QSMI 425 (head only)

Family Colubridae

Ahaetulla nasuta: QSMI 195-97 ("4/2527"), QSMI 244, QSMI 378

Ahaetulla prasina: QSMI 205, QSMI 374-375 ("Siam Farm, 3/9/2527")

Amphiesma khasiense: QSMI 273 (Phu Luang, Research Station area, Loei Prov., 22/5/1998, road-killed) (See note below)

Amphiesma stolatum: QSMI 155 ("Siam Farm, 4/2527")

Aplopeltura boa: QSMI 237-39, QSMI 240 ("2/2527"), QSMI 241 ("Nakhon Si Thammarat [Prov.], 8/8/1990"), QSMI 271

Boiga cyanea: QSMI 146

Boiga cynodon: QSMI 149-52 ("Siam Farm, 24/9/2527"), QSMI 153, QSMI 245-46, QSMI 371, QSMI 410

Boiga dendrophila: QSMI 67-72, QSMI 73 ("13/8/2526"), QSMI 74 ("born 8/8/39, dead on 27/10/41, female"), QSMI 75 (H), QSMI 76 (H, "B. den. 1"), QSMI 77 (H, "B. den. 3"), QSMI 78 (H, "B. den. 5"), QSMI 79 (H, "B. den. 6"), QSMI 154 (2 embryos, QSMI, 2/3/2541), QSMI 243 (H), QSMI 365, QSMI 407, QSMI 616-18 (head and neck only)

Boiga drapiezii: QSMI 144 ("Nakhon Si Thammarat Prov., 1995"), QSMI 145 ("Thung Song, Nakhon Si Thammarat [Prov.], 18/6/1996"), QSMI 206-10, QSMI 227, QSMI 242, QSMI 367-69 ("4/2527"), QSMI 619 (head and neck only)

Boiga jaspidea: QSMI 147-48

Boiga multomaculata: QSMI 143 ("Siam Farm, 24/9/2527"), QSMI 294, QSMI 318, QSMI 377

Boiga nigriceps: QSMI 87 ("Thung Song, Nakhon Si Thammarat, collected on 22/12/2538, dead on 13/10/2540, male"), QSMI 141 ("Siam Farm, 6/2527"), QSMI 142

Cerberus rynchops: QSMI 259 ("shrimp farm, Samut Sakhon Prov., 15/12/[25]25")

Chrysopelea ornata: QSMI 115-29, QSMI 360 (4 eggs with embryos, "Bang Khun Non, [Bangkok Prov.], 7/2526"), QSMI 372-73 ("Siam Farm, 13/8/26, 5/11/[25]27")

Chrysopelea paradisi: QSMI 130, QSMI 376

Dendrelaphis cyanochloris: QSMI 379

Dendrelaphis pictus: QSMI 200-02 ("5/2527"), QSMI 203-04 ("Siam Farm, 5/2527"), QSMI 343, QSMI 386 ("7/2527")

Dendrelaphis subocularis: QSMI 198-99 ("5/2527")

Dryocalamus davisonii: QSMI 183

Dryocalamus subannulatus: QSMI 182 (striped form)

Elaphe flavolineata: QSMI 106-07

Elaphe guttata:* QSMI 109-10 ("Siam Farm, American species, 5/11/2527")

Elaphe obsoleta:* QSMI 102 ("Northern part of Florida, 9/12/27"), QSMI 111-14 ("Siam Farm, American species, 5/11/2527")

Elaphe radiata: QSMI 103, QSMI 104 ("17/9/[25]41, age: 2 years"), QSMI 105 ("Siam Farm, 28/11/2527"), QSMI 108 ("caught at Moo Ban Kasetniwet, Chom Rom 6, near Moo Ban Muangthong, at 8.45 a.m."), QSMI 133-34, QSMI 316 (H, "Ela. rad. 3"), QSMI 610 (skin in alcohol), QSMI 615 (head and neck

only)

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men quoted by Pau

Enhydris bocou
257 ("12/2526"), Q
boc. 5"), QSMI 304 (

Enhydris enhy

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Enhydris plun

Erpeton tentac
2"), QSMI 308 (H, "
ten. 6"), QSMI 311 (
"Er. ten. 9"), QSMI

Gonyosoma ox
423, QSMI 424 (hea

Homalopsis bu
89, QSMI 297 (H, "
"Ho. buc. 3"), QSM
305 (H, "Ho. buc. 8
in alcohol)

