

Studies on Taiwan Lizards

臺灣蜥蜴類之研究

劉慕昭

Mo-chao Liu Yu

This transaction presents the studies on the lizards of Taiwan. There are many species belonging to this field, some of them were recorded by other authors many years ago. The earliest report concerning Taiwan lizards appeared in 1863 Swinhoe's "a list of Formosan Reptiles" Ann. Nat. Hist (3) XII which included three species of Taiwan lizards: *Gekko swinhonis* (= *Gecko japonicus*), *Mabouia chinensis* (= *Eumeces chinensis*), and *Japalura swinhonis*. Later on, in 1864 Gunther's "The Reptiles of British India London" described two species of Taiwan lizards: *Japalura swinhonis* and *Mabouia chinensis*. In 1885 Boulenger listed *Hemidactylus frenatus* on "Cat. Liz. Brit. Mus." In 1907, the great herpetologist Stejneger "Herpetology of Japan and adjacent territory" Bull. 58, U. S. N. M., in which he described 14 species of Taiwan lizards, more than half of Taiwan lizard were systematically classified. It was a great contribution in the field of Taiwan lizards; then Van Denburgh in 1909 "New and previously unrecorded species of Reptiles and Amphibians from the island of Formosa" Proc. Calf. Acad. Soc. (4) III. pp. 49-56 and in 1912 "Concerning certain species of Reptiles and Amphibians from China, Japan, the Loo-choo island and Formosa." Proc. Calf. Acad. Soc. (4) III, pp. 187-258, in which he described 14 species of Taiwan lizards, but it had only simple description concerning Taiwan lizards.

In 1935 the greatest herpetologist Pope published a famous herpetological book, "The Reptiles of China." He had collected and examined numerous Chinese materials in which many of reptiles were same with the Taiwan forms; the part of lizards he only listed out the synonym no description.

Okada, one of the greatest Japanese herpetologists who published "a catalogue of Vertebrate of Japan." Which listed many species of Formosan lizards but it was only one catalogue. In 1936 Okada published "Studies on the lizards of Japan Contribution I Gekkonidae, Contribution II Agamidae and Contribution III Scincidae" Tokyo Bunrika Daigaku. Science Report, Sect. B, Vol. 2, No. 42, p. 233-289; Vol. 3, No. 51, p. 83-94; Vol. 4, No. 73, p. 159-214; They had mentioned many species of Taiwan lizards; it was a great valuable work on lizards.

In 1956 Prof. Johnson T.F. Chen published a valuable book "a synopsis of the Vertebrates of Taiwan" which containing 23 species of Taiwan lizards, and in 1956 Mr. C. S. Wang also published "The reptile of Taiwan" on the Quarterly Journal of the Taiwan Museum but no detailed descriptions about Taiwan lizards.

In this paper, the author has made systematic arrangement, distinct figures and detailed descriptions about all of species that had found in Taiwan especial concerning the variation of those species which are found

frequently and revised them into 24 species assigned to 5 families and 13 genera. Two of species (*Sphenomorphus boulengeri* Van Denburgh & *Japalura swinhonis mitsukurii* Stejneger) which were not recorded from Formosa before.

Class REPTILIA
Order SAURIA
Suborder LACERTILIA

KEY TO TAIWANESE FAMILIES OF
LACERTILIA OR LIZARDS

- 1a. No symmetrical shields on dorsal surface of head.
 - 2a. No movable eyelid, tympanum exposed
..... Gekkonidae
 - 2b. With movable eyelid, tympanum
concealed..... Agamidae
- 1b. With symmetrical shields on dorsal
surface of head.
 - 3a. 2 pairs of legs present.
 - 4a. Ventral scales cycloid, arranged oblique-
ly, femoral or inguinal pores absent
..... Scincidae
 - 4b. Ventral scales squarish, arranged in
transverse series, femoral or inguinal
pores present..... Lacertidae
 - 3b. Legs absent..... Anguidae

Family GEKKONIDAE

KEY TO GENEA AND SPECIES OF
GEKKONIDAE

- 1a. Inner digits differing from in structure.
 - 2a. Infradigital lamellae in single series
(*Gekko*).
 - 3a. Lamellae of inner digits 9..... *japonicus*
 - 3b. Lamellae of inner digits 13..... *kikuchii*
 - 3c. Lamellae of inner digits 15..... *gekko*

- 2b. Infradigital lamellae in double series
(*Peropus*).

- Inner digits clawless..... *mutilatus*
- 1b. All digits essentially alike in structure.
 - 4a. Body with lateral expansion (*Cosymbotus*);
tail flat with corneum process on each
side *Platyurus*
 - 4b. Body without lateral expansion
(*Hemidactylus*).
 - 5a. No large tubercles intermixed with
dorsal scales, tail without transverse
rows of large tubercles..... *bouringii*
 - 5b. More or less numerous large tubercles
intermixed with dorsal scales; tail
with transverse series of tubercles
..... *frenatus*

Gekko japonicus (Dumeril and Bibron)

Figure I

- Platydictylus japonicus* Dumeril and Bibron, 1836, *Erp. Gen.* III. p. 337 Dumeril, 1851, *Cat. Meth. Rept. Mus. Paris*, I, p. 37.
- Gekko Swinhonis* Swinhoe 1863, *Ann. Mag. Nat. Hist.*, (3), XII. p. 222.
- Gekko japonicus* Guenther, 1864, *Rept. Brit. India*, p. 103—Boulenger, 1885, *Cat. Liz. Brit.*, p. 188—Okada, 1891, *Cat. Vert. Jap.* p. 71 Stejneger, 1907, *U. S. N. M. Bull.* 58, pp. 165-169.—Mori, 1929, *Bull. Biog. Soc. Japan*, Vol. I. No. 1. p. 1.—Okada, 1929, *Fauna Musashin.*, no. 1. p. 48.—Pope 1935 *Amer. Mus. Nat. Hist. Bull.* 5 *Rept. China*. p. 463.—Okada, 1936, *Sc. Rep. T. B. D. Sect. B.*, Vol. 2, No. 42, p. 246-252. pl. XV. fig. 3.—Wang, 1956, *Qua. Jour. Taiwan Mus.*, Vol. IX, No. 1. p. 38.
- Gekko japonicus hokouensis* Pope, 1928, *Amer. Mus. Novitates*, No. 325, p. 1.—1929, *Bull. Amer. Mus. Nat. Hist.*, LVIII, p. 365. fig. 1.

Description: (T. N. U. Eool) Head broad, flattened above, snout blunt; rostral squarish, about twice as wide as high, bounded above by two large internasals and two small scales between the latter; nostril surrounded by first supralabial, rostral, large internasal and three smaller shields; supralabials 11 and lowerlabials 9; mental pentagonal, scarcely larger than the adjacent lowerlabials; two pairs of chin-shields, a median pair somewhat elongated, on either side of which another similar shields about the same size; behind these several polygonal smaller shields followed; the distance between nostril and eye almost equal the distance between eye and ear-opening; diameter of eye a little more than half the distance between eye and tip of snout; ear-opening small, oval; first toe with 9 lamellae, fourth with 15 underneath; second, third and fourth toes connected by a basal web.

Upper surface covered with granules, those on the snout considerably large; among the granules, from the eye backward to the base of the tail, numerous tubercles not arranged in regular longitudinal series, though about twelve tubercles counted in a line across the back; on the throat and anterior portion of neck covered with granules of the size of those on the back; an angular series of six femoral pores; base of tail swollen, with a single tubercular scale on each side; tail suddenly tapering from it covered above with small scales; underneath scales large with a median series of wide plates.

Coloration: (In alcohol) drab gray above with a double series of obscure dusky spots on back and crossbars on limbs and tail; an obscure dusky band from nostril through eye to occiput meeting its following from the other side on the latter, a similar band from eye to ear opening and ill-defined dusky spots on

both upper and lower labials. (In alive) greyish brown on the back with irregular black spots and transverse patterns; the dark greyish patterns distinctly on the limbs, back and on the tail. The black striated band crossing through the eye and the tip of snout; black spots scattered on the upper and lower labials.

One specimen collected by the author from campus of Taiwan Normal University, Taipei, Taiwan. Although this species is known in Taiwan, yet has scarcely been collected in Taipei.

Measurements:	♂	TNU E001 mm.
Total length	114	
Snout to vent	59	
Vent to tip of tail	55	
Snout to ear opening	16	
Greatest width of head	13	
Fore leg, from axilla	19	
Hind leg, from groin	27	

Gekko kikuchii Oshima

Figure II

Gekko kikuchii Oshima 1912, Phil. Journ. Sci., VII, No. 4, pp. 241-242.—Maki, 1923 Dobutsugaku Zasshi, Vol. 35, No. 415, pp. 197-198.—Okada, 1932, Bull. Biog. Soc. Japan, Vol. III, No. 1, p. 16.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, p. 38.—Wang, 1962, Vol. XV, No. 3 & 4, p. 152.

Gekko sp. Horikawa, 1927. Trans. Nat. Hist. Soc. Formosa, Vol. 17. No. 91, pp. 295-296.

Description (after original description) Rostral pentagonal, about twice as wide as high, bounded above by 2 large internasals and 1 small scale between the latter, the supralateral margin entering the nostril; nostril between first supralabial, rostral, large inter-

nasal, and 2 larger shields above and behind; distance between nostril and eye considerably greater than the distance between eye and ear-opening; diameter of eye nearly equal to one-half the distance between eye and tip of snout; ear opening large and oval, its longest diameter one-half the diameter of eye; 13 supralabials; mental trigonal, larger than the adjacent lower labials; 10 lower labials; behind mental a pair of median, somewhat elongated chinshields, on either posterolateral side of which another similar but smaller shield, 1 pentagonal shield between the latter; whole upper surface covered with granules, from the ear-opening backward to the basal half of the tail, numerous small, rounded tubercles, their mutual distance averaging about one-half the diameter of ear-opening, not arranged in regular longitudinal series, though about 18 tubercles counted in a line across the back; upper surface of limbs covered with granules and tubercles like the back; lower surface of body and limbs covered with imbricate scales, except the throat and anterior portion of neck, which covered with granules of the size of those on the back; first toe with 13 lamellae, fourth with 14 underneath; second, third and fourth toes connected by a basal web; a series of 24 femoral pores on each side, of which the inner 10 are oval; the others round; tail gradually tapering, slightly depressed, not annulate, upper surface covered with small scales and 4 to 6 rows of tubercles; underneath scales larger, with a median series of wide plates, all the same width.

Coloration: (in alcohol) drab gray above, with 2 obscure, dusky, longitudinal bands on the back; pale ill-defined markings on both upper and lower labials; under side whitish; the adult female differing from the male, chiefly in

absence of the preanal pores and of the basal web on the toes; back with 9 pairs of ill-defined black spots.

Remark: no specimen in the author's collection the present species described by Oshima in 1912.

Gekko gekko (Linnaeus)

Figure III

Gekko gekko Linnaeus, 1758, Syst. Nat. Ed. 10, p. 205—Barbour, 1912, Mem. Mus. Comp. Zool, Harv. Coll. 44, p. 82—Taylor, 1922, The Lix. of the Philippine Isl., pp. 94-97. —Schmidt, 1927, Bull. Amer. Muz., Nat. Hist. LIV, p. 479—Smith, 1935 Faun. Brit. Ind., Rept. & Amph., Vol. II, Sauria, pp. 111-112—Pope 1935, Rept. China p. 462—Okada 1936, Sc. Rep. T. B. D. Sect. B. Vol. 2, No. 42.

Gekko recvesii Gray, 1845, Cat. Liz., p. 160—Fitzinger, 1843, Stst. Rept., p. 101.

Gekko verticillatus —Boulenger, 1885 Cat. Liz., Mus. 1, p. 183.—Boulenger, 1890. The Fauna of Brit. India. Rept. and Bafr., p. 102—Maki, 1923, Dobutsugaku-zasshi, Vol. 35, No. 415, pp. 198-199, pl. 6, fig. 1.—Wang 1956, Qua. Jour, Taiwan Mus. Vol. IX, No. 1, p. 38.

Description: (TNU. E002) Size largest, adults measuring about 130 m. m. from snout to vent; rostral not entering nostril but wider than high, with a small cleft entering from above, snout subtriangular, obtuse; nostril surrounded by first labial, two postnasals, a supranasal and two prenasals; Supranasal separated from each other by one scale; supralabials 12 and lowerlabials 13, each with a small, rounded, distinct median tubercle or keel; mental small pentagonal not larger than the adjacent lowerlabials; four enlarged chinshields on each side of jaw bordering lower

labials; two of them in contact with mental and with each other, much larger than broad, and wider than adjacent labials but not so long; a single pentagonal scale following the pair of median chin shields; head large, its width about twice the distance from tip of the snout to orbit, or from orbit to ear opening; orbital diameter contained about one half of the length of snout; head covered above with conical tubercles; and back covered with rather irregular, flat, juxtaposed granules or scales and about twelve longitudinal series of nipple-shaped tubercles; throat with flat granules; abdominal scales moderately; tail slightly depressed, tapering, distinctly annulate covered with subquadrangular smooth scales, much larger beneath, arranged in transverse series; each annulus composing of 5 or 6 transverse rows of scales above, 3 beneath; on the upper surface, also large conical tubercles, wide and symmetrically arranged; femoral pores in a short angular series on the preanal region, 15 altogether; five rows of scales in front of anus slightly enlarged; three tubercles on each side of base of tail; legs large, digits free, 15 broad curved undivided lamellae under inner toe, eighteen under fourth toe and an equal number under fourth finger; digits wider at tips than at base.

Coloration: (In formalin) Slaty gray above, with pale yellow spots; tail annulate with darker and lighter; lower surface greyish white. (In alive) (After Okada's paper) Above gray to ultramarine with numerous bright orange spots covering head, back, sides and tail; dark greyish brown bands on tail and greyish white on underside.

One specimen of Taiwan Normal University, No. TNU E002, one toe destroyed.

Measurements: (TNU E002) m.m.

Total length250

Snout to vent.....	130
Vent to tip of tail	120
Snout to ear opening	40
Greatest width of head	37
Fore leg, from axilla	51
Hind leg, from groin	55

Peropus mutilatus (Wiegmann)

Figure IV a, b

Hemidactylus (Peropus) mutilatus Wiegmann, 1834, Herpet. Mex., 1, p. 54—Wiegmann, 1835, Nova. Acta leop. Carol., XVIII. pt. 1. p. 238.

Peropus (Dactyloperus) peronii Fitzinger, 1843, Syst. Rept., p. 103.

Gehyra mutilata Boulenger, 1885, Cat. Liz. Brit. Mus., 1. p. 148.—Boulenger, 1890, Fauna Brit. India Rept. & Batrachia, pp. 96-97.

Dactyloperus insulensis Girard, 1857, Proc. Phila. Acad., p. 196.

Peropus mutilatus Girard, 1858, Herp. U. S. Exped., p. 227—Stejneger, 1899, Proc. U. S. N. M. XX, No. 1174, p. 796.—Stejneger, 1907, U. S. N. M. Bull. 58, pp. 180-182.—Okada, 1936, Sc. Rep. T. B. D. Sect. B. Vol. 2 No. 42—Okada, 1938, A. Cat. V. Japan. p. 98.—Wang 1956, Qua. Jour. Taiwan, Mus. Vol. IX, No. 1, p. 39.

