

THE HERPETOLOGICAL COLLECTIONS MADE BY DR.
HUGH M. SMITH IN SIAM FROM 1923 TO 1929

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For a number of years the United States National Museum has been the fortunate recipient of rather extensive collections from southeastern Asia. Dr. W. L. Abbott began work in this region while its fauna was still relatively unknown, the remarkable collections made by him in the islands of Malaysia as well as on the mainland itself still yielding valuable material for study purposes. Other collectors have augmented this material, and recognition of the possibilities of the zoologic study of this region has been manifested by various museums.

Most of Doctor Abbott's reptiles and amphibians were taken in Trong, Peninsular Siam. Our series of specimens from the northern part of Siam was very limited until the time when Dr. Hugh M. Smith, formerly Chief of the Bureau of Fisheries at Washington, D. C., went to Bangkok to assume control of the development of fisheries resources for the kingdom of Siam. Since 1923 we have been receiving large and varied shipments of excellently preserved biological specimens from Doctor Smith, from which some new species have already been described. A complete list of the specimens which he has sent to the United States National Museum from 1923 through 1929 has been prepared, and it is hoped that new locality records will stimulate further work by various collectors in regions only partly explored at the present time. The letter S preceding a bracketed number indicates the collector's number given to the specimen by Doctor Smith in the field. Original references are given to species described since 1912, the date of Boulenger's "Fauna of the Malay Peninsula."

AMPHIBIA

SALIENTIA

OXYDOZYGA LIMA (Tschudi)

U.S.N.M.		
67274	Bandon	Sept. 17, 1923.
67277, juvenal	Tale Noi	Oct. 8, 1923.
67305-6	Sikut River, Ban Pan	Nov. 25, 1923.
67307	Pasak River	Dec. 10, 1923.
67311-3	Lem Sing	Jan. 12, 1924.
70040 (S2245)	Bangkok	Nov. 7, 1925.
70136-8	Nong Mong, Krabin	Aug. 4-Sept. 1, 1925.
70186	Lam Tong Lang	July, 1925.
70379-80	Korat	Aug. 7, 1924.
72200-5	Raheng	Oct. 17, 1926.
72249 (S2828)	Nakon Sawan	Oct. 12, 1926.
72267-8	Bangson, near Chumporn	October, 1926 (R. Havmüller, collector).
75475-8 (S3513 part)	Nong Ri, Nakon Nayok	June 1, 1927.
75629	Srakeo, near Krabin	May 10, 1928.
75650-2 (S3693-5)	Bangkok	Apr. 25, 1928.
76016	Tadi Stream, Nakon Sritamarat.	July 7, 1928.
76861-3	Chombong	Nov. 29, 1928.

[Called "kiet"—the noise made by it.—H. M. S.]

OXYDOZYGA MARTENSII (Peters)

U.S.N.M.		
67299	Sikut River	Nov. 15, 1923.
70075-8	Bangkok	Aug. 8, 1925.
70131-3	Ban Sadet	May 30, 1925.
70181	Pak Jong	May 16, 1925.
70187-8	Lam Tong Lang	July, 1925.
72115	Bangkok	Aug. 5, 1926.
72196-9	Raheng	Oct. 17, 1926.
72675-6	Siam	[Label lost.—H. M. S.]
72677-9	Nong Khor	Feb. 7, 1927.
75611	Prachin	June 6, 1928.
76015	Tadi Stream, Nakon Sritamarat.	July 7, 1928.
76831 (S4058)	Kao Seming	Oct. 17, 1928.
76860	Chombong	Nov. 29, 1928.

No. 72115 was taken from the stomach of a snake, U.S.N.M. No. 72072, *Natrix subminiata*.

RANA ERYTHRAEA (Schlegel)

U.S.N.M.		
67243-5	Bangpakong River	July 2, 1923.
67254	Nontaburi	Sept. 2, 1923.
67278-9	Tale Noi	Oct. 8, 1923.
67469 (S558)	Koh Si Koh Ha, Tale Sap	Oct. 7, 1923.
67470 (S639)	Nakon River	Oct. 19, 1923.

U.S.N.M.

70051-73 (S2036, S2041, S2114).	Bangkok.....	July 30-Sept. 23, 1925.
72100-111 (S2893).....	do.....	June 11, 1926.
72182.....	Tale Noi.....	Oct. 8, 1923.
72266, juvenal.....	Bangson, near Chumporn...	October, 1926 (R. Hav- möller).
72661, juvenal.....	Nong Khor.....	Feb. 7, 1927
75601-6 (S3773-8).....	Bangpli, Samrong Canal....	June 2, 1928.
75658-60 (S3738-9, S3794).	Bangkok.....	May 18-June 19, 1928.
76009-10.....	Tadi Stream, Nakon Srita- marat.	July 7, 1928.
76081-2 (S3889-90).....	Ban Lem Ngao.....	July 15, 1928.

The young specimen, 72661, from Nong Khor has a narrower tibia and shorter webs than the other specimens listed here. The specimen from Bangson, 72266, can not be positively identified because of its poor preservation and its small size.

RANA ALTICOLA Boulenger

U.S.N.M.

72261.....	S. E. of Tung Song.....	October, 1926.
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This species is represented by 19 tadpoles collected by R. Havmöller in a waterfall stream two hours' journey southeast of Tung Song. The tadpole with the light circle on the tail, its black color, and its large size is not to be mistaken.

RANA RUGULOSA Wiegmann

This common species of frog has been collected in various regions by Dr. Hugh M. Smith, as in Bangkok, Nong Khor, Nong Mong, Pak-nampo, Nakon Sawan, Nong Ri, Prachin, Sraokeo, Kanburi, and Pichit.

RANA LIMNOCHARIS Gravenhorst

This species seems to be met with wherever there are streams or ponds. As rice fields are found throughout this region, there is every opportunity for these frogs to breed and multiply, in spite of their numerous enemies. They have been collected by Dr. Hugh M. Smith in the Bangpakong River, Rajaburi, Chao Phya, Nontaburi, Bandon, Tale Noi, Sikut River, Pasak River, Bangkok, Nong Khor, Nong Mong, Raheng, Bangson, Nong Ri, Bangpli, Prachin, Sraokeo, Hua Vieng, Sao Tong, Ban Chai Montri on the Klong Tadi, Ban Ta Yai, Ban Prakien, Pichit, and on Koh Samui in the Gulf of Siam. Mr. R. Havmöller has found it at Angkor, Cambodia.

RANA CANCRIVORA Gravenhorst

U.S.N.M.

67466-7 (S582-3).....	Tale Noi village.....	Oct. 8, 1923.
67468 (S677).....	Pak Nakara.....	Oct. 20, 1923.
72213-7 (S2668, 2671-4).....	Lem Sing.....	June 11, 1926 [Padi fields].
76827 (S4047), juvenal....	Kao Seming.....	Oct. 11, 1928.

The left foot of No. 67467 shows a peculiar malformation which I have never seen before. The three outer toes are quite normal, but the inner two toes are about equal in length and are grown together almost to the tips. At half their length they turn sharply inwards at right angles and finally point directly backwards toward the heel. The other foot of this individual is normal.

RANA NIGROVITTATA (Blyth)

U.S.N.M.		
70183.....	Pak Jong.....	May 16, 1925.
72156 (S2399).....	Koh Chang.....	Jan. 6, 1926.
75593-600 (S3765-72)---	Pran River, Peninsular Siam.	May 25, 1928.
76846 (S4136).....	Doi Angka.....	Dec. 8, 1928.

RANA KOHCHANGAE Smith

Rana kohchangae SMITH, Journ. Nat. Hist. Soc. Siam, vol. 4, 1922, p. 223, pl. 9, fig. 5.

U.S.N.M.		
72157-60.....	Koh Chang.....	Jan. 7, 1926.

Although these are all very young frogs which have not long completed their metamorphosis, they evidently are referable to this species of large-headed frog which Dr. Malcolm Smith has recently described from Koh Chang.

RANA LATERALIS Boulenger

U.S.N.M.		
70165-72 (S2170-1, Nong Mong..... S2185-7, S2194).	Aug. 20-Sept. 1, 1925.
70189-200, juvenal.....	Lam Tong Lang.....	July, 1925.
75522-3 (S3507-8).....	Nong Ri, Nakon Nayok.....	June 1, 1927.

One of the most interesting finds was the discovery of this rather rare species at Nong Mong, Lam Tong Lang, and Nong Ri.

The diagonal glands on the back are plainly visible in fully half of the 20 specimens. The glands always run from the left shoulder toward the right hip, and are frequently emphasized by a black pigment accompanying them. The age of the individual seems to have nothing to do with the development of these diagonal glands, for some of the largest as well as some of the smallest ones are quite smooth, while some show very distinct diagonal ridges.

RANA LIMBORGH Sclater

U.S.N.M.		
67320, adult.....	Siam.....	Spring of 1924.
67321-3, juvenal.....	do.....	Do.
67324, tadpoles.....	do.....	Do.

One adult male and three very young frogs and some tadpoles belonging to this species have been collected by Dr. Hugh M. Smith in Siam, but unfortunately the exact locality record did not accompany the specimens. The adult (No. 67320) measures 33 m. in length, which is exactly the same as one of Boulenger's specimens cited in

Records of the Indian Museum,¹ This frog tallies in every point with Boulenger's summary of the species with one exception—the last three phalanges of the fourth toe are said to be free of any web, while in No. 67320 there is a narrow but distinct fringe of webbing along the toe nearly to the terminal disk.

The three young frogs (67321, 67322, and 67323) have evidently only just metamorphosed from the tadpole stage, and measure 12 mm., 10 mm., and 9 mm., respectively. In the largest of these the web on the fourth toe may be plainly seen to extend nearly to the terminal disk, although it becomes very narrow. A vial of tadpoles accompanies these frogs, probably belonging to the same species.

RANA MACRODACTYLA (Günther)

U.S.N.M.
72262..... Bangson, near Chumporn... October, 1926.

This frog was collected by Mr. R. Havmøller.

RANA MACRODON (Duméril and Bibron)

U.S.N.M.
76064 (S3853)..... Ban Kiriwong..... July 10, 1928.

["Kob." Back olive, with black spots.—H. M. S.]

RANA CHALCONOTA (Schlegel)

U.S.N.M.
76118 (S3928)..... Kao Luang, Nakon Srita- July 17, 1928.
marat.

RANA LATOPALMATA Boulenger

U.S.N.M.
76844-5 (S4134-5)..... Doi Angka..... Dec. 8, 1928.

This is the first Siamese record for this species.

POLYPEDATES LEUCOMYSTAX (Gravenhorst)

U.S.N.M.
67250..... Rajaburi..... July 30, 1923.
67256..... Nontaburi..... Sept. 2, 1923.
67465 (S599)..... Bandon..... 1922 (R. Havmøller).
70074..... Bangkok..... Aug. 7, 1923.
70134..... Ban Sadet..... May 30, 1925.
70139..... Nong Mong, Krabin..... Aug. 22, 1925.
70140..... do..... Aug. 23, 1925.
70179-80 (S1962-3)..... Pak Jong..... May 18, 1925.
70182..... do..... May 16, 1925.
70203 (tadpoles)..... Bangkok..... Aug. 4, 1926.
72118-31 (S2364, S2745, S2762, S2767-9, S2772-4, S2808-11, S2898).
72294 (S2947)..... Koh Tao..... Dec. 29, 1926.
72310 (S2953)..... Bandon..... Jan. 6, 1927.
75625-45 (S3511)..... Nong Ri, Nakon Nayok... June 1, 1927.
75630-1 (S3727-8)..... Srakeo, near Krabin..... May 10, 1928.
75647 (S3635)..... Kanburi..... Apr. 16, 1928.
75661-2 (S3692, S3796)..... Bangkok..... Apr. 25-June 23, 1928.
76836 (S4102)..... Lampang..... Nov. 17, 1928.

¹ Vol. 20, 1920, p. 57.

The tadpoles 70203 are in all stages, from the very small ones up to one which already has the fore and hind legs but with the tail still unabsorbed.

PHILAUTUS NONGKHORENSIS Cochran

Philautus nongkhorensis COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 179.

U.S.N.M.

70099-107	----- Nong Khor	----- Oct. 4-5, 1925.
70108 (type)	----- do	----- Oct. 5, 1925.

PHILAUTUS HANSENÆ Cochran

Philautus hansenæ COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 181.

U.S.N.M.

70109, male adult (type)	- Nong Khor	----- Oct. 4, 1925.
70110-6	----- do	----- Oct. 4-5, 1925.
70135, female adult	----- Ban Sadet	----- May 30, 1925.

MICROHYLA PULCHRA (Hallowell)

U.S.N.M.

70378	----- Nong Mong	----- Aug. 20, 1925.
75459-60 (S3513 part)	--- Nong Ri, Nakon Nayok	--- June 1, 1927.