Lampropeltis g

Lepturophis al

Lycodon capuc

Lycodon effrae
("Krabi [Prov.], 20/

Lycodon laoens
6/9/2539"), QSMI 1
13/8/2526")

Lycodon subci

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1996"), QSMI 206-10,
(head and neck only)

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Si Thammarat, col-
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QSMI 133-34, QSMI
515 (head and neck

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only)

Elaphe taeniura ridleyi: QSMI 131 ("Phang-Nga [Prov.], 30/1/1990"; specimen quoted by Pauwels et al., 2000), QSMI 132

Enhydris bocourti: QSMI 211-14, QSMI 215 (head only), QSMI 216-17, QSMI 257 ("12/2526"), QSMI 265, QSMI 299 (H, "En. boc. 2"), QSMI 302 (H, "En. boc. 5"), QSMI 304 (H, "En. boc. 6"), QSMI 395 (H, "En. boc. 4"), QSMI 401 (H)

Enhydris enhydris: QSMI 219, QSMI 328-30 ("4/2527"), QSMI 402 (H)

Enhydris jagorii: QSMI 218, QSMI 220-22, QSMI 334 ("Siam Farm, 5-11/2527")

Enhydris plumbea: QSMI 248-54 ("2/2527"), QSMI 272

Erpeton tentaculatum: QSMI 54-66, QSMI 306 (H), QSMI 307 (H, "Er. ten. 2"), QSMI 308 (H, "Er. ten. 3"), QSMI 309 (H, "Er. ten. 4"), QSMI 310 (H, "Er. ten. 6"), QSMI 311 (H, "Er. ten. 7"), QSMI 312 (H, "Er. ten. 8"), QSMI 313 (H, "Er. ten. 9"), QSMI 335-342 ("3/2527"), QSMI 397 (H)

Gonyosoma oxycephalum: QSMI 135 ("13/8/2526"), QSMI 136-38, QSMI 423, QSMI 424 (head and anterior part of body)

Homalopsis buccata: QSMI 80-81, QSMI 82 ("2/2527"), QSMI 83-86, QSMI 89, QSMI 297 (H, "Ho. buc. 1"), QSMI 298 (H, "Ho. buc. 2"), QSMI 300 (H, "Ho. buc. 3"), QSMI 301 (H, "Ho. buc. 4"), QSMI 303 (H, "Ho. buc. 6"), QSMI 305 (H, "Ho. buc. 8"), QSMI 314, QSMI 393 (H, "Ho. buc. 5"), QSMI 609 (skin in alcohol)

*Lampropeltis getulus**: QSMI 391

Lepturophis albofuscus: QSMI 236

Lycodon capucinus: QSMI 181

Lycodon effraenis: QSMI 176 ("South Thailand, 20/10/1984"), QSMI 177 ("Krabi [Prov.], 20/8/2533")

Lycodon laoensis: QSMI 100 ("Thung Song, Nakhon Si Thammarat [Prov.], 6/9/2539"), QSMI 101 ("Krabi [Prov.], 20/8/1990"), QSMI 169-75 ("Siam Farm, 13/8/2526")

Lycodon subcinctus: QSMI 178 ("2/2527"), QSMI 179, QSMI 180 ("Siam

Farm, 17/4/[25]27"), QSMI 228

Oligodon fasciolatus: QSMI 223-24, QSMI 359, QSMI 381

Oligodon sp.: QSMI 385 (Krabi Prov.)

Oligodon taeniatus: QSMI 317

Pareas macularius: QSMI 229 & 234 ("Thung Song, Nakhon Si Thammarat [Prov.], 1995"), QSMI 235 ("South [Thailand], 20/4/1988") (See note below)

Pareas malaccanus: QSMI 380

Pareas margaritophorus: QSMI 226 ("Thung Song, Nakhon Si Thammarat [Prov.], 1995")

Psammodynastes pulverulentus: QSMI 140 ("Khao Soi Dao, Chanthaburi Prov., 23/12/2527")

Psammophis condanarus: QSMI 139 ("Siam Farm, 5/11/2527"), QSMI 366

Ptyas carinatus: QSMI 190-92, QSMI 193 ("15/6/40"), QSMI 194 ("Siam Farm, 24/12/2527"), QSMI 608 (skin in alcohol)

Ptyas fuscus: QSMI 184 ("2/10/40", specimen photographed in Cox et al., 1998: 55), QSMI 185

