Contribution towards the knowledge of snakes in Brazil - A.

Part I

Four new species of Brazilian snakes

I

Helicops gomesi sp. n.

(Plate I; figs. 1-4)

Number of specimens — 13.

Type description — Adult ♀. Maxillary teeth 18, increasing in size posteriorly. Small eyes. Rostral visible from above, broader than deep, in contact with the internasal. Semi-divided nasal with nostrils directed upwards. Frontal with median longitudinal salience; rounded posterior extremity; as wide in front as in back; about three times as long as broad (6,25 : 2,25); longer than its distance from the end of the snout, as long as the parietals and twice and a half as long as the diameter of the eye (6,25 : 2,5). Loreal deeper than long. Praeocular 1. Postoculars 2. Temporals 1 + 2, all smooth. Upper labials 8, the 4 th. in contact with the eye. Lower labials 10, 6 in contact with the chin-shields, only 4 in contact with the anterior chin-shields that are a little shorter than the posterior (5,5 : 7). Convex head plates, accentuated at the borders so that the sutures are very deep. Scales in 19 rows, strongly keeled, except those of the posterior temporal and the contiguous occipitals which are smooth; keels very slight in the lst. row (external). Ventrals 131, rounded. Anal divided. Subcaudals 67 pairs.

Olive-brown or slightly greenish above with a series of dark blotches of irregular form along either side, elongated transversally and narrower above. These are directly opposed to, or sometimes alternate with those of the other side and extend as far up as the 6th., 7th. or 8 th. row of scales and down to the belly; towards the front to the nape, and towards the back to the end of the tail. Another series of smaller blotches of the same color, rhomboidal or irregular, beginning at the nape, covering the vertebral region and placed in correspondence to the intervals between the afore mentioned spots from which they are generally separated by light-brown spaces, which run in crooked or zig-zag lines. A light yellow interrupted stripe formed by an aggregation of spots at the point where the dark spots of the back, above described, pass to the belly; mentals, lower labials and gulars yellow with black blotches or spots. Belly brownish yellow, greenish or olive color, with a series of black blotches, incomplete, placed on either side in continuity with those on the back. These are of variable form, much longer than broad and have in their intervals other small black and irregular blotches.

Dimensions — Total length 695 mm. Length of tail 200 mm.

Habitat — State of São Paulo.

Type — N.º 1.843 of the Butantan Institute snake collection. Received alive on XII-4-1919 and collected in Costa Pinto Station, Sorocabana Railway, by Mr. ANTÔNIO VITO D'ALKMIM.

Note — This first species is dedicated to the esteemed deceased assistant of this Institute, DR. JOÃO FLORÊNCIO GOMES who initiated me in the systematic studies of snakes.

Variations — Besides this type 12 other specimens of this species were examined. All are from the interior of the State of São Paulo. Variations found were as follows:

Ventrals, 123-132. Anal divided. Subcaudals, 34 + n — 94 pairs. Frontal with median longitudinal salience more or less accentuated, excepting specimen n.º 1.397 in which it is smooth; its posterior extremity rounded, excepting specimens n.os 272 and 455, in which it is pointed; as broad anteriorly as posteriorly, excepting specimens n.os 1.391 and 263 (young ones) in which it broadens posteriorly; nearly three times as long as broad, excepting specimens n.os 1.391, 371 and 1.641 in which it is exactly twice as long and n.os 273, 1.391 and 1.398 (young ones) in which it is only once and three-quarters as long; about twice and a half as long as the diameter of the eye. Temporals 1 + 2, excepting the specimens n.os 1.627 and 1.641 which on the left side have 1 + 3, n.os 272 and 274 which have on the right side 1 + 3 and n.º 271 which has on both the sides 1 + 3; n.º 455 bas a small anomalous scale below the inferior temporal plate of the posterior row. Posterior temporals as well as the occipitals to which they are contiguous are smooth on all 13 specimens. Upper labials 8, 4th. in contact with the eye, excepting specimens n.os 271, 455, 1.641 and 272 which have 9 on the right, the 5 th. being in contact with the eye (in n.º 262 the 4th. and 5th.). Four lower labials in contact with the anterior chin-shields, excepting specimens n.os 1.397, 271, 1.627, 1.641 and 1.398 in which there are 5 contiguous to the anterior chin-shields which are, in turn, as long as the posterior in the majority of specimens: n.os 1.398, 1.391, 1.397, 271, 455, 1.627, 272 and 273. All have convex head plates with deep sutures. Scales according to those of the type. Coloration practically the same in all, there being some difference only in the intensity of the blotches. Dimensions and *habitat* in accord with the annexed table.

List of specimens of *Helicops gomesi* n. sp.

N.º in the collections (1)	Sex	River and place at State of S. Paulo, Brazil	Sender or collector	When received	Sc.	V.	A.	Sub-c.	Supra-labials		Temporals	Infra-labials in contact with the anterior chin-shields	Length in mm.	
									N.º	in contact with the orbit			Total	Tail
270 (B)	♂	River Tieté; Porto Martins.	(2)	(2)	19	128	2	56/56+n	8	4.th	1+2	4	770	180 (injured extremity)
271 (B)	♂	Do; do.	(2)	(2)	19	132	2	71/71	9/8	5.th/4.th	1+3	5	730	190
272 (B)	♀	Do; Porto Rosário.	(2)	(2)	19	131	2	34/34+n	9/8	4th and 5th/4th	1+3/1+2	4	965	155 (injured extremity)
273 (B)	young ?	Do; do.	(2)	(2)	19	126	2	84/84	8	4.th	1+2	4	240	80
274 (B)	♀	Do; do	(2)	(2)	19	130	2	51/51+n	8	4.th	1+3/1+2	4	1004	240 (injured extremity)
455 (B)	♀	Do; Porto Martins.	Mr. Lázaro Silva	III-31-1914	19	128	2	38/38+n	9/8	5.th/4.th	1+2 +1 anomalous scale	4	835	155 (injured extremity)
1627 (B)	♂	Do; Cerquilho.	Mr. João Lucas	XI-28-1918	19	129	2	60/60+n	8	4.th	1+2/1+3	5	840	210 (injured extremity)
1641 (B)	♀	Do; do.	Do	X-24-1918	19	132	2	73/73	9/8	5.th/4.th	1+2/1+3	5	1007	270
1843 (type) (B)	♀	River Corumbatahy (sub-affluent of the river Tieté); Estação Costa Pinto.	Mr. Antônio Vito d'Alkmim	XII-4-1919	19	131	2	67/67	8	4.th	1+2	4	695	200
1391 (M)	young ♂	River Tieté; Itapura.	Mr. Ernesto Garbe	1914	19	126	2	86/86	8	4.th	1+2	4	335	112
1394 (M)	♂	River Piracicaba (affluent of the river Tieté); Piracicaba.	Nehring's Collection	(2)	19	126	2	51/51+n	8	4.th	1+2	4	950	220 (injured extremity)
1397 (M)	♂	River Tieté; Itapura.	Mr. Ernesto Garbe	1914	19	125	2	35/35+n	8	4.th	1+2	5	530	110 (injured extremity)
1398 (M)	young ?	Do; do.	Do.	1914	19	123	2	94/94	8	4.th	1+2	5	320	110

(1) The specimens the n.º of which is accompanied by (B) belong to the "Instituto de Butantan" collection; and those the n.º of which is accompanied by (M) belong to the "Museu Paulista" collection.
(2) Without indications at the old collection of "Butantan", or of "Museu".

Biology — This snake is a very agile and quite aggressive aquatic species. It is generally found under rocks on the margins of rivers. As already mentioned, the 13 specimens are from the interior of the State of São Paulo, all having been captured along the Tieté or its tributary rivers. In accordance with the observations and dissections made, it feeds on small fishes and batrachians. It is oviparous and its young are born between December and January.

I prepared the skull of n.° 272 showing the maxillary teeth which increase gradually in size posteriorly; mandibular teeth 18. palatine 14, pterygoids 16, all sub-equal.

Notes — This is a species very approximate to *Helicops angulata* (L.) of which H. SCHLEGEL (1) cites specimens from Pernambuco, Pará and from Brazil in general; G. A. BOULENGER (2) describes several specimens found in Perú and English Guiana and, also in Brazil, from Pernambuco, Pará and Upper Amazonas; and O. BOETTGER (3) names two which were found in Ilhéos in Baía.

On April 15th. 1919, among 39 specimens of snakes pertaining to a collection sent from the State of Baía by PROF. PIRAJÁ DA SILVA, for classification, J. FLORÊNCIO GOMES found a *H. angulata* which was collected in that State. In 1918 (4) he found another specimen of the same species in a collection sent by MR. FRANCISCO DIAS DA ROCHA, Director of the Rocha Museum, Ceará. This specimen had: Sc. 19; V. 108; A. 2; Subc. 71 pairs. Finally during same year 1918, J. FLORÊNCIO GOMES published (5) a list of the snakes pertaining to the collection sent from the Pará Museum, by DRA. E. SNETHLAGE, among which there was also found a specimen of the same species which had been collected in the Curuá river, Pará, and which had: Sc. 19; V. 120; A. 2; Subc. 76 pairs; Upper lab. 8 (4th.).

In the Butantan Institute collection there are 4 specimens of *H. angulata*, of which n.os 777 (young) and 1.701 were found in Santa Filomena, State of Piauí, where they were collected by an agronomist MR. FRANCISCO IGLÉSIAS; and n.os 1.760 and 1.761 coming from the State of Baía, where they were obtained by DR. EURICO DE SALES GOMES.