MICROHYLA BUTLERI Boulenger

U.S.N.M.

70381	----- Nong Khor	----- Sept. 27, 1925.
72670-3	----- Siam	----- Label lost.—H. M. S.

MICROHYLA ACHATINA (Boie)

U.S.N.M.

70050	----- Bangkok	----- Aug. 8, 1925.
70129	----- Nong Khor	----- Oct. 4, 1925.
70382-5	----- do	----- Sept. 27, 1925.
72295-306	----- Koh Tao	----- Dec. 29, 1926.
72665-7	----- Bangkok	----- Aug. 7, 1926.
72668-9	----- Siam	----- Label lost.—H. M. S.
75472-4 (S3513 part)	--- Nong Ri, Nakon Nayok	--- June 1, 1928.
75587	----- Pran	----- May 25, 1928.
76139	----- Koh Tao	----- Sept. 20, 1928.

Regarding the Koh Tao specimens, the collector notes that they are found "in jungle near water. Back light gray-green with brown markings. A black lateral streak. Very noisy at night."

MICROHYLA BERDMOREI (Blyth)

U.S.N.M.

70092 (S2161)	----- Nong Khor	----- Oct. 1, 1925.
72132 (S2328)	----- Pak Jong	----- Nov. 15, 1925.
72663	----- Nong Khor	----- Feb. 7, 1927.
72664 (S3087)	----- Ronpibun	----- January, 1927.

The specimen from Ronpibun was collected by Mr. R. Havmøller. The Pak Jong frog on which I based my description of *Microhyla malcolmi*² is said by Mr. Parker to be an aberrant individual of

² Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927.

M. bermorei (see H. W. Parker, The Brevicipitid Frogs of the Genus *Microhyla*.)³

MICROHYLA ORNATA (Duméril and Bibron)

U.S.N.M.		
67238	Bangkok	June 15, 1923.
67297-8	Sikut River	Nov. 15, 1923.
70041-50	Bangkok	Aug. 8, 1925.
70079-80	do	Aug. 6, 1925.
70094-98	Nong Khor	Oct. 5, 1925.
70118-28	do	Oct. 4, 1925.
70174-5	Nong Mong	Sept. 1, 1925.
70184-5	Pak Jong	May 16-18, 1925.
70202, many tadpoles	Bangkok	Aug. 4, 1925.
70386-9	Nong Khor	Sept. 27, 1925.
72254-60	Angkor Wat, Cambodia	Jan. 12, 1926.
75461-71 (S3513 part)	Nong Ri, Nakon Nayok	June 1, 1927.
75626-8	Srakeo, near Krabin	May 10, 1928.
76014	Tadi Stream, Nakon Sritamarat.	July 7, 1928.

The numerous tadpoles from Bangkok recorded under U.S.N.M. 70202, while fairly transparent, are a dusky grayish color, and even in alcohol show evidence of a purplish iridescence beneath. This bears out Dr. Malcolm Smith's observation⁴ that "the transparent tadpole of *Microhyla ornata*, as described by Stanley Flower, is by no means always colorless but can assume quite a respectable shade of gray-brown." These tadpoles are not in a very advanced stage of development, for in only a few cases do they have the hind legs, while none have the fore legs.

KALOULA PULCHRA Gray

U.S.N.M.		
67246	Bangkok	July 14, 1923.
67309	Pasak River	Dec. 10, 1923.
67325 (S31)	Bangkok	July 7, 1923. Bathroom of Hotel Royal.—H. M. S.
70032-9 (S2048-55)	do	Aug. 6, 1925.
70090 (S2159)	Nong Khor	Oct. 1, 1925.
70173 (S2103)	Nong Mong	Sept. 3, 1925.
70201 (S2246)	Bangkok	Nov. 7, 1925.
72112 (S2821)	do	Sept. 8, 1926. Dr. Hugh M. Smith's yard.
72155 (S2400)	Koh Chang	Jan. 11, 1926.
72186 (S2835)	Paknampo	Oct. 13, 1926.
75524 (S3514)	Nong Ri, Nakon Nayok	June 1, 1927.
75586 (S3764)	Pran	May 25, 1928.
75642-3 (S3630-1)	Kanburi	Apr. 15, 1928.
75663-9 (S3673, S3690, S3703-7).	Bangkok	Apr. 22-28, 1928.
76098 (S3912)	Pichit	Aug. 8, 1928.
76125 (S3940)	Bangkok	Aug. 24, 1928.

³ Ann. Mag. Nat. Hist., ser. 10, vol. 2, November, 1928, p. 481.

⁴ Journ. Nat. Hist. Soc. Siam, vol. 2, June, 1916, p. 33.

[Called "ung-arng"—the noise made by the creature during rains.—
H. M. S.]

CALLUELLA GUTTULATA (Blyth)

U.S.N.M.		
70093	Nong Khor	Oct. 5, 1925.
70117	do	Do.
70176-7	Nong Mong	Aug. 30, 1925.
70178, tadpole	do	Aug. 22, 1925.

GLYPHOGLOSSUS MOLOSSUS Günther

U.S.N.M.		
72210-1 (S2500-1)	Sikiu, near Korat	Feb. 25, 1926.

BUFO MELANOSTICTUS Schneider

U.S.N.M.		
67235-6	Bangkok	June 8, 1923.
67257	Nontaburi	Sept. 2, 1923.
67463 (S557)	Koh Si Koh Ha, Tale Sap	Oct. 7, 1923.
67464 (S579)	Tale Noi village	1922 (R. Havmöller).
70087-9 (S2197-9)	Bangkok	Oct. 15, 1923.
72116-7	do	Nov. 11, 1926.
72194 (S2841)	Raheng	Oct. 12, 1926.
72218-9 (S2665-6)	Lem Sing	June 11, 1926.
72250 (S2346)	Bangkok	Dec. 16, 1925.
72251 (S2389)	Angkor, Cambodia	Jan. 12, 1926.
75588-90	Pran	May 25, 1928.
75670-8 (S3687-9, 3691, 3698-3702).	Bangkok	Apr. 25-28, 1928.
76027 (S3826)	Ban Ta Yai	July 9, 1928.
76096-7 (S3910-1)	Pichit	Aug. 8, 1928.

72116-7. These two young toads were taken from the stomach of a snake,
U.S.N.M. No. 72067, *Holarchus cyclurus*.

[Siamese name "kang (=chin) kok (=hit or knock)."] A popular
Siamese belief is that this toad may knock a person's bare foot with
its lower jaw and make a poisonous wound, like a ringworm, with its
milky mucus. The wound may be treated with scraped human
finger-nails applied with water.—H. M. S.]

BUFO MACROTIS Boulenger

U.S.N.M.		
75546-83 (S3509)	Nong Ri, Nakon Nayok	June 1, 1927.

BUFO PARVUS Boulenger

U.S.N.M.		
76120 (S3926)	Kao Luang, Nakon Srita- marat.	July 16, 1928.

BUFO ASPER Gravenhorst

U.S.N.M.		
72680 (S3089), juvenal	Ronpibun	Jan. 1927 (R. Havmöl- ler).
76037 (S3831)	Ban Mor	July 9, 1928.
76065-7 (S3848-9, S3866)	Ban Kiriwong	July 10, 1928.
76078-9 (S3875-6)	Ban Hui Ta	July 12, 1928.
76119 (S3921), juvenal	Kao Luang, Nakon Srita- marat.	July 15, 1928.

APODA

ICHTHYOPHIS GLUTINOSUS Linnaeus

U.S.N.M.

67258-60	Nontaburi	Sept. 2, 1923.
70029-31 (S1975, S2218, S2238)	Bangkok	June 9-Oct. 30, 1925.
71680	do	Dec. 16, 1925.
72132-3 (S2820, S2895)	do	Sept. 8-Dec. 7, 1926.
72293 (S2932)	Koh Tao, Gulf of Siam	Jan. 1, 1927.
75679 (S3491)	Bangkok	Aug. 4, 1927.
76138 (S3981)	Koh Tao, Gulf of Siam	Sept. 18, 1928.

The presence or absence of a yellowish lateral stripe, used as a distinguishing character to separate *glutinosus* from *monochrous*, seems to be an unsatisfactory character. In a series of three specimens, Nos. 70670-2 from Kepahiang, Sumatra, the proportions of the head and the dentition show the three to be true *monochrous*; one of them, however, has a light lateral band along the side, while the other two have no trace of such a band. Another series of four specimens, Nos. 70666-9 from Kaba Wetan, Sumatra, are *monochrous* without any lateral stripe. A single specimen from North Pagi Island, near Sumatra, No. 31701, has the head proportions and the dentition of *monochrous* but has a very distinct yellow stripe down the sides. While this stripe may thus be present or absent in *monochrous*, it is constantly present in the fourteen specimens of *glutinosus* which I have examined—2 from Ceylon, Nos. 5895 and 58751, as well as the 12 from Siam listed above. The adult female, No. 70029, measures 312 mm. in length and is distended with about 50 eggs, which measure between 6 and 7 mm. in diameter. No. 76138 was found under a decaying log in deep jungle.

REPTILIA

LORICATA

CROCODYLUS SIAMENSIS Schneider

U.S.N.M.

76089 (S3906)	Bung Borapet	Aug. 7, 1928.
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[This species is common throughout Central Siam and in certain localities abundant. The place where this young was caught, Bung Borapet, formerly had more than at present. The Minister of Agriculture and the Director-General of the Royal Irrigation Department, both very familiar with this extensive lake-swamp, report large crocodiles as having been taken here in the past, and both know of a skull 1 m. long from a specimen about 7 m. long. The usual size, however, is much smaller. Four crocodile eggs from this swamp on August 8, 1928 measured 8.7 by 5.3 cm.; 8.5 by 5.4 cm.; 8.2 by 5.2

cm.; and 8.2 by 5.2 cm. They were brought to Bangkok and began to hatch August 31.—H. M. S.]

CROCODYLUS POROSUS Schneider

U.S.N.M.		
67735	Bandon (Tapi) River	Jan. 15, 1922, skull.
67736	Inland Sea	August 1923, skull.
72730-6 (S1424, S1478, S1406, S1404, S1377, S1482, S1371).	Nakon Sritamarat	Sept. 27-Oct. 8, 1926, skins.

The first two on this list were collected by Mr. R. Havmöller. The length of 67735 was 10 feet 6 inches, while 67736 measured 9 feet 8 inches. Dr. Hugh M. Smith notes that they were literal "man-eaters."

[Bung Sifai, southwest of Pichit, Central Siam, visited August 10, 1928. The swamp, about 4,000 rai in area (1 rai=1,600 square meters) was said to have 1,000 crocodiles less numerous than 20 years ago, as the extension of lotus growing in this swamp drives the crocodiles to other bungs where there is no cultivation. No crocodiles are killed here.—H. M. S.]

SAURIA

GONATODES SIAMENSIS Smith

Gonatodes siamensis SMITH, Sarawak Mus. Journ., vol. 3, pt. 1, no. 8, 1925, p. 21.

U.S.N.M.		
70250	Ban Sadet	May 30, 1925.
76142-4	Koh Tao	Sept. 18, 1928.

PHYLLODACTYLUS SIAMENSIS Boulenger

U.S.N.M.		
76145	Koh Tao	Sept. 18, 1928.

HEMIDACTYLUS FRENATUS Duméril and Bibron

U.S.N.M.		
67262	Nontaburi	Sept. 2, 1923.
70274, juvenal	Siam	1925.
72269 (S2943)	Koh Tao, Gulf of Siam	Jan. 1, 1927.
72311-3 (S2950-2)	Bandon	Jan. 6, 1927.
72682	Bangkok	Jan. 21, 1927.
76007	Nakon Sritamarat	July 4, 1928.
76024 (S3824)	Ban Ta Yai	July 8, 1928.
76095 (S3938)	Pichit	Aug. 8, 1928.
76140	Koh Tao	Sept. 18, 1928.
76840 (S4116)	Chiengmai	Nov. 28, 1928.

COSYMBOTUS PLATYURUS (Schneider)

U.S.N.M.

67253	Nontaburi	Aug. 20, 1923.
67261	Nontaburi	Sept. 2, 1923.
72181	Tale Noi	Oct. 8, 1923.
72683-700	Bangkok	Jan. 21, 1927.
76004-5	Nakon Sritamarat	July 4, 1928.
76088 (S3905)	Langsuen	July 24, 1928.
76834 (S4057)	Kao Seming	Oct. 17, 1928.

No. 72700 is a young lizard with two distinct heads, the extra one growing from where the right shoulder should normally be.

PTYCHOZOON HORSFIELDII (Gray)

U.S.N.M.