Ptyas korros: QSMI 162 (H, "Pty. kor. 1"), QSMI 163 (H, "Pty. kor. 2"), QSMI 164 (H, "Pty. kor. 3"), QSMI 165 (H, "Pty. kor. 5"), QSMI 166 (H, "Pty. kor. 6"), QSMI 167-168, QSMI 186-87, QSMI 321 ("Siam Farm, 27/4/2527"), QSMI 390 (H), QSMI 430

Ptyas mucosus: QSMI 188-89, QSMI 319 ("4/2527")

Rhabdophis chrysargos: QSMI 160 ("Krabi [Prov.], 25/7/1990"), QSMI 161

Rhabdophis subminiatus: QSMI 156-58 ("6/2527"), QSMI 159, QSMI 225 ("Thung Song, Nakhon Si Thammarat [Prov.], 1995")

Sinonatrix trianguligera: QSMI 95 ("Thung Song, Nakhon Si Thammarat [Prov.], 1996"), QSMI 96-97 ("Surat Thani [Prov.], 4/7/1990"), QSMI 98 ("Nakhon Si Thammarat Prov., 1995"), QSMI 99 ("7/2526")

Xenochrophis flavipunctatus: QSMI 90-94, QSMI 320, QSMI 322-27 ("Siam Farm, 6-12/2527"), QSMI 398-99 (H)

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and *A. inas*, two ob
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rounded cream sp
data are nearly id

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pattern made, on
rusty dorsolateral
brown, with faint
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dorsal backgroun
whereas, in *A. ina*
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Comments on noteworthy specimens

Amphiesma khasiense (Boulenger, 1890)

QSMI 273: female, snout-vent length 267 mm, tail length 122 mm, 0 preventrals + 143 ventrals, 97 divided subcaudals, anal divided, 9 supralabials on each side of which the 4th to the 6th contact the eye, 1 loreal and 1 preocular on each side, 3 postoculars on each side, 1 anterior temporal, 10 infralabials of which 5 touch the 1st pair of sublinguals on each side, dorsal scale rows reduction from 19 to 17 by fusion of dorsal rows 3 and 4 at the level of the 93rd ventral on the left and of the 94th on the right side, dorsals strongly keeled, at the exception of the first row, entirely smooth, eye very large, pupil round.

We identified this specimen as *A. khasiense* on the basis of its coloration, pattern and morphometric features. At first glance, this specimen might be identified as *A. inas* (Laidlaw, 1901), a species also present in Thailand, but not known north of the southern part of the peninsula. *Amphiesma khasiense* and *A. inas*, two obviously closely related species of small, montane natricines, are much similar in coloration, pattern and scalation. For example, the typical pattern of the posterior supralabials, dark brown with an irregularly rounded cream spot in their center, is present in both species. Main scalation data are nearly identical.

These species can be separated as follows: (1) *A. khasiense* is shorter and more slender than *A. inas*; (2) *A. inas* is usually reddish brown, with a dorsal pattern made, on each side, of distinct, separated yellowish spots on a faint rusty dorsolateral line, whereas *A. khasiense* is dark brown or dark greyish brown, with faint spots anteriorly, indistinct posteriorly, on visible dorsolateral lines (3) the dark brown colour of the tip of ventrals is confluent with the dorsal background colour on the whole length of the body in *A. khasiense*, whereas, in *A. inas*, this dark brown colour is usually separated from the dorsum colour along the first 30 ventrals, this separation producing a yellowish cream ventrolateral stripe on each side anteriorly; (4) dorsal scales of *A. khasiense* are very strongly keeled, except first row, whereas the dorsal scales are less strongly and more irregularly keeled in *A. inas*, but including the first dorsal scale row; (5) the whitish yellow nuchal stripe on each side of the neck is wide in *A. inas* and furthermore connects diffuse but wide white spots, whereas these stripes are narrow in *A. khasiense*, and most often reduced to a series of small, disjoint, more or less distinct spots; (6) internasals as wide as long in *A. khasiense*, but longer than wide (1.1 to 1.2 times) in *A. inas*; (7)

internasals are more distinctly narrowed anteriorly in *A. inas* than in *A. khasiense*, where they are broadly truncated; and (8) the frontal is about 2.2 to 2.5 times longer than prefrontals in *A. khasiense*, but much less than 2.0 in *A. inas*. There are other characters, which will be detailed in a revision of the group *A. modestum-khasiense* currently in preparation (David et al.).