Description: (TNU E003) Head longer than broad; snout longer than the distance between eye and ear opening; ear opening moderately large, suboval; body and limbs moderately elongate, depressed; a fold of the skin bordering the hind limb posteriorly; rostral quadrangular broader than high with a medium cleft above, in contact with supranasals and a minute granule between the latter; two small postnasals; the lower one in contact with 1st supralabial; nostril surrounded by rostral, 1st supralabial, two postnasals, and supranasal;

one small internasal between two somewhat large supranasals; supralabials 9 and lowerlabials 9; mental moderately large, pentagonal; 3 pairs of chin shields in one transverse series, their posterior outline forming together a straight line, the median pair being large, elongate pentagonal, the others gradually smaller toward the sides; digits short, more or less webbed at the base; the inferior lamellae double series; toes slightly webbed at base, about 8 pairs of lamellae under longest toe and 6 pairs under the shortest; upper surface and throat covered with small granular scales, abdominal scales moderate; tail rather flat with sharp, serrated lateral edge; its upper surface covered with very small flat scales and lower surface generally with a median series of large transversely dilated scales; 32 femoral pores in a long series on the preanal region.

Coloration: (In alcohol) Above brownish drab with faint indications of darker marblings, below whitish. (In alive) body uniform greyish fresh color with a few indistinct, lighter spots on head; belly yellowish flesh color; lamellae under toe darker.

One specimen was collected by the author from Grass mountain, Taipei, Taiwan.

Measurements: (TNU E003)	m.m.
Total length	101
Snout to vent	55
Vent to tip of tail	46
Snout to ear opening	13
Greatest width of head	11
Fore leg, from axilla	17

Cosymbotus Platyurus (Schneider)

Figure V

Stellis platyurus Schneider, 1792, Amph. Physiol., II, p. 30

Nycteridium schnaeideri Guenther, 1864, Rept. Brit. India, p. 111.

Cosymbotus platyurus Stejneger, 1907. U. S. N. M., Bull. 58. pp. 178-179.—Van

Deuburgh, 1912, Proc. Cal. Ac. Sc., Vol. III p. 208.—Taylor, 1922, Liz. Phil. Islands pp. 59-62. — Wang, 1956, Quar. Jour. Taiwan Mus. Vol. IX, No. 1, p. 38.

Platyurus platyurus Okada, 1936. Sc. Rep. T. B. D. Sect. B, Vol. 2, No. 42, pp. 277-280.

Description: (TNU E004) Head normally oviform, a broad shallow groove on forehead with a slight depression behind nostrils; rostral broader than high in contact behind with two supranasals and a small scale between the latter; nostril surrounded by rostral, first supralabial, two postnasals and a supranasal; 10 supralabials, the anterior five or six broader than high; bordered above by a series of enlarged granules; 7 large lower labials also bordered below by a series of enlarged granules; mental large pentagonal, contact behind with first lower labials; 2 pairs of chin-shields, a median pair in contact with each other behind mental; another pair followed the median pair but not in contact with each other; snout covered with granules larger than those on body; granules on occiput smaller than body granules; the distance from tip of snout to orbit longer than the distance from orbit to ear opening; ear opening small; body and extremities below as well as upper surface of feet covered with larger imbricate scales; from axilla to groin a thin skin flap about 2 mm. wide, and similar fold along the posterior edge of thigh and tibia; five pairs of lamellae under shortest toe and eight pairs under largest; tail broad, constricted at base, flattened below, with annulate scales below tail; numerous small granules on either side of the series of transverse plates; a broad, slightly denticulate fringe on each side of tail, with several spinelike scales near its base.

Coloration: (In formalin) Above drab with indistinct marblings of darker and lighter color;

a distinct dark band from loreal region through lower part of eye and above ear to shoulder; below whitish.

Measurements: (TNU E004)	m.m.
Total length	113
Snout to vent	50
Vent to tip of tail	63
Snout to ear-opening	13
Greatest width of head	10
Fore-limb from axilla	16
Hind-limb from groin	20

***Hemidactylus bowringii* Boulenger**

Figure VI a, b

Hemidactylus bowringii Boulenger, 1855, Cal. Liz. Brit. Mus., 1, p. 139, pl. XII, fig. 2.—Boulenger, 1890, Fauna Brit. India, p. 93.—Stejneger, 1907, U. S. N. M., Bull. 58, pp. 176-178, figs. 169-170.—Van Denburgh, 1912, Proc. Cal. Ac. Sc., Vol. III, p. 207.—Stejneger, 1925, proc. U. S. N. M. Vol. 66, art. 25, p. 37.—Okada 1936, Sc. Rep. T. B. D. Sect. B, Vol. 2, No. 42, pp. 258-271.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, p. 38.—Wang, 1962, Qua. Jour. Taiwan Mus. Vol. XV, Nos. 3&4, p. 153.

Hemidactylus bowringii Smith, 1934, Faun. Brit Ind., Rep. & Amph., Vol. II, Sauria pp. 99-100.

Hemidactylus punilus Hallowell, 1860, Proc. Phila. Acad., p. 502

Hemidactylus coctaei Guenther, 1872, Ann. Mag. Nat Hist., (4), IX, p. 86.—Mueller, 1878, Kat. Amph. Rept. Mus. Basel, p. 637. — Boettger, 1885, Offerbach. Ver. Naturk., 24-25, Ber., p. 138.

Description: Snout longer than the distance between the eye and the ear-opening, forehead slightly concave; ear-opening small, roundish;

body and limbs moderate; rostral squarish, broader than high, with a median cleft behind, the upper corners entering the nostrils; nostril surrounded by first supralabial, internasal and two small scales; supralabials 10-12; lower labials 7-9; mental large, triangular, or rather subpentagonal; two pairs of chin shields, the median pair large in contact with each other just behind the mental; the outer pair much smaller not extended backward, beyond the median pair in contact with and supralabial; digits free, moderately dilated; infradigital lamellae obliquely curved, 5 under the thumb, 7 or 8 under the fourth finger; upper surface covered with uniform small granular scales, largest on the snout, smallest on the occiput; abdominal scales moderate, cycloid, imbricate; male with a well developed femoral series of pores interrupted medially, composed of 13 pores on each side; tail depressed, rounded, oval in section, covered above with uniform small scales, beneath with a median series of transversely dilated.

Coloration: (In formalin) above dark grey with obscure brown marblings, scarcely discernible dark band from lores through eyes, above ear opening to side of neck and a similar one on parietal region, underside whitish. (In alive) Greyish yellow on the ground with a dark brown and dark greyish patterns distributed irregularly; dark band running through the nostril to the fore-limbs and along the lateral side of the body gradually disappeared; on the back from the snout to the tail, the small dark transverse bands scattered; on the limbs and tail several dark bands existed; underneath of the body yellowish white; the color of the body quite changeable by the environment of the living place. In north part of Taiwan collecting them easily.

Variation: Fifteen specimens collected

from Taipei, Taiwan, two of them have in contact with each other; one male of two pairs of chin shields and are all them has 12 femoral pores on one side.

Measurements: m.m.

No.	TNU E0010	TNU E0011	TNU E0012	TNU E0013	TNU E0014	TNU E0015	TNU E0016	TNU E0017	TNU E0018
Sex	♀	♂	♂	♀	♀	♂	♀	♀	♂
Total length	115	116	113	104	115	103	88		98
Snout to vent	54	55	54	50	55	50	51	55	48
Vent to tip of tail	61	61	59	54	60	53	37*	D	50
Snout to eye	6	6	6	5	5	5	4.5	5	4
Snout to ear opening	14	14	14	12	13	12	13	13	13
Width of head	11	10	10	9	11	9	10	11	10
Forelimb from axilla	15.5	15	14	14.5	15	14.5	14	14	15
Hind limb from groin	21	21	20	20	20	19	20	21	19

No.	TNU E0019	TNU E0020	TNU E0021	TNU E0022	TNU E0023	TNU E0024
Sex	♀	♂	♂	♀	♂	♂
Total length	115			108	116	
Snout to vent	55	50	45	54	55	60
Vent to tip of tail	60	D	D	54	61	D
Snout to eye	5	5	4	6	6	6
Snout to ear-opening	12	13	11	13	14	15
Width of head	11	9	8	10	10	11
Fore limb from axilla	15	13	13	14	16	16
Hind limb from groin	20	19	18.5	21	21	22

*=Reproduce

D=Destroy

***Hemidactylus frenatus* Dumeril and Bibron**

Figure VII a, b.

Hemidactylus frenatus Boulenger, 1885, Cat. Liz. Brit Mus., 1. p. 120—Boulenger, 1890, Faun. Brit. Ind. Rept. & Amph., p. 85.—Brown, 1920, Proc. Acad., p. 183.—Stejneger, 1907, U. S. N. M., Bull. 58, pp. 172--176, figs. 167-168.—Van Denburgh, 1912, Proc. Cal. Acad. Sc., Vol III, p. 207.—Izuka, 1920, Catal. Nat. Hist. Depart.

Tokyo Imp. Mus., p. 94.—Maki. 1923, Dobutsugaku-Zasshi, Vol. 35, No. 415, pp. 199-200.—Horikawa, 1930, Trans, Nat. Hist. Soc. Formosan Vol. 20, No. 106, pp. 19-24.—Smith, 1934, Faun, Ind, Rept. & Amph., Vol. 2, Sauria. pp. 95-96.—Okada, 1936, Sc. Sep. T. B.D. Sect. B, Vol. 2, No. 42, pp. 264-268.—Wang, 1959, Qua. Jour. Taiwan Mus. Vol. IX, 1, p. 38—Wang, 1962, Qua. Jour. Taiwan Mus. Vol. XV, No. 3 & 4 p. 153.
Hemidactylus inornatus Hallowell, 1860, Proc.

Phila., p. 492.

Hemidactylus longiceps Cope, 1868, Proc.

Phila. Acad. p. 320.

Description: Snout longer than the distance between the eye and the ear-opening; forehead concave, ear opening small roundish, body and limbs moderate; rostral squarish, broader than high, upper outer corner entering nostril with a median cleft above; nostril pierced between first supralabial, rostral, and three nasals, of which the upper and the lower larger than the one between; 10 to 12 upper and 8 to 10 lower labials; mental large triangular or pentagonal; two or three pairs of chin-shields, the median pair broadly in contact with each other just behind the mental; the outer pair extend a short distance back of the median pair in contact with the first and second lower labials; digits moderately dilated, free, inner with sessile claw; 4 or 5 lamellae under the inner digits, 7-8 under the four fingers, and 9 or 10 under the fourth toes; upper surface covered with small granules, largest on the snout; on the back those granules intermixed with more or less numerous irregularly scattered round convex tubercles always much smaller than the ear-opening, sometimes almost entirely absent; abdominal scales moderate, cycloid, imbricate; male with a series of 30 or 36 femoral pores; tail rounded gradually

tapering, cylindric toward the tip, more flattened toward the base, covered above with very small smooth scales with indication of annulation, the posterior outline of annuli being marked by these large pointed tubercles on each side and forming longitudinal series; underside of tail with a median series of wide plates.

Coloration: (In formalin) Greyish brown above, with faint indications of dusky mottlings and cross marks; a more or less defined brown streak, light-edged above, on the side of the head, passing through the eye, extending sometimes along the side of the body; underside whitish. (In alive) dark grey on the back, often with faint yellowish and dark spots; light band crossing through the nostril to the anterior margin of ear opening; underneath dark greyish; upper and lower labials with black spots on the surface, yellowish white underneath, this color of the body quite changeable by the environment of the living place. In northern part of Taiwan as *H. bowringii* collecting them easily.

Variation: Twelve specimens collected from Taipei, Taiwan one of them has only two and half pairs of chin shields.

Measurements: m.m.

No.	TNU E0025	TNU E0026	TNU E0027	TNU E0028	TNU E0029	TNU E0030
Sex	♂	♂	♂	♀	♀	♂
Total length	113	103	94	103	102	88
Snout to vent	53	50	45	49	49	45
Vent so tip of tail	60	53	49	54	53	43
Snout to ear-opening	14	13	12	13	13	11
Greatest width	11	10	10	10	9	9

Fore limb from axilla	16	14	12	14	13	11
Hind limb from groin	20	18	16	17	18	15
No.	TNU E0031	TNU E0032	TNU E0033	TNU E0034	TNU E0035	TNU E0036
Sex	♀	♀	♀	♂	♂	♂
Total length	110	104	89	102	103	114
Snout to vent	52	50	45	48	48	53
Vent to tip of tail	58	54	44	54	55	61
Snout to ear-opening	14	13	11	13	13	14
Greatest width	11	10	9	10	10	11
Fore limb from axilla	16	15	12	14	15	16
Hind limb from groin	20	19	15	18	18	19

FAMILY AGAMIDAE
KEY TO GENUS AND SPECIES
OF AGAMIDAE

- 1a. No large symmetrical shields on dorsal surface of head; with movable eyelid, tympanum concealed (*Japalura*)
- 2a Width between outer superciliary edges at center of eye exceeding length of third toe without claw..... *swinhonis swinhonis*
- 2b. width between outer superciliary edges at center of eye not exceeding length of third toe without claw..... *swinhonis mitsukurii*

Japalura swinhonis swinhonis Gunther

Figure VIII

Japalura swinhonis Gunther, 1863, Rept. Brit. India, p. 133, p. 1 XIV, fig. B.—Boulenger, 1885 Cat. Liz. Brit. Mus., I, p. 309—Boulenger, 1887, Proc. Zool. London, p. 146.—Stejneger 1907, Bull. 58, U. S. N. M. p. 184-188. —Okada, 1938, C. V. Japan, p. 105.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, 36-37.

Japalura swinhonis swinhonis Gunther-Okada, 1937, Sc. Rep. T. B. D. Sect. B. Vol. 3, No. 51, pp. 84-88.

Description: (TNU E0037) Body compressed laterally, covered with unequal scales; tympanum hidden; tail very long, swollen at base, covered above and below with imbricate, keeled and pointed scales; rostral low, separated from nasal by one scale; superciliary ridge interrupted by a deep notch at the posterior end of orbit, followed by a single low spine; all head scales wrinkled and keeled; back covered by imbricated keeled scales at least three different sizes; low unchal and dorsal crests of pointed scales; the former flattened and conical; the latter triangular, a similar crest on the base of the tail, the three crests being continuous, the spines over the shoulder and between the hind legs; scales on flanks the spines over the shoulder and between the hind legs; scales on flanks not much different from dorsals, except of the axilla and near the groin which much smaller; scales on underside strongly imbricate and keeled, pointed but not mucronate; digits underneath with a double series of spiny keels; third and fourth fingers nearly equal; fourth toe without claw from base of third considerably longer than the distance from center of eye to tip of snout; third toe without claw, from base of the fourth shorter than the distance

between superciliary edges at center of eye; the distance from upper side of knee of hind leg, bent at right angles, to tip of longest toe without claw longer than the distance from tip of snout to inner angle of elbow; tail very long, swollen at base, covered above and below with imbricate, keeled and pointed scales.

Coloration: (In formalin) above brownish with a broad pale grey band along each side of back; on the dorsal back between the pale grey bands 6-7 chevron bands pointing backward, these bands separated from one another

by narrow white cross streaks which formed by larger scales; head with numerous black spots which on temporals and under eye form interrupted line radiating from the eye; throat and chest dark slate grey, the former with large, rounded, white spots; rest of underside pale grey; tail with alternating broad bands of pale grey and dark brown.

Remark: In Taiwan we can collect them easily. The author have studied a lot of them, now only list out 10 in the following data for representation.

Measurements: m.m.