76073 (S3933)	Ban Hui Ta	July 12, 1928.
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["Tok tao." Very broad tail. Found in a mangosteen tree. Not common. According to local people, if this lizard goes into a house it brings good luck.—H. M. S.]

GEKKO GECKO (Linnaeus)

U.S.N.M.

67310	Pasak River	Dec. 10, 1923.
72078-9 (S2512, S2907)	Bangkok	Mar. 13-Dec. 23, 1926.
72192 (S2551)	Rajaburi	Apr. 10, 1926.
72701 (S3124)	Pak Jong	Mar. 20, 1927.
75454 (S3515)	Nong Ri, Nakon Nayok	June 7, 1927.
76040 (S3856)	Ban Kiriwong	July 11, 1928.

PEROPUS MUTILATUS (Wiegmann)

U.S.N.M.

72270-2 (S2944-6)	Koh Tao, Gulf of Siam	Jan. 1, 1927.
76006	Nakon Sritamarat	July 4, 1928.
76141	Koh Tao	Sept. 18, 1928.

DRACO MACULATUS Gray

U.S.N.M.

67315-8	Koh Chang	Apr. 5, 1924.
67477-8 (S938-9)	do	Mar. 31, 1924.
67479 (S598)	Bandon	1922 (R. Havmöller).

DRACO QUINQUEFASCIATUS Gray

U.S.N.M.

72245 (S2748), adult male	Bangnara	July 14, 1926.
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A color description by Dr. Hugh M. Smith denotes that the gular flap was green; the wings were yellow and black, with white spots in the black.

DRACO FIMBRIATUS Kuhl

U.S.N.M.

72235 (S2748), adult female	Bangnara	July 10, 1926.
72236 (S2747), adult male	do	July 14, 1926.

The gular flaps of both lizards were red in life.

DRACO VOLANS Linnaeus

U.S.N.M.		
72237-44 (S2749-50, S2752-7)	Bangnara	July 15-21, 1926.
76059-60 (S3839, S3861)	Ban Kiriwong	July 10-11, 1928.
76104-5 (S3920, S3918)	Kao Luang, Nakon Srita-	July 15, 1928.
	marat.	

[76059. "Pung-ka-peek." Above rich gray-green with black spots; gular flap blue-green; wings above black with orange spots, below yellow-green with black bars; belly, gray-green, post-ventral region purplish.—H. M. S.]

[76060. Back gray with pairs of black spots on middle; a black spot on nape, another on top of head; gular region pale blue-green with black spots; wings above black with orange spots, the margin gray, below yellow-green, with black bands; belly pale yellow-green, brighter on median line. Shot from coconut tree, a favorite haunt for these creatures.—H. M. S.]

DRACO MELANOPOGON Boulenger

U.S.N.M.		
76105-9 (S3918, S3917, S3919, S3922-3).	Kao Luang, Nakon Srita-	July 15-16, 1928.
	marat.	

DRACO BLANFORDII Boulenger

U.S.N.M.		
76110-4 (S3916, S3927, S3929-31).	Kao Luang, Nakon Srita-	July 15-20, 1928.
	marat.	

DRACO TAENIOPTERUS Günther

U.S.N.M.		
70266 (S1950)	Pak Jong	May 18, 1925.
76051-8 (S3838, S3842-3, S3863, S3868).	Ban Kiriwong	July 10-11, 1928.

[76052. "Pung-ka-peek." Like 76051. Above grayish-green, with dark green mottlings; wings above bright yellow-green with black bands, a broad maroon distal band, below yellow-green; gular flap yellow, lateral flaps bright maroon below; belly pale yellow-green.—H. M. S.]

ACANTHOSAURA ARMATA (Gray)

U.S.N.M.		
70241 (S2157)	Nong Khor	Oct. 1, 1925.
70245-7 (S1967-9)	Ban Sadet	May 28, 1925.
70256 (S2195)	Nong Mong	Aug. 27, 1925.
70260	Lam Tong Lang	July, 1925.
70269	Pak Jong	May 18, 1925.
72143 (S2544)	Nong Khor	Mar. 25, 1926.

Dr. Malcolm Smith has united *crucigera* with *armata* on the strength of a large series from Nakon Sritamarat, in which all gradations in the length of nuchal and postorbital spines could be observed. I had found the same great variation in some of Dr. W. L. Abbott's Malayan collections and had reached the conclusion that *crucigera* was not a distinct species, although I had no very large series from a single place.

CALOTES VERSICOLOR (Daudin)

Examples of this species, too numerous to be listed individually, have been taken at the following localities: Rajaburi, Nontaburi, Taluei Island, Tale Noi village, Bangkok, Nong Khor, Ban Sadet, Pak Jong, Tha Chang, Sikiu, Bangnara, Bandon, Kanburi, Nakhon Sritamarat, Ban Chai Montri, and Ban Prakien.

CALOTES MYSTACEUS Duméril and Bibron

U.S.N.M.

70267 (S1957)-----	Pak Jong-----	May 18, 1925.
72165 (S2616)-----	do-----	May 10, 1926.
72178-9 (S2814-5)-----	Bang Suk, near Pak Jong ..	Aug. 18-19, 1926.
72209 (S2505)-----	Sikiu, near Korat-----	Feb. 28, 1926.
72704 (S3125)-----	Pak Jong-----	Mar. 20, 1927.
72705 (S3126)-----	Tha Chang, near Pak Jong_	Do.
75637-8 (S3626-7)-----	Kanburi-----	Apr. 11, 1928.
76093-4 (3908-9)-----	Pichit-----	Aug. 8, 1928.

70267. The coloration of this adult male in alcohol is as follows: A broad whitish band beginning beneath the nostril, extending and widening along the upper labials, passing across the tympanum, and ending above the shoulder, where it merges with the reddish dorsal blotches; head and throat deep blue-black above and below this white band. This specimen has a very large gular sac, which is also blue-black in color.

[76093. "Kingka." Throat blue; ear area yellow; blotches on back reddish brown.—H. M. S.]

[76094. Throat bright blue; a yellow stripe from snout to shoulder; tail black-barred.—H. M. S.]

CALOTES EMMA Gray

U.S.N.M.

67480-2 (S944, S949, Koh Chang-----	Mar. 31-Apr. 3, 1924.	
S951).		
70251 (S2095)-----	Nong Mong-----	Aug. 22, 1925.
70268 (S1958)-----	Pak Jong-----	May 18, 1925.
72152 (S2397)-----	Koh Chang-----	Jan. 8, 1926.
76025 (S3825)-----	Ban Ta Yai-----	July 8, 1928.
76030-2 (S3827-9)-----	Ban Tadi-----	July 9, 1928.
76033-6 (S3832-5)-----	Ban Mor-----	Do.
76042-50 (S3836-7, S3841, Ban Kiriwong-----	July 11, 1928.	
S3858-60, S3862, S3864-5).		
76072 (S3874)-----	Ban Hui Ta-----	July 12, 1928.
76085-----	Ban Prakien-----	July 16, 1928.
76837-8 (S4094, S4104) ..	Lampang-----	Nov. 17-18, 1928.

Nearly as plentiful as *versicolor* in some places, this lizard is not found at Bangkok, and consequently does not appear so often in collections having their main source at the imperial city of Siam.

["Kingka." This lizard very common in Ban Mor. Small boys brought many specimens. The general color is pale green with rich

brown-red markings. 76025: Sides black, brown, and old gold. 76045: Light green with a cream-color lateral stripe and pairs of black spots above and below the stripe; these spots continued also on tail; sides rich green; throat greenish white, each scale with a velvety, black base; belly white; a rounded black spot on side of throat anterior to leg. 76047: Green with black crossbands; crossbands on tail brown; a black band through eye; top of head and lips bright green; throat dead black; entire belly and inside of thighs dusky to black. 76048: Back reddish brown with black spots that form loops on middle of back; black blotches on sides; side of head greenish yellow with two black stripes above; a black spot on side of throat; throat and entire under parts dirty white with dull black markings. 76049: Bright green with narrow dark crossbands; a gray longitudinal stripe along upper part of side; a black spot on side of neck; top of head and lips pale green; a black stripe through eye; five radiating black lines above eye; throat and breast creamy with black lines; belly dirty white. 76050: A large green form with brownish-red blotches. 76072: Very pale green with maroon markings; throat white with black lines; belly mottled brown.—H. M. S.]

LEIOLEPIS BELLIANA (Gray)

U.S.N.M.

67471-5 (S940, S943, S945, Koh Chang)	Mar. 31-Apr. 1, 1924.
S948, S950).	
67476 (S1040)	Lem Sing Jan. 13, 1924.
70261-5 (S1952-6)	Pak Jong May 18, 1925.
72206 (S2503)	Sikiu, near Korat Feb. 27, 1926.
72706 (S2664)	Lem Sing June 9, 1926.
75636 (S3625)	Kanburi Apr. 10, 1928.

VARANUS NEBULOSUS (Gray)

U.S.N.M.

76039 (S3867)	Ban Kiriwong (Tadi Stream) July 11, 1928.
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[The specimen is a young one. This form is called "ta-kuat." It was met with daily along the mountain streams, living among bowlders.—H. M. S.]

VARANUS SALVATOR (Laurenti)

U.S.N.M.

75710 (S3792)	Koh Tao Dec. 27, 1926.
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[Water lizard. Siamese name, "hia." Found asleep at night on Koh Tao and brought in by my men. Total length, 248.5 cm. Black with yellow bands; yellow below. Male. Stomach contained an enormous land crab swallowed whole. Intestines apparently free from parasites. Skin and skull preserved. A specimen 1.5 m. long found dead on Koh Tao beach December 29, 1926. It had deep wounds in abdominal walls and was possibly killed by an eagle.

This kind of lizard is not uncommon within the city limits of Bangkok, in large gardens where there are klongs (canals) and abundant shrubbery. Most Bangkok gardens fulfill these requirements.

The hia is quite destructive to ducks and chickens. I have met with this or related species all over central and peninsular Siam. In Nakon Sritamarat in 1923 I saw one at very close range several times that was 2.7 m. long. As seen going through the jungle, this creature had a real dinosaurlike appearance, with its long neck, small head, and long, heavy tail. One has been reported to me by a British subject long resident in Siam that was said to be 14 feet long. The usual length is under 6 feet. The eggs are highly esteemed by the Siamese, and are deemed fit for presentation to the royal household.—H. M. S.]

TAKYDROMUS SEXLINEATUS Daudin

U.S.N.M.

70258	Lam Tong Lang	July, 1925.
72080 (S2766)	Bangkok	Aug. 5, 1926. "Rare in Bangkok."

MABUYA MULTIFASCIATA (Kuhl)

U.S.N.M.

67314	Koh Chang	Apr. 5, 1924.
67488 (S942)	do	Mar. 31, 1924.
67489 (S722)	Nontaburi	Sept. 2, 1923.
70252-5 (S2094, S2098, S2100)	Nong Mong	Aug. 20-27, 1925.
70270, juvenal	Pak Jong	May 18, 1925.
70391-2	Nong Khor	Sept. 27, 1925.
72154, juvenal	Koh Chang	Jan. 7, 1926.
75455-6 (S3516-7)	Nong Ri, Nakon Nayok	June 10, 1927.
75700-3 (S3677-9, S3736)	Bangkok	Apr. 23-May 18, 1928.
76041 (S3855)	Ban Kiriwong	July 10, 1928.
76069-71 (S3870-2)	Ban Hui Ta	July 12, 1928.
76077	do	Do.
76092 (S3907)	Pichit	Aug. 8, 1928.

[76041. Back dark green, a reddish-brown lateral band with pale yellow spots; belly pale grass green; throat white; under side of tail bottle green.—H. M. S.]

[76069. Back brown with four or five black lines; a black lateral band with white spots; belly salmon; under side of head and tail green. Shot.—H. M. S.]

MABUYA LONGICAUDATA (Hallowell)

U.S.N.M.

67490 (S937)	Bangkok	Mar. 28, 1924.
70229-40 (2044-5, S2056-7, S2063-4, S2071, S2079-80, S2166, S2220, S2234)	do	Aug. 4-Oct. 27, 1925.
70257 (S2010)	Lam Tong Lang	July 20, 1925.
72091-8 (S2331, S2340-3, S2451, S2597-8)	Bangkok	Nov. 9, 1925-Apr. 21, 1926.
72146 (S2542)	Nong Khor	Mar. 21, 1926.
72166 (S2615)	Pak Jong	Apr. 30, 1926.
72173 (S2891)	Tha Chang, near Pak Jong	Nov. 20, 1925.
72232-3 (S2758, S2751)	Bangnara	July 16-22, 1926.