In the «Museu Paulista» collection I found 3 specimens of this species two of which, n.° 1.393 and 1.395, have no specified origin and one, n.° 1.396, was found on November 1917 in S. Luis de Cáceres, State of Mato-Grosso by MR. ERNESTO GARBE, travelling naturalist for that Museum.

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(1) H. SCHLEGEL — "Essai sur la Physionomie des Serpents", 1837, v. II, p. 351.

(2) G. A. BOULENGER — "Catl. of Snakes in the Brit. Mus", 1893, v. I, p. 279.

(3) O. BOETTGER — "Katalog der Reptilien-Sammlung in Museum der Senckenbergischen naturforschenden Gesellschaft", 1898, II Teil. (Schlangen); p. 30.

(4) J. FLORÊNCIO GOMES — "Contribuição para o conhecimento dos ofídios do Brasil" — II — Ofídios do Museu Rocha (Ceará) *in* Revista do Museu Paulista, 1918; t. X; p. 507.

(5) J. FLORÊNCIO GOMES — "Contribuição para o conhecimento dos ofídios do Brasil — III — Ofídios do Museu Paraense" — *in* Memórias do Instituto de Butantan, 1918, t. I, fasc. I, p. 60.

In accordance with this data I deduct that *Helicops angulata* (L.) occurs in Brazil, principally in regions crossed by the tributary rivers of the Amazonas, Parnaiba, São Francisco and Paraguai.

As to the characteristics of this species *(H. angulata)* BOULENGER (6) names the following, among other: Frontal once and a half to once and two thirds as long as broad; temporals 1 or 2 + 2 or 3, posterior keeled; 5 or 6 lower labials in contact with the anterior chin-shields. Ventrals, 102-130. Subcaudals, 61-94. Olive or grey-brown above, with more or less regular dark brown, black edged cross bands, which narrow towards the sides, where they are usually confluent with the black cross-bands of the belly; a large rhomboidal black blotch on the nape; lower parts yellowish (in spirit) with large black spots, or, more frequently, with regular black cross bands.

G. JAN (7) describes among other characteristics the following: 5 temporals (2 + 3), one alone in contact with the postoculars; 10 lower labials, first 6 in contact with the chin-shields.

L. E. GRIFFIN (8) found the following in a specimen which came from South America and which exist in the collection of the Carnegie Museum; Ventrals 117, Subcaudals 74 pairs; Upper labials 9 and 8 (4th.); temporals 2 + 4.

Besides the foregoing descriptions, I made a minute examination of the 7 above mentioned specimens of *H. angulata* pertaining to the Butantan and Paulista Museum collections, and another (young) under n.° 21, which came from Bolivia and pertains to a collection of snakes sent by DR. PEDRO SERIE of the Buenos-Aires Nacional Museum for classification and verified the following characteristics:

a) Frontal smooth, about once and three quarters as long as broad, terminating posteriorly in an open angle (nearly straight), only about twice as long as the diameter of the eye and, in all the specimens, widening posteriorly just in front of the extremity, excepting specimen n.° 1.761 in which it is of uniform width.

b) All 8 have 2 + 3 temporals. N.° 777, however, has the two anterior temporals fused on the left; n.° 1.701 has two temporals, middle and upper, of the posterior row, separated by two small supplementary scales; n.° 242 and 21, according to JAN, have only one superior temporal of the 1st. row contiguous to the postoculars. All have the posterior temporals as well as the occipitals keeled.

c) In n.os 1.393, 1.395, 1.396, 21 and 1.701 and only on the right on n.os 1.760 and 1.761, there are 5 lower labials in contact with the anterior chin-shields. On the left of n.° 1.761

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(6) G. A. BOULENGER — *Op. cit.*, p. 279.

(7) G. JAN. — "Prodromo della Iconographia Generale degli Ofidi — VIII Grupo: Potamophilidae", Modena, 1864, p. 5'.

(8) L. E. GRIFFIN — "A Catalog of the Ophidia from South America at present (June, 1916) contained in the Carnegie Museum with descriptions of some new species" *in* Memoirs of the Carnegie Museum; 1916; vol. VIII; n. 3; p. 179.

the second and third lower labials are fused. N.° 1.760 has on the left, between the 3rd. and 4th., another lower labial which does not come in contact with the anterior chin-shield. N.° 777 has 6 lower labials in contact with the anterior chin-shields.

d) In all 8 the head plates are flat, and the respective sutures are shallow or superficial.

e) The following is the number of ventrals and subcaudals for each specimen:

Specimens of *H. angulata*	Ventrals	Sub-caudals
N.° 777	116	94 pairs
„ 1701	126	81 „
„ 1760	124	87 „
„ 1761	118	101 „
„ 1393	121	62 „
„ 1395	122	82 „
„ 1396	116	66 „
„ 21	111	79 „

f) The coloration of all specimens corresponds to the description given by BOULENGER. There are, however, slight variations as to the shade and distribution of the blotches, especially on the belly, where the black transversal rings are sometimes divided in the center, alternating with those of the side, and are always broader than long.

In listing the data on the characteristics of *H. angulata* (L.) and making a comparison between the same and those assigned by me to *H. gomesi*, the following table has been compiled, which shows the principal differences between the species:

Principal differences between *H. gomesi* n. sp. and *H. angulata* (L.)

	Helicops gomesi	*Helicops angulata*
Frontal shield . . .	In general having a median longitudinal salience;	Smooth;
	Generally of uniform breadth;	Generally broader in the posterior part;
	more than twice as long as broad;	Once and a half to once and three quarters as long as broad;
	Rounded posterior extremity;	Pointed posterior extremity;
	About twice and a half as long as the diameter of the eye.	About twice as long as the diameter of the eye.

	Helicops gomesi	*Helicops angulata*
Temporals	1 + 2 (occasionally 1 + 3); all smooth.	2 + 3 (occasionaly 1 + 2 or 3, or 2 + 2 ou 4); posterior ones keeled.
Lower labials in contact with the anterior chin-shields	4 (occasionally 5).	5 - 6.
Head plates;	convex;	flat;
respective sutures. .	deep;	superficial.
Ventrals	123 - 132	102 - 130.
Subcaudals	34 + n - 94 pairs	62 - 101 pairs.
Dorsal markings . .	3 series of blotches: one on either side of the back; and smaller spots on the vertebral line, placed in correspondence to the intervals of the first mentioned blotches.	1 series only in the form of transverse rings tapering towards the sides.
Markings on the belly	Irregular blotches; always longer than broad.	Generally in the form of rings; always broader than long.

II

Apostolepis polylepis n. sp.

(Plate I; figs. 5-8)

Number of specimens — 4.

Type description — ♀. Conically shaped and very salient snout. Very small eyes, measuring in diameter about $^1/_4$ of the distance between them and the oral margin. Rostral large, very pointed, as deep as broad, the portion visible from above twice as long as its distance from the frontal.

Internasals fused to the præ-frontals which are $^1/_3$ broader than long, extending laterally to the 2nd. upper labial which, with the præocular and supraocular, divides them from the eye. Frontal hexagonal, $1\,^1/_3$ time as long as broad, as long as its distance from the end of the snout, and much shorter than the parietals (3,5 : 5,0). Nasal entire, separated from the præocular by the præ-frontal which is in contact with the 2nd. upper labial. Præocular 1, very small. Postocular 1, narrow, about twice as deep as long. Temporal absent. Upper labials 6, 2nd. and 3rd. in contact with the eye and 5th. and 6th. with the parietal. Symphysial separated from the anterior chin-shields by the first pair of lower labials; 4 lower labials contiguous to the anterior chin-shields which are a little larger and broader than the posterior; these, in turn, recede becoming narrower; 5 th.

lower labial scarcely in contact with the posterior chin-shields. Scales smooth without apical pits, in 17 rows. Ventral 236. Anal divided. Subcaudals 21 pairs.

Head dark brown above and below inclusive the throat; yellowish-white above with two dark longitudinal streaks running on either side from the nape to almost the extremity of the tail. The 1st. streak which is dark brown, narrow and dotted, runs on the nape on the border of the 4th. and 5th. rows of scales and on the body on the 4th. row, gradually passing to the 3rd. and 2nd. rows as it reaches the tail. The 2nd. streak of the same color while ininterrupted, is much broader and covers the 7th., the internal half of the 6th. and external border of the 8th. rows of scales. The two streaks touch each other slightly on the nape and disappear on the head which is of the same color. Vertebral region, sides and belly yellowish white and unspotted; tail entirely dark brown from the junction of its middle third with the posterior up to its extremity.

Dimensions — Total length 620 mm.; tail 33 mm.

Habitat — State of Piauí.

Type — N.° 1.681 of the Butantan Institute snake collection, found in Engenheiro Dodt, Municipality of Santa Filomena, by Mr. Francisco de Assis Iglésias, Agronomic Engineer, between 1916 and 1918 and received in October 1918.

Variations — Three other specimens of the same species from the same locality and also collected by Mr. Francisco Iglésias were examined.

Variations found were as follows; Ventrals 214-233 (♂♂ : 214-215; ♀ : 233); Anal divided. Subcaudals 20-26 (♂♂ : 25-26; ♀ : 20).