No.	TNU E0037	TNU E0038	TNU E0039	TNU E0040	TNU E0041	TNU E0042	TNU E0043	TNU E0044	TNU E0045	TNU E0046
Sex	♂	♀	♀	♀	♂	♂	♀	♀	♀	♀
Total length	274	211	192	157	181	160	186	158		
Snout to vent	80	65	61	82	69	59	63	47	47	58
Vent to tip of tail	194	146	131	75*	112	101	123	111	D	D
Fore leg from axilla	36	30	26.5	37	26	24	28	23	22	24
Hind leg from groin	60	50	45.5	60	45	40	47	38	38	40
Length of 3rd toe	11.2	85	9.5	9.5	8.5	7	8	7	7	7
Width between superciliary space	12	9	9.5	12.5	9	8.5	9	8	7.5	8.5
Snout to center of eyes	13	10	10	12	10	9	8.5	8	8	9
Greatest Width of head	18	9.5	12	16	10	10	9	9	9	10

Japalura swinhonis mitsukurii stejneger

Figure IX

Japalura mitsukurii Stejneger, 1898, Journ. Sci. Coll. Tokyo, XII, pa. 3, p. 218.—Stejneger, 1907, Bull. 58, U. S. N. M., pp. 190-191.

Japalura swinhonis mitsukurii Van Denburgh, 1912, Proc. Cal. Ac. Sc., Vol. III, p. 209—Okada, 1937, Sc. Rep. T. B. D. Sect. B. Vol. 3, No. 51, pp. 88-90.—Wang, 1956, Qua. Jour. Taiwan Mns. Vol. IX, 1, p. 37.—Wang, 1962, Qua. Jour. Taiwan Mus. Vol. XV, Nos. 3 & 4, pp. 150-151.

Description: *Japalura swinhonis mitsukurii* differs from *J. swin. swinhonis* chiefly in proportions and coloration. Thus, the snout especially is longer and narrower; hind legs are somewhat longer and the tail very much so. As a rule, the scales are somewhat smaller with less contrast between the extremes, but the nuchal and dorsal crest are better developed, the latter continuous with the caudal, the keels on underside sharper and the scales more pointed. The coloration is marked by seven dark bars across the back separated by narrow pale cross stripes, which combine with the strongly defined light dorso-

lateral band into a ladder pattern, the throat in the male is pale bluish with large whitish spots, forming about three broad bars across the throat; the sides below the dorso-lateral band dark with numerous whitish spots; the white longitudinal stripe

under the eye is conspicuous, but mostly crossed by narrow black lines radiating from the eye.

Remark: The author collected specimens from southern part of Taiwan.

Measurements: m.m.

No.	TNU E0061	TNU E0062	TNU E0063
Sex:	♀	♀	♂
Total length	228	156	222
Snout to vent	68	50	69
Vent to tip of tail	160	106	173
Fore leg from axilla	32	22	31
Hind leg from groin	55	40	53
Length of 3rd toe	10.5	9	11
Width between suderciliary space	10	8	10.5
Snout to center of eyes	12	9.5	12
Greatest width of head	14	10	14

FAMILY SCINCIDAE KEY TO GENERA AND SPECIES OF SCINCIDAE

- 1a. One fronto-parietal only; interparietal small (*Emoia*).....*atrocostata*
- 1b. With a pair of fronto-parietals; interparietal large.
 - 2a. Supranasals present
 - 3a. Palatine bones in contact on the median line (*Mabuya*).....*longicaudata*
 - 3b. Palatine bones separated on the median line (*Eumeces*)
 - 4a. A single unpaired postmental; upper temporal of the second row largest, wedge-shaped; soles of hind feet granular with only a few large tubercles on heel.
 - 5a. Posterior loreal nearly as high as long normally in contact with two supralabials with five distinct pale longitudinal stripes.....*elegans*

- 5b. Posterior loreal much longer than high, in contact with three supralabials, with five pale longitudinal stripes
.....*marginatus*
- 4b. Two unpaired postmentals; lower temporal of the second row largest, wedge-shaped; sole of hind feet with two series of enlarged tubercles between heel and base of third and fourth toes. Normally no nasal and two pairs of nuchals..... *chinensis*
- 2b. Supranasals absent
 - 7a. Fronto-parietals in contact; claws not retractile.
 - 8a. Lower eyelid scaly (*Sphenomorphus*)
 - 9a. A patch of enlarged scales on the posterior lower surface of thigh ...
..... *boulengeri*
 - 9b. No a patch of enlarged scales on the posterior lower surface of thigh
.....*indicus*

- 8b. Lower eyelid with an undivided transparent disk (*Leiolopisma*).....
 laterals
 7b. Fronto-parietals not in contact; claws retractile(*Lygosaurus*)...*smaragdinum*

***Emoia atrocostata* (Lesson)**

Figure X a, b.

Scincus atrocrstatus Lesson, 1830, Voy. Coquille, Zoo., 2, p. 50, pl. 4, fig. 3.

Mabouya atrocostatum Gray, 1845. Cat. Lis., p. 95.

Lygosoma atrocostatum Boulenger 1887, Cat. Liz. Brit. Mus. 3, p. 295.

Emoia atrocostatum Barbour 1912, Men. Mus. comp. zool. Harvard Coll. 44, p. 94.—Taylor, 1922, Liz. Phil. p. 226-228.—Okada, 1938, A. Cat. V. Japan p. 106—Okada, 1939, Sc. Rep. T. B. D. Sect. B, Vol. 4, No. 73, p. 199-202—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IV, No. 1, p. 36—Wang, 1962, Qua. Jour. Taiwan. Mus. Vol. XV, Nos. 3 & 4 p. 149-150.

Description: Snout long and obtusely pointed; rostral wider than high in contact with fronto-nasal which broader than long; supranasals small and elongate widely separated each other by frontonasal; prefrontals large in contact with each other and frontonasal in

contact with frontal behind; frontal shorter than its distance from tip of snout and slightly smaller than fronto-parietal; four supraoculars; frontal in contact with two supraoculars; interparietal very small; parietals forming a suture behind the latter; a pair of nuchals; nostril in the center of a single nasal which nearly squarish surrounded by supranasal, postnasal, first supralabial and rostral; 7 supralabials; the 5th largest located under the eye; 7 lower labials; mental wider than rostral with a single unpaired postmental; three pairs of chin-shields, the first pair in contact with each other and the other separated by gulars; 34 smooth scales around the middle of the body; dorsals and ventrals subequal; preanals elongate moderately enlarged.

Coloration: (In formalin) grey brownish with some black and white spots; a black lateral band or series of spots on each side; underneath whitish.

Variation: One of the specimens has the frontonasal in contact with frontal so prefrontals not in contact with each other, one other specimen has 8 supralabials on right side and its 5th supralabial became longest but 6th and 7th under the eye; lower labials varied from 6 to 7.

Measurements:			
No.	* NTUM O2643	* NTUM O2670	* NTUM O2644
Sex.	♀	♀	♀
Total length	208	187	
Snout to vent	109	73	74
Vent to tip of tail	109	114	D
Vent to ear-opening	16	15	15
Greatest width of head	12	11	11
Fore leg from axilla	25	23	22
Hind leg from groin	36	37	35

D—Destroyed

*—Three specimens from Dept. of Zoology, National Taiwan. University.

Mabuia longicaudata (Hallowell)

Figure XI

Euprepis longicaudata, Hallowell, 1856, Trans. Ame. philos. Soc., (2) XI, p. 77, pl. IV, fig. 1.

Eumeces siamensis Gunther, 1864, Rept. Brit. India, p. 91.

Mabuia siamensis Boulenger, 1887, Cat. Liz. Brit. Mus. III, p. 189—Boulenger, 1912, Rept. Malay Pen, p. 84.—Flower, 1894, Proc. Zool. Soc. Lond. p. 847.

Mabuya longicaudata Stejneger, 1907, Bull. U. S. N. M. p. 214-216, pl. XVI, fig. 1-5.—Van Denburgh, 1912, Proc. Cal. Ac. Sci. Vol. III. p. 238—Smith, 1935, Fauna Brit. India, Rept. & Amph. Vol. II, Sauria, pp. 270-271.—Okada, 1939, Sc. Rept. T. B. D. Sect. B. Vol. 4, No. 73, p. 193-196.—Wang, 1956,—Qua. Jour. Taiwan. Mus. Vol. IX, No. 1, p. 33-34.—Wang, 1962, Qua. Jour. Taiwan Mus. Vol. XV, Nos. 3 & p. 148-149.

Description: Snout blunt; interorbital and lores flattened; Ear-opening round; rostral wider than deep not in contact with fronto-nasal; nostril pierced in the center of a single elongate nasal; a pair of narrow supranasals in contact with each other; a pair of small postnasal in contact with supranasal and anterior loreal; frontonasal somewhat wider than long and narrowly in contact with frontal, but separated from rostral by supranasals; prefrontals separated by fronto-nasal; loreals two, nearly equal in size, anterior loreal quadrangular, slightly longer than high in contact with second and third supralabials; posterior loreal in contact with third supralabial only; upper preocular smaller than 1st supraocular, in contact with

posterior loreal and prefrontal not in contact with anterior loreal; frontal a little longer than its distance from tip of snout, slightly narrowed posteriorly, in contact with second supraocular; supraoculars four, the 2nd largest in contact with entire outer edge of the frontal, as large as the 3rd and 4th together; fronto-parietal broadly in contact with each other; its length shorter than interparietal; single interparietal as long as parietal narrow posteriorly; parietals separated by interparietal with a pair of nuchals behind; 7 supralabials, the 5th largest under the eye; temporals subequal body scales undistinctly; low eye-lid scaly; superciliary scales 6, mental as wide as rostral; one postmental and 3 pairs of chin-shields followed; the 1st pair in contact with each other, but the others separated by gular plates; 7 lowerlabials; 28 scales rows around the body, dorsal and ventral subequal, subcaudals enlarged; a series of preanals twice as large as preceeding ones; 19 lamellae under the 4th finger and 25 under longest toe;

Coloration: (In formalin) above chestnut brown, seven black longitudinal lines extending down the back along the edges of the scales; a broad black lateral band sprinkled with a few white spots, from posterior border of the eye through overear and shoulder to the begining of the tail; above narrowly edged with white; below the lateral band scattered black spots; dorsal part of head scattered with black spots; sutures between 2nd, 3rd, 4th and 5th upper labials edged with black; underside greenish yellow; posterior half of tail brown.

The author examined two specimens of this species, one from National Taiwan University, the other from Taiwan Normal University.

Measurements: (m.m.)

No.	* MNTU		TNU E0070
Total length	345		
Snout to vent	117		95
Vent to tip of tail	228		D
Greatest width of head	16		14
Snout to ear-opening	205		21
Fore leg from axilla	28		28
Hind leg from groin	43		40

MNTU—This specimen from Department of Zoology,
National Taiwan University.

D —Destroyed.

Eumeces elegans Boulenger

Figure XII

Mabouia chinensis Swinhoe, 1863, Ann. Mag. Nat. Hist. (3), XII, p. 225,—Gn. enther, Rept. Brit. India., 1864, p. 83, pl. X, fig. 7,—Boettger, 1885 offenbach. Ver. Naturk., 24-25, Ber., p. 144.

Eumeces elegans Boulenger 1887, Cat. Liz. Brit. Mns. III, pp. 271-272,—Stejneger, 1898, Journ. Sci. Coll. Tokyo, XII, pt. 3, p. 220—Stejneger. 1907, Bnll. 58, U. S. N. M. pp. 202-205—Van Denburgh, 1912, Proc. Cal. Ac. Sc. Vol. III, pp. 223-225.—Stanley, 1914, Jour. N. China. Asiat. Soc. XIV. p. 25,—Stejneger, 1925, Proc. U. S. NAT. Mus. LXVI, p. 45—Schmidt, 1927, Bull. A. M. N. H. Liv. p. 505—Pope, 1929, Bull. Amer. Mus. LVIII, p. 386-388. fig. 26.—Pope, 1935, Rept. China, p. 486.—Taylor, 1935, Bull. Uni. Kansas. Sci. Bull, Vol. XXIII, pp. 245-253, fig. 34-35.—Okada, 1939, Sci. Rep. Tokyo Univ. Literature & Sci. sec. B, Vol. 4, No. 37, pp. 181-187.—Wang 1956, Qua. Jour. Taiwan Mus. Vol. 9, No. 1, p. 35.

Eumeces chinensis formosensis Van Denburgh, 1912, Proc. Cal. Ac. Sci, Vol. III pp. 226-227.

Lygosoma elegans Guenther, 1888, Ann. Mag. Nat. Hist, (6), 1, p. 169.

Description: Snout slightly long and obtusely pointed; rostral high, rather narrow, the portion visible from above slightly smaller than frontonasal; supranasals broadly in contact behind rostral; nostral in the anterior portion of a single nasal which much higher in front than behind; no postnasal; frontonasal much broader than long not in contact with rostral, but with frontal; prefrontals smaller than fronto-nasal, not in contact with each other, but with both loreals, upper preocular and anterior supraocular; anterior loreal higher than the posterior, in contact with supranasal, nasal, first and second supralabials; posterior loreal pentagonal, in contact with second and third supralabials; frontal longer than parietals and than its distance from tip snout, anteriorly a little wider than behind, in contact with three supraoculars; four supraoculars, the second largest; six or seven superciliaries; fronto-parietals smaller than interparietal; interparietal as long as the parietals and broadly in contact behind with the nuchals; parietals not in contact each other behind the interparietals; one pair of nuchals; 7 supralabials, the

seventh largest. the fifth under the eye; two temporals in first row, lower one many times larger than the upper one; upper temporal in the second row very large, wedge-shaped, or conical, with the apex forward; lower temporal of the second row long and narrow with nearly parallel upper and lower edges; a single scale between seventh supralabial and ear-opening, which bordered anteriorly by several projecting lobules; mental followed by single pentagonal, unpaired postmental; seven lower labials, the sixth longest; 28 scales rows around the middle of body, those on the sides apparently smaller than those on back and abdomen; a pair of large prenasal plates; soles of hind limb granular with a single larger tubercle and several others at the heel; a small keeled scale behind the vent at corner; tail cylindric, tapering, with a series of wide transverse plates underneath.

Coloration: (In formalin) In adult above dark alive brown on the middle of the back, drak brown on the sides becoming more lighter

toward the terminal half of the tail, with five distinct pale longitndinal stripes, viz. one median, somewhat broader than the others bifurcating on the interparietal, each branch following the outer edge of the frontal to the snout which pale buff; a dorsolateral stripe on each side proceeding from the outer edge of the supraoculars down the sides of back, two scale widths from the median stripe; finally lateral stripe on each side originating on the upper lip proceeding backward through the ear-opening and above fore and hind limbs; all continued on the tail and gradually disappear; the outer edge of the frontal to the snout buff; underside of head pale buff, abdomen and flanks slaty. (In alive) young, dark blackish, with five strongly defined cream lines extending halfway back on tail, the median one bifurcating on nuchal, each branch following the outer edge of the frontal to the snout; dorsolaterals from the prefrontals or the first superciliaries following the lower two thirds of the third scale.

Measurements: (m.m.)

No.	TNU E0071	TNU E0072	TNU E0073	* TNU E0074	* TNU E0075
Sex	♂	♀	♀	♀	♂
Total length	156	179	192	105	125
Snout to vent	65	68	69	54	64
Vent to tip of tail	91	111	123	51	61
Greatest width of head	10.5	10	10.5	8	8
Snout to ear opening	14	13	14	11	11
Fore leg from axilla	18	18	18	17.5	18
Hind leg from groin	28	27	28	23	23

* Young specimen

Eumeces marginatus (Hallowell)

Figure XIII a, b.

Plestiodon marginatus Hallowell, 1860, Proc. Acad, p. 492.

Eumeces marginatus Boulenger, 1887, Cat. Liz.