In agreement with these distinctive features, based on the observations of types and several tens of specimens, the present specimen is unambiguously referred to *Amphiesma khasiense*, previously unknown from Thailand.

Five species of the genus *Amphiesma* were previously known from Thailand: *A. stolatum* (Linnaeus, 1758), *A. deschauenseei* (Taylor, 1934), closely related to *Amphiesma modestum* (Gunther, 1875) but which deserves a specific status (David et al., unpublished), *A. groundwateri* (Smith, 1921) and *A. inas* from the southern part of the Peninsula, and *A. bitaeniatum* (Wall, 1925), recently discovered in Chiang Mai Province (see David & Pauwels, 2000). The present addition of *A. khasiense* brings to Thailand another species belonging to the snake fauna typical of northern Indochinese mountain ranges.

A. khasiense has extensively been confused in the literature with *A. modestum* and *A. boulengeri* (Gressitt, 1937). Currently, it is definitely known from Northeastern India, Myanmar, southwestern China (Yunnan and Xizang provinces), Laos (Zhao & Adler, 1993: 226), and now northern Thailand. Although widely cited in the literature from northern Vietnam, we failed to examine any specimen, but its occurrence is more than likely in the north of this country. *Amphiesma inas* is currently restricted to West Malaysia and southern Peninsular Thailand. Although we did not examine it, the specimen, also from Phu Luang, Loei Province, identified as *A. inas* in Chan-ard et al. (1999: 153) does not belong to this species nor to *A. khasiense*.

Pareas macularius Theobald, 1868

QSMI 229: male, snout-vent length 353 mm, tail length 83 mm, 0 preventrals + 159 ventrals, 49 divided subcaudals, anal single, 7 supralabials on each side, 1 loreal and 1 preocular on each side, 1 postocular and 1 elongate subocular on each side, 2+3+3 temporals, 7 infralabials of which 4 touch the 1st pair of sublinguals on each side, 15 dorsal scale rows throughout body with no reduction, dorsals keeled except 4 first rows, pupil vertically elliptic. The meristic characters of our specimens as well as the general coloration fit perfectly with the description given notably by Cox (1991: 260) for the species, except for the coloration of the belly which is white maculated with

numerous brown spots ("dull white" in the description of Cox), and for the size, 436, 370 and 397 mm of total length in QSMI 229, QSMI 234 & 235, respectively (contra a maximal size of 375 mm given by Cox). However, Boulenger (1896: 445) describes *P. macularius* as having "lower parts brownish white, spotted with brown". The species was known in Thailand from the northern provinces of Chiang Mai and Loei (Cox, 1991: 260; Chan-ard et al., 1999: 178).

Xenochrophis flavipunctatus (Hallowell, 1860)

The dimensions and body scalation of the four largest females are as follows:

QSMI 90: snout-vent length 977 mm, tail length >257 mm, 2 preventrals + 134 ventrals (plus an additional half ventral on the left side just before anal), >55 divided subcaudals, anal divided;

QSMI 93: snout-vent length 982 mm, tail length >183 mm, 2 preventrals + 137 ventrals, >36 divided subcaudals, anal divided;

QSMI 94: snout-vent length 990 mm, tail length >174 mm, 2 preventrals + 135 ventrals, >32 divided subcaudals, anal divided;

QSMI 320: snout-vent length 923 mm, tail length 352 mm, 2 preventrals + 135 ventrals, 77 divided subcaudals, anal divided.

A maximal total length of 1200 mm for this species was cited by Cox (1991: 250) and Manthey & Grossmann (1997: 309). The total length of QSMI 320, of which the tail is complete, is 1275 mm. If we follow the same ratio of tail length, QSMI 94 would have a total length of 1368 mm.

We examined several hundreds of specimens from Thailand, Vietnam and the People's Republic of China. Detailed results will be published elsewhere, but on the basis of our observations, we concur with Taylor (1965) in regarding *Xenochrophis piscator* (Schneider, 1799) and *Xenochrophis flavipunctatus* as distinct species, the latter one being widely distributed in Southeastern Asia, whereas *X. piscator* seems to be absent east of a line ranging from western Yunnan (southwestern China) to western mountain ranges of Thailand. In our four record-sized females, the presence of the black oblique streaks on supralabials, of black stripes on the upper neck surface, as well as of the transversal black stripe on every ventral scale are typical of *X. flavipunctatus*.

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