N.° 1.680-(♂) — The diameter of the eye about $^1/_3$ of its distance from the mouth; rostral portion visible from above little longer than its distance from the frontal; a small anomalous scale above the postocular; 5th. lower labial separated from the posterior chin-shield. Ventrals 215; subcaudals 26 pairs.

N.° 1.682 (young ♂) — The diameter of the eye a little less than half its distance from the mouth; portion of rostral visible from above a little longer than its distance from the frontal; 5th. lower labial separated from the posterior chin-shield. Ventrals 233; subcaudals 20/21.

N.° 1.683(young ♀) — The diameter of the eye a little less than half its distance from the mouth; portion of rostral visible from above a little longer than its distance from the frontal; 5th. lower labial separated from the posterior chin-shield. Ventrals 223; subcaudals 20/21.

Apostolepis polylepis is easily distinguished from *A. ambinigra* (Peters), *A. erythronota* (Peters), *A. intermedia* Koslowsky (3),

(3) J. Koslowsky — Revista del Museu de La Plata, 1898, vol. VIII, p. 30; pl. I; fig. 4-7.

A. borellii PERACCA (10) and *A. longicaudata* GOMES (11) which are uniform with the first mentioned in having the 5th. and 6th. upper labials in contact with the parietal and the symphysial separated from the anterior chin-shields: 1st. by the size of the rostral, the portion of which visible from above being nearly twice as long as its distance from the frontal; 2nd. by a greater number of dorsal scales (17 rows).

III

Elaps fischeri n. sp.

(Plate II; figs. 1-5)

Number of specimens — 1.

Type description — Adult ♂. Eye about 2/3 of its distance from the oral margin. Rostral a little deeper than broad (3,5 : 3), the portion visible from above half as long as its distance from the frontal. Internasals twice as broad as long. Præ-frontals about 1/3 broader than long and twice as long as the internasals; præ-frontals suture about thrice as long as that of the internasals. Frontal a little longer than broad (3,75 : 3,25), hexagonal shape, and a little longer than its distance from the end of the snout; over twice as broad as the supraocular (3,25 : 1,5); a little shorter than the parietals (3,75 : 4,5) which are a little longer than their distance from the internasals (4,5 : 4,25). Præ-ocular 1, contiguous to the posterior nasal. Postoculars 2, superior much larger. Temporals 1 + 1, anterior being smaller and of a pentagonal shape. Upper labials 7, 1st. in contact with the anterior nasal, 2nd. with the anterior and posterior nasals, 3rd. with the posterior nasal, the praeocular and the eye, 4th. with the eye, 5th. with the inferior postocular and the anterior temporal; 6th. with the anterior and posterior temporals, and 7th. with the posterior temporal; 3rd. a little larger than the 4th.; 7th. well developed. Symphysial in close contact with the anterior chin-shields which are a little shorter than the posterior (2 : 2,75); 7 lower labials, 4 in contact with the anterior chin-shields, 4th. much larger. Scales in 15 rows. Ventral 210. Anal divided. Subcaudals 20 pairs.

Reddish body with 17 sets of black rings disposed in threes, the middle one generally a little broader, covering from 4 to $5\,^1/_2$ scales and separeted from the marginal rings, which in center of the body occupy from 3 to 5 scales, by uniform whitish yellow rings which occupy from $1\,^1/_2$ to $2\,^1/_2$ scales; interspaces covering from 7 to 15 scales, of a reddish color dotted with black. Head whitish yellow with a black spot on snout, with covers the rostral, internasals, all the extension of the anterior nasals and the anterior half of the first lower labial; a black band passing

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(10) M. G. PERACCA — "Viaggio del Dr. A. Borelli nel Matto Grosso brasiliano e nel Paraguay, 1899"; *in* Bollet. dei Musei di Zool. ed Anat. comp. della R. Univ. di Torino, n. 480, Vol XIX, 1904, pp. 9-10.

(11) AFRÂNIO AMARAL — Um trabalho inédito de J. Florêncio Gomes: "Duas novas espécies de Colubrídeos opistóglifos brasileiros (*Philodryas oligolepis* Gomes e *Apostolepis longicaudata* Gomes)" — Comunicação à Soc. de Med. e Cirurgia de S. Paulo, sessão de 15-7-1921.

through the eyes and extending on either side to the mouth, forward to the anterior edge of the frontal and back to the posterior angle of this scale; symphysial, anterior chin-shields and three first lower labials blotched with black. Anus situated in the light interspace of the 16th. and 17th. sets of rings.

Dimensions — Total length 635 mm.; tail 37 mm.

Habitat — Captured in December 1915 at «Fazenda Bonito», Bocaina mountains (State of São Paulo), valley of the Mambucaba river, at an altitute of about 1.000 meters.

Type — N.° 1.849 of the Butantan Institute snake collection (preserved in alcohol). This snake was offered in February 1921 by Mr. C. R. Fischer, present draughtsman of the Institute, to whom I dedicate the species.

Note: In the key to the *Elaps* species, arranged by G. A. Boulenger ([12]), *Elaps fischeri* should be included in Section III, B. 3:

III — Seven upper labials, 3rd. and 4th. entering the eye;

B. — 7th. upper labial well developed; rostral moderate, just visible from above: internasals much shorter than the præ-frontals;

3 — Symphysial in contact with the anterior chin-shields.

Elaps fischeri which, as far as I know, is the first species in this group assigned to Brazil, is very allied to *Elaps ancoralis* Boulenger, by the contiguity of the symphysial with the anterior chin-shields and by the disposition of the black rings on the body; it differs however from the same by the following characteristics:

	Elaps ancoralis Blgr.	**Elaps fischeri** n. sp.
Rostral	Much broader than deep	A little deeper than broad (3, 5 : 3)
Frontal	Little broader than the supraocular	more than twice as broad as the supraocular (3,25 : 1,5)
Parietals	as long as their distance from the internasals	a little longer than their distance from the internasals (4,50 : 4,25).
Anterior chin-shields	as long as the posterior	a little shorter than the posterior (2 : 2,75)
Ventrals	258	210
Subcaudals	31	20
Coloring on the head and nape	light in front, dotted and spotted with black; occiput and nape with an anchor-shaped black mark, the transverse branch of which nearly covers the parietals and extends to the throat.	as that of *El. decoratus* Jan: light yellow with black snout; a band passing through the eye also black; light yellow occiput; nape with the first set of rings.

([12]) G. A. Boulenger — *op. cit.* — 1896; vol. III, p. 412.

This snake is also distinguished from *El. simonsii* BLGR. (13) principally by its rostral which is deeper than broader, its frontal which is a little longer than broad and over twice as long as the supraocular, by having a lower number of ventrals, and by a diverse distribution of the spots on the head and the rings on the body.

By comparing the present species with those of section III, B, 2 of BOULENGER:

III — Seven upper labials, 3rd. and 4th. in contact with the eye;

B. — 7 th. upper labial well developed, rostral moderate, just visible from above; internasals much shorter than the præ-frontals;

2 — 1st. lower labial in contact with its fellow; posterior nasal in contact with the præ-ocular;

and by comparing the colouring on the body and head and the number of ventrals, one finds that it is very similar to *El. marcgravii* WIED and *El. decoratus* JAN.

The principal points of distinction from *El. marcgravii* are: the frontal which is more than twice as broad as the supraocular and only a little longer than broad; the anterior temporal which is smaller than the posterior. It is different from the *El. decoratus* in that it has an anterior temporal, the 6th. upper labial, therefore, not being in contact with the parietal, and also as its parietals are longer than their distance from the internasals. In reference to the number of subcaudals of the *El. decoratus* which BOULENGER (14) settles between 29 and 37, I found a smaller number, namely between 17 and 30 in 14 specimens which I was able to examine, 10 of which are at present in the Butantan Institute snake collection under n.os 68, 69, 442, 841, 932, 1.233, 1.455, 1.456, 1.709 and 1.816 and 4 in the «Museu Paulista» collection under n.os 66, 67, 68 and 522, so that this data cannot be used in the differentiation of the 2 species in question.

The species cannot also be identified with *El. lemniscatus* L. and *El. frontalis* DM. & B., principally as it has a smaller number of ventrals and as its rostral is deeper than broader and the frontal over twice as broad as the supraocular. Nor can it be identified with *El. spixii* WAGL., because of the head colouring, and number and location of black rings which are very diverse, its frontal being also only a little broader than the supraocular.

Finally, *El. fischeri* differs from *El. decoratus* and *El. marcgravii* as well as from the other species of cited Section III, B, 2 of BOULENGER, by the essencial characteristic of Section III, B, 3, in which it should be included, that is, by the already mentioned contiguity of the symphysial to the anterior chin-shields.

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(13) G. A. BOULENGER — "List of the Fisches, Batrachians and Reptiles collected by the late Mr. P. O. Simons in the Provinces of Mendoza and Cordoba, Argentina" — *in* The Annals and Magazine of Natural History — vol. IX, 1902, pp. 338-339.

(14) G. A. BOULENGER — *op. cit.*, p. 419.

IV

Lachesis insularis n. sp.

(Plates IV and III; figs. 1-5)

Number of specimens — 203.

Description — Head very wide in the temporal region; snout relatively short and narrow; body slender and somewhat flattened laterally; tail short and slightly prehensile.