Brit. Mus., III, p. 371. — Boulenger, 1892, Ann. Mag. Nat. Hist., (6), X, p. 302. — Boettger, 1888, Ber. Senckenberg. Naturf. Ges. Abh., p. 188, — Okada, 1891, Cat.. Vert.

Japan, p. 70, —Brown, 1902, Proc. Acad. Nat. Sci. Phila., p. 185. —Stejneger, 1907, Bull. 58, U. S. N. M., pp. 205-208, —Barbour, 1909, Proc. N. Eng. Zool. Club, IV, Nov. 24, p. 63. —Van Denburgh, 1912, Proc. Cal. Ac. Sc., Vol. III, pp. 216-217, —Taylor, 1935, Bull. Univ. Kansa, Sci. Sull. Vol. XXIII, pp. 267-271, pl. 18, fig. 40, —Okada, 1939, Sci. Report. Tokyo Univ. Literature & Sci, Sec. B. Vol. 4, No. 73, p. 173-176. —Wang, 1956, Qua. Jour. Taiwan Mus., Vol. 9, No. 1, p. 35.

Description: Rostral small pentagonal; supranasals present, in contact behind rostral; nostril in the anterior portion of a single nasal somewhat higher in front than behind; no postnasal; fronto-nasal somewhat broader than long not in contact with rostral, but broadly so with frontal; prefrontals smaller than fronto-nasal in contact with both loreals, upper preocular and anterior supraocular but not with each other; anterior loreal high and narrow in contact with nasal, first and second supralabials; posterior loreal pentagonal, much wider than high, in contact with second, third supralabials; frontal longer than parietals and much longer than its distance from tip of snout, anteriorly wider than behind in contact with three supraoculars: four supraoculars, none unusually developed; fronto-parietals scarcely more than half as large as interparietal; interparietal as long as parietals, broadly in contact behind with nuchals; parietals rather small separated by interparietal; one pair of nuchals; seven supralabials, the seventh largest, fifth under the eye; two temporals in first row, lower one several times larger than upper one; two temporals in second row, the upper one largest wedge-shaped with the apex forward, the lower narrow nearly parallel with upper and lower edges; a single large scale between seventh supralabial and

ear-opening which bordered anteriorly by several projecting lobules; mental followed by a single narrow, pentangular, unpaired postmental; seven lower labials, the sixth very long and narrow; 26 scales around the middle of body, those on the sides apparently smaller than those on back and abdomen; a pair of large preanal plates; length of hind leg contained two and half times in the distance from snout to vent; the depressed limbs overlapped by the longest toe; sole of hind foot with small scales or granules, but no enlarged tubercles except a few at heel; a strongly keeled scale behind the vent at each corner; tail cylindrical by swollen at base underneath, with a series of wide transverse plates on the underside.

Coloration: (In alive) Above grey brown with five pale longitudinal stripes; median one somewhat broad than the others, originating between a pair of nuchals proceeding backward to the base of tail; a dorsolateral stripe on each side from preocular proceeding backward through the outer edge of the supraoculars down the side of the black, one scale width from the median stripe; a lateral white stripe on each side from the upper lip proceeding backward through the ear-opening and above both fore and hind limbs and all continued on the tail gradually disappear; between dorso-lateral and lateral stripe a dark redish band on each side; under lateral whitish stripes a lot of orange redish spots forming a band proceeding backward above the fore limbs and gradually disappear; underside pale buffy white, addomen and flanks grayish.

Variation: Four specimens collected from Grass mountain Formosa, two of them five stripes absent, nearly light blue greenish above; only a latetal whitish stripe on each side from upper lip

proceeding backward through the ear-opening and above fore limbs then gradually disappear;

a well-defined patch of enlarged irregular scales on posterior side of femur.

Measurements: (m.m.)

No.	TNU E0076	TNU E0077	TNU E0078	TNU E0079
Sex.	♀	♀	♂	♂
Total length	147	162		163
Snout to vent	66	77	64	77
Vent to tip of tail	81	85	D	86
Greatest width of head	11	12	10	12
Snout to ear opening	14	16	12.5	16
Fore leg from axilla	18	19.5	17	18
Hind leg from groin	27	28	25	27

D=Destoryed

Eumeces chinensis (Gray)

Figure XIV a, b.

Tiligua chineusis Gray, 1838, Ann. Nat. Hist., II, p. 289.

Mabuia chinensis Swinhoe, 1863, Ann. Mag. Nat. Hist., (3), XII, p. 225.

Eumeces chinensis—Boulenger, 1887, Cat. Liz. Brit. Mus., III, p. 375.—Flower, 1896, Proc. Zool. Soc. Londnn, p. 876.—Stejneger, 1898, Jour. Sci. Coll. Tokyo, XII, pt. 3. 220.—Stejneger, 1907, Bull. U. S. N. M. No. 58, p. 208, Fig. 185.—Van Denburgh, 1912, Proc. Cal Acad. Sci., (4), III, pp. 225-226.—Smith, 1923, Journ. Nat. Hist. Soc. Siam, VI, N.o. 2, p. 20.

Eumeces chinensis chinensis (Gray), 1939, Sc. Rep. T. B. D. sect. B, Vol. 4, No. 73, pp. 168-172.—Stejneger, 1926, Proc. U. S. Nat. Mus., 66, Art. 25, p. 47.—Schmidt, 1927, Bull. Amer. Mus. Nat. Hist., 54, Art. 4, p. 503.—Pope, 1929, Bull. Amer. Mus. Nat. Hist., 58, p. 384, 387, fig. 2.—Taylor, 1935, Bull. Univ. Kansas, Vol. XXIII, pp. 320-328. pl. 25. Figs. 2, 3; Figs. 49. 50.

Eumeces chinensis Boulenger, 1887, Cat. Liz. Brit. Mus. III, p. 375—Stejneger, 1898, Journ. Sci. Coll. Tokyo, XII, pt. 3. p. 220

—Stejneger 1907, Bull, 58, U. S. N. M. p. 208-210. Fig. 185.—Van Denburgh, 1912, Proc. Cal. Ac. Sc., Vol. III, p. 225-226.—Wang 1956. Qua. Jour. Taiwan Mus. Vol. IX, No. 1, pp. 34-35.

Eumeces chinensis formosensis Van Denburgh. 1912, Adv. Diag. New Rept. Amph. Loo Choo Is., p. 1.—Van Denburgh, 1912, Proc. Calif Acad. Sci., (4) III pp. 226-227.

Description: Rostral large nearly triangular; nostril in the center of a single squarish nasal; normally no postnasal; prefrontals somewhat smaller or larger than fronto-nasal; frontal in contact with or not in contact with frontonasal; anterior loreal nearly twice as high as wide in contact with first and second supralabials, supranasal, fronto-nasal and prefrontal, but not in contact with upper preocular; posterior loreal slight longer than high in contact with second and third supralabials; frontal much longer than parietals. anteriorly somewhat wider than behind, in contact with anterior two supra-oculars; 4 supraoculars, the second largest; interparietal pointed behind, somewhat shorter than parietals; normally two pairs of nuchals; two temporals in second row, the upper rather narrow, the lower much

larger, wedge-shaped, with the apex forward; two small scales between seventh supralabials and ear-opening; 7 lower labials; 24 smooth scales rowed around the middle of the body, laterals smaller than dorsals; a pair of large preanal plates;

Coloration: (In adult) Above yellow brown, the scales having a few black areas; on each side wide orange redish band from proceeding backward to the base of tail with some irregular white and black spots; ventral surface dull cream. (In young) Above clay-color with the network of brownish black color, each scale being marked with the dark and light color, in such a way as to bring out a median dorsal,

and on each side a dorsolateral pale black-edged stripe from first nuchals to some distance on tail; a wide orange redish band from each side of head proceeding backward through the ear-opening along the flanks to the base of tail, but with irregular black and white spots; underside uniform pale yellowish.

Variation: fifteen specimens collected from Grass Mountain and Taipei Hsien, Taiwan two of them with large distincted postnasals on each side, two of them with postnasal only on one side, one of them the prefrontals not in contact each other, five of them with three pairs of nuchals, but the other two of them only with $2\frac{1}{2}$ pairs of nuchals.

Measurements: (m.m.)

No.	TNU E0080	TNU E0081	TNU E0082	TNU E0083	TNU E0084	TNU E0085	TNU E0086	TNU E0087
Sex	♀	♀	♀	♀	♂	♂	♀	♀
Total length	220	255	189	230	282	206	200	158
Snout to vent	96	112	103	82	118	80	77	112
Vent to tip of tail	122	143	86	148	164	126	123	146
Greatest width of head	13	16	15	11	16	12	12	17
Snout to ear-opening	18	19	21	18	23	16	14	23
Fore leg from axilla	25	26	26	23	39	20	19	30
Hind leg from groin	36	36	39	33	40	27	27	41
No.	TNU E0088	TNU E0089	TNU E0090	TNU E0091	TNU E0092	TNU E0093	TNU E0094	
Sex.	♀	♀	♀	♀	♂	♂	♀	
Total length	283	266	255	244	237	223	185	
Snout to vent	118	96	112	94	116	240	130	
Vent to tip of tail	165	170	143	150	121	83*	55*	
Greatest width of head	18	18	19	16	24	23	18	
Snout to ear-opening	20	21	19	20	23	25	20	
Fore leg from axilla	25	23	24	24	24	28	25	
Hind leg from groin	38	36	36	34	35	37	36	

*=Destoryed

Sphenomorphus boulengeri Van Denburgh

Figure XV a, b.

Sphenomorphus boulengeri Van Denburgh, 1912,

Proc. Calif. Acad. Sci., (4) III, p. 232. —

Pope, 1929, Bull Amer. Mus. Nat. Hist.,

LVIII, p. 378. — Pope, 1935, Bull Amer.

Mus. Nat. Hist. Vol. X p. 481. — Wang,

1962, Qua. Jour. Taiwan Mus. Vol. XV,

No. 3 & 4. p. 145.

Sphenomorphus leveretti Schmidt, 1927, Amer.

Mus. Nat. Hist., LIV p. 422. fig. 10.

Sphenomorphus indicus Stejneger 1925, Proc.

U. S. Nat. Mus., LXVI, Art. 25, p. 52.—

Okada, 1932, Bull. Bio. Soc. Japan, Tokyo,

Vol. III, No. 1, pp. 16-17.—Okada, 1939,

Studies on the lizards of Japan. pp. 196-199.

Description: Rostral wide broadly in contact with fronto-nasal, about equal to $\frac{1}{2}$ of the frontonasal; nostril pierced in a single nasal no supranasal and postnasal; frontonasal shorter than frntotal, broadly in contact with nostril and frntotal; prefrontals squarish separated by frontoansal, about $\frac{1}{2}$ width of frontonasal; loreals two, anterior loreal narrower and higher than posterior one, in contact with nasal, frontonasal, prefrontal, first and second upperlabials; posterior loreal as wide as high, in contact with prefrontal, 2nd and 3rd upper labials; upper preocular large, triangular, but smaller than first supraocular in contact with posterior loreal and prefrontal not in contact with anterior loreal; frontal longer than its distance from tip of snout, narrowed posteriorly, broadly in contact with frontonasal and anterior two supraoculars; four supraoculars anterior largest about two times of the length of the others; fronto-parietals longer than interparietal in contact with 2nb, 3rb and 4th supraoculars; Interparietal as wide as long, longer than the length of frontoparietal suture; parietals with a short suture behind the interparietal, with a pair of nuchals; seven supralabials, the 5th and 6th largest,

below the eye; two rows of temporals, the upper of second row largest; low eye-lid scaly; ear-opening large without lobules; supercilliary scales 8-11; mental as wide as rostral; one postmental and 4 pairs of chin-shields; postmental in contact with 1st and 2nd lower labials. the 1st pair of chin-shields in contact with each other, the others separated by gulars; 7 lowerlabials; 37 scale rows around of body; dorsals and ventrals subequal; 4 preanal scales; two median enlarged preanals longer than longitudinal axis of anterior chin-shield; scales under hand and foot smooth; scales under 4th finger 13; 22 under longest toe; on the posterior lower surface of thigh with a patch of enlarged scales.

Coloration: (In formalin) above olive brown, scattered with black spots, with a slender median black line; from loreal to hind legs a broad blackish band with zigzag edges and with median series of white spots; above this black band a narrow white band from 1st loreal through median part of ear-opening to groin, not interrupted by black spots; below this again a dark brown band with median large white spots; supraoculars spotted with black; under-side whitish; tail pale brown with pale brownish spots on the continuation of dorsal and lateral blackish band legs above brown with light spots; sutures of labials marked with dark spots.

Measurement:

No.	TNU 0095	NTUM 02742	NTUM 02743	NTUM 02744	NTUM 02745	NTUM 02746
Sex.	♀	♂	♀	♀	♀	♂
Total length	166	165	165	129	162	162
Vent to snout	65	65	61	68	62	78
Vent to tip of tail	101	100	104	61	100	84

Greatest width of head	9	9	9	9	9	10
Snout to ear-opening	8	8	13	13	14	15
Fore leg from axilla	21	22	18	17	16	19
Hind leg from groin	32	35	31	29	31	32

Sphenomorphus indicus (Gray)

Figure XVI a, b.

Hinulia indica Gray, 1853, Ann. Mag. Nat. Hist., (2) XII, p. 388.

Lygosoma indicum Boulenger 1887, Cat. Liz Brit. India, Report., p. 241 pl. XVI, figs. 1-k.—Boulenger, 1890, Fauna Brit. India, Rept., p. 195.—Boulenger, 1899, Proc. Zool. Sec. London p. 162.

Lygosoma formosensis Thompson, 1912, Herp. Not., No. 2.

Sphenomorphus indicus Stejneger, 1907, Bull. 58, U. S. N. M., pp. 216-218.—Schmidt, 1927, Bull. Amer. Mus. Nat. Hist. LIV, p. 495—Pope, 1929, Bull. A. M. N. H., LVIII, p. 380—Pope, 1935, Rept. China, Nat. Hist. Cent. Asia, Vol. x, p. 482—Okada, 1939, Sci. Reports. Tokyop Univ. Literature and Sci. Sec. B, Vol. 4, No. 73. p. 196.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1. p. 33.

Sphenomorphus indicus formosensis Van Denburgh 1912, Adv. Diag. New. Rept. Amph. Loo-choo Is. Formosa, p. 6—Van Denburgh, 1912, Proc. Cal. Ac. Sci., Vol. III, pp. 231-232.

Sphenomorphus boulengeri Van Denburgh, 1912, Proc. Cal. Ac. Sci., Vol. III, pp. 232-234.

Description: Snout obtusely pointed; rostral wide and convex broadly in contact with frontonasal and nasal; nostril in the center of a single squarish nasal; no supranasal and postnasal; frontonasal broader than long in contact with rostral and forming a narrow suture with the frontal; prefrontals smaller than frontonasal in contact with both

anterior and posterior loreals, upper preocular and anterior supraocular but not with each other; anterior loreal shorter than posterior one in contact with 1st and 2nd, supralabial, prefrontal and frontonasal; loreal region vertical; upper preocular smaller than anterior supraocular not in contact with anterior loreal; frontal long, anteriorly wide tapering backward almost to a point in contact with anterior two large supraoculars, the suture with third supraocular very small; fronto-parietals and interparietal distinct, the former in contact with third and fourth supraoculars; interparietal obtusely pointed behind separating parietals; parietals with a short suture behind interparietal; a pair of small nuchals; seven supralabials, the fifth and the sixth largest below the eye; lower eye-lid scaly; ear-opening large without lobules; supercilliary scales 7-8; mental large as wide as rostral, followed by one azygous postmental, the former band-like the latter pentagonal; four pairs of chin-shields followed the postmental; 38 scale rows around the middle of body, laterals smallest; scales smooth; 4 preanal scales, median pair largest; soles nearly uniformly granular.