MABUYA MACULARIA (Blyth)

U.S.N.M.		
70273	Pak Jong	May 18, 1925.
70393	do	Do.
72099 (S2344)	Bangkok	Dec. 16, 1926.
72153 (S2396)	Koh Chang	Jan. 7, 1926.
72167-9 (S2327, S2911-2)	Pak Jong	Nov. 15, 1925-Dec. 19, 1926.
72707	Nong Khor	Feb. 7, 1927.
76116 (S3925)	Kao Luang, Nakon Sritamarat.	July 16, 1928.
76832 (S4053)	Kao Seming	Oct. 13, 1928.
76841	Khun Tan Mts.	Nov. 19, 1928.

LYGOSOMA ANGUINOIDES Boulenger

U.S.N.M.		
72273	Koh Tao, Gulf of Siam	Jan. 1, 1927.

A note by Dr. Hugh M. Smith regarding this lizard says that it was found "under a log in deep jungle. Back white, with lines of dark green spots; a black lateral band, general color gray-green. Only one seen. Apparently rare."

It agrees very well with Boulenger's original description, except that it has 5 upper labials instead of 6. Dr. Malcolm Smith has collected this species and has reported that some of his specimens have 5 upper labials.⁵ In my specimen the pair of preanal scales are not much enlarged although the three ventral scales immediately preceding them are conspicuously widened. There are 22 scale-rows around the middle of the body. The head and body measure 46 mm., the tail (apparently complete) 43 mm.

LYGOSOMA QUADRUPES (Linnaeus)

U.S.N.M.			Scale rows at mid-body
67266	Nontaburi	Sept. 2, 1923	26
67267	do	do	24
67268	do	do	24
67269	do	do	24
67270	do	do	26
72320	Bangkok	Dec. 8, 1926	24
72321	do	do	26
75457	Nong Ri, Nakon Nayok	June, 1927	24
75458	do	do	24
75641	Kanburi	Apr. 9, 1928	24
75704	Bangkok	Dec. 17, 1927	26
75705	do	May 15, 1928	24

In this species the scale rows of the body are far from being regular, so that it is possible to get a number of different scale counts on the same individual at different places. The minimum is given here.

⁵ Journ. Nat. Hist. Soc. Siam, vol. 2, 1916, p. 157.

SPHENOMORPHUS MACULATUS (Blyth)

U.S.N.M.

67487 (S941).....	Koh Chang.....	Mar. 31, 1924.
70243-44.....	Nong Khor.....	Sept. 22-Oct. 1, 1925.
70259.....	Lam Tong Lang.....	July, 1925.
72144-5 (S2545-6).....	Nong Khor.....	Mar. 25, 1926.
72170 (S2614).....	Koh Chang.....	Apr. 28, 1926.
76062-3 (S3852, S3854).....	Ban Kiriwong.....	July 10, 1928.
76074-5.....	Ban Hui Ta.....	July 12, 1928.
76115-6 (S3924).....	Kao Luang, Nakhon Sritamarat.	July 16, 1928.

[76062. "Ching-len." Back and top of head brown; a black band from eye to thigh with pale yellow spots; an ill-defined pale yellow band from snout, under eye, to thigh with brownish reticulations; belly bright green-yellow, becoming pale gray-green posterior to vent; throat white; a pale stripe on each side of yellow abdomen; dorsal surface of legs brown with black and pale yellow spots; ventral surface of legs pale yellow-green; edge of eyelids pale yellow.—H. M. S.]

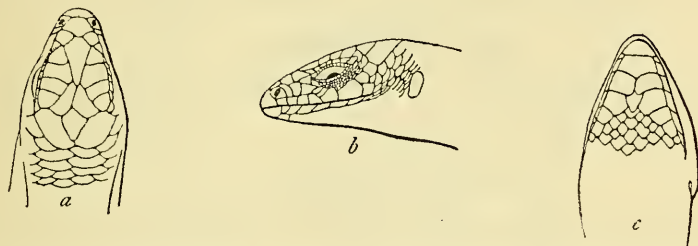


FIGURE 1.—SPHENOMORPHUS HELENAE. TYPE. U. S. NAT. MUS. NO. 67265. FROM NONTABURI, SIAM. *a*, TOP OF HEAD; *b*, PROFILE VIEW; *c*, UNDER SIDE OF HEAD

SPHENOMORPHUS HELENAE Cochran²

Sphenomorphus helenae COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 183.

U.S.N.M.

67265, type.....	Nontaburi.....	Sept. 2, 1923.
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RIOPA BOWRINGII (Günther)

U.S.N.M.

67264.....	Nontaburi.....	Sept. 2, 1923.
72277-81 (S2933-5, S2937-8).....	Koh Tao, Gulf of Siam.....	Jan. 1, 1927.
72285-92.....	do.....	Dec. 31, 1926.
72708.....	Nong Khor.....	Feb. 7, 1927.
76151-9.....	Koh Tao, Gulf of Siam.....	Sept. 18, 1928.

94383-30—3

RIOPA HUGHI (Cochran)

Sphenosoma hughi COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927 p. 185.

U.S.N.M.

72274-6 (S2936, S2941 type, Koh Tao, Gulf of Siam.... Jan. 1, 1927.
S2942).

76148-50.....do..... Sept. 18, 1928.

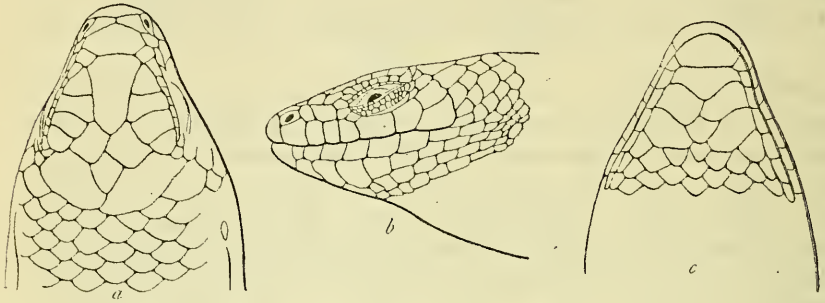


FIGURE 2.—RIOPA HUGHI. TYPE. U. S. NAT. MUS. NO. 72275. FROM KOH TAO, GULF OF SIAM. a, TOP OF HEAD; b, PROFILE; c, UNDER SIDE OF HEAD

RIOPA HERBERTI (Smith)

Lygosoma herberti SMITH, Journ. Nat. Hist. Soc., Siam, vol. 2, 1918, p. 45.

U.S.N.M.

76076..... Ban Hui ta..... July 12, 1928.

LEIOLOPISMA EUNICE Cochran

Leiopolisma eunice COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 187.

U.S.N.M.

70271-2, juvenal..... Pak Jong..... May 18, 1925.

72180 (S2816), type..... Bang Suk, near Pak Jong... Aug. 19, 1926.

76851-7..... Doi Angka, 7,000 feet..... Dec. 4, 1928.

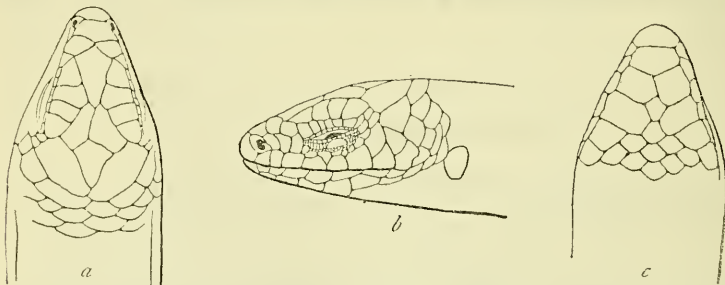


FIGURE 3.—LEIOLOPISMA EUNICE. TYPE. U. S. NAT. MUS. NO. 72180. FROM BANG SUK, NEAR PAK JONG, SIAM. a, TOP OF HEAD; b, PROFILE VIEW; c, UNDER SIDE OF HEAD

LEIOLOPISMA PRANENSIS, new species

Diagnosis.—Limbs well developed; ear opening distinct; lower eyelid with an undivided, transparent disk; no supranasals; four

median dorsal rows enlarged; prefrontals forming a long median suture; hind limb reaching three-fifths to four-fifths the distance to axilla, reaching wrist or elbow; 21 keeled subdigital lamellae on the fourth toe.

Type.—U.S.N.M. No. 75591, from Pran, Peninsular Siam, collected on May 25, 1928, by Dr. Hugh M. Smith.

Description of the type.—Distance between the end of snout and forelimb about one and one-third times in distance between axilla and groin; limbs well developed, pentadactyle; hind limb barely reaching wrist when adpressed, covering about three-fifths the distance from groin to axilla; snout obtusely pointed; lower eyelid with an undivided, transparent disk; no supranasals; rostral convex, forming an almost straight suture with the frontonasal which is broader than long; nostril large, pierced in the nasal; prefrontals forming a long median suture; frontal very narrow behind, a little

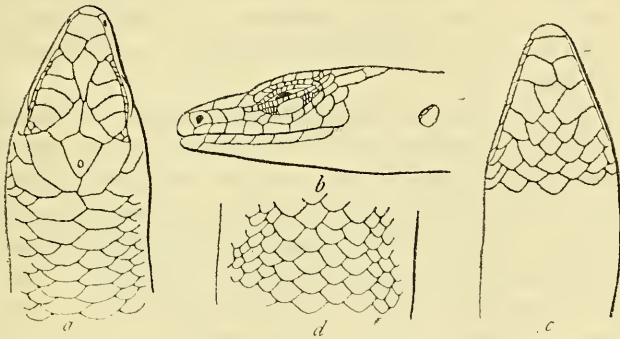


FIGURE 4.—*LEIOPISMA FRANENSIS*. TYPE. U. S. NAT. MUS. NO. 75591.
FROM PRAN, PENINSULAR SIAM. *a*, TOP OF HEAD; *b*, PROFILE VIEW; *c*,
UNDER SIDE OF HEAD; *d*, DORSAL SCALES AT MID-BODY

shorter than the frontoparietals and interparietals together and in contact with the two anterior supraoculars; a large temporal scale bordering the parietals; four large supraoculars, the first longer than the second; on right side eight superciliaries, on left seven; frontoparietals a little smaller than and distinct from the interparietal, which shows the pineal body very plainly as a round black spot; parietals forming a suture behind the interparietal; two or three pairs of enlarged nuchals, slightly irregular in shape; the suture between fifth and sixth upper labials falling below center of eye; ear opening roundish, less than half the size of the eye opening, with two or three very weakly developed lobules in its anterior margin; about 30 smooth scales around the body, the four median dorsal rows considerably enlarged; the laterals a little smaller than the ventrals and not arranged with perfect regularity; a pair of enlarged preanals; digits compressed, especially towards the tips; all the subdigital

lamellae with a distinct keel, 21 under the fourth toe; tail about one and one-fourth times as long as the head and body.

Dimensions.—Snout to vent, 38 mm.; snout to posterior ear, 9 mm.; snout to shoulder, 14 mm.; snout to center of eye, 4.5 mm.; axilla to groin, 20 mm.; hind leg, 15 mm.; fore leg, 11 mm.; tail, 48 mm.

Coloration (in alcohol).—Upper parts of head and body black, with a pale blue dorsal stripe beginning on the top of the snout and continuing to the end of the tail; a pale lateral stripe beginning on the upper eyelid, passing considerably above ear and shoulder and fading out above insertion of hind limb; below this lateral stripe the black rapidly fades out to an opalescent immaculate cream color which covers the entire under surface; upper surfaces of limbs and tail pale brown, the fingers and toes ringed with brown.

Paratype.—U.S.N.M., No. 76850, collected at Doi Angka, Siam, on December 2, 1928, by Dr. Hugh M. Smith. This specimen is slightly larger than the type. Its dimensions are as follows: Snout to vent, 39 mm.; snout to posterior ear, 11 mm.; snout to shoulder, 16 mm.; axilla to groin, 19 mm.; hind leg, 17 mm.; fore leg, 14 mm.; tail, defective.

The only noticeable difference in the structure of the two is to be found in the ear opening which is elongate in the paratype, while nearly round in the type. The paratype has stronger markings than the type. The lateral stripe from axilla to groin, barely discernible in No. 75591, is quite well defined in No. 76850, as are the black bands encircling the fingers and toes at the joints. Dr. Hugh M. Smith notes that the tail of the Doi Angka lizard was bright orange. The scales on upper surfaces of the limbs are heavily dotted with dark brown at the base; in the type this pigmentation is less pronounced. There are 21 subdigital lamellae under the fourth toe of No. 76850 and 32 scales around the body. There is but one pair of enlarged nuchals; these are much larger, however, than the nuchals on the type specimen.

Relationship.—While the new species is very distinct from any of the described Malayan species of *Leiopisma*, yet it seems considerably closer to *L. vittigerum* than to any of the others, because both species have conspicuously enlarged dorsal scales. They differ in coloration, in the number of enlarged dorsals, in the keeling and number of the subdigital lamellae and in the number of scale rows around the body.