Snout rounded and narrow; canthus salient and slightly raised. Rostral narrow, a little deeper than broad. Internasals generally in contact with behind the rostral, with a slight sulcus. Canthal more or less plain, slightly inclined outwards, about twice as long as broad, and generally as long as and a little broader than the internasal. Supraocular small, about twice as long as broad, slightly inclined outwards, smooth or rugous, and nearly always entire (only two specimens, n.os 1.857 and 1.903, show it divided transversally). Scales of the upper part of the head small, keeled, imbricated and in 7 longitudinal rows between the supraoculars (among the 203 specimens, 26 have 6, 24 have 8, 2 have 5 and 1 has 9 rows), generally substituted on the anterior part, between the canthals, by a pair of large scales, like shields, juxta-posed, nearly always smooth and separated anteriorly by another large scale, azygous, placed in the angle of the internasals, the three of which are sometimes surrounded by minute scales. Nasal divided. Præ-oculars 2, the superior, which is larger, reaching the canthus. Postoculars 2 (46 specimens have only 1 on the right, and 40 have only 1 on the left, 4 have 1 on the right and left, and 6 have 3 on the left, 5 have 3 on the right, and 1, n.° 1.898, has no postocular on the right). Only one subocular, separated from the upper labials by a row of scales (in 29 specimens there are two rows to the left and in 16 there are 2 rows to the right). Temporals, all strongly keeled. Upper labials 8 (25 specimens have 9 on the right, 23 have 9 on the left and 11 have 9 on both sides), the 2nd. in contact with the præ-loreal, and forming the anterior border of the loreal pit on both sides of the 203 specimens (10 instances it is not forming on the right, in 10 it is not forming on the left, and in 21 it is not forming on either side). Scales in 25 longitudinal rows (except 37 specimens ♀♀ which have 27 rows; 4 which have 24 rows; and 24, 19 being ♂♂, which have 23 rows), all markedly keeled from the head to the end of the tail. The keel, which is high and long, extends to the posterior extremity of the scales. Ventrals 171-195, 171-188 being the number in specimens ♂♂ and 176-195 in specimens ♀♀. Anal entire. Subcaudals 48-65, 55-65 being the number in specimens ♂♂, and 48-59 in specimens ♀♀, all paired or some entire especially in specimens ♀♀, as can be seen by annexed table (List of specimens).

List of specimens of *Lachesis insularis* n. sp.

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
665	♀	8	9	27	179	53/53	778	101
666	♂	8	8	23	181	$50/49+12\left(\frac{1}{1}+1+\frac{2}{1}+2+\frac{2}{2}+3+\frac{1}{1}+6+\frac{44}{44}\right)$	727	113
667	♂	8	8	25	180	$48/48+14\left(\frac{5}{5}+13+\frac{40}{40}+1+\frac{3}{3}\right)$	718	106
668	♂	8	8	25	182	$30/30+24\left(\frac{2}{2}+19+\frac{6}{6}+2+\frac{21}{21}+3+\frac{1}{1}\right)$	507	75
669	♀	8	8	25	186	52/52	742	96
670	♂	8	8	25	183	$43/44+12\left(\frac{3}{3}+6+\frac{5}{5}+3+\frac{28}{28}+1+\frac{2}{3}+2+\frac{5}{5}\right)$	780	101 (tail cap injured)
671	♀	8	8	27	181	58/58	615	83
672	♀	8	9	27	182	$50/50+4\left(\frac{3}{3}+3+\frac{1}{1}+1+\frac{46}{46}\right)$	739	98
673	♀	8	8	27	186	$53/53+2\left(\frac{29}{29}+1+\frac{21}{21}+1+\frac{3}{3}\right)$	596	80
674	♂	8	8	25	184	$55/55+3\left(\frac{6}{6}+2+\frac{4}{4}+1+\frac{45}{45}\right)$	828	106
675	♂	8	8	23	176	$53/53+5\left(\frac{6}{6}+1+\frac{11}{11}+1+\frac{8}{8}+3+\frac{28}{28}\right)$	596	95
676	♂	9	8	25	177	$47/47+8\left(\frac{4}{4}+4+\frac{7}{7}+3+\frac{1}{1}+1+\frac{35}{35}\right)$	683	97
677	♀	8	8	27	187	$46/46+8\left(\frac{5}{5}+4+\frac{4}{4}+4+\frac{37}{37}\right)$	502	61
678	♀	8	8	25	190	$43/43+11\left(5+\frac{7}{7}+1+\frac{1}{1}+3+\frac{34}{34}+2+\frac{1}{1}\right)$	542	69
679	♀	8	8	25	188	$41/41+15\left(\frac{5}{5}+2+\frac{2}{2}+1+\frac{2}{2}+1+\frac{1}{1}+1+\frac{6}{6}+4+\frac{13}{13}+2+\frac{7}{7}+2+\frac{2}{2}+2+\frac{3}{3}\right)$	481	64

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 1)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
680	♀	8	8	27	184	55/55	687	88
681	♀	9	8	25	186	$52/52+4\left(\frac{2}{2}+4+\frac{50}{50}\right)$	575	78
682	♂	8	8	25	183	$59/59+2\left(\frac{5}{5}+2+\frac{54}{54}\right)$	686	102
683	♀	9	8	27	187	54/54	714	95
684	♂	8	8	25	182	$27/27+31\left(16+\frac{1}{1}+2+\frac{1}{1}+8+\frac{21}{21}+4+\frac{3}{3}+1+\frac{1}{1}\right)$	440	63
685	♂	8	8	25	179	$56/56+3\left(\frac{1}{1}+1+\frac{23}{23}+2+\frac{32}{32}\right)$	540	82
686	♀	8	8	27	189	54/54	830	105
687	♀	8	8	27	184	$55/55+1\left(\frac{1}{1}+1+\frac{54}{54}\right)$	645	83
688	♀	9	9	25	188	$40/40+16\left(\frac{3}{3}+14+\frac{2}{2}+2+\frac{35}{35}\right)$	585	78
689	♀	8	8	27	187	55/55	900	100
1253	♀	8	8	25	180	$52/54+2\left(\frac{21}{21}+1+\frac{23}{23}+1+\frac{8}{10}\right)$	665	85
1254	♂	8	9	25	182	$43/44+12\left(\frac{2}{2}+9+\frac{1}{1}+1+\frac{1}{1}+1+\frac{15}{15}+1+\frac{24}{25}\right)$	800	115
1731	♂	8	8	23	182	$44/44+13\left(\frac{1}{1}+6+\frac{1}{1}+1+\frac{2}{2}+2+\frac{1}{1}+4+\frac{39}{39}\right)$	770	110
1736	♂	8	8	25	180	$52/52+9\left(\frac{1}{1}+8+\frac{7}{7}+1+\frac{44}{44}\right)$	710	105
1737	♀	8	8	26	185	55/55	920	117
1738	♀	8	8	25	180	$49/49+1\left(\frac{4}{4}+1+\frac{45}{45}\right)$	785	92
1739	♀	8	9	25	189	51/51	665	75

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 2)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1851	♂	8	8	25	181	$57/57+4\left(\frac{1}{1}+1+\frac{50}{50}+2+\frac{5}{5}+1+\frac{1}{1}\right)$	730	111
1852	♀	9	8	25	189	55/55	885	102
1853	♀	9	8	25	190	56/56	980	125
1854	♂	8	8	25	174	$37/37+24\left(\frac{4}{4}+1+\frac{2}{2}+14+\frac{1}{1}+2+\frac{3}{3}+2+\frac{1}{1}+2+\frac{15}{15}+3+\frac{11}{11}\right)$	620	95
1855	♂	8	8	23	177	$51/51+6\left(\frac{25}{25}+4+\frac{6}{6}+1+\frac{20}{20}\right)$	730	105
1856	♂	8	8	24	180	$42/42+20\left(\frac{1}{1}+1+\frac{3}{3}+4+\frac{1}{1}+2+\frac{6}{6}+1+\frac{1}{1}+1+\frac{3}{3}+2+\frac{1}{1}+\right.$ $\left.+2+\frac{1}{1}+1+\frac{12}{12}+2+\frac{7}{7}+1+\frac{1}{1}+2+\frac{2}{2}+1+\frac{3}{3}\right)$	730	109
1857	♀	9 (Præ-nasal entering the mouth)	9 (Præ-nasal entering the mouth)	25	182	$42/39+7\left(\frac{1}{1}+2+\frac{8}{7}+4+\frac{16}{14}+1+\frac{13}{13}+\frac{4}{4}\right)$	835	85
1858	♀	8	8	26	186	54/54	870	110
1859	♀	8	8	27	190	55/55	875	110
1860	♀	8	8	25	182	$51/51+1\left(\frac{30}{30}+1+\frac{31}{31}\right)$	985	120
1861	♀	9	8	25	178	$52/52+1\left(\frac{46}{46}+1+\frac{6}{6}\right)$	910	111
1862	♀	8	8	25	184	55/55	880	90
1863	♂	8	8	25	181	$11/11+45\left(\frac{2}{2}+33+\frac{4}{4}+1+\frac{1}{1}+4+\frac{1}{1}+7+\frac{3}{3}\right)$	705	100
1864	♂	8	8	23	176+2	60/60	898	110
1865	♂ yn.	8	8	25	178	$40/40+20\left(11+\frac{39}{39}+9+\frac{1}{1}\right)$	465	72