Coloration: Above olive brown with numerous small scattered blackish spots on each side of flanks; from loreal to hind legs a broad blackish band with zigzag edges and median series of small white spots; above and below this band with a white line which from first proceeding backward through the median part of ear-opening to groin somewhat interrupted by black spots; below this again a pale dark brown band with median large white spots; supraoculars spotted with black

color; under side whitish; tail olive brown with pale brown spots on the continuation of dorsal and lateral blackish band; legs above brown with light spots, under side pale yellowish.

Variation: Supralabials and lowerlabials varying from 7-8; superciliary scales also

varying from 7-8; one pair of small postnasals presenting in some of specimens collected from Grass Mountain.

Remark: a lot of specimens collected from Grass Mountain and Peitu, Taipei, Taiwan by the author.

Measurements:

No.	TNU E0100	TNU E0101	TNU E0102	TNU E0103	TNU E0104	TNU E0105	TNU E0106	TNU E0107	TNU E0108	TNU E0109
Sex.	♀	♂	♂	♂	♂	♀	♀	♂	♀	♂
Total length	173	179	145	186	183	178	151	174	174	160
Snout to vent	69	75	72	67	73	70	72	79	63	56
Vent to tip of tail	104	104	73	119	113	108	79	95	111	104
Greatest width of head	10	10	10	9	9	10	11	10	9	9
Snout to earopening	12	14.5	13	13	13	12	14	13	13	12
Fore leg from axilla	19	19	18	19	18	18	18	18	17	17
Hind leg from groin	26	28	29	31	28	28	28	28	29	26

Leiopisma laterale (Say)

Figure XVII

Lygosoma laterale Boulenger, 1885, Cat. Liz.
Brit. Mus. III, p. 263.

Leiopisma laterale Stejneger, 1907, Bull. 58,
U. S. N. M., pp. 218-221. Figs. 190-192—
Van Denburgh, 1912, Proc. Ac. Sci., Vol.
III, p. 235-236.

Eumeces modestus Guenther, 1864, Pept. Brit.
Indea, p. 87, pl. X, Fig. G.

Leiopisma laterale formosensis Van Denburgh,
1912, Proc. Cal. Ac. Sci., Vol. III, p. 238.

Description: (After Okada, 1939, Sci. Pept. Tokyo Bunrika Daigaku, Sect. B, Vol. 4, No. 73, pp. 203-204.) Rostral broadly in contact with frontonasal; no supranasals in the center of a single shield; no postnasal; fronto-nasal in contact with frontal, broader than long; prefrontals not in contact; anterior loreal in touch with first supralabial, in contact with second supralabial, fronto-parietal and prefrontals; frontal much longer than its distance from

tip of snout, shorter than length of fronto-parietals and interparietal together, very wide in front, tapering nearly to point behind, in contact with first and second supraoculars; four supraoculars, the second largest; fronto-parietals long and narrow, longer than interparietal shaped like the frontal but not so long; parietal long and narrow, as long as frontal in contact behind interparietal; four pairs of nuchals, the first not in contact; lower eyelid granular with a small, transparent disk; seven supralabials, the fifth under the eye, the sixth largest; a very large upper temporal, fan-shaped with the apex forward in contact with the entire edge of the parietal; ear-opening large, as large as eye, without lobules along the anterior border; a single unpaired pentagonal shield behind the mental; 28 smooth scale rows around the middle of the body, those on the sides slightly smaller; two large preanal plates with a small one on each side; hind leg contained about three times in distance from snout to vent; fore and hind legs failing to meet

when pressed along the side; 16 lamellae under longest toe; tail cylindric, pointed with transversely widened plates underneath only towards to the tip.

Coloration: (In alcohol) above uniform olive brown; a blackish-brown line from nostril through eye widening on tympanic region and extending above the ear-opening backward along fore and hind legs to sides of tail; as a broad dark-brown band above and below narrowly and indistinctly edged with whitish; on the flanks below this edge a paler brown, more edged with whitish; on the flanks below this edge a paler brown, more indistinct band; underside pale.

Remark: no specimen in the author's collections

Lygosoma smaragdinum (Lesson)

Lygosoma smaragdinum Boulenger, 1887, Cat. Liz. Brit. Mus. 3, p. 250.—Okada, 1938, A. Cat. V. Japan p. 106.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, p. 36. *Dasia smaragdinum* Taylor, 1922, the Liz. of the Philippine islands p. 205-208.

Description: (After Taylor, 1922, The Liz. of Philip. islands p. 205-208) Rostral low, wider than deep; no supranasals; fronto-nasal as long as broad, anterior border convex, forming a wide suture with rostral; prefrontals very large, in contact medially; frontal longer than its distance to end of snout, and longer than the combined parietal length; fronto-parietals short distinctly in contact; interparietal small; three pairs of nuchals, nostril pierced in a single undivided nasal; latter followed by two elongate loreals; four supraoculars, the first three bordering frontal; nine supercillaries, the first two large, the others small; nine upper labials, the sixth very wide below eye; two much enlarged temporals; seven lower labials; postmental at

least three time size of mental; three pairs of chin shields, two pairs in contact; eye moderately large; lower eyelid scaly; ear-opening small with anterior lobules projecting; eye nearer ear than end of snout; ear nearer foreleg; twenty-four rows of scales around body, smooth, dorsals enlarged; preanals slightly enlarged; scales at base of tail very small and with a transversal dilated row under the remainder; limbs strong, well developed; depressed hind limb reached elbow; digits compressed, fourth toe with thirtythree smooth lamellae below; an enlarged heel plate.

Coloration: (In alive) Anterior part of body bluish green with slight brownish dorsally, the edge of each scale narrowly edged with dark brown; head the same except labials, which are very light greenish white; posterior part of body brown with small, light greenish spots surrounded by darker brown; tail except at base greenish, legs brown spotted with greenish; below greenish to yellowish white; underside of tail greenish; an indistinct dark stripe behind hind leg continued a short distance on tail.

Remark: no specimens in author's collections

FAMILY LACERTIDAE KEY TO THE GENUS AND SPECIES OF LACERTIDAE.

- 1a. Ventral scales squarish, arranged in transverse series; femoral or inguinal pores present. (*Takydromus*)
 - 2a. Three pairs of submental shields
 - 3a. One inguinal pore on each side *septentrionalis*
 - 3b. Two inguinal pores on each side *formosanus*
 - 2b. Four pairs of submental shields
 - 4a. One inguinal pore on each side

- *sauteri*
 4b. Four or five inguinal pores on each
 side *kuehnei*

***Takydromus septentrionalis* (Gunther)**

Figure XVIII, XIX

Takydromus septentrionalis Gunther, 1864, Rept. Brit India, p. 70, pl. VIII.—Boulenger, 1899, Proc. Zool. Soc. London, p. 161.—Stejneger, 1907, Bull. 58, U. S. N. M. pp. 232–234.—Schmidt, LIV, p. 487.—Pope, 1929, LVIII, p. 374.—Pope, 1935, A. N. N. H., p. 474.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol IX No. 1, p. 39.

Description: Body slender with long tail; snout obtusely pointed; rostral wider than high not in contact with frontonasal; supranasals present in contact with each other just behind the rostral; frontonasal slightly wider than long, broadly in contact with anterior loreal; three supraoculars, two anterior large supraoculars in contact with frontal, the smallest posterior supraocular in contact with fronto-parietals; parietals slightly longer than frontal; interparietal moderate; interoccipital much smaller, about the size of third supraocular; seven supralabials, the fifth under the eye, several small scales between seventh supralabial and ear opening; an elongated shield along the anterior half of the outer edge of the parietal; five long and narrow lowerlabials; mental broader than rostral nearly triangular followed

by three pairs of submental shields two anterior pairs in contact with each other and 3rd pair separated by granular scales; nuchals absent; small and cycloid-like scales in the nuchal region, gradually enlarged and keeled posteriorly, forming three longitudinal rows on each side; two rows of keeled small scales on median line gradually disappeared at half of trunk; laterals granular forming a broad longitudinal band on each side; eight rows of strongly keeled squarish ventral scales pointed behind; preanal plate large, smooth, with two smaller plates on each side; a single inguinal pore on each side; tail covered above and below with strongly keeled scales as large as the largest dorsals.

Coloration: (In alive) Olive brownish dorsally, lateral granular band slaty; on each side a pale yellowish dorso-lateral line from nuchal region proceeding backward along the flanks to the base of tail; another pale yellowish line from nostril proceeding backward through lower eyelid and ear-opening to the shoulder; lower surface whitish, suffused with tawny on tail.

Variation: A lot of specimens of this species collected in the campus of Taiwan Normal University, two of them have four submental shields on right side and three submental shields on left side; another two specimens lateral granular band in green color

No:	Measurements: (m. m.)									
	TNU E0181	TNU E0182	TNU E0183	TNU E0184	TNU E0185	TNU E0186	TNU E0187	TNU E0188	TNU E0189	TNU E0190
Sex.	♀	♂	♂	♀	♂	♀	♂	♀	♀	♀
Total length	237	185	200	211	190	176	168	148		145
Snout to vent	57	56	51	55	52	48	50	52	55	38
Vent to tip of tail	180	129	149	156	138	128	118	96*	D	107
Greatest width of head	6	6	6	6	6	5	5	5	5	4
Fore leg from axilla	19	19	17	19	19	16	16	16	17	13
Hind leg from groin	23	24	24	23	25	23	23	24	24	20

No.	TNU E1180	TNU E1183	TNU E1183	TNU E1184	TNU E1185	
Sex.	♀	♀	♂	♂	♂	
Total length	148	168	185	190	218	* = Reproduced
Snout to vent	51	52	56	56	57	D = Destroyed
Vent to tip of tail	97	116	129	134	161	
Greatest width of head	5	5	6	6	6	
Fore leg from axilla	16	16	17	19	19	
Hind leg from groin	24	24	25	25	25	

Takydromus formosannus Boulenger

Figure XX

Takydromus formosanus Boulenger, 1894, Ann. Mag. Nat. Hist. (6), XIV, d. 462.—Stejneger, 1907, Bull. 58, U. S. N. M., p. 235.

Description: (TNU C030) Snout elongate; rostral wider than high in contact with supranasals but not in contact with frontonasal; frontonasal larger than prefrontal; separating from frontal by prefrontals; three supraoculars, 3rd one smallest; a series of granules between the supraoculars and superciliaries; a small shield separating the large anterior supraocular from temporal; scales very small and keeled; seven supralabials; sixth one largest and under the eye; mental large nearly triangular followed by three pairs of submental shields; six longitudinal series of large strongly keeled scales, separated on the vertebral line by two series of small scales; ten rows of strongly keeled ventral scales pointed behind; two inguinal pores on each side; a pair of keeled preanal plates slightly large, with two pairs of plates on each side; tail long, covered above and below with strongly keeled scales and as large as the largest dorsals.

Coloration: (In formalin) Dark brownish dorsally, lateral granular band dark slaty; a pale grey line from snout proceeding backward through upper eyelid to the base of tail;

another dark line from nostril proceeding backward through the eye and ear-opening to shoulder disappeared; lower surface pale yellowish.

Remark: One specimen from Tunghai University, Taichung, Tawan.

No.	Measurement: (m.m.)	THU 0030
Total length	165
Snout to vent	42
Vent to tip of tail	123
Greatest width of head	5
Fore leg from axilla	13.5
Hind leg from groin	18

Takydromus sbuteri Van Denburgh

Figure XXI

Takydromus sauteri Van Denburgh—Hirose, 1926, Amaeba, Vol. I, No. 2, p. 39-42.—Okada, 1929, pp. 38-39.—Okada, 1932, pp. 19-20.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, p. 39.—Wang, 1962, Qua. Jour. Taiwan Mus. Vol. XV, Nos. 3 & 4, pp. 153-154.

Description: (TNU E0191) Snout elongate; rostral broad than high in contact with supranasals but not in contact with frontonasal; frontonasal nearly hexagonal; prefrontals longer than frontonasal in contact with each other; frontal feebly keeled as long as its distance from tip of

snout, longer than width, slightly narrowed posteriorly; frontoparietals shorter than frontal; parietals large separated by interparietal and two azygos small interoccipitals; seven supralabials, 5th largest and under the eye; seven lower labials; mental broader than rostral followed by four pairs of submental shields, two anterior pairs in contact with each other and two other pairs separated by granular scales; nuchals absent; six longitudinal series of larger strongly keeled scales, separated on the vertebral line by a series of keeled small scales; six rows of strongly keeled squarish ventral scales pointed behind; preanal plate large, smooth two small plates on each side; a single inguinal pore on each side; tail long covered above and below with strongly keeled scales and larger than the largest dorsals.

Coloration: (In formalin) Dark brown dorsally; lateral granular band dark bluish; supralabials, lower edge of eye, ear opening, lateral surfaces of legs, and ventral whitish.

Measurements: (m.m.)

No.	TNU E0191
Total length	250
Snout to vent	57
Vent to tip of tail	193
Greatest width of head.....	7
Fore leg from axilla	20
Hind leg from groin	27

Takydromus kuehnei Van Denburgh

- Takydromus kuehnei* Van Denburgh, 1912
Proc. Calif. Acad. Sci., (4), II, pp. 252-254.
—Okada, 1932 Bull. Bio. Soci. Japan,
Tokyo. Vol. III, No. 1, pp. 19-20.—Wang,
1956, Qua. Jour. Taiwan Mus. Vol. IX, No.

1, p. 39.

Description: (After Denburgh, 1912, Proc. Calif. Acad. Sci., (4), II, pp. 252-254.) Rostral separated from the internasal by anterior nasals; nostril between anterior and posterior nasals (and sometimes first labial); two loreals, the posterior much large, separated from the anterior large supraocular by a small plate; two large supraoculars in contact with frontal, the anterior in contact with first superciliary, the posterior separated from superciliaries by a row of granules; seven supralabials, the sixth very large, under eye; temporals moderate, keeled; four pairs of postmentals, back with three rows of large keeled scales on each side, inner row largest, separated anteriorly by one row of smaller keeled scales. Behind the level of the elbows this row is wanting, or is represented only by an occasional scale; the large rows of the two sides being in contact; a few of the upper and lower series of lateral granules are enlarged and keeled, and close to the large dorsals, and also adjoining the ventrals, are small keeled scales; ventrals in six longitudinal series of which all but the outer one on each side are smooth; preanal single, large, smooth, with a much smaller plate on each side; five inguinal pores on each side; limbs moderate, the hind leg carried forward reaches the elbow; tail covered with strongly carinate scales.

Coloration: Above greenish olive, becoming lighter yellowish olive on the limbs and tail. The sides dark olive brown. A light line edged above with dark, brown, starting at the nostril, crossed the lower eyelid, the lower part of the ear-opening and faded away above the axilla. The upper labials, dorsals, limbs and tail dotted or spotted with dark brown. The lower surfaces greenish white, tinged with orange on the tail.

Remark: no specimen in the author's collections

FAMILY ANGUIDAE

KEY TO GENUS AND SPECIES OF ANGUIDAE

- 1a. No rudiments of limbs externally
(*Ophisaurus*)
- 2a. Two scales separating frontonasal from rostral *harti*
- 2b. One scales separating frontonasal from rostral *formosensis*

Ophisaurus harti Boulenger

Figure XXII

Ophisaurus harti Boulenger, 1899, Proc. Zool. Soc. London pp. 160-161.—Pope, 1935, Rept. China. p. 437.