LEIOLOPISMA KOHTAOENSIS Cochran

Leiopisma kohtaoensis COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 188.

U.S.N.M.

72282-3.....	Koh Tao, Gulf of Siam.....	Dec 31, 1926.
72284 type.....	do.....	Do.
76146-7.....	do.....	Sept. 18, 1928.

In No. 76146, received since the publication of my original description, the prefrontals do not quite meet, allowing a short suture between the frontal and the frontonasal. In the paratype, No.

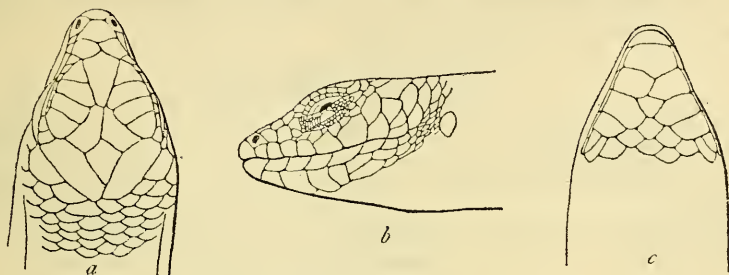


FIGURE 5.—*LEIOLOPISMA KOHTAOENSIS*. TYPE. U. S. NAT. MUS. NO. 72284. FROM KOK TAO, GULF OF SIAM. a, TOP OF HEAD; b, PROFILE VIEW; c, UNDER SIDE OF HEAD

72283, the contact between the prefrontals is very short indeed, as I have already recorded.

DASIA OLIVACEA Gray

U.S.N.M.

72234 (S2759)-----	Bangnara-----	July 22, 1926.
76061 (S3840)-----	Ban Kiriwong-----	July 10, 1928.
76833 (S4055)-----	Kao Seming-----	Oct. 10, 1928.

[76061. "Krong kreng." Back rich gray-brown with crossbands of black and white; terminal part of tail uniform brown; belly bright grass-green; edge of eyelids pale yellow.—H. M. S.]

TROPIDOPHORUS BERDMOREI (Blyth)

U.S.N.M.

76842 (S4106)-----	Khun Tan Mts-----	Nov. 22, 1928.
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SERPENTES

TYPHLOPS BRAMINUS Daudin

U.S.N.M.

72319-----	Bangkok-----	Jan. 10, 1927.
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The Siamese name for this burrowing snake is "ngu din" (= earth snake).

TYPHLOPS FLOWERI Boulenger

U.S.N.M.

76163-----	Bangkok-----	May 30, 1928.
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This specimen was taken from *Xenopeltis unicolor*, 75689, and is the first found since Boulenger described the type in 1899 from a Siamese specimen without definite locality sent to him by Flower. The present one has 18 scale rows around the body. The total length is 93 mm., the tail measures 3.5 mm., while the diameter of the body is 1.5 mm.

PYTHON RETICULATUS Schneider

U.S.N.M.

67491 (S727)..... Paknam..... Nov. 8, 1923.

This young snake has 13 upper labials, the first four deeply pitted, the seventh entering the eye; 69 scale rows around the body; 302 ventrals; 85 caudals, partly single.

CYLINDROPHIS RUFUS (Laurenti)

U.S.N.M.

70291-5 (S2040, S2091, S1634, Bangkok..... Dec. 16, 1924-Sept.
S2075, S2111). 23, 1925.72062-5 (S2890, S2345, S2348, ____do..... Dec. 16, 1925-Dec.
S2812). 1, 1926.

72246, juvenal..... Bangsorn..... Oct. 1926.

72712 (S3122)..... Bangkok..... Feb. 1927.

75451 (S3519)..... Nong Ri, Nakon Nayok.. June 5, 1927.

[This snake is called "ngu kon kob" (=tail-biting snake). The belief is quite general among Siamese that it bites with its tail. One version of the popular belief is that it bites with its head when the moon shines and with its tail on dark nights. One of my assistants assures me a friend was killed by being bitten with the tail of this snake. It is not infrequently seen in the Bangkok roads on rainy nights, coiled tightly with its head concealed in its folds and its tail erect.—H. M. S.]

XENOPELTIS UNICOLOR Reinwardt

U.S.N.M.

67506 (S595)..... Bandon..... 1922..... V 175; C 27.

70296 (S988)..... Bangkok..... October 1924..... V 179; C 26.

72134 (S2540)..... Nong Khor..... Mar. 21, 1926..... V 179; C 30.

72193 (S2886)..... Raheng..... Oct. 17, 1926..... V —; C 28.

75687 (S3744)..... Bangkok..... May 30, 1928..... V 182; C 27.

75688 (S3745)..... do..... do..... V 184; C 28.

75689 (S3746)..... do..... do..... V 181; C 27.

75690 (S3732)..... Tonburi..... June 30, 1927..... V 186; C 26.

[75687-89. Under decaying vegetation near water. Color of back varying with the individual, from dark gray to nearly black, below white or pink; neck ring like belly; 75689 was the darkest on back and had the richest pink on under side. A brown worm was extending from vent when this snake was taken.—H. M. S.] The "worm" is a *Typhlops floweri*, now U. S. N. M. No. 76163.

The specimen from Bandon was collected by Mr. Havmöller. The species is called by the Siamese "ngu seng atit" (=sun-ray snake), and even in perservative shows the beautiful glowing iridescence which suggests the name. Regarding the specimen from Raheng, Dr. Hugh M. Smith notes that it is "reputed to be very poisonous" there.

ACROCHORDUS JAVANICUS Hornstedt

U.S.N.M.

67569	Bangkok	November 1923	(head).
65693 (S3779)	do	Apr. 28, 1928.	

["Ngu nuang chang" (= elephant trunk snake).—H. M. S.]

CHERSYDRUS GRANULATUS (Schneider)

U.S.N.M.

67526-7 (S279-80)	Chao Phya River, off Paknam	Aug. 12, 1923.
67567 (S240)	do	Aug. 9, 1923.
67568 (S1048)	Bangpakong River	Feb. 13, 1924.
76161 (S3993), juvenal	Koh Tao, Gulf of Siam	Sept. 24, 1928.

The Koh Tao snake was collected by Dr. A. Kerr on a sand beach. Its Siamese name is "ngu pa ki lieu."

NATRIX PISCATOR (Schneider)

U.S.N.M.

U.S.N.M.			Ventrals	Caudals
67509 (S309)	Nontaburi	Aug. 7, 1923	135	76
70320 (S2088)	Bangkok	Aug. 24, 1925	139	74
70321 (S2109)	do	Sept. 22, 1925	143	--
70322 (S2165)	do	Oct. 13, 1925	141	84
70323 (S2241)	do	Nov. 7, 1925	137	78
72073 (S2863)	do	Nov. 2, 1926	133	81
72074 (S2877)	do	Nov. 15, 1926	134	--
72710 (S3106)	do	November 1926	133	66
75691 (S3734)	Tonburi	May 15, 1928	135	--

This water snake is very common in Bangkok according to Dr. M. A. Smith's account of The Snakes of Bangkok. In Dr. Hugh M. Smith's collection, all but one of the specimens were caught at that city. It is called "ngu pla," meaning "fish snake."

In all cases the scales around the body are in 19 rows, the two outer being smooth. The only noteworthy feature of the head scalation is that No. 70320 has but one anterior temporal; this is rarely the case, two being the rule.

NATRIX SUBMINIATA (Schlegel)

U.S.N.M.

U.S.N.M.			Ventrals	Caudals
67502 (S716)	Nontaburi	Sept. 2, 1923	146	83
68503 (S308)	do	Aug. 18, 1923	140	71
67504 (S923)	Bangkok	Dec. 6, 1923	148	82
70318 (S1974)	do	May 30, 1925	149	--
70319 (S2067)	do	Aug. 8, 1925	146	79
70337 (S2156)	Nong Khor	Sept. 27, 1925	144	68
70343 (S2097)	Nong Mong	Aug. 24, 1925	153	81
70344 (S2101)	do	Aug. 29, 1925	148	90
70349, juvenal	Pak Jong	May 18, 1925	154	91
70358 (S2006)	Lam Tong Lang	July 7, 1925	152	82
72071 (S2873)	Bangkok	Nov. 5, 1926	144	--
72072 (S2765)	do	Aug. 5, 1926	147	75
72135 (S2539)	do	Mar. 21, 1926	149	83
75635 (S3624)	Kanburi	Apr. 9, 1928	---	85
76029 (S3880)	Ban Tadi	July 14, 1928	138	74
76083 (S3894)	Ban Prakien	July 15, 1928	140	66

The head scalation is normal in all, excepting No. 70319, where four postoculars appear on one side of the head, and No. 72072, which has three posterior temporals. The stomach of No. 72072 contained a frog, *Oxydozyga martensi*, No. 72115.

[76029. Back of neck red, side of neck bright yellow.—H. M. S.]

[75635. "Ngu kapa chinchuk." General color of back finely mixed light and dark green, with white edges and scales; head above greenish blue; nape black; eye in a black spot, a yellow area below eye; a yellow spot behind and below eye; a postnape line yellow, as is under side of head. Said to be poisonous.—H. M. S.]

According to a recent study by Doctor Mell⁶ the Siamese race of *subminiata* appeared to merit subspecific distinction, since his series of 12 specimens showed a uniformly low scale count, ranging between 143 and 157. In the 15 snakes in my series on which ventral plates could be counted the range was even a little lower, being between 138 and 154 with an average of 146.5, thus corroborating Doctor Mell's observations so far. Eleven snakes from Peninsular Siam collected by Dr. W. L. Abbott range from 137 to 148, averaging 140.1. But a series of 28 specimens from Java, the type locality of the typical *subminiata*, shows a variation of 137 to 149, the average being 141.4, and this seems insufficient to warrant subspecific distinction between Siamese and Javanese snakes which are otherwise similar.

NATRIX CHRYSARGA (Schlegel)

U.S.N.M.			Ventrals	Caudals
70332 (S2151)	Nong Khor	Sept. 22, 1925	157	86
70333 (S2152)	do	Sept. 23, 1925	159	80
70334 (S2154)	do	Sept. 24, 1925	158	80
72135 (S2539)	do	Mar. 21, 1926	149	83
72136 (S2537)	do	Mar. 20, 1926	154	82
72147 (S2393)	Koh Chang	Jan. 4, 1926	159	--

NATRIX STOLATA (Linnaeus)

U.S.N.M.		
70345 (S2103)	Nong Mong	Sept. 1, 1925.
75452 (S3520)	Nong Ri, Nakon Nayok	June 5, 1927.

The scale formula for No. 70345 is as follows: 19 scale rows; 145 ventrals; divided anal; caudals —; 8 upper labials; oculars 1+3; temporals 1+3. For No. 75452, the formula is: 19 scale rows; 147 ventrals; divided anal; 78 caudals; 8 upper labials; oculars 1+¾; temporals 1+2.

LYCODON AULICUS (Linnaeus)

U.S.N.M.			Ventrals	Caudals
72051 (S2786)	Tonburi, Bangkok	Aug. 26, 1926	200	63
72308 (S2923)	Koh Tao, Gulf of Siam	Jan. 2, 1927	191	74
75686 (S3569)	Bangkok	Apr. 12, 1928	197	65
76160 (S3982)	Koh Tao, Gulf of Siam	Sept. 18, 1928	184	72

⁶ Congr. Internat. Zool., Budapest, vol. 10, 1929, p. 1472.

The Bangkok specimen, No. 72051, is an adult measuring 531 mm. in length, the tail measuring 88 mm. In coloration it agrees well with Dr. Malcolm Smith's description of typical Siamese specimens.⁷

The snake from Koh Tao, No. 72308, is a young one, agreeing in every respect with the above, excepting that the light blotch on either side of the occiput is less invaded by the dark brown of the body color. Regarding this individual the collector has noted: "Black and light green; labials white, with black spots in definite series; top of head black."

[75686. Markings on nape side of head and along jaws pale yellow; a bright yellow line along upper jaw from eye to end of snout; back dull blackish brown with whitish markings, top of head reddish brown, belly white.—H. M. S.]

LYCODON LAOENSIS Günther

U.S.N.M.

72317 (S2930)----- Bandon----- Jan. 7, 1927.

This individual has 17 scale rows, 167 ventrals, a divided anal, 64 caudals, 9 upper labials, oculars 1+2 and temporals 2+3. It is to be noted that the lowest number of ventrals hitherto recorded for this species is 175. The coloration of my specimen corresponds to the figure (Cat. Snakes Brit. Mus., vol. 1, 1893, pl. 24, fig. 3), except that the white bands are very much more distinct and less invaded with dark pigment.

DRYOCALAMUS DAVIDSONII (Blanford)

U.S.N.M.

67512 (S312)----- Bangkok----- 1919.