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 3)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1866	♀	8	8	26	184	52/52	790	109
1867	♀	8	8	25	182	57/57	705	105
1868	♂	8	8	24	177	61/60	740	111
1869	♀	8	8	27	184	$50/50 + 2\left(\frac{3}{3} + 1 + \frac{15}{15} + 1 + \frac{32}{32}\right)$	635	85
1870	♀	9	8	23	187	56/56	450	61
1871	♀	8	8	25	190	53/53	976	126
1872	♀	8	8	27	188	$45/45 + 12\left(1 + \frac{1}{1} + 8 + \frac{2}{2} + 1 + \frac{4}{4} + 1 + \frac{32}{32} + 1 + \frac{6}{6}\right)$	775	105
1873	♀	8	8	25	186	$56/56 + 1\left(\frac{52}{52} + 1 + \frac{4}{4}\right)$	660	99
1874	♀	8	8	25	189	$47/47 + 8\left(\frac{3}{4} + 1 + \frac{10}{10} + 4 + \frac{12}{11} + 2 + \frac{13}{13} + 1 + \frac{9}{9}\right)$	860	110
1875	♂	8	8	25	183	$47/47 + 14\left(\frac{6}{6} + 13 + \frac{3}{3} + 1 + \frac{38}{38}\right)$	658	98
1876	♂	8	8	25	173+7	$60/60 + 1\left(\frac{1}{1} + 1 + \frac{59}{59}\right)$	686	105
1877	♂	8	8	23	171	$43/43 + 13\left(2 + \frac{1}{2} + 4 + \frac{6}{5} + 7 + \frac{36}{36}\right)$	623	94
1878	♀	8	9	23	179	56/56	870	115
1879	♀ jn.	9	8	27	188	$47/47 + 6\left(\frac{1}{1} + 6 + \frac{46}{46}\right)$	380	48
1880	♂	8	8	25	182	$54/54 + 4\left(\frac{1}{1} + 1 + \frac{40}{40} + 1 + \frac{8}{8} + 2 + \frac{5}{5}\right)$	725	105
1881	♀	9	8	27	190	56/56	755	95
1882	♂	8	8	25	172	$54/55 + 4\left(\frac{1}{1} + 2 + \frac{4}{5} + 1 + \frac{42}{42} + 1 + \frac{7}{7}\right)$	730	110

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 4)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1883	♀	9	9	25	186	$51/51 + 2\left(\frac{4}{4} + 2 + \frac{47}{47}\right)$	670	85
1884	♂	8	8	23	177	$47/48 + 11\left(\frac{1}{1} + 1 + \frac{2}{3} + 5 + \frac{2}{2} + 4 + \frac{11}{11} + 1 + \frac{31}{31}\right)$	670	100
1885	♂	8	8	25	184	$51/51 + 6\left(\frac{2}{2} + 1 + \frac{1}{1} + 3 + \frac{45}{45} + 2 + \frac{3}{3}\right)$	755	108
1886	♂	8	8	26	185	$45/45 + 14\left(1 + \frac{3}{3} + 1 + \frac{3}{3} + 2 + \frac{6}{6} + 1 + \frac{9}{9} + 3 + \frac{1}{1} + 1 + \frac{4}{4} + 1 + + \frac{3}{3} + 1 + \frac{6}{6} + 1 + \frac{6}{6} + 1 + \frac{2}{2} + 1 + \frac{2}{2}\right)$	710	105
1887	♂	8	8	23	179	$44/44 + 17\left(\frac{3}{3} + 15 + \frac{6}{6} + 2 + \frac{35}{35}\right)$	645	103
1888	♀	8	8	27	188	56/56	765	100
1889	♂	8	8	25	187	$43/43 + 14\left(\frac{4}{4} + 3 + \frac{1}{1} + 1 + \frac{1}{1} + 6 + \frac{1}{1} + 2 + \frac{1}{1} + 1 + \frac{7}{7} + 1 + \frac{28}{28}\right)$	680	93
1890	♀	8	8	23	185	$48/48 + 6\left(6 + \frac{48}{48}\right)$	896	116
1891	♂	9	8	25	186	$48/48 + 7\left(\frac{9}{9} + 4 + \frac{5}{5} + 3 + \frac{34}{34}\right)$	741	98
1892	♀	8	9	25	182	$40/40 + 17\left(11 + \frac{3}{3} + 6 + \frac{37}{37}\right)$	772	106
1893	♂	8	8	25	178	$52/52 + 5\left(\frac{5}{5} + 2 + \frac{12}{12} + 1 + \frac{6}{6} + 2 + \frac{29}{29}\right)$	657	90
1894	♂	8	8	23	185	$20/20 + 27\left(\frac{1}{1} + 1 + \frac{1}{1} + 4 + \frac{1}{1} + 1 + \frac{1}{1} + 1 + \frac{1}{1} + 19 + \frac{4}{4} + 1 + + \frac{11}{11}\right) + n$	780	101 (injured extremity)
1895	♂	8	9	25	180	$39/39 + 24\left(1 + \frac{4}{4} + 1 + \frac{1}{1} + 1 + \frac{2}{2} + 1 + \frac{1}{1} + 1 + \frac{6}{6} + 13 + \frac{17}{17} + 6 + \frac{8}{8}\right)$	660	100

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 5)

No. in the Butantan Institute collection	Sex.	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1896	♀	8	8	25	186	56/56	804	104
1897	♀	8	8	25	186	56/56	580	79
1898	♂	8	8	25	178	$47/47 + 14\left(\frac{1}{1}+8+\frac{6}{6}+3+\frac{2}{2}+3+\frac{38}{38}\right)$	706	111
1899	♂	8	8	25	181	$53/54 + 7\left(\frac{1}{1}+1+\frac{1}{2}+5+\frac{11}{11}+1+\frac{40}{40}\right)$	844	120
1900	♀	8	8	27	186	53/53	1000	118
1901	♀	9	8	25	184	$50/50 + 3\left(\frac{4}{4}+1+\frac{45}{45}+2+\frac{1}{1}\right)$	912	107
1902	♀	8	8	25	185	55/55	914	127
1903	♀	8	8	25	176	57/57	721	90
1904	♀	8	8	25	185	$47/47 + 5\left(\frac{1}{1}+1+\frac{1}{1}+4+\frac{45}{45}\right)$	735	91
1905	♂	8	8	25	180	$36/36 + 26\left(\frac{4}{4}+16+\frac{9}{9}+2+\frac{3}{3}+1+\frac{1}{1}+1+\frac{16}{16}+6+\frac{3}{3}\right)$	740	115
1906	♀	8	8	23	181	$48/48 + 6\left(\frac{4}{4}+3+\frac{4}{4}+2+\frac{1}{1}+1+\frac{39}{39}\right)$	770	92
1907	♀	8	8	27	178	$54/54 + 2\left(\frac{30}{30}+2+\frac{21}{24}\right)$	735	108
1908	♀	9	9	25	186+3	54/54	862	103
1909	♀	8	9	25	195	$43/43 + 9\left(\frac{1}{1}+4+\frac{11}{11}+1+\frac{1}{1}+1+\frac{1}{1}+3+\frac{29}{29}\right)$	793	100
1910	♀	9	8	24	186+2	55/55	715	89
1911	♂	8	8	25	180	$57/57 + 3\left(\frac{11}{11}+1+\frac{3}{3}+1+\frac{3}{3}+1+\frac{40}{40}\right)$	712	110
1912	♀	9	8	25	186	56/56	732	97

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 6)

No. in the Butantan Institute collection	Sex.	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1913	♀	8	8	25	186	57/57	753	96
1914	♀	8	8	27	185	$49/49+5\left(\frac{3}{3}+1+\frac{5}{5}+2+\frac{2}{2}+1+\frac{9}{9}+1+\frac{30}{30}\right)$	724	91
1915	♂	8	9	25	178+3	$49/49+8\left(\frac{8}{8}+2+\frac{3}{3}+1+\frac{3}{3}+3+\frac{27}{27}+2+\frac{8}{8}\right)$	790	118
1916	♀	8	8	25	189	$50/50+5\left(\frac{5}{5}+5+\frac{45}{45}\right)$	786	109
1917	♂	8	8	25	183	59/59	728	108
1918	♂	9	8	25	181	$45/45+12\left(\frac{1}{1}+6+\frac{1}{1}+1+\frac{2}{2}+2+\frac{1}{1}+2+\frac{4}{4}+1+\frac{36}{36}\right)$	780	110
1919	♀	8	8	25	185	$49/49+3\left(\frac{17}{17}+2+\frac{29}{29}+1+\frac{3}{3}\right)$	754	98
1920	♀	8	8	25	183	$52/52+1\left(\frac{25}{25}+1+\frac{27}{27}\right)$	704	88
1921	♂	8	9	25	184	59/59	656	98
1922	♀	9	8	25	190	53/53	712	88
1923	♂	8	8	25	185	58/58	696	98
1924	♂	9	8	25	183	59/59	691	102
1925	♂	8	8	25	188	$51/51+4\left(\frac{27}{27}+1+\frac{3}{3}+3+\frac{21}{21}\right)$	840	110
1926	♀	9	8	25	189	$50/50+4\left(\frac{47}{47}+4+\frac{3}{3}\right)$	837	105
1927	♀	9	8	25	191	53/53	670	83
1928	♂	8	9	25	184	$59/59+2\left(\frac{54}{54}+2+\frac{5}{5}\right)$	760	110
1929	♀	9	9	25	184+2	53/53	703	88