Ophisaurus harti (Boulenger)—Okada, 1938, A. Cat. V. Japan. p. 108.—Wang, 1956, Qua. Jour. Taiwan Mus., Vol. IX, No. 1, p. 40.—Mao, 1962, Bull. Inst. Zool., Academia Sinica 1, pp. 131-132.

Description: (TNU E0031) Body cylindrical; no rudiments of limbs externally; on each side a lateral fold from more behind the ear-opening proceeding backward to the each side of cloacal opening; scales squarish rhomboidal forming straight longitudinal and transverse series; nostril distinct larger than ear-opening; snout elongated; rostral wider than high; a zygous post-rostral and internasal between the rostral and frontonasal; supranasal present; two small scales between the rostral and nasal; frontonasal larger than prefrontal behind not in contact with frontal; frontal large nearly triangular; a pair of small frontoparietals, far separating by a long triangular interparietal, a small interoccipital followed

behind, five supraoculars in contact with frontal and frontoparietal; temporals divided into three rows, five shields in first row, four shields in second row and six shields in third row; they all nearly in same size; mental very small followed by two zygous postmentals; four pairs of chin shields, median pair in contact with each other but the other pairs separated by gular scales; no nuchal; a pair of large preanals; dorsal scales in 16 longitudinal series.

Coloration: (In formalin) pale olive above with brownish transverse narrow bands on the back of trunk; head dotted with brownish; underneath whitish.

Measurements: (m.m.)

No.	TNU E0192
Total length	364
Snout to vent	245
Vent to tip of tail	119
Greatest width of head	19
Snout to ear-opening	27

Ophisaurus formosensis Kishida

Figure XXIII

Ophisaurus formosensis Kishida—Okada 1938, A. Cat. V. Japan. p. 108.—Wang, 1956, Qua. Jour. Taiwan Mus. Vol. IX, No. 1, p. 40.

Description: (NTUM 02678) Rostral small; no postrostral, only a internasal between the rostral and frontonasal; one small scales separating nasal from rostral; a pair of prefrontals not in contact with each other; frontal very large nearly triangular; a pair of very small fronto-parietals far separating by a narrow triangular interparietal; one small interoccipital followed behind; ear-opening

miunte, smaller than the nostril; dorsal scales in 14 longitudinal series.

Coloration: (In formalin) pale olive above; on the middle of back with small brownish spots; underneath pale freshly.

Measurements: (m.m.)

No.	NTUM 02678
Total length	343
Snout to vent	234
Vent to tip of tail	109
Greatest width of head	15
Snout to ear-opening	21

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中 文 摘 要

臺灣蜥蜴類之研究

劉 慕 昭

臺灣位於亞熱帶，天氣炎熱，爬蟲類之種類繁多，全省各地均有分布，其中尤以蜥蜴類不論山地、平原、田野以至於房舍門窗及牆壁上均有其踪跡。本報告係作者將臺灣各地所採集之蜥蜴類計24種，分列5科13屬，根據其特徵列成檢索表(Key)，分別作有系統之分類與詳盡之記載，並附圖詳示，其中波氏蜥蜴(*Sphenomorphus boulengeri* Van

Denburgh) 曾在蘭嶼有記載及莫作氏琴木蜥蜴(*Japalura swinhonis mitsukurii* Stejneger) 為本島之新記錄，關於臺灣常見之種類如中國石龍子(*Eumeces chinensis* Gray)及蛇舅母(*Takydromus septentrionalis* Gunther) 等之變異(Variation) 亦作扼要之說明。



Fig. I *Gekko japonicus* (Dumeril and Bibron)

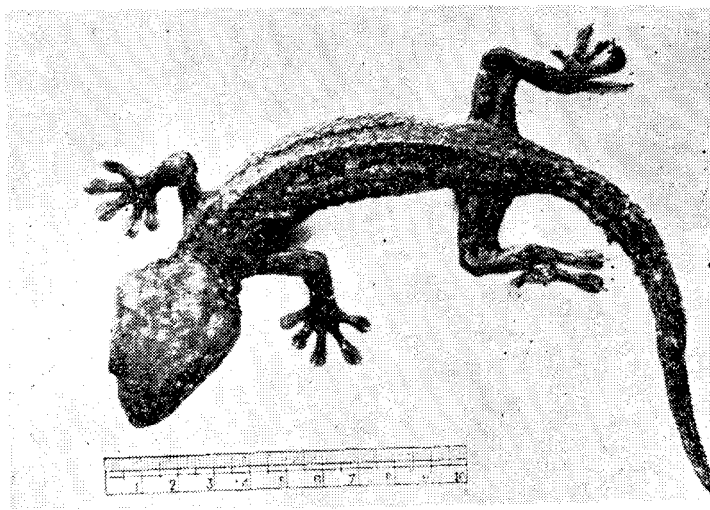
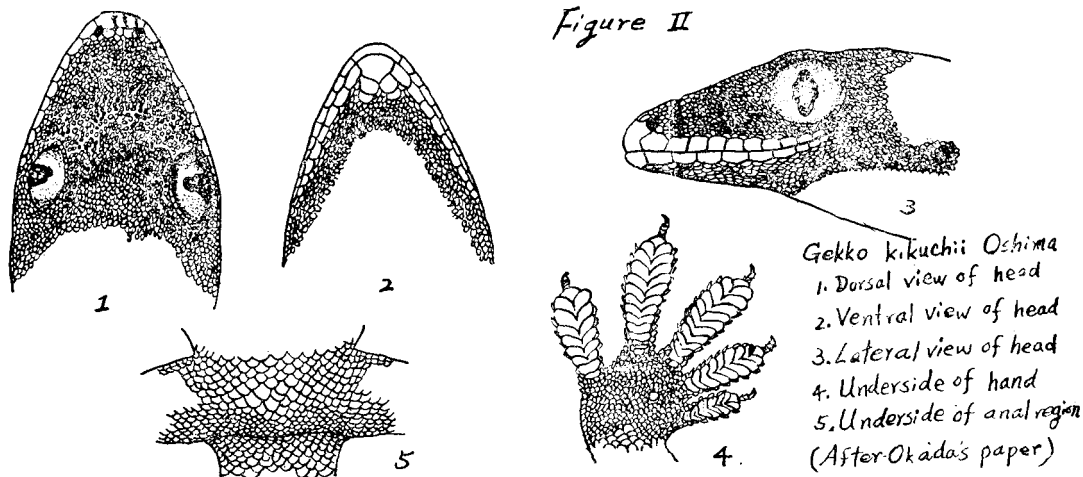


Fig. III *Gekko gekko* (Linnaeus)

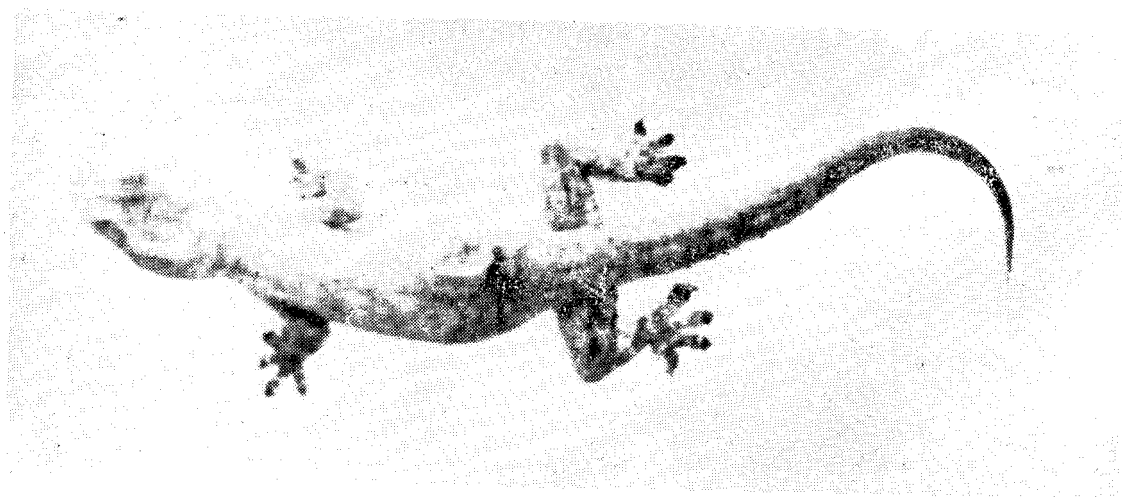
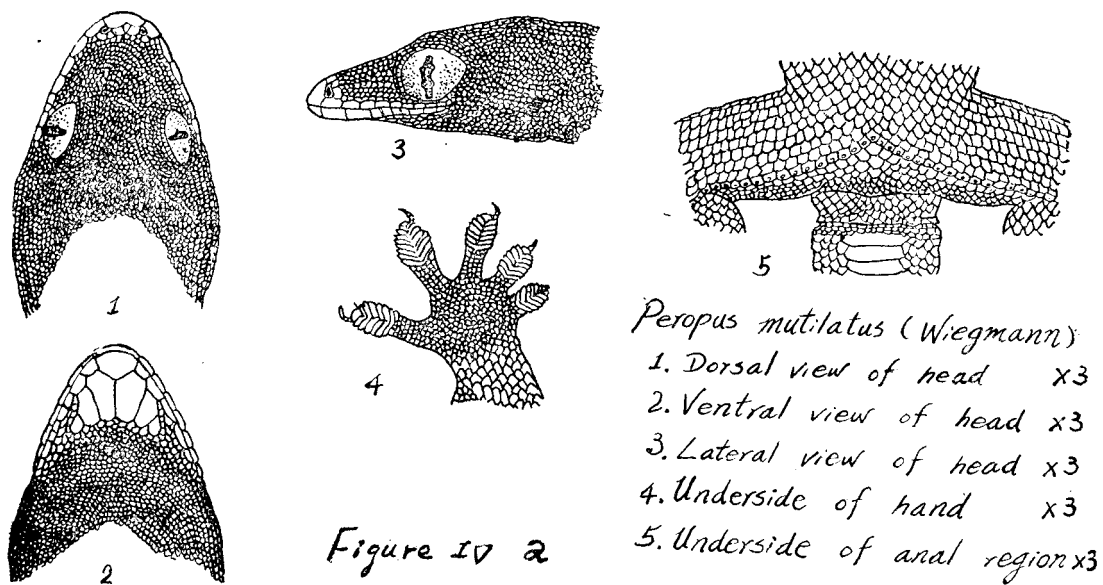
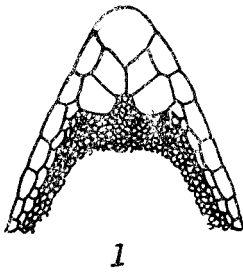
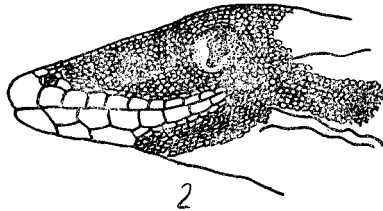


Fig. IV b. *Peropus mutilatus* (Wiegmann)

Figure V



1



2



3

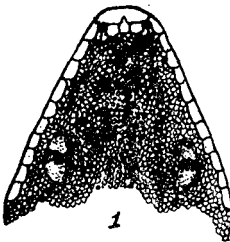
Cosymbotus platyurus (Schneider)

1. Underside of throat x 6

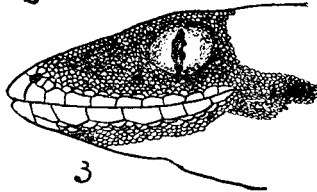
2. Lateral view of head x 6

3. Underside of hand x 6

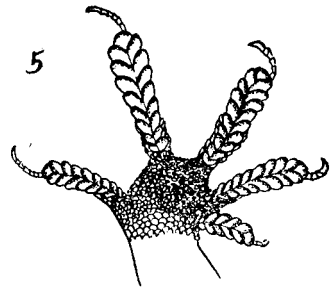
Figure VI a



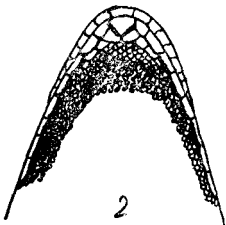
1



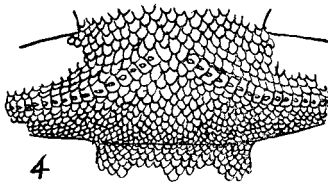
3



5



2



4

Hemidactylus bowringii Boulenger

1. Dorsal view of head

2. Ventral view of head

3. Lateral view of head

4. Underside of anal region

5. Underside of hand

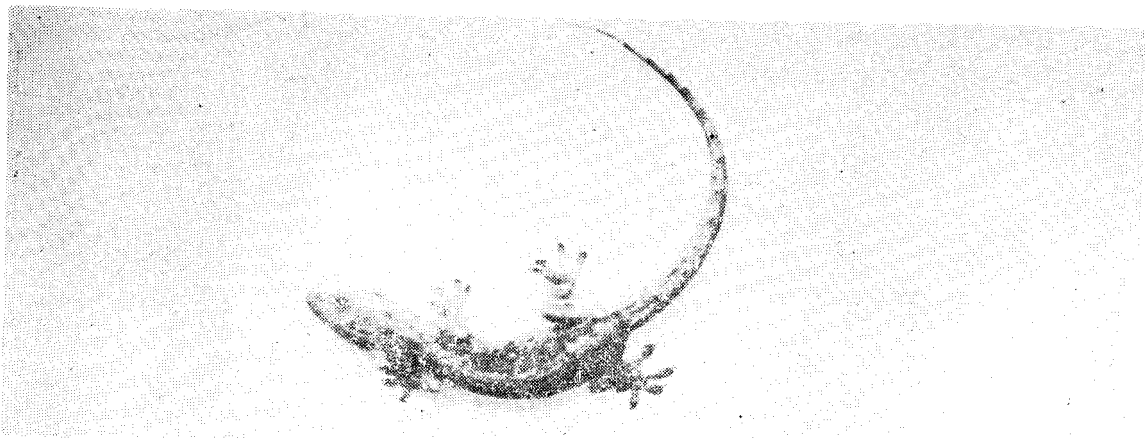


Fig. VI b *Hemidactylus bowringii* Boulenger

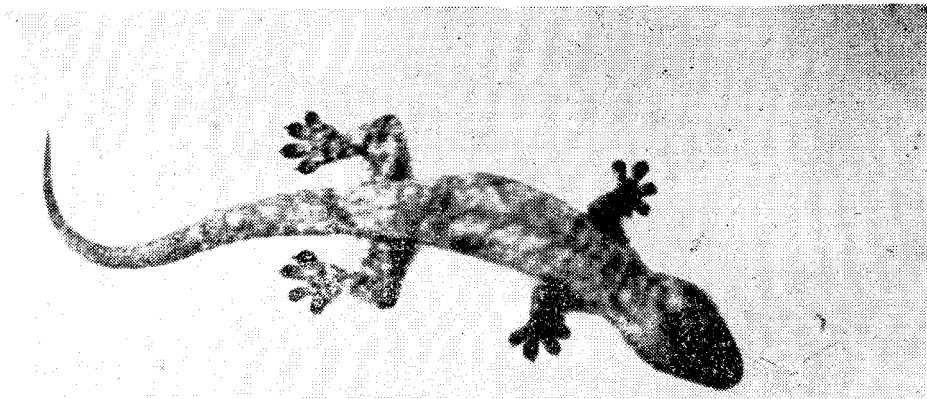
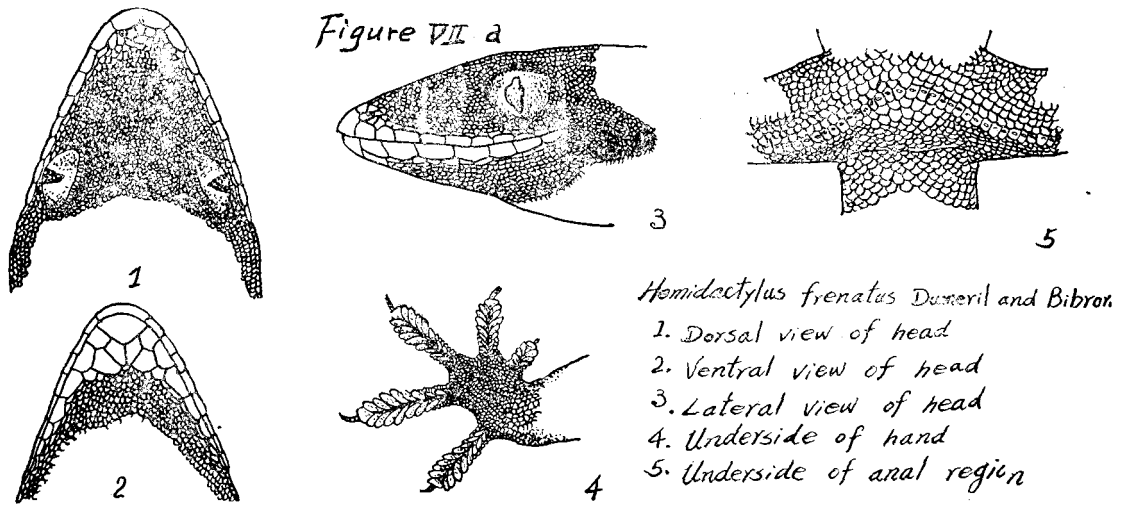