76858 (S4144)----- do----- Dec. 22, 1928.

This snake is apparently quite rare, as Dr. Malcolm Smith lists only two specimens of it taken in Bangkok. The earlier specimen collected by Dr. H. M. Smith is larger than those previously recorded. It measures 825 mm., of which the tail comprises 178 mm. The scale formula is given: 13 rows around the body; 254 ventrals; an undivided anal; 95 caudals; 7 labials; 1 loreal; no preocular; 2 postoculars; on one side of the head a single anterior temporal, and two anterior temporals on the other side; two posterior temporals on both sides. The coloration is exactly as given by Boulenger, except that there are brown spots behind the eyes extending over the anterior temporals. The latter specimen, a very young one, has 13 scale rows; 253 ventrals; 1 anal; 102 subcaudals; 1 loreal; no preocular; 2 postoculars; temporals 1+2.

⁷ The Snakes of Bangkok, Journ. Nat. Hist. Soc. Siam, vol. 1, 1914, p. 17.

PTYAS MUCOSUS (Linnaeus)			Ventrals	Caudals
U.S.N.M.				
67515 (S755), juvenal	Sikuk	Nov. 15, 1923	197	11
70316 (S981)	Bangkok	July 12, 1924	195	11
70317 (S2089)	do	Aug. 26, 1925	197	10
72723 (S2590)	do	Apr. 18, 1926	201	11
72724 (S2253)	do	Nov. 28, 1925	200	11
75692 (S3795)	do	June 22, 1928	204	--

[A rat snake about 2 meters long once ascended a clump of bamboo in my yard and caught an owl, which it brought to the ground and began to devour. It has been met with a number of times on the golf course of the Royal Bangkok Sports Club.—H. M. S.]

PTYAS KORROS (Schlegel)			Ventrals	Caudals
U.S.N.M.				
67514 (S726)	Nontaburi	Oct. 23, 1923	168	133
70330 (S2219)	Bangkok	Oct. 17, 1925	173	131
72070 (S2637)	do	May 31, 1926	167	---
72148 (S2395)	Koh Chang	Jan. 16, 1926	165	145
76001 (S3897)	Nakon Sritamarat	July 17, 1928	168	134
76080 (S3891)	Ban Lem Ngao	July 15, 1928	172	---

[76001. Back olive green, with whitish vertical lines on anterior fifth of body; under side of body and head yellowish green to greenish white; a pale yellow ring around eye, incomplete above.—H. M. S.]

[76080. "Ngu sing." Back uniform brown, anterior third of belly beautiful yellow green, posterior two-thirds whitish green.—H. M. S.]

COELOGNATHUS RADIATUS (Schlegel)			Ventrals	Caudals
U.S.N.M.				
67513 (S717)	Nontaburi	Sept. 2, 1923	244	92
72318 (S2928)	Bandon	Jan. 4, 1927	238	95
76038 (S3878)	Ban Kiriwong	July 13, 1928	228	91

The Nontaburi specimen has 10–9 upper labials; the Bandon snake has 8–9 upper labials. The Bandon specimen had the "back light green, with black markings; lines on head black; belly pale creamy, with under side of tail pale salmon."

AHAETULLA BOIGA (Lacépède)			Ventrals	Caudals
U.S.N.M.				
67507 (S307)	Nontaburi	Aug. 20, 1923		
70327–9 (S1872, S2043, S2231)	Bangkok	Mar. 31–Oct. 23, 1925		
72060 (S2596)	do	Apr. 21, 1926		
72139 (S2538)	Nong Khor	Mar. 21, 1926		
72230 (S2761)	Bangkok	July 22, 1926		
75453 (S3521)	Nong Ri, Nakon Nayok	June 5, 1927		
75680 (S3789)	Bangkok	June 16, 1928		
76017 (S3820)	Upper Tadi Stream, Nakon Sritamarat	July 7, 1928		
76028 (S3830)	Ban Tadi	July 9, 1928		

[75680. "Ngu saiman pra-indra"—Brahmin curtain-cord snake. Back bronze green with inferior margin black; top of head brown;

lateral stripe black, separated from back by a pale golden yellow stripe; belly pale yellow; scales of anterior third of back showing light blue background when pulled apart. A very active little snake, not uncommon in Bangkok. This one contains a small animal (lizard?).—H. M. S.] The lizard is a young *Calotes*.

[76017. "Ngu saipan." Looks somewhat different from same kind of snake at Bangkok. Top of head and back burnished bronze; blue area under scales appearing as rhomboidal spots when scales are pulled aside.—H. M. S.]

[76028. Bright greenish-yellow on side of neck.—H. M. S.]

[This is a common snake in Bangkok and in many districts of Siam. Its reputed habit of leaping from tree to tree has not been observed by me, but on one occasion, in 1926, an example of its leaping ability was given in my house in Bangkok. One morning as I got out of bed a full-sized snake of this species was found sunning itself stretched on the sill of a double door opening on a veranda. As I approached it ran behind a door and climbed to the top of the door whence it sprang to the rail of the veranda and thence under the eaves. Some time afterwards I found that the shortest distance from the door to the rail was 104 cm., but as the snake leaped the distance was over 145 cm.—H. M. S.]

HOLARCHUS PURPURASCENS (Schlegel)

U.S.N.M.			Ventrals	Caudals
70324 (S1913)	Bangkok	Apr. 21, 1927	175	38
70325 (S1925)	do	May 18, 1925	165	46+
70326 (S2169)	do	Oct. 13, 1925	173	38
70355 (S2007)	Lam Tong Lang	July 7, 1925	171	52
72066 (S2874)	Bangkok (H. M. Smith's yard)	Nov. 5, 1926	177	37
72067 (S2876)	Bangkok	Nov. 11, 1926	167	43
72068 (S2880)	Bangkok (H. M. Smith's yard)	Nov. 17, 1926	174	37
72069 (S2902)	Bangkok	Dec. 15, 1926	172	35
75683 (S3490)	do	Aug. 4, 1927	176	39
75684 (S3493)	do	do	174	38
76090 (S3913)	Pichit	Aug. 8, 1928	160	42
76122 (S3943)	Bangkok	Aug. 24, 1928	167	45

[Called "ngu hao (=hiss) pi (=flute) keo (=glass)" by the Siamese, who are very familiar with it; it is said to make a noise like a cricket.—H. M. S.]

The young specimen from Lam Tong Lang agrees perfectly with young Bangkok snakes in coloration. In two adult Bangkok snakes, 70324 and 70325, the color markings are not distinct, while in 72068, also fully adult, the markings are as bright as in the young. All have the same pattern which Dr. Malcolm Smith describes as characteristic of the Bangkok snakes.⁸ In all cases the scale-rows around the body are 21 in number; there is a single preocular and 1 subocular. The

⁸ Journ. Nat. Hist. Soc. Siam, vol. 1, No. 2, 1914, p. 98.

stomach of 72067 contained two young toads (*Bufo melanostictus*, 72116 and 72117).

HOLARCHUS TAENIATUS TAENIATUS (Günther)

U.S.N.M.			Ventrals	Caudals	Temporals
67505 (S720), male	Nontaburi	Sept. 2, 1923	154	44	1+1+2
67319, female	Bangkok	Apr. 13, 1924	162	35	1+1+2
70289 (S1989), female	do	July 2, 1925	169	33	1+1+2
70290 (S2168), male	do	Oct. 13, 1925	157	45	1+2
70340 (S2096), male	Nong Mong	Aug. 24, 1925	153	42	1+1+2
70341 (S2099), male	do	Aug. 27, 1925	153	42	1+1+2
70346 (S1960), male	Pak Jong	May 18, 1925	155	41	1+1+2
72053, male	Bangkok	Dec. 26, 1925	154	41	1+1+2
72054 (S2736), male	Bangkok (H. M. Smith's yard).	July 8, 1926	150	43	1+1+2
72055 (S2872), male	do	October, 1926	156	41	1+1+2
72056 (S2892), male	do	November, 1926	157	43	1+1+2
72057 (S2497), female	Bangkok	Mar. 2, 1926	163	33	♀+1+2
72713 (S3022), male	Korat	Jan. 19, 1927	151	44	♀+1+2
72714 (S2023), juvenal	do	do			1+1+2
75685 (S3525), male	Bangkok	Apr. 17, 1927	157	42	1+1+2

[72713. "Ngu nok yung" = peacock snake. Back light brown, with 2 median and 1 lateral dark brown stripes, the median stripes cross-hatched with fine lines of golden-yellow; belly with black spots, the ground color pink anteriorly, becoming bright red posteriorly, especially intense on tail. Said to be a common snake in the Korat region.—H. M. S.]

[72714. Light brown with dark brown markings on back and head; belly light red, with black spots.

These two snakes collected for me by Phra Anuwati, chief forest officer at Korat.—H. M. S.]

In the 15 Siamese snakes which I have called by this name there is considerable variation from the distinctive characters given by Boulenger and Smith⁹ in their notes on this species compared with *S. mouhoti*. There are constantly 19 scale rows around the body in our specimens of *taeniatus*, and in this point our series agrees with Doctor Smith's counts. But the tip of the tongue is black and the remainder grayish instead of the whole organ being red (or bleached white in alcohol) as Doctor Smith had observed. The headmark is approximately arrow shaped, and there are no tail bars, but in every case there is an incomplete collar reaching to well below the corner of the mouth. A subocular is present on both sides of the head in No. 70340 from Nong Mong, and on one side of the head in the other Nong Mong specimen, No. 70341. In all my specimens with two exceptions there is one very small anterior temporal followed by one

⁹ Journ. Nat. Hist. Soc. Siam, vol. 1, No. 2, 1914, p. 70.

very long one, which in turn is bordered by two, so that the formula reads $1+1+2$. In No. 70290, in No. 72057 on one side of the head, and in No. 72713, there is a long anterior temporal followed by two posterior ones. In none of my specimens are there two anterior temporals which Doctor Smith gives as the normal occurrence in his series of 15.

Nos. 67319, 70289, and 72057 are females, as shown by the higher ventral count and lower number of subcaudals. Three eggs, preserved with No. 67319, collected in the yard of Dr. Hugh Smith's residence in Bangkok, measure between 13.5 and 14 mm. in length and 8 to 8.5 in width.

HOLARCHUS TAENIATUS MOUHOTI (Boulenger)

U.S.N.M.

67247..... Rajaburi..... July 30, 1923.

One specimen from Rajaburi seems referable to this variety on color pattern, for it has the two tail bars and the heart-shaped headmark mentioned by Dr. Malcolm Smith. The tongue is conspicuously tipped with black and the base is likewise black; the intervening space now bleached to white may once have been red. The collar, however, is not more complete than in the specimens of *taeniatus* just listed. There is a subocular on both sides of the head. The single small anterior temporal is followed by a long, large one; this in turn is followed by two scales on one side of the head and by one scale on the other, so that the temporal scale formula reads $1+1+\frac{1}{2}$. There are 17 scale rows around the body, 151 ventrals, and at least 37 subcaudals, although the end of the tail is missing.

HOLARCHUS VIOLACEUS (Cantor)

U.S.N.M.

72161 (S2910)..... Pak Jong..... Dec. 22, 1926.
72309 (S2939)..... Koh Tao, Gulf of Siam..... Jan. 1, 1927.
75585 (S3763)..... Pran..... May 25, 1928.

The headplates of the Koh Tao specimen resemble very closely the drawing of *Simotes multifasciatus* in Jan's *Iconographie des Ophiidiens*.¹⁰ A marked difference in scutellation is found in the seventh supralabial, which in the Koh Tao specimen is very high and permits of only one posterior temporal, while this labial is lower in the figure of *multifasciatus* and there are two posterior temporals. The frontal plate is about equal in length to the parietals in *multifasciatus*, while in my specimen the parietals are longer than the frontal.

The ventral coloration is much the same, there being the quadrangular dark spots in two rows, with a lightened area in the middle of the belly between them. The Koh Tao specimen, however, is unspotted above, the scales appearing a dark purplish gray with the

¹⁰ Livr. 12, pl. 4, fig. 2.

borders of the scale edged darker and lighter to form a variation, but without any bars across the body. There are traces of markings on the head which resemble the figure also. The formula is: 17 scale rows; 176 ventrals; undivided anal; 42 caudals; 7-8 upper labials; oculars 1 + 2; temporals 1 + 1; a subocular is present.

The Pak Jong specimen is dull colored and seems to fit the color variety A, as defined by Boulenger.¹¹ This snake has 7 upper labials and no subocular, while typical examples of *violaceus* possess 8 upper labials and usually a subocular. The scale formula is as follows: 17 scale rows; 175 ventrals; an undivided anal; 40 caudals; 7 upper labials, the third and fourth entering the eye; oculars 1 + 2; temporals 1 + 2.