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 7)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1930	♀	8	8	25	190	$55/55+2\left(\frac{26}{26}+2+\frac{29}{29}\right)$	688	90
1931	♂	8	8	25	181	$36/36+20\left(\frac{8}{8}+2+\frac{2}{2}+9+\frac{2}{2}+1+\frac{1}{1}+3+\frac{2}{2}+2+\frac{17}{17}+3+\frac{4}{4}\right)$	735	109
1932	♂	8	8	25	178	$29/29+33\left(\frac{2}{2}+26+\frac{19}{19}+1+\frac{7}{7}+6+\frac{1}{1}\right)$	730	115
1933	♂	8	8	25	181	57/57	700	103
1934	♀	8	8	25	179	52/52	640	80
1935	♀	9	8	25	190	$51/51+3\left(\frac{3}{3}+3+\frac{48}{48}\right)$	700	87
1936	♀	8	8	27	183	54/54	684	90
1937	♂	8	8	25	180	60/60	736	110
1938	♂	8	8	26	184	$42/42+20\left(\frac{4}{4}+4+\frac{1}{1}+5+\frac{3}{3}+1+\frac{10}{10}+3+\frac{20}{20}+7+\frac{4}{4}\right)$	742	110
1939	♂	9	8	25	178+4	$26/26+34\left(\frac{2}{2}+14+\frac{3}{3}+2+\frac{1}{1}+7+\frac{15}{15}+1+\frac{3}{3}+10+\frac{2}{2}\right)$	717	108
1940	♀	8	8	25	189	$47/47+10\left(8+\frac{4}{4}+1\frac{1}{1}+1+\frac{42}{42}\right)$	712	98
1941	♂	8	8	25	179+1	$48/47+9\left(\frac{1}{1}+1+\frac{1}{1}+3+\frac{7}{6}+5+\frac{39}{39}\right)$	720	105
1942	♀	8	8	25	182+2	$57/57+2\left(\frac{6}{6}+2+\frac{51}{51}\right)$	595	88
1943	♂	8	8	25	183+1	$54/54+2\left(\frac{22}{22}+1+\frac{29}{29}+1+\frac{3}{3}\right)$	716	108
1944	♂	8	8	25	175+3	$49/49+7\left(6+\frac{17}{17}+1+\frac{32}{32}\right)$	695	104
1945	♂ n.	8	8	25	180	$36/35+23\left(\frac{1}{1}+1+\frac{2}{2}+12+\frac{3}{3}+7+\frac{19}{19}+1+\frac{8}{7}+2+\frac{3}{3}\right)$	520	75

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 8)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1946	♀	8	8	25	183+3	$51/51+5\left(5+\frac{51}{51}\right)$	682	92
1947	♀	8	9	27	183	$55/55+1\left(\frac{17}{17}+1+\frac{38}{38}\right)$	676	92
1948	♀	8	8	29	184+4	55/55	456	58
1949	♀	8	9	25	182+1	$53/53+2\left(\frac{1}{1}+1+\frac{51}{51}+1+\frac{1}{1}\right)$	582	80
1950	♀	8	8	25	182+3	$47/47+8\left(\frac{3}{3}+8+\frac{44}{44}\right)$	603	81
1951	♂	9	8	23	180	$29/29+30\left(\frac{3}{3}+13+\frac{2}{2}+4+\frac{4}{4}+2+\frac{1}{1}+1+\frac{7}{7}+3+\frac{6}{6}+6+\frac{3}{3}+1+\frac{3}{3}\right)$	670	103
1952	♂	8	8	23	182	$50/50+9\left(\frac{29}{29}+1+\frac{3}{3}+1+\frac{7}{7}+5+\frac{3}{3}+2+\frac{8}{8}\right)$	705	104
1953	♂	8	9	25	180	$51/51+7\left(\frac{5}{5}+5+\frac{2}{2}+2+\frac{44}{44}\right)$	572	84
1954	♀	9	9	25	184	52/52	574	72
1955	♀	8	8	25	187+3	55/55	780	104
1956	♂	8	8	25	185	59/59	615	88
1957	♀	8	9	27	180	57/57	580	78
1958	♀	8	8	27	182+2	$43/43+12\left(\frac{19}{19}+3+\frac{5}{5}+1+\frac{6}{6}+1+\frac{9}{9}+3+\frac{1}{1}+4+\frac{3}{3}\right)$	594	77
1959	♀	8	8	25	191	$52/52+4\left(\frac{3}{3}+3+\frac{11}{11}+1+\frac{38}{38}\right)$	642	80
1960	♂	8	8	26	184	$50/50+7\left(\frac{14}{14}+4+\frac{3}{3}+2+\frac{4}{4}+1+\frac{29}{29}\right)$	832	125

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 9)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1961	♂	8	8	23	183	61/61	608	92
1962	♂	8	8	23	179	$50/50+9\left(\frac{1}{1}+1+\frac{2}{2}+5+\frac{1}{1}+3+\frac{46}{46}\right)$	600	88
1963	♀ juv.	8	8	23	186	58/58	576	88
1964	♂	8	8	25	175	$57/57+3\left(\frac{1}{1}+1+\frac{9}{9}+1+\frac{46}{46}+1+\frac{1}{1}\right)$	550	88
1965	♂	8	8	25	180	$59/59+1\left(\frac{52}{52}+1+\frac{7}{7}\right)$	700	108
1966	♂	8	8	25	184	$32/32+26\left(\frac{6}{6}+18+\frac{1}{1}+1+\frac{4}{4}+3+\frac{18}{18}+4+\frac{3}{3}\right)$	690	104
1967	♂	8	8	23	183+1	$61/61+2\left(\frac{6}{6}+1+\frac{17}{17}+1+\frac{38}{38}\right)$	696	105
1968	♀	8	8	25	182	$50/50+4\left(\frac{1}{1}+4+\frac{49}{49}\right)$	592	79
1969	♂	8	8	25	174	60/60	690	104
1970	♂	8	9	25	184	$56/56+1\left(\frac{5}{5}+1+\frac{51}{51}\right)$	661	96
1971	♀	8	8	25	179	$55/55+3\left(\frac{2}{2}+3+\frac{53}{53}\right)$	623	90
1972	♂	8	8	25	184	$51/51+6\left(\frac{5}{5}+3+\frac{1}{1}+1+\frac{1}{1}+2+\frac{44}{44}\right)$	710	100
1973	♀ juv.	8	8	27	173	$48/48+5\left(\frac{5}{5}+2+\frac{4}{4}+3+\frac{39}{39}\right)$	454	58
1974	♂	8	8	23	179+2	$50/50+9\left(\frac{3}{3}+6+\frac{20}{20}+1+\frac{9}{9}+2+\frac{18}{18}\right)$	730	109
1975	♂	8	8	25	182	$45/45+18\left(\frac{1}{1}+10+\frac{8}{8}+1+\frac{2}{2}+1+\frac{3}{3}+2+\frac{1}{1}+3+\frac{18}{18}+1+\frac{12}{12}\right)$	780	122
1976	♀	8	8	27	180	$27/27+27\left(\frac{1}{1}+1+\frac{1}{1}+10+\frac{1}{1}+9+\frac{18}{18}+6+\frac{5}{5}+1+\frac{1}{1}\right)$	670	95

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 10)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1977	♂	8	8	25	176	$55/55+1\left(\frac{1}{1}+1+\frac{54}{54}\right)$	700	103
1978	♀	8	8	25	192	58/58	482	65
1979	♀	9	8	27	184	57/57	655	90
1980	♂	8	8	25	177	59/59	622	95
1981	♀ n.	9	8	25	190	$45/45+6\left(\frac{3}{3}+6+\frac{42}{42}\right)$	550	66
1982	♀	8	9	25	187	$52/52+1\left(\frac{28}{28}+1+\frac{24}{24}\right)$	552	68
1983	♂	8	8	23	177	$57/57+1\left(\frac{9}{9}+1+\frac{48}{48}\right)$	590	90
1984	♂	8	8	25	179+1	$24/24+36\left(\frac{1}{1}+7+\frac{2}{2}+23+\frac{2}{2}+2+\frac{5}{5}+1+\frac{4}{4}+1+\frac{5}{5}+1+\frac{4}{4}+1+\frac{1}{1}\right)$	650	92
1985	♀	9	8	27	183	$51/51+1\left(\frac{26}{26}+1+\frac{25}{25}\right)$	592	72
1986	♂	8	9	25	186	$53/53+7\left(\frac{11}{11}+3+\frac{15}{15}+3+\frac{24}{24}+1+\frac{3}{3}\right)$	722	105
1987	♂	8	8	23	179	$49/49+9\left(\frac{48}{48}+1+\frac{1}{1}+8\right)$	650	95
1988	♀	8	8	27	189	$42/42+14\left(\frac{7}{7}+2+\frac{2}{2}+2+\frac{4}{4}+10+\frac{29}{29}\right)$	840	101
1989	♀	8	8	27	189	55/55	732	99
1990	♀	9	9	27	180	$49/49+4\left(\frac{43}{43}+4+\frac{6}{6}\right)$	730	94
1991	♂	8	8	25	185	$43/43+15\left(\frac{3}{3}+4+\frac{3}{3}+7+\frac{2}{2}+1+\frac{1}{1}+3+\frac{31}{31}\right)$	702	105

List of specimens of *Lachesis insularis* n. sp.