Fig. VII b. *Hemidactylus frenatus* Dumeril and Bibron

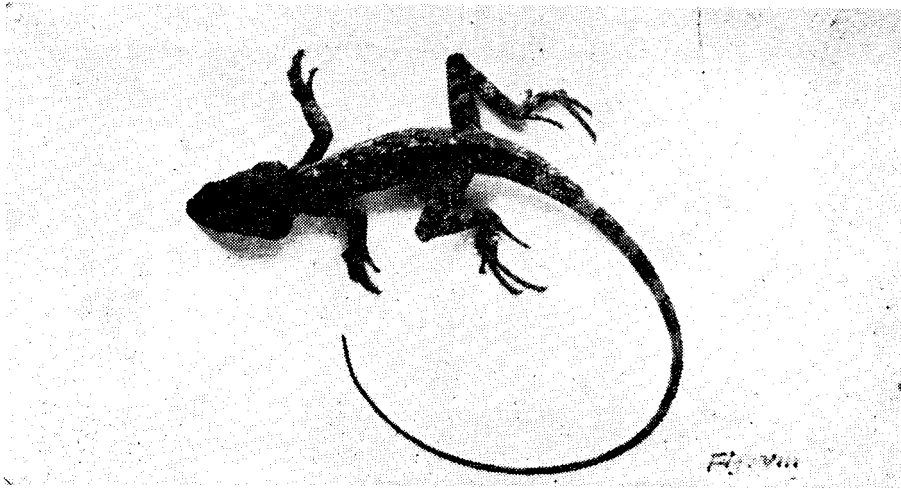


Fig.VIII *Japalura swinhonis swinhonis* Gunther

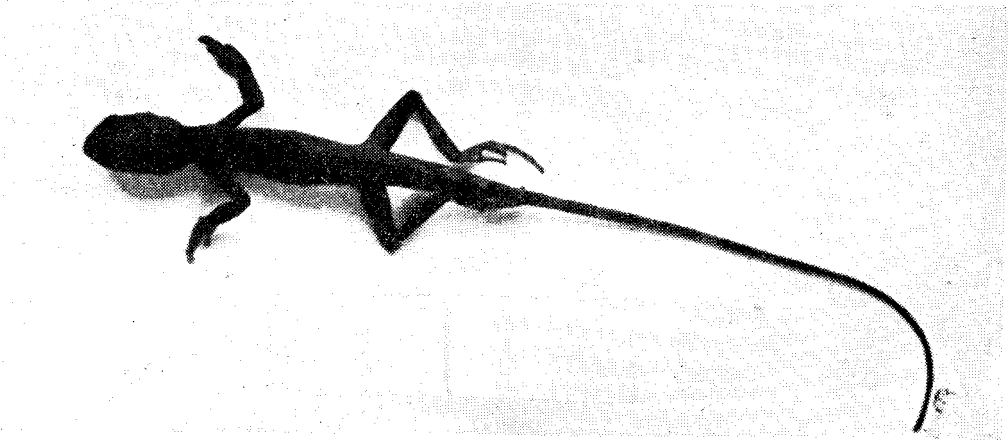
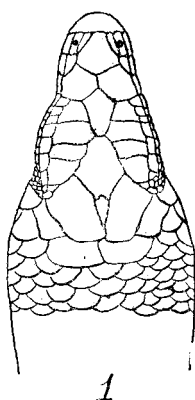
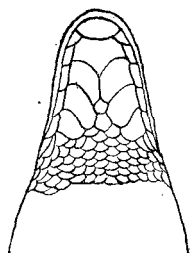


Fig. IX *Japalura swinhonis mitsukurii* stejneger

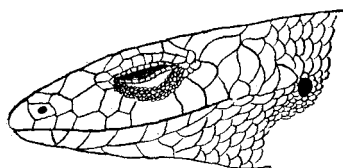
Figure X a



1



2



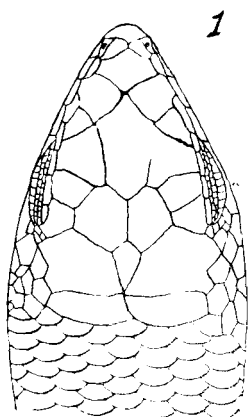
3

Emoia atrocostata (Lesson)

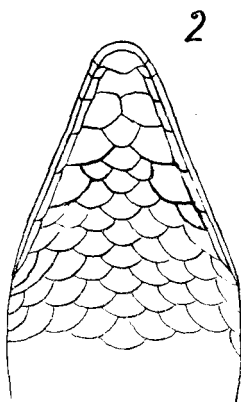
1. Dorsal view x 2

2 Ventral view x 2

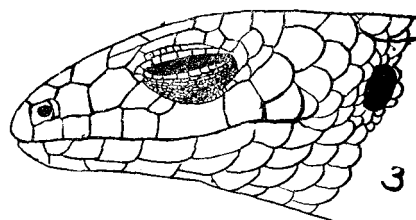
3 Lateral view x 2

Fig. X b *Emoia atrocostata* (Lesson)

1



2



3

Mabuya longicaudata
(Hallowell)

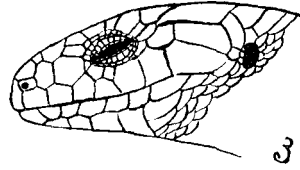
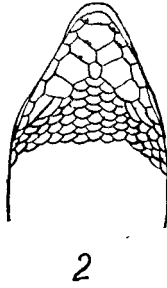
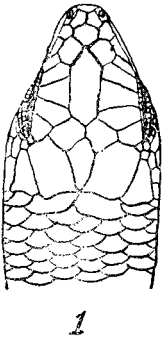
1 Dorsal view x 2

2 Ventral view x 2

3 Lateral view x 2

Figure XI

Figure x11

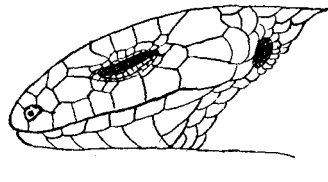
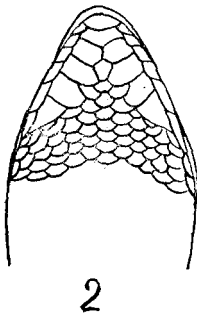
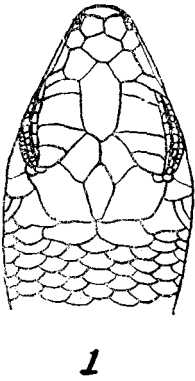


Eumeces elegans Boulenger

1. Dorsal view x 3

2. Ventral view x 3

3. Lateral view x 3



Eumeces marginatus (Hallowell)

1. Dorsal view x 2

2. Ventral view x 2

3. Lateral view x 2

Figure XIII a

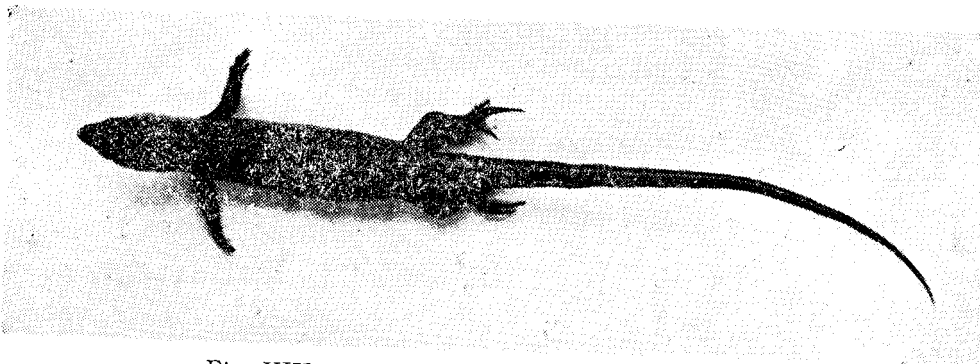


Fig. XIII b *Eumeces marginatus* (Hallowell)

Figure XIV a

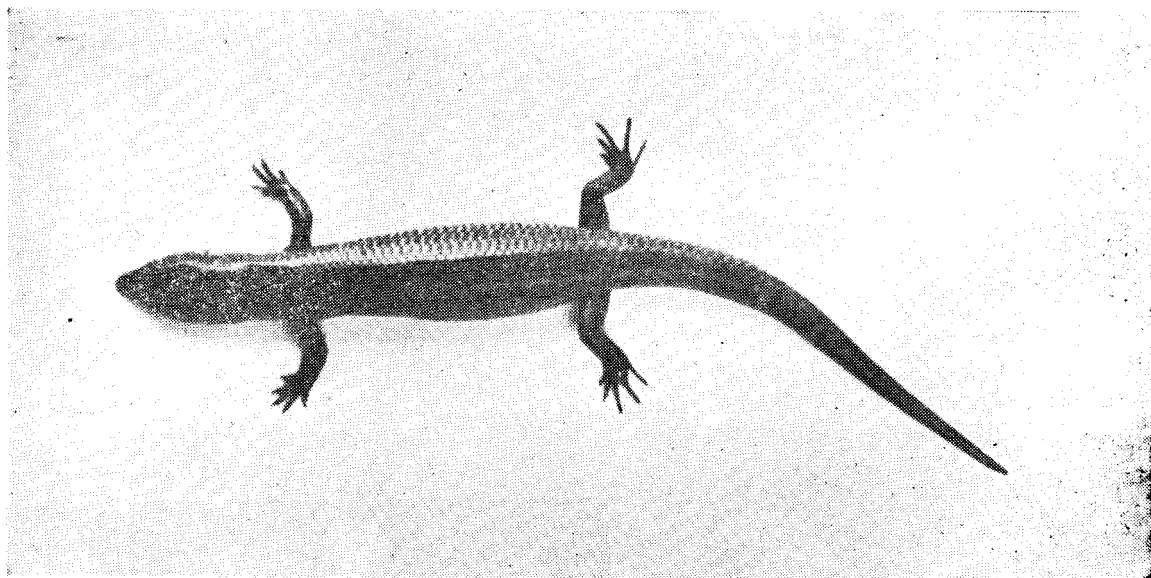
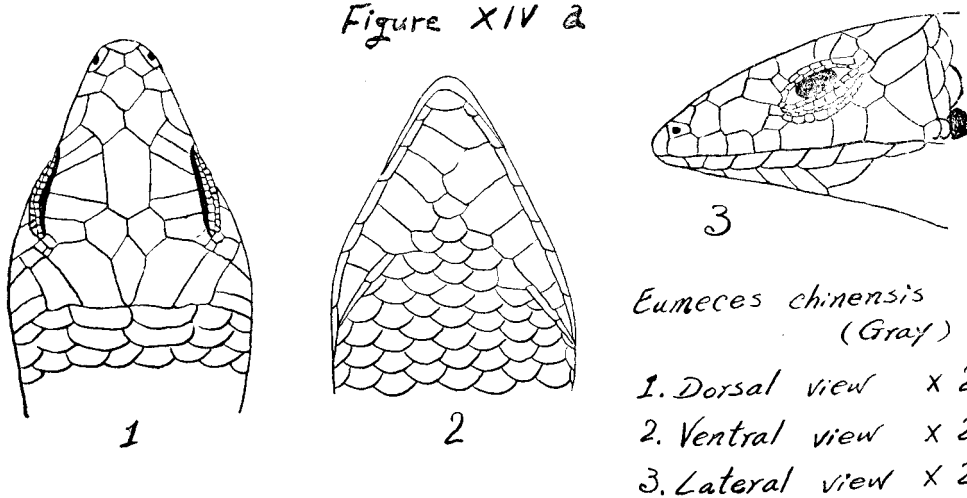
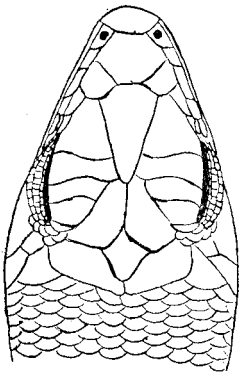
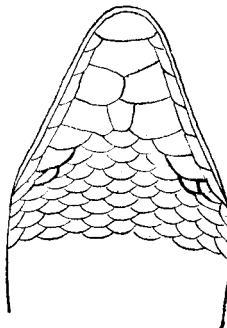
Fig. XIV a *Eumeces chinensis* (Gray)



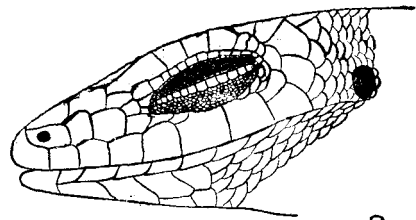
Fig. XV a *Sphenomorphus boulengeri* Van Denburgh



1



2



3

Sphenomorphus boulengeri
Van Denburgh

1. Dorsal view x 3

2. Ventral view x 3

3. Lateral view x 3

Figure XV b

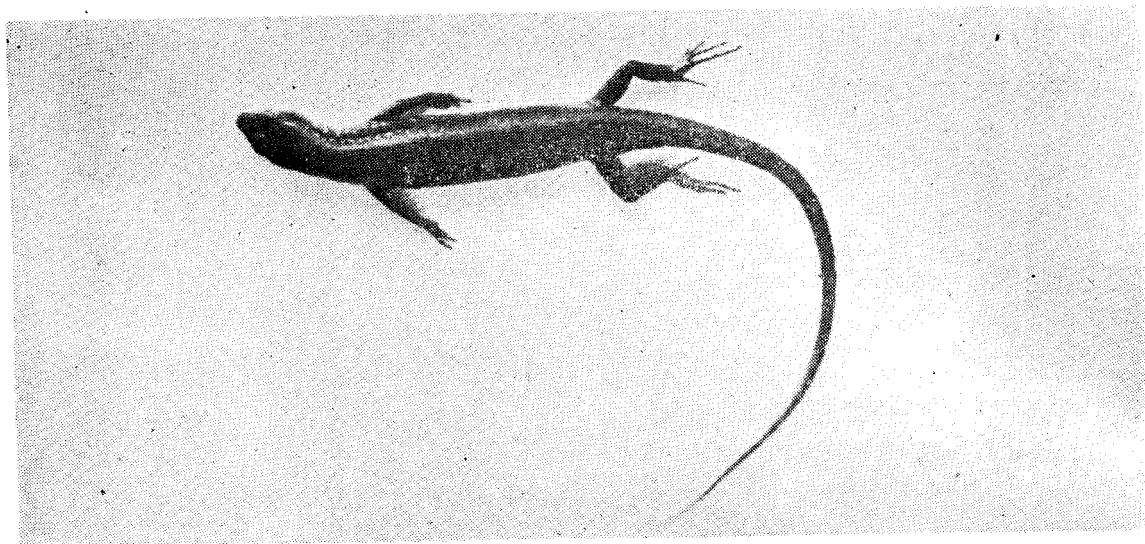


Fig. XVI a *Sphenomorphus indicus* (Gray)