Dr. Malcolm Smith has examined these specimens also. He writes me that "the number of labials may be 7 or 8, but except for that, the species is fairly constant as regards scalation."

The Pran specimen is very much like the Pak Jong snake in color, except that its dark nuchal mark is more distinct. The formula is: 17 scale rows, 174 ventrals; undivided anal; 38 caudals; 8 upper labials; oculars 1 + 2; temporals 1 + 2. A subocular is present below the preocular.

GONGYLOSOMA SCRIPTUM (Theobald)

U.S.N.M.

76103 (S3932)----- Kao Luang, Nakon Sritamarat. July 20, 1928.

This very rare snake has the following scale formula: 13 scale rows; 133 ventrals; a divided anal; 98 caudals; oculars 2 + 2; temporals 1 (very long) + 2; supralabials 8. The head and body measure 240 mm. and the tail 160 mm. The coloration is that given by Boulenger, except that there is no white collar on the nape. A white bar edged with black arises from commissure of the mouth and ends bluntly just outside the lower border of the parietal shields, and this may be a trace of the collar.

ENHYDRIS ENHYDRIS (Schneider)

U.S.N.M.			Ventrals	Caudals
70309 (S1985)	Bangkok	June 29, 1925	168	68
70310 (S1992)	do	July 14, 1925	163	63
70311 (S2083)	do	Aug. 18, 1925	170	75
70312 (S2087)	do	Aug. 23, 1925	167	75
70313 (S2150)	do	Oct. 10, 1925	172	64+
70314 (S2237)	do	Oct. 30, 1925	161	64
70315	do	Aug. 8, 1925	---	--

This fresh-water snake, common in Bangkok, is represented in this collection by seven specimens. The largest one, an adult female, No. 70314, contains a number of embryos nearly developed.

In all cases the head scalation is absolutely normal, and there are 21 scale rows around the body.

¹¹ Cat. Snakes Brit. Mus., vol. 2, 1894, p. 223.

ENHYDRIS JAGORII (Peters)

U.S.N.M.

67516 (S903)----- Sikuk River at Ban Pan.... Nov. 25, 1923.

Our only specimen of this species has 21 scale rows around the body, 123 ventrals, and more than 23 caudals, the tail being incomplete. The head scales are quite normal.

U.S.N.M.

ENHYDRIS PLUMBEEA (Boie)

67518 (S477)----- Bandon Bight, Gulf of Siam. Sept. 27, 1923.

The scalation of this specimen is normal in every way; there are 123 ventrals and 36 caudals.

U.S.N.M.

HOMALOPSIS BUCCATA (Linnaeus)

67510 (S719)----- Nontaburi----- Sept. 2, 1923.

70302 (S1991), adult fe- Bangkok----- July 13, 1925.
male.70303 (S1991), 16 embryos-----do----- Do.
from 70302.

70304-8 (S2039, S2084, S2112, S2115, S2233).-----do----- July 30-Oct. 25, 1925.

70362 (S1945)----- Bangkok (yard of H. M. Smith's residence). May 30, 1925.

72711 (S2339)----- Bangkok----- Dec. 12, 1925.

This very common fresh-water snake is well represented in the collection. The adult female from Bangkok, No. 70302, measures 1,375 mm. in total length, the tail being 275 mm. long. This snake exceeds by 65 mm. the largest one reported by Dr. Malcolm Smith.

Dr. Hugh M. Smith has been kind enough to furnish me with the following note on this species: "The local name is 'ngu pla' or 'fish snake,' a name borne by several species of similar habits. It (No. 70302) was caught on a line baited with a small whole fish. This species has been frequently taken in my yard here. It is said by one of my Siamese assistants to be poisonous when about to have young, but I do not put much credence in the statements of Siamese regarding the poisonous properties of snakes."

U.S.N.M.

HURRIA RHYNCHOPS (Schneider)

67561 (S989)----- Near Singora----- Nov., 1923.

72717-8 (S2659, S2677)--- Lem Sing----- June 9-11, 1926.

This aquatic serpent has been reported before from Singora, where No. 67561, quite a young one, was collected by Mr. R. Havmøller.

U.S.N.M.

ERPETON TENTACULATUS Lacépède

67500 (S290)----- Bangkok----- Aug. 15, 1923, pond.

67501 (S884)----- Chao Phya River, near Pak- Nov. 21, 1923, from a
nampo. fish chute.

The head and anterior portion of the body is all that was preserved of the adult from Bangkok, No. 67500. The young one, 67501, has 13 upper labials; the adult has 13 and 14; both specimens have 37 scale rows around the body. Doctor Smith says that its local name

at Paknampo is "ngu kadang." He adds that it is not rare in Bangkok and other parts of Siam.

BOIGA MULTOMACULATA (Boie)

U.S.N.M.
75450 (S3518)----- Nong Ri, Nakon Nayok---- Jan. 10, 1927.

BOIGA DENDROPHILA (Boie)

U.S.N.M. Ventrials Caudals
72725 (S2871)---- Tung Song----- October, 1926----- 217 95

PSAMMODYNASTES PULVERULENTUS (Boie)

U.S.N.M.
70335-6 (S2155)----- Nong Khor, near Sriracha.. Sept. 25-Oct. 1, 1925.
70348----- Pak Jong----- May 18, 1925.
70356----- Lam Tong Lang, near Pak
Jong. July, 1925.
72140 (S2882)----- Nong Khor----- Nov. 11, 1926.
72187 (S2881)----- Sriracha----- Nov. 10, 1926.
72715----- Nong Nam Kiew----- Feb. 15, 1927.
75592----- Pran----- May 25, 1928.
76835 (S4049)----- Kao Seming----- Oct. 13, 1928.
76843 (S4107)----- Khun Tan Mts----- Nov. 22, 1928.

PASSERITA PRASINA (Boie)

U.S.N.M.
70359 (S2009)----- Lam Tong Lang----- July 19, 1925.
72137-8 (S2543, S2883) -- Nong Khor----- March 25-Nov. 11, 1926
72176 (S2817)----- Bang Suk----- Aug. 20, 1926.
76068 (S3869)----- Ban Hui Ta----- July 12, 1928.
76091 (S3914)----- Pichit----- Aug. 8, 1928.
76102 (S3915)----- Kao Luang, Nakon Srita-
marat. July 13, 1928.

[76068. Exceedingly bright grass green on back, bright yellow green on belly. Elevation about 700 feet—H. M. S.]

[76091. "Ngu khao (=white), pak (=mouth), chinchuk (=house-lizard)." Found by me alive in a country road. A very striking object—pure white with black markings. Known to local people who told me it was *mi phit* (poisonous). I made them laugh when I told them I kept one of these in my bed to catch mosquitoes. I do not know whether it is only an albino of the common form.—H. M. S.]

PASSERITA NASUTA (Lacépède)

U.S.N.M. Ventrials Caudals
70275 (S1637) -- Bangkok----- Dec. 24, 1924---- 194 153
70276 (S1983) -----do----- June 23, 1925---- 201 ----
70277 (S2042) -----do----- Aug. 4 1925----- 200 153
70278 (S2061) -----do----- Aug. 6, 1925---- 191 157
70279 (S2070) -----do----- Aug. 11, 1925--- 190 ----
70280 (S2073) -----do----- Aug. 13, 1925--- 203 143
70281 (S2074) -----do-----do----- 195 146
70282 (S2118) -----do----- Sept. 27, 1925--- 194 149
70283 (S2203) -----do----- Oct. 16, 1925--- 202 146
70284-----do----- Aug. 7, 1925----- ----
72052 (S2741) -- Bangkok (H. M. Smith's
yard). July 8, 1926---- 195 ----

This beautiful species is subject to some variability in the region of the upper lip just behind the rostral appendage. Although the number of labials is constantly eight in all my specimens excepting one, which has but seven on one side of the head, there is frequently a horizontal division of one of the labials, which makes an additional scale just below the loreal region. In three cases the third labial is thus divided on one side of the head, and once the second labial is so divided. In one case the third labial is wedged in between the second and fourth, so that it fails to reach the lip border. There are three scales bordering the anterior portion of the eye in the majority of cases, the additional "suboculars" resulting from the horizontal separation of the top portion of the fourth labial. Two postoculars are constantly present. One anterior temporal is more commonly encountered than two; there are constantly two posterior temporals in this collection.

CHRYSOPELEA ORNATA (Shaw)

U.S.N.M.			Ventrals	Caudals
67304	Sikut River	Nov. 15, 1923	220	120
67492 (S718)	Nontaburi	Sept. 2, 1923	237	----
67493 (S721)	do	do	228	120
67494 (S725)	do	Oct. 23, 1923	232	126
67495 (S594)	Bandon	1922	231	----
67496 (S596)	do	1922	221	120
67497 (S597)	do	1922	228	140
67498 (S723)	Bangkok	September, 1924	231	132
67499 (S724)	do	Oct. 26, 1923	228	----
70297 (S2031)	do	July 27, 1924	230	119
70298 (S1809)	do	Mar. 6, 1925	229	140
70299 (S2060)	do	Aug. 6, 1925	236	----
70300 (S2085)	do	Aug. 21, 1925	235	141
70301 (S2232)	do	Oct. 23, 1925	227	119
72058 (S2390)	Bangkok (H. M. Smith's yard).	Jan. 25, 1926	227	135
72059 (S2391)	Bangkok	do	223	135
72149 (S2392)	Koh Chang	Jan. 4, 1926	236	135
72150 (S2394)	do	Jan. 5, 1926	227	139
72162 (S2326)	Pak Jong	Nov. 15, 1925	223	----
72177 (S2818)	Bang Suk	Aug. 24, 1926	226	117
72716 (S2924)	Koh Tao	Jan. 2, 1927	234	132
75681 (S3791)	Bangkok	June 16, 1928	232	122

Our specimens of the beautiful green and black tree snake from the mainland of Siam conform with variety D in Boulenger's Catalogue of Snakes,¹² as Dr. Malcolm Smith has likewise found. We have two snakes from Koh Chang (72149 and 72150) and one from Koh Tao (72716) which show the melanism which is often found in island forms. In these specimens the mesial black line on each scale has become greatly widened, so that the entire upper part of the body seems to

¹² Vol. 3, 1896, p. 197.

be black with very inconspicuous lighter spots on the lateral portions of each scale. One of the two Koh Chang specimens (72149) is unlike all the others in having black spots in the centers of the labial scales. This snake likewise is without loreal plates.

In all specimens the scale preceding the anal plate was divided like it. The maximum number of subcaudals listed by Boulenger is 138; my series raises the number slightly, as two of the snakes have 140 each and one specimen has 141. The specimens from Bandon (67495-7) were collected by Mr. R. Havmøller. The young specimen, 70301, was captured in the Hotel Royal at Bangkok.

DISTEIRA CYANOCINCTA (Daudin)

U.S.N.M.		
67519 (S256)	----- Chao Phya River, off Pak-	Aug. 10, 1923.
	nam.	
67522 (S265)	-----do-----	Aug. 11, 1923.
67529 (S236)	----- Gulf of Siam-----	Aug. 8, 1923.

As the sea snakes have just been monographed by Dr. Malcolm Smith, I make no further notes on the species included in Dr. Hugh M. Smith's collection other than to list them with data. Many of the identifications were made by Dr. Malcolm Smith at the United States National Museum.

DISTEIRA CAERULESCENS (Shaw)

U.S.N.M.		
67565 (S1067)	----- Bangpakong River-----	Feb. 14, 1924.
72227-8(S2801, S2804)	--- Gulf of Siam, off Chao Phya	Aug. 20, 1926.
	River.	
75449 (S3404)	----- Chantabun River-----	Aug. 5, 1927.

DISTEIRA VIPERINA (Schmidt)

U.S.N.M.		
67549 (S977)	----- Near Singora, Siam-----	November, 1923.

Collected by Mr. R. Havmøller.

DISTEIRA KLOSSI (Boulenger)

U.S.N.M.		
72229 (S2805)	----- Gulf of Siam, off Chao Phya	Aug. 20, 1926.
	River.	

DISTEIRA TORQUATA DIADEMA (Günther)

U.S.N.M.		
67520 (S252)	----- Chao Phya River, off Pak-	Aug. 9, 1923.
	nam.	
67523 (S276)	-----do-----	Aug. 12, 1923.
67528 (S235)	----- Gulf of Siam-----	Aug. 8, 1923.
67530 (S237)	-----do-----	Do.
67533-4 (S268-9)	----- Gulf of Siam off Chao Phya	Aug. 11, 1923.
	River.	
67536-7 (S282-3)	-----do-----	Aug. 12, 1923.
67564 (S1066)	----- Bangpakong River-----	Feb. 14, 1923.
67566 (S1068)	-----do-----	Do.

DISTEIRA FASCIATA ATRICEPS (Günther)

U.S.N.M.