(Continuation - II)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
1992	♂	8	8	25	182	$38/38 + 22\left(\frac{4}{4} + 11 + \frac{2}{2} + 3 + \frac{3}{3} + 2 + \frac{1}{1} + 1 + \frac{1}{1} + 5 + \frac{27}{27}\right)$	808	125
1993	♀	9	9	27	187	54/54	740	89
1994	♂	8	8	24	178	63/63	781	126
1995	♂	8	9	25	182	$49/49 + 16\left(\frac{5}{5} + 13 + \frac{14}{14} + 2 + \frac{22}{22} + 1 + \frac{8}{8}\right)$	616	101
1996	♀	8	9	27	189	$48/48 + 7\left(\frac{1}{1} + 1 + \frac{1}{1} + 3 + \frac{6}{6} + 1 + \frac{1}{1} + 2 + \frac{39}{39}\right)$	735	98
1997	♀	8	8	25	185+1	56/56	875	120
1998	♂	8	8	25	188	$56/56 + 1\left(\frac{16}{16} + 1 + \frac{40}{40}\right)$	756	94
1999	♀	9	9	25	194	55/55	927	11
2000	♂ jr.	9	8	25	178	61/61	470	71
2001	♀	8	8	25	186	53/54	673	85
2002	♂	8	8	25	181	55/55	575	78
2003	♀	8	8	27	186	56/56	765	95
2004	♀	8	8	25	183	$51/51 + 5\left(\frac{1}{1} + 5 + \frac{50}{50}\right)$	670	90
2005	♂	8	8	25	172	$32/32 + \frac{1}{\frac{1}{1}} + 22\left(\frac{1}{\frac{1}{1}} + \frac{4}{4} + 8 + \frac{1}{1} + 12 + \frac{1}{1} + 2 + \frac{26}{26}\right) + n$	785	120 (injured extremity)
2006	♂	8	8	25	180+2	$55/55 + 5\left(\frac{5}{5} + 1 + \frac{13}{13} + 1 + \frac{5}{5} + 2 + \frac{1}{1} + 1 + \frac{31}{31}\right)$	850	124
2007	♀	8	8	27	191	$55/55 + 2\left(\frac{8}{8} + 2 + \frac{47}{47}\right)$	754	93

List of specimens of *Lachesis insularis* n. sp.

(Continuation - 12)

No. in the Butantan Institute collection	Sex	Upper labials		Scale rows	Ventrals	Subcaudals	Length in mm.	
		at the right	at the left				Total	Tail
2008	♂	8	8	23	183	$53/53+6\left(5+\frac{2}{2}+1+\frac{51}{51}\right)$	676	106
2009	♂	8	8	25	176+2	$52/52+7\left(3+\frac{1}{1}+4+\frac{51}{51}\right)$	742	116
2010	♂	8	8	25	182	$46/46+12\left(\frac{4}{4}+8+\frac{1}{1}+2+\frac{38}{38}+2+\frac{3}{3}\right)$	785	120
2011	♀	9	8	25	183	54/54	742	100
2012	♀	8	9	27	188	57/57	773	82
2013	♀	9	9	25	189	$53/53+1\left(\frac{19}{19}+1+\frac{34}{34}\right)$	690	92
2014	♂	8	8	25	181	56/56	718	108
2015	♀	8	9	27	187	51/51	725	92
2016	♂	8	8	25	187+1	$51/51+10\left(\frac{4}{4}+6+\frac{9}{9}+1+\frac{5}{5}+1+\frac{10}{10}+1+\frac{16}{16}+1+\frac{7}{7}\right)$	792	116
2017	♂	8	8	23	185	$53/53+5\left(\frac{11}{11}+1+\frac{4}{4}+2+\frac{5}{5}+1+\frac{2}{2}+1+\frac{31}{31}\right)$	818	124
2018	♂	9	9	25	178+1	$59/59+3\left(\frac{5}{5}+3+\frac{54}{54}\right)$	830	130
2019	♀	8	9	27	186	53/53	710	90
2020	♂	8	8	25	178	$41/41+15\left(\frac{3}{3}+12+\frac{36}{36}+2+\frac{1}{1}+1+\frac{1}{1}\right)$	624	96

The specimens Ns. 665-689 were sent the September 4th 1914 by Mr. Luis Martins de Almeida; those Ns. 1253, 1254, 1731, 1736-1739 and 1851-1856 were sent in August and September 1916 by Mr. Cirilo da Costa Gama; those Ns. 1857-1894 and 1967-1977 were sent in October 1918 and in September 1920 by Mr. Antônio Esperidião da Silva; those Ns. 1895-1936 and 1978-2001 were brought by me when I returned from the Queimada Grande Island, respectively, in April and in November 1920; and those Ns. 2002-2020 were sent in December 1920 by Mr. Joaquim de Souza Teixeira.

NOTE: There are yet 32 living specimens of this snake already listed, the biology of which I reproduce now experimentally.

Yellowish brown above, there being generally on either side a series of complete or divided blotches which are spaced from each other and may be narrow, triangular, quadrangular or lineal, placed in opposition to or alternating with those of the other side. Sometimes these blotches are not found or they may be nearly imperceptible. Head also yellowish brown without blotches and having no streak behind the eye. Belly light yellow or whitish, entirely uniform or, in some specimens, slightly dotted with light brown on the side of the ventrals. Young yellowish pink to brownish pink above, with very imperceptible blotches, belly uniform yellowish white.

Dimensions — The type (specimen ♀ n.° 1.996) measures 735 mm. total length, the tail measuring 98 mm. Among all the specimens the largest is an ♀ which has a total length of 1 meter, the tail measuring 118 mm. Of the 203 specimens examined the 10 largest are ♀ ♀.

Habitat — All specimens are from the «Queimada Grande» Island on the coast of the State of São Paulo, about 40 miles S. W. of bay of Santos. In accordance with observations which I have made concerning the species of snakes found on the several islands and points on our coast, I am convinced that *Lachesis insularis* is found only on «Queimada Grande» Island. In relation to its small surface this island is assuredly the point of the globe most thickly populated with snakes.

Type — Specimen ♀ in the Butantan Institute snake collection under n.° 1.996. Plate IV, in three colors, faithfully reproduces the colouring of that specimen which is one of the darkest of the collection. This snake was killed shortly before changing its skin.

Notes — This species, considered from a purely systematic point of view appears to be closely related to other *Crotalinæ* which frequently occur in Brazil where they are generally known respectively by the common names of «Jararaca» and «Caiçaca».

However, before establishing the differences existing between them, I shall hurriedly make some comments on the «Jararaca» and the «Caiçaca» using some summarized data from a study which I intend to publish shortly on the points of distinction between our several *Lachesis*, in addition to the excellent monograph of Miss J. B. Procter (15) concerning variations of *Lachesis atrox* (L.).

The identification of our «Jararaca» with the *Lachesis lanceolata* described by De Lacépède (16) for Martinica and perhaps for Dominica and French Guiana, and our «Caiçaca» with the *Lachesis atrox* (L.), seems to me to be a question still open

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(15) Miss J. B. Procter — "On the variation of the Pit-viper, *Lachesis atrox*" — *in* Proc. of Zool. Soc. of London, 1918; vol. I and II; pp. 163-182.

(16) De Lacépède — Histoire Naturelle des Serpentes", 1879; p. 121; and *in* A. G. Desmarest — "Oeuvres du Conte Lacépède", 1828; pp. 223-232; pl. 29, fig. 1.

for debate due to the uncertain data on which it is based although the theory has been accepted by the majority of authors.

In reference to the *Lach. lanceolata*, in 1870 A. DUMÉRIL and BOCOURT (17) had already doubted the identity of the specimens coming from Brazil with those from Martinica, having listed the differences which they were able to trace between the two species as to the number of dorsal scales, ventral shields, conformation of rostral plate and coloration on the belly.

Having compared the characteristics of 4.353 specimens of our «Jararaca» from the States of São Paulo (including the coast), Paraná, Santa Catarina, Rio Espírito Santo, Minas and Baía with the several descriptions of the *L. lanceolata*, from Martinica Island, given by DE LACÉPÈDE, SCHLEGEL (18) and DUMÉRIL and BIBRON (19), which correspond to a specimen from that Island which I examined, sent us by the Paris Museum and at present classified under n.° 2.034 in the Butantan collection, I was able to ascertain that there really exist patent differences between the two species, principally in regard to the colouring of the belly, in the form of the dorsal blotches and in the number of ventral shields which constantly seems to be lower in the Brazilian «Jararaca» than in the species from Martinica. The 4.353 specimens of «Jararaca» which I examined are divided as follows: 4.234 received by the Butantan Institute between July 1st. 1920 and June 30th. 1921 and used for the extraction of poison: 75 existing in the Butantan snake collection; 40 in the «Museu Paulista» collection; 4 belonging to the collection of the Butantan's Anti-ophidic Post in Baía. In these specimens, the Brazilian origin of which I always endeavoured to absolutely ascertain, the largest number of ventrals which I was able to find were: 116 in a specimen from Prainha de Iguape (on the coast of the State of São Paulo), classified under n.° 1.076 in the Butantan collection; 115 in a specimen from M. Guandu (State of Espírito Santo), classified under n.° 1.019 in the Butantan collection; and 114 in a specimen from Ilha dos Porcos (coast of the State of São Paulo), classified under n.° 655 in the Butantan collection. I can safely state that specimens with more than 210 ventrals are from every point of view very exceptional. In the majority that I examined the number of these shields varied between 175-210, that is, approximately, the same average which VITAL BRAZIL (20) had already assigned to the species. However, the specimens which it is certain are from Martinica always seem to have from 220 ventrals upward.