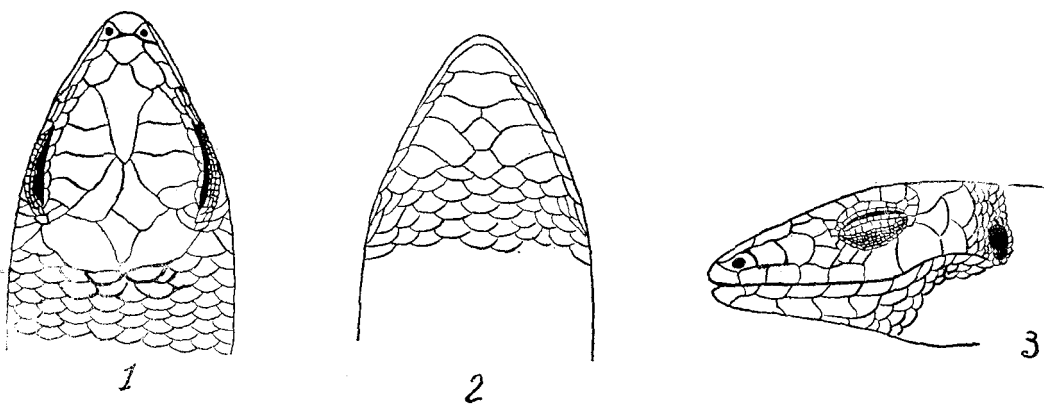
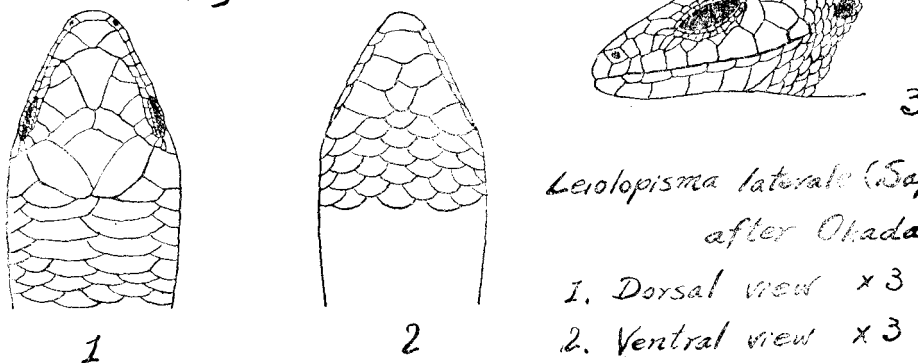


Figure XVI b *Sphenomorphus indicus* (Gray)

1. Dorsal view $\times 3$
2. Ventral View $\times 3$
3. Lateral View $\times 3$

Figure XVII



Leiopisma laterale (Say)
after Okada

1. Dorsal view $\times 3$
2. Ventral view $\times 3$
3. Lateral view $\times 3$

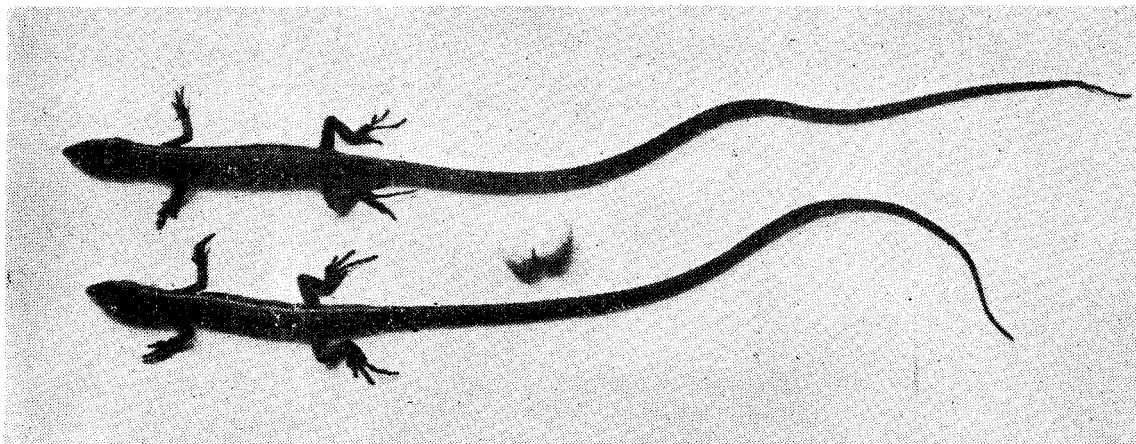


Figure XVIII *Takydromus septentrionalis* (Gunther) Dorsal view

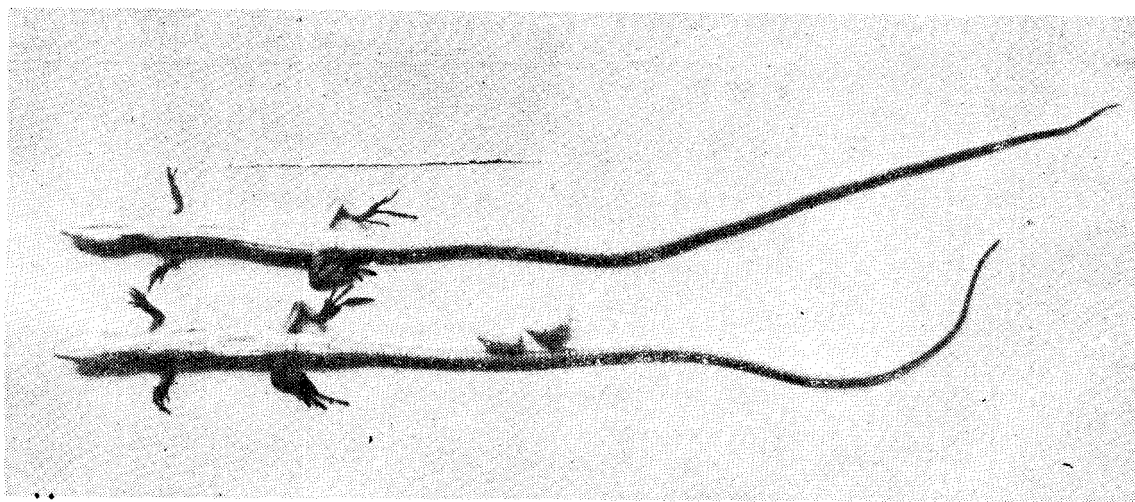


Figure XIX *Takydromus septentrionalis* (Gunther) Ventral view

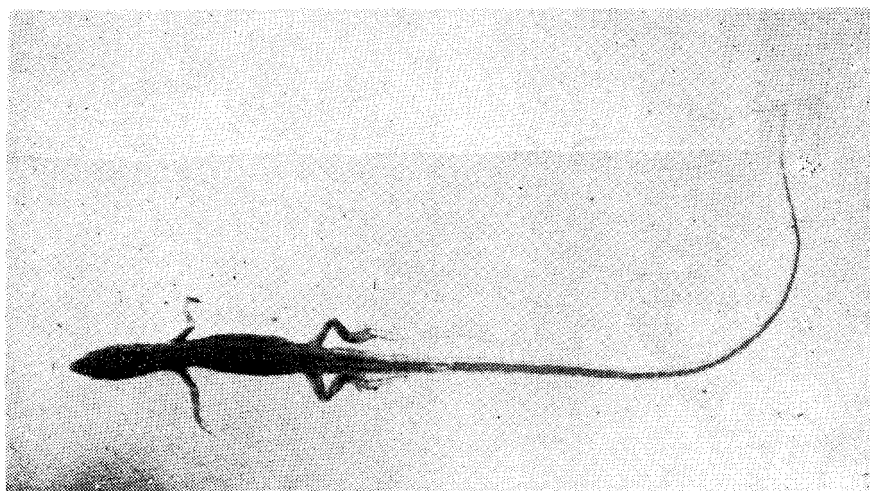


Fig. XX *Takydromus formosanus* Uculenger

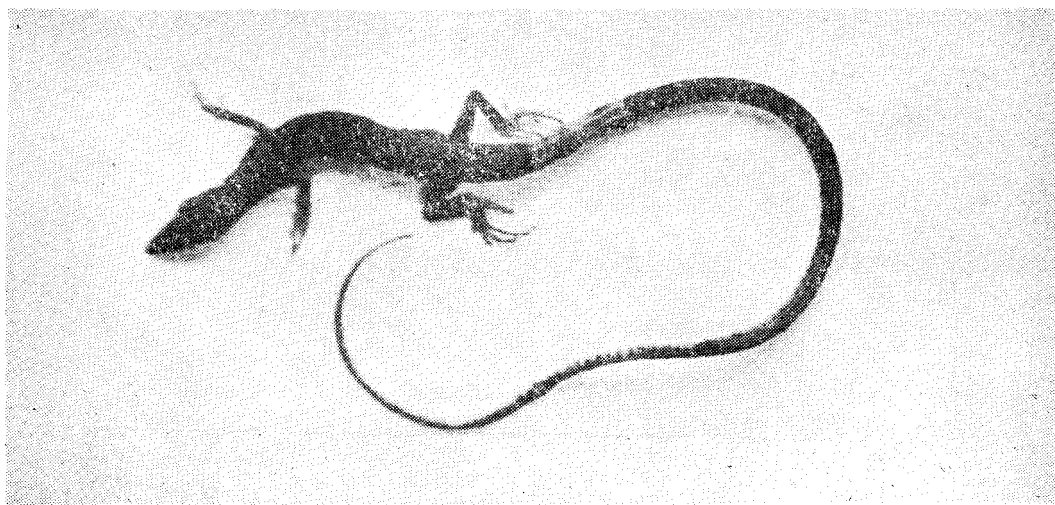


Fig. XXI *Takydromus sauteri* Van Denburgh

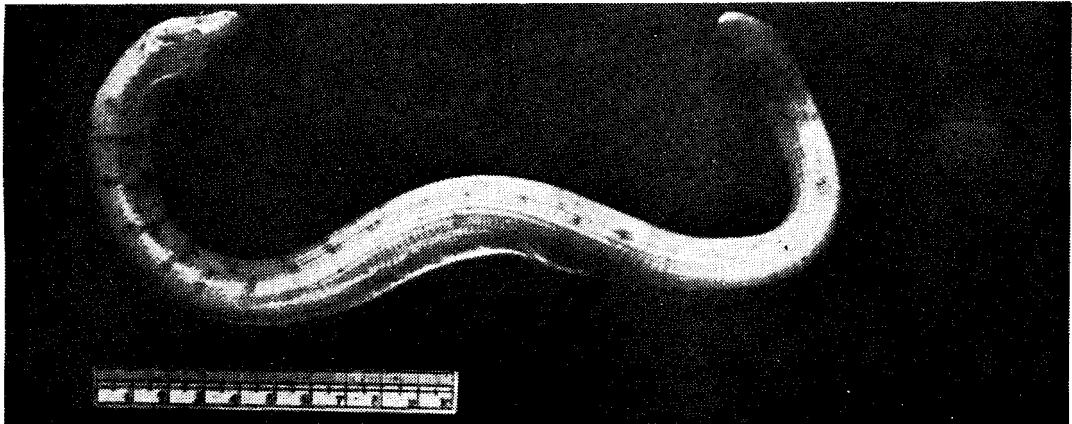
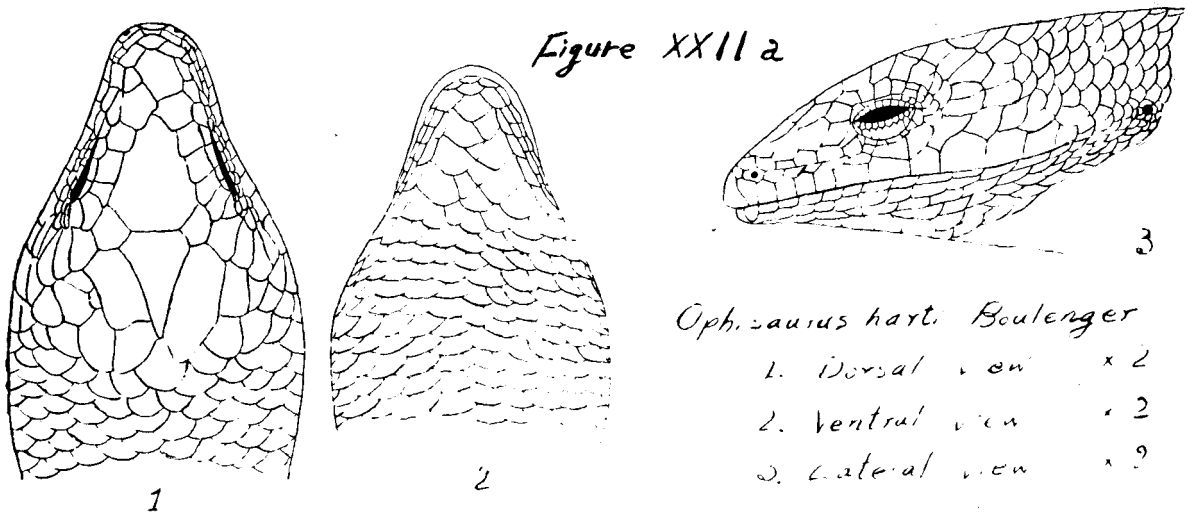


Fig. XXII *Ophisaurus harti* Boulenger

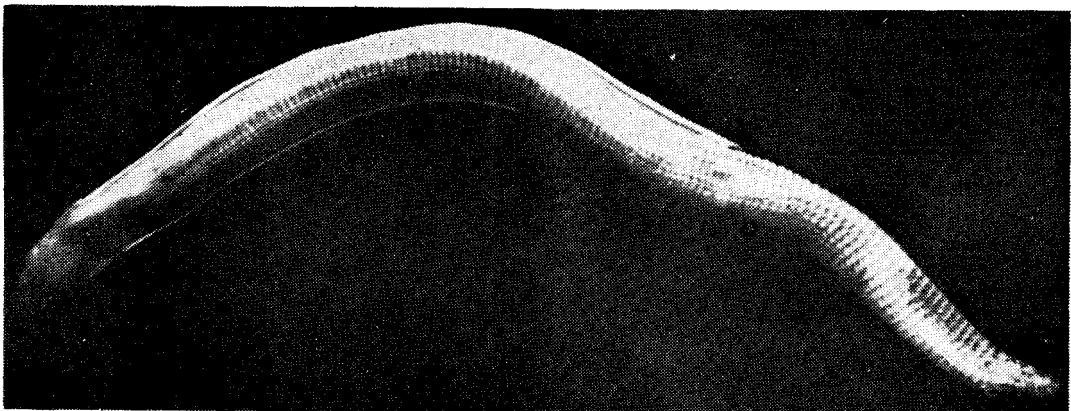


Fig. XXIII *Ophisaurus formosensis* Kishida