

THE LIZARDS OF THE GENUS *TROPIDOPHORUS* IN SIAM,  
WITH DESCRIPTIONS OF TWO NEW SPECIES.

BY MALCOLM A. SMITH, F. Z. S.

Five species of *Tropidophorus* are now known to inhabit Siam, two of which are here described as new to science. *T. thai* was obtained by my collectors at the end of 1917 while on a visit to the North, while *T. robinsoni* was discovered in the Peninsula during the recent expedition of the Federated Malay States Museums to that part of the country. I have much pleasure in naming this new species in honour of Mr. Herbert C. Robinson, Director of Museums, who as head of the party, took charge of my collector. The types of both species will be presented to the British Museum of Natural History.

All the lizards of this Genus appear to have the same love of water, and are to be found frequenting mountain streams, living in the tangle of undergrowth upon the bank, or hiding beneath the stones that form the river bed. They produce their young alive.

Examples of *T. cochinchinensis* I have kept alive, but they were not happy in captivity. The change of environment was evidently too great. Nocturnal in their habits, they spent the days in hiding beneath the earth or stones in their cage. I never saw them take any food.

*TROPIDOPHORUS ROBINSONI*, sp. nov.

*Diagnosis.* Upper head shields feebly striated, a single fronto-nasal, 30 to 32 scales round the body, dorsals and laterals keeled, not mucronate. Allied to *T. berdmorei* Blyth, from Pegu and Tenasserim, from which it differs chiefly in the fewer number of scales round the body.

*Description.* Upper head shields feebly striated; a single fronto-nasal, nearly as broad posteriorly as long; praefrontals forming a good suture; frontal as long as, or a little longer than, the frontoparietals and interparietal together; parietals forming a suture behind the interparietal; four supraoculars, first longest; six supraciliaries anterior to the fourth supraocular, which enters the supraocular border; nostril pierced in a single nasal; a single anterior loreal, succeeded by another of about the same size; six supralabials, fourth largest and subocular; temporals small and scale-like except one, in contact with the parietal, which is usually much larger; a single postmental;

tympanum nearly as large as the eye opening; 30 to 32 scales round the middle of the body, nuchals often bi- tri- or multicarinate, dorsals strongly keeled, not mucronate; laterals keeled, a little smaller than the dorsals, directed straight backwards; gular scales smooth or feebly keeled, ventrals smooth; a pair of large praeanales; caudal scales keeled except the median lower series; the hind limb reaches the wrist, or not quite so far; subdigital lamellae smooth, 17 or 18 beneath the fourth toe.

Brownish or blackish above, with light brown, black-edged cross bars or alternating spots, the first on the nape; sides of body and tail with small white spots; below yellowish-white, the belly uniform, the throat more or less spotted with black, the tail thickly spotted or almost entirely black; head blackish, labials with white spots.

*Type.* Gravid female, author's number, 3254, collected at Tasan, 32 kilometres W. of Chumporn town, Peninsular Siam, in March 1919.

Number of specimens examined, 33, all from the same locality; author's numbers 3247 to 3279 inclusive.

*Variation.* The posterior loreal shield in one specimen is divided vertically into two.

<i>Measurements.</i>	No. 3250	No. 3254	No. 3267
Total length	155	165	155
Tail	77	90	95
Length of head	15	15	10
Width of head	9	8.5	8.5
Fore limb	18	16	15
Hind limb	25	25	23

Several gravid females were obtained, containing from four to five embryos, in a fairly advanced stage of development.

#### TROPIDOPHORUS YUNNANENSIS Blgr.

Annandale has recently proposed (Rec. Ind. Mus., viii, p. 58, 1912), that this species should be united with *T. berdmorei* Blyth, from Tenasserim, basing his opinion on the fact that the keeling of the scales, and the number of scale rows round the body, is inconstant. With a large series of specimens from the hills of Northern Siam before me, however, there seems good reason to maintain them as originally separated by Boulenger.

Altogether I have 42 specimens, 16 from Khao Pleung and Pan Ton Pheung, in the hills to the south of Prae, while the remainder are from the hills in the Me Wang district, reaching as far north as Pa Meang, near the border of the Southern Shan States. They were all taken at between 800 and 2000 feet elevation.

In all the adults and in nearly all the half grown specimens, the scales are entirely smooth. Only in juveniles are they at all strongly keeled, and this seems to be a character common to the genus, namely, that the young when born are more strongly keeled than their parents.

The number of scales round the middle of the body varies from 32 to 36; 32 occurring six times, 34 twenty-seven times, and 36 nine times in the series. This variation does not appear to depend upon locality.

The praefrontals in this species are said to be in contact, or meeting by the inner angles. My specimens shew considerable variation in this respect. In the series of 16 from south of Prae, these shields are so arranged in 11 examples, while in the other 5, a small shield is interposed separating them. In none of the specimens from Me Wang are the praefrontals in contact, this intercalated shield being present in every instance. There are two<sup>1</sup> superposed anterior loreal scales in every example, succeeded by a single large posterior one; rarely one or two small scales are interposed between this latter shield and the praefrontals. Two praeanal shields occur in every example.

### TROPIDOPHORUS BERDMORII (Blyth).

To this species I refer 5 examples collected on Doi Nga Chang, in the southern part of the Me Wang district, at between 2000 and 3000 feet.