The priority of the scientific determination of the «Jararaca» although the colouring of this snake is similar in some points to that of the species described by JEAN WAGLER (21) under the

(17) A. DUMÉRIL E BOCOURT — "Étude sur les reptiles et les batraciens", *in* Rech. Zool. pour servir à l'histoire de la faune de l'Amérique Centrale et du Méxique. 1870; vol. II; p. 940.

(18) H. SCHLEGEL — "Essai sur la physionomie des serpents". 1837; pp. 536-540.

(19) DUMÉRIL & BIBRON — "Erpétologie générale". 1854; vol. VII; p. 1.506.

(20) VITAL BRAZIL — La Défense contre l'Ophidisme". 1914; p. 81.

(21) JEAN WAGLER — *in* Jean de Spix "Serpentum brasiliensium species novae". Monaco, 1824.

name of *Bothrops megaera*, cannot be attributed to this author, due to the mistakes which he made, guided by merely a few variations in colouring in the very umcomplete description of his four Brazilian species of *Bothrops*.

The priority is therefore given to MAXIMILIAN, PRINCE of WIED, who in 1825 ([22]) among others gave the name of *Cophias jararaca* ([23]) to a specimen, the plate reproduction of which although entitled «*Cophias atrox* MERR. *pullus*» corresponds perfectly to the «Jararaca» and the characteristics of which, as given in his text, coincide in general with those which I verified in the several specimens which I studied.

In this case, now I shall pass on to the identification of our «Jararaca» with *Lachesis jararaca* (WIED.).

* * *

In reference to the identification of the «Caiçaca» with the *Lachesis atrox* (L.) ([24]) the problem appears to me to be insoluble for the present, even because recently, in accordance with a study made by L. G. ANDERSSON ([25]), who verified that the keel of the scales of *L. atrox* was low and long instead of high, as described by LINNAEUS, J. B. PROCTER, in her already cited monograph identified with *Bothrops (Lachesis) affinis* GRAY ([26]) the specimens up to then described under the name of *L. atrox*, but the scales of which had high and short keel.

This characteristic, however, as stated by MISS PROCTER herself, is not fixed and this is in acordance with obseryations made by me in 228 specimens of this species from the States of São Paulo, Minas, Goiás, Mato-Grosso, Baía, and Pará and also from Surinam, Dutch Guiana. Of these 228 specimens, 202 were received by the Butantan Institute between July 1st. 1920 and June 30th. 1921, for the extraction of poison; 10 belong to the snake collection of the same Institute; 3 belong to the «Museu Paulista» collection; 4 to the Butantan's Anti-ophidic Post in Baía; and 9 are from Cametá, State of Pará from where they were recently sent me by MR. FRANCISCO LOPES MARTINS, farmer in that district.

Although a great many of these specimens have scales with high and short keel, a great many, however, have long and low keel.

Therefore, in the absence of a fixed characteristic on which I might base a change of opinion in this respect, I shall continue to identify the Brazilian «Caiçaca» with the *Lachesis atrox* (L.).

([22]) MAXIMILIAN, PRINZEN ZU WIED — "Beitrage zur Naturgeschichte von Brasilien". Weimar. 1825; p. 470.

([23]) "*Jararakka*" otherwise.

([24]) LINNAEUS — Museum Adolphi Friderici r.. Serpentes. 1754; vol. I; p. 33; tab. 22; fig. 2.

([25]) LASS GABRIEL ANDERSSON — "Catalogue of Linnean Type — specimens of Snakes in the Royal Museum of Stockolm" *in* Bihang till Kongl. Svenska Vetenskaps-Academiens Handlingar. 1899; v. 24; f. IV; n. 6; p. 20.

([26]) J. E. GRAY — "Catalogue of Reptiles". P. III; Snakes. 1849; p. 7.

The principal differences between *L. jararaca* (WIED) and *L. atrox* (L.) are found in their coloration, in the shape of the blotches on the back and in the upper labials which in the last mentioned are generally 7, whereas in the first mentioned they are generally 8. VITAL BRAZIL assigned 7/7 to the *L. atrox* (L.), and J. FLORÊNCIO GOMES ([27]) in 5 perfect specimens and 100 heads of *L. atrox* (L.), from the State of Pará, verified that, among the perfect, 5 and, among the heads, 95 ([28]) had 7/7 upper labials, 2 had 8/8 and 3 had 8/7.

On examining the above mentioned 228 specimens of *L. atrox* I found 7/7 upper labials in 215; 8/7 in 11; and 8/8 in 2.

On the other hand, in the above numerated 4.353 specimens of *L. jararaca* (WIED) I verified that 3.710 had 8/8 upper labials; 346 had 7/8; 180 had 9/8; 108 had 8/9; and 9 had 9/9.

Beside there is data of the zoögeographic order which seems to me to be highly valuable in the distinction of the species.

Lachesis jararaca, in efect, occurs only in the Meridional hemisphere and its presence in Brazil has up to now only been verified approximately between parallel 30° S. (State of Rio Grande do Sul) and parallel 10° S. (State of Baía).

Lachesis atrox (L.), on the contrary, is found in both hemispheres, Septentrional and Meridional, and in Brazil the area of its distribuition extends from N.W. of the State of São Paulo and S. of the State of Mato Grosso, in the proximities of parallel 23° S., to the extreme Septentrional region of the country, beyond the Equator.

This data concerning the distribuition of the two species in Brazil was taken from the register in the Butantan Institute, which has since its foundation always received an ever increasing number of these snakes which were disposed as follows during the last 6 years:

YEAR	Total number of snakes received	Venemous species.
1915	5.025	3.568
1916	4.832	3.535
1917	6.133	3.833
1918	6.416	4.678
1919	7.762	5.815
1920	11.400	8.370

Having thus established the identification of the two important *Crotalineæ* which occur in Brazil, the «Jararaca» with *L. jararaca* (WIED) and the «Caiçaca» with *L. atrox* (L.), I shall

([27]) J. FLORÊNCIO GOMES — "Contribuição para o conhecimento dos ofidios do Brazil. III — Ofidios do Museu Paraense", *in loc. cit.*; p. 77.

([28]) Through a mistake 85 instead of 95 figures in this work. The latter is according to A.'s original.

now pass on to the naming of different characteristics which are found between them and *Lachesis insularis.*

Lachesis insularis, as it is of a more or less intense yellowish brown colour above; as the belly is generally of a nearly uniform yellowish or whitish colour; as there are no spots on the head nor black streak behind the eyes, and can thus be distinguished at first sight from the *L. jararaca* and *L. atrox.*

Lachesis insularis is a slender species which does not grow very large. The largest which I have found up to date is an ♀ specimen (n.° 1.900) measuring 1 meter in length. *L. jararaca,* on the contrary, develops much more, becoming of large diameter and sometimes measuring 1,^{m}400 or 1,^{m}500, and *L. atrox* becomes larger, measuring also 1,^{m}500, as will be found in three specimens of the Butantan Institute collection (n.^{os} 1.346, 2.035 and 2.036), all from the interior of the State of São Paulo.

The tail of the *Lachesis insularis* is slightly prehensile whereas the tail of *L. jararaca* and *L. atrox* is not at all prehensile.

The snout of *Lachesis insularis* is relatively narrower and shorter than that of *L. jararaca* and *L. atrox*; the head in the first mentioned is notedly wider in the temporal region than that of the two last mentioned species.

Lachesis insularis constantly has 3 larger scales, more or less smooth, juxtaposed, as shields, which are distributed as one posterior pair between the two canthals and one median anterior azygous, placed behind the angle of the internasals, a disposition which is not found either in *L. jararaca* or *L. atrox.*

The largest number of ventrals (195) found in *L. insularis* never attains that found sometimes in *L. jararaca* and *L. atrox.*

Besides these principal characteristics in the anatomic order, there are others, in the biological order, in which *L. insularis* is even more different from *L. jararaca* and *L. atrox.*

The characteristics of the biological order are so accentuated that it was through them that I was led to make the systematic study of the new species. Two years after having started observations, with the intention of learning the biology of the Brazilian snakes, I was surprised on a certain day to find feathers in the stomach and feces of 5 specimens of this species from a lot which had been received from Queimada Grande Island on September 28th. 1919. This was an entirely new occurrence as, according to VITAL BRAZIL'S ([29]) and also in accordance with observations made at the Butantan for many years, the Brazilian *Crotalineæ* are known ([30]) to feed exclusively on small rodents.

Guided by this important indication I made a study of the poison which had been extracted from this species and, again

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([29]) *Op. cit.*; p. 78.

([30]) Except *L. bilineata* (Wied) e *L. jararacussu* Lacerda, which, as I verified in dissections, also feed on batrachians.

to my great surprise, I verified that not only the properties, but above all the toxic activity of the same was very different from that of the poison of other Brazilian *Lachesis*.

Encouraged by these preliminary results, I resolved to make a visit to the Queimada Grande Island and there to study the biology of the new species.

As will be seen in Part II of this article, *Lachesis insularis* lives exclusively on trees and shrubs, and feeds on birds. It is therefore the first *Crotalinea* found in Brazil which is simultaneously avivorous and tree living.