70360 (S2090) ----- Gulf of Siam, Hua Hin..... Aug. 31, 1925.

A single sea-snake which I have referred to this species has 88 ventral plates, 29 scales around the neck and 40 around the body.

LAPEMIS HARDWICKII Gray

U.S.N.M.

67524-5 (S277-8) ----- Chao Phya River, off Pak- Aug. 12, 1923.
nam.67535 (S270) ----- Gulf of Siam off Chao Phya Aug. 11, 1923.
River.

67538-41 (S329-32) ----- do..... Sept. 9, 1923.

67542 (S144) ----- Gulf of Siam off Tachalom.. July 20, 1923.

67543 (S41) ----- Gulf of Siam off Banghia July 3, 1923.
River.

67545 (S43) ----- do..... Do.

67546-7 (S548-9) ----- Gulf of Siam near Singora.. Oct. 5, 1923.

67548 (S976) ----- do..... November, 1923 (R.
Havmöller).

67550-4 (S978-82) ----- do..... Do.

67556-60 (S984-988) ----- do..... Do.

72220-1 (S2696-7) ----- Gulf of Siam off Chao Phya Aug. 20, 1926.
River.

72719-22 (S2284-7) ----- Mouth of Meklong River... Dec. 7, 1925.

ENHYDRINA SCHISTOSA (Daudin)

U.S.N.M.

67521 (S264) ----- Chao Phya River off Pak- Aug. 11, 1923.
nam.

67531-2 (S238, S257) ----- Gulf of Siam off Paknam... Aug. 8-10, 1923.

67544 (S42) ----- do..... July 3, 1923.

67555 (S983) ----- Gulf of Siam near Singora.. November, 1923.

67562-3 (1064-5) ----- Bangpakong River..... Feb. 14, 1924 (R. Hav-
möller).72222-6 (S2798-800, S2802-3). ----- Gulf of Siam off Menam Aug. 20, 1926.
Chao Phya.

Dr. Hugh M. Smith notes that "A local name for this snake at the head of the Gulf of Siam is 'kawon' (=soft neck)."

BUNGARUS FASCIATUS (Schneider)

U.S.N.M.

67511 (S311) ----- Chiangmai..... 1915.

72061 (S2733) ----- Bangkok..... June 25, 1926.

The Chiangmai specimen is so badly mutilated that a count of the ventrals is impossible. There are 15 scale rows around the body, and there are 37 subcaudals, single excepting for the last half dozen, which show a distinct tendency to divide. In coloration this specimen agrees fairly well with Dr. Malcolm Smith's description in the Snakes of Bangkok. There are 25 yellow bands on the body, a few of those toward the middle being marked with small black patches. The Bangkok specimen has 15 scale rows, 215 ventrals, 35 subcaudals,

the last three of which are divided, and 22 yellow bands on the body. There are no black patches within the yellow bands ventrally, however. As these are young snakes, the enlarged tip at the end of the tail is not yet in evidence.

[During my five years' residence in Siam I have rarely seen this species. I have on two or three occasions seen the snake crossing city roads, and in 1928 I noticed two that had been killed by automobiles on roads near my house.—H. M. S.]

BUNGARUS FLAVICEPS Reinhardt

U.S.N.M.

70361 (S2145)----- Bang Yai Jang, southwest of Rajaburi. Aug. 15, 1925.

This snake, the second one of its kind to be taken in Siam, is a large one, and in its stomach there are the remains of an exceedingly large bamboo snake, *Trimeresurus gramineus*. This species of krait has been reported once from Nakon Sritamarat by Dr. Malcolm Smith in *The Poisonous Land Snakes of Siam*.¹³ In this specimen there are 13 scale rows around the body, 222 ventrals, and 52 subcaudals, the first 18 of which are single, the remainder double. The head and tail are orange red, the body scales above are black, the interstitial skin showing pale pink between them in this distended specimen. The black color clouds the extreme ends of the ventral plates, which are otherwise a deep buff color (faded by alcohol). There is no lateral light streak on the outer rows of scales, nor is there any vertebral light stripe.

NAJA HANNAH (Cantor)

U.S.N.M.

			Ventrals	Caudals
72726 (S2909) --	Pak Jong-----	Dec. 19, 1926---	239	90 (20 single + 70 double).

NAJA NAJA (Linnaeus)

[I have sent to the museum no specimens of cobra, as I have very rarely come across the species. It occurs within the city limits of Bangkok, and occasionally I hear of cobras being killed about or in the houses of my friends.—H. M. S.]

CALLIOPHIS MACULICEPS (Günther)

U.S.N.M.

70331 (S2153)----- Nong Kohr----- Sept. 24, 1925.

A single specimen of this small snake shows an unusually low ventral count of 193; the lowest count by Boulenger is 205 and the lowest given by Glydenstolpe is 198. The subcaudals number 21; there are 7 labials, one prae- and two postoculars and a single large temporal scale. The coloration agrees with Boulenger's description, excepting that the tail beneath has a few irregular black patches, in addition to the two black rings characteristic of the species.

¹³ Journ. Nat. Hist. Soc. Siam, vol. 6, no. 1, 1923, p. 61.

CALLIOPHIS HUGHII Cochran

Calliophis hughii COCHRAN, Proc. Biol. Soc. Washington, vol. 40, Dec. 2, 1927, p. 190.

U.S.N.M.

72307 (S2940) type---- Koh Tao, Gulf of Siam----- Jan. 1, 1927.

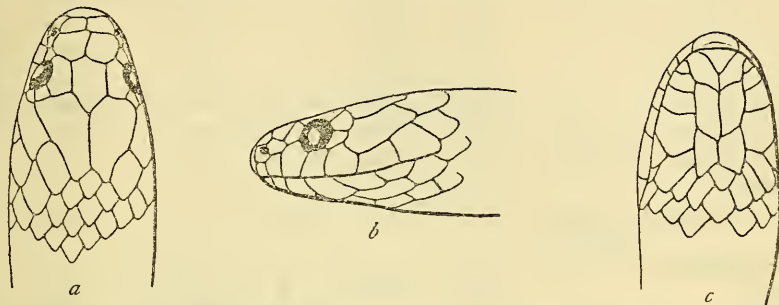


FIGURE 6.—CALLIOPHIS HUGHII. TYPE. U. S. NAT. MUS. NO. 72307. FROM KOH TAO, GULF OF SIAM. *a*, TOP OF HEAD; *b*, PROFILE VIEW; *c*, UNDER SIDE OF HEAD

PAREAS CARINATUS (Boie)

U.S.N.M.

72175 (S2813) ----- Bang Suk, near Pak Jong----- Aug. 16, 1926.

This is a young specimen. The scale formula is as follows: 15 scale-rows; 167 ventrals; a divided anal; about 62 caudals; eye separated from the prefrontals and labials by an ocular ring; loreal and preocular distinct. [A Siamese name for this snake is "ngu hao fai" = fire-hissing snake.—H. M. S.]

PAREAS MOELLENDORFII Boettger

U.S.N.M.

70357 (S2008) ----- Lam Tong Lang----- July 19, 1925.

In our single specimen the internasals and the prefrontals are abnormally fused together. The frontal is as long as broad. The labials are completely separated from the eye by suboculars, and there is a good-sized postocular. There are seven upper labials, the seventh being the longest. The ventrals are 142 and the subcaudals 36 in number. There are very few Siamese records for this species—one from the mountains of Laos (Mouhot), one from Bangkok (Gyldenstolpe), and one from Bangkok (M. Smith).

AGKISTRODON RHODOSTOMA (Boie)

U.S.N.M.

70338-9 (S1972-3) ----- Ban Sadet----- May 30, 1925.

72141 (S2508) ----- Nong Khor----- Mar. 20, 1926.

72142 (S2541) ----- do----- Mar. 22, 1926.

TRIMERESURUS GRAMINEUS GRAMINEUS (Shaw)

U.S.N.M.			Internasals	Chin shields	First supralabial fused with nasal	Nasal separated from second supralabial
67517 (S739)	Nontaburi	Nov. 13, 1923	2	2+5 pairs	Yes	Yes
67518 (S936)	Bangkok	Mar. 13, 1923	2	2+5 "	Yes	Yes
70285 (S1833)	"	Mar. 18, 1925	2	2+4 "	Yes	No
70286 (S2086)	"	Aug. 23, 1925	—	2+5 "	—	—
70287 (S2110)	"	Sept. 22, 1925	2	2+4 "	Yes	No
70288 (S2118)	"	Sept. 27, 1925	2	2+4 "	Yes	No
70342 (S2192)	Nong Mong	Aug. 26, 1925	2	2+4 "	Yes	No
70347 (S1961)	Pak Jong	May 18, 1925	2+2 ¹⁴	2+6 "	(15)	No
70350 ¹⁶	"	"				
70351 (S2011)	Lam Tong Lang	July 20, 1925	2	2+5 "	Yes	No
70352 (S2012)	"	"	2	2+5 "	(17)	No
70353	"	July —, 1925	2	2+5 "	No	Yes
70354	"	"	2+1 ¹⁴	2+6 "	(17)	No
72075 (S2764)	Bangkok	Aug. 5, 1926	2+1 ¹⁴	2+5 "	Yes	Yes
72076 (S2779)	"	Aug. 16, 1926	2	2+5 "	Yes	No
72077 (S2899)	"	Mar. 31, 1926	2	2+4 "	Yes	No
75682 (S3492)	"	Aug. 4, 1927	2+1 ¹⁴	2+5 "	Yes	Yes
76121 (S3934)	"	July 6, 1928	2	2+5 "	Yes	Yes

All the vipers have the two large internasal plates generally in contact with each other, but occasionally separated by one or two small scales. Following the two pairs of enlarged chin shields, there are from four to six quite regular pairs of scales before the first gastrostege is reached.

In all the Bangkok vipers, as well as in the one from Nontaburi, the first supralabial is completely fused with the nasal in front of the nostril.

In the Lam Tong Lang specimens the first supralabial and the nasal are entirely distinct in one case (70353); in two cases the fusion is only partially completed as a trace of the original suture line is still plainly evident (70352 and 70354); in one specimen the fusion is complete (70351). In the snake from Pak Jong (70347) the fusion is complete on the left side of the head, while the right side shows the first supralabial and the nasal plate quite separate from each other.

In 6 out of 18 snakes a small scale is present between the posterior edge of the nasal plate and the second supralabial. The other 12 have the nasal and the second supralabial directly in contact.

¹⁴ Azygous.¹⁵ No on right, yes on left.¹⁶ Embryo of 70347.¹⁷ Partially.

TESTUDINATA

GEOCLEMYS SUBTRIJUGA (Schlegel and Müller)

U.S.N.M.

70363 (S1689), adult	Bangkok	Jan. 24, 1925.
71480, half grown	do	Dec. 21, 1925.
72212 (S2722), adult	Lem Sing	June 14, 1926.
72322-3 (S1634-5), juvenile	Bangkok	Nov. 25, 1926.
75706 (S3742)	do	May 21, 1928.

The Bangkok specimens were found in the padi fields, where they are called by the natives "tao na" or "field turtle."

HEOSEMYS GRANDIS (Gray)

U.S.N.M.

71479	Pak Jong	May 13, 1925.
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This turtle, found in a pool at Pak Jong, is called "tao hin" by the natives, meaning "rock turtle."

HOESEMYS SPINOSA (Gray)

U.S.N.M.

72729 (S3086)	Ronpibun	Jan., 1927.	R. Hav-
			möller.
75584 (S3762)	Pran	June 4, 1928.	

CYCLEMYS DENTATA (Gray)

U.S.N.M.

67570 (S1043), juvenal	Bangkok	Sept. 12, 1923.
70376 (S2149), juvenal	Nong Khor	Sept. 30, 1925.

At Nong Khor the natives call this turtle "tao bai mai" or "leaf turtle."

BELLIA CRASSICOLIS (Gray)

U.S.N.M.

70364 (S2164)	Bangkok	Oct. 13, 1925.
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This species is called at Bangkok "tao dam," meaning "black turtle."

TESTUDO ELONGATA Blyth

U.S.N.M.

70365 (S2147), adult	Lam Tong Lang	June 8, 1925.
70366 (S2148), juvenal	Nong Khor	Sept. 24, 1925.
72171 (S2618), juvenal	Pak Jong	May 11, 1926.

The turtle from Lam Tong Lang was taken in the jungle. The natives of that region call it "tao kipueng" or "wax turtle." At Nong Khor, the native name is "tao kaneng" (kaneng=small, or fragment).

AMYDA CARTILAGINEA (Boddaert)

U.S.N.M.

72727 (S2605)	Bangkok	Apr. 26, 1926.
72728 (S2607)	do	Sept. 30, 1926.

At Bangkok this soft-shelled turtle is called "tao tapab nam."