It is unfortunate that none of these specimens is adult, the largest one having a head and body of 57 mm. (total length, 132, tip of tail missing). All the specimens however, have the dorsal and

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<sup>1</sup> Anderson's specimen as figured (*Zool. Researches Yunnan*, p. 796, pl. lxxvi, fig. 3. 1878), appears to have only a single anterior loreal.

lateral scales strongly keeled, the smallest (head and body, 41 mm.),<sup>1</sup> having the ventrals faintly keeled also.

There are 36 scales round the middle of the body in one individual, 38 in the remaining four. There is a single large anterior loreal, succeeded by another of about the same size. The praefrontals are in contact with each other by their inner angles.

I separate these five examples from my specimens of *T. yunnanensis* on the following points:—

(1) Larger number of scales round the body; (2) dorsals and laterals strongly keeled; (3) a single anterior loreal; (4) praefrontals in contact in all examples.

### TROPIDOPHORUS THAI, sp. nov.\*

*Description of the type.* Upper head shields rugose; a pair of frontonasals, each one much longer than broad; a large azygos shield separating the praefrontals and posterior part of the frontonasals; anterior portion of the frontal broken into two pieces, the total length of this shield being as long as the frontoparietals and interparietal together; four supraoculars, first longest; five supraciliaries anterior to the 4th supraocular which enters the supraciliary border; frontoparietals shorter than interparietal, which separates the parietals; nostril pierced in a single nasal; two anterior loreals, succeeded by two larger ones; six supralabials, 4th largest and subocular; temporals small and scale-like, keeled; postmental single; tympanum nearly as large as the eye opening; 38 scales round the body, dorsals and laterals strongly keeled, scarcely mucronate; laterals smallest, the upper rows directed obliquely upwards and backwards; gulars feebly keeled, ventrals smooth; a pair of large praeanales; the adpressed limbs fail to meet by the length of the hand; subdigital lamellae smooth, 18 or 19 beneath the 4th toe; tail a little longer than the head and body, all its scales keeled except the median lower series.

Light brown on the back, with a series of oblique yellowish dark-edged V-shaped marks; small light spots on the sides; belly

<sup>1</sup> The tails of these lizards are so frequently mutilated and regrown, that the measurements of total length give no true indication of the size of the creature.

\* Thai = Siamese, pronounced Tai.

brownish white, throat paler; lips black with whitish spots; tail above as the back, below mottled white and dark brown.

Allied to *T. cochinchinensis* Dum. & Bib., and *T. grayi* Günth.

Type. Author's number, 3105, collected at Pa Meang, Me Wang, North Siam, in Oct. 1917, at about 2000 feet elevation.

Two more specimens are from the same locality. They differ from the type in the following particulars.

No. 3106. Anterior part of frontal broken into four or five pieces, parietals in contact behind the interparietal, 6 supraciliaries; 36 scales round the body; the adpressed limbs just fail to meet.

No. 3215. Immature. Gular scales strongly, ventrals feebly, keeled; the hind limb reaches the wrist.

<i>Dimensions.</i>	No. 3105	No. 3106	No. 3215
Total length	180	132	96
Tail	95	60	54
Length of head	16	14	
Width of head	12	10	
Fore limb	18	16	
Hind limb	25	24	

### TROPIDOPHORUS COCHINCHINENSIS Dum. & Bib.

*Tropidophorus microlepis*, Günther, Rept. Brit. Ind. p. 76. Pl. x fig. A.

Günther's type of *T. microlepis* (a single specimen) is from Chantaboon (Chartaboum), and no doubt it came from the neighbouring hill of Khao Sebab, where Mouhot tells us he made considerable collections.<sup>1</sup>

I have 12 specimens obtained upon this hill, and 7 more which were born in captivity.

*Variation.* The praefrontals form a good suture in 17 examples, and have a small shield separating them in 2. There are two super-

<sup>1</sup> "Travels in the Central Parts of Indo-China (Siam), Cambodia, and Laos" By Henri Mouhot. The term Cambcja appears to have been used somewhat loosely in the past, and it seems probable that many of Mouhot's specimens labelled with that name really came from Siam. His maps shew that he travelled extensively in Siam and Laos, and only very little in Indo-China.

posed anterior loreals, the upper being the larger, and a series of small scales (3 to 6) between the posterior loreal and the supralabials.<sup>1</sup>

There are from 28 to 32 scales round the middle of the body, the laterals being smallest and directed obliquely. Each example has three praeanal shields.

The type of *T. cochinchinensis* is from Cochin China, and was possibly obtained at a considerable distance from Chantaboon. It differs from the type of *T. microlepis*, and from all my specimens, in having only two praeanal shields, and it may be, when more is known about these lizards in Indo-China, that the two forms will have again to be separated.

Two gravid females brought home and kept in captivity gave birth to 7 and 9 young respectively, at the end of April. Total length at birth, 56 to 60 mm., head and body, 26 to 30. Colour, light brown above, with indistinct darker markings; sides blackish with small white spots; below whitish, throat thickly mottled with grey. Ventral scales strongly keeled, the mothers having these shields quite smooth.

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<sup>1</sup> Gunther's figure gives only two loreals, an anterior and a posterior.