

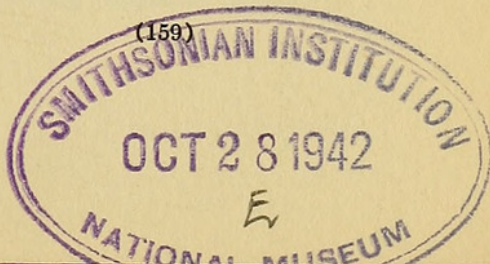
PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

ADDITIONAL NOTES ON MEXICAN SNAKES OF THE
GENUS *PLIOCERCUS*.

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Recent treatments of *Pliocercus*, defining two races of *elapoides* in the southern part of the Yucatán peninsula (Smith, Proc. Biol. Soc. Wash., vol. 54, 1941, pp. 119-124; Schmidt, Zool. Ser. Field Mus. Nat. Hist., vol. 22, 1941, pp. 502-503), have left in doubt to which, if either, of the two races the few records of northern Yucatán *elapoides* should be referred. For this reason two specimens (Mus. Comp. Zool. Nos. 26836, 26843) from Chichen Itza, Yucatán, are of more than casual interest; they appear to be the only specimens of the species from northern Yucatán in American museums. The first is a male, the second a female; respectively they have 11, 13 complete black rings on body, ?, 8 on tail; the infralabials are 9-9 in each. These characters apparently agree with those of neither southern race, as at present defined.

The apparent differences between *semicinctus*, known from British Honduras, and *laticollaris*, recorded from Tenosique, Tabasco (the type locality), and Encarnación and Tres Brazos, Campeche, are two: (1) rings (except nuchal) complete on body as well as on tail in *laticollaris*, on tail only in *semicinctus*; and (2) rings 13 to 18 on body, 10 to 12 on tail in *laticollaris*, fewer in *semicinctus* (9 on body, 6 to 8 on tail). It develops, however, that the type of *laticollaris*, with 16 body and 10 tail rings and saddles, has most of the body rings incomplete ventrally, while the two Campeche specimens have them complete. While these differences in the type series of *laticollaris* were noted at the time the race was named, it was not then conceived that they might have any significance. Since British Honduras specimens, however, are shown to have the same peculiarity of incomplete body bands as the type of *laticollaris*, the character takes on a new implication of significance. Faunistically the possibility of common identity of the type of *laticollaris* and of *semicinctus* is very great, since the type localities of these two are in a single province,



However, there is more than the single character of incomplete body rings and of geographic possibilities in support of the view that a single race extends across the base of the Yucatán peninsula. Five specimens from this area are known: two from British Honduras, recorded by Schmidt (*loc. cit.*), for one of which only incomplete data are available (Brit. Mus.); the type of *laticollaris*, from Tenosique, Tabasco; a specimen from Teapa, Tabasco, in the British Museum, for which are available certain data taken by K. P. Schmidt and very kindly given me several years ago; and a specimen, not available and undescribed, recorded by Dugès (*La Naturelle*, ser. 2, vol. 2, 1894, p. 376) from Macuspana, Tabasco. Admittedly the data on this series are not all that is to be desired; however, the only two specimens on which the character of the body rings is known have them incomplete ventrally and three out of four specimens have 10–10 infralabials (the exception, type of *laticollaris*, has 9–9). The number of infralabials is of considerable significance in *elapoides*, and the possession of 10 by so many as three of these 4 indicates as population difference from *elapoides elapoides*, normally with 9–9, and from the four northern Yucatán and Campeche specimens, all with 9–9.

In view of the fact that the Chichen Itza specimens can not be allocated with *semicinctus* or *laticollaris* as previously defined, and do not provide characters which may indicate a third race is involved, a re-analysis, completely irrespective of names proposed in the past, is necessary. From this it appears that on the Atlantic drainage three forms of *elapoides* may be defined.

1. *elapoides elapoides*, with 9–9 infralabials or less (10 on one side of 3 in 25 specimens); black rings in triads (the outer rings of each triad very distinct and as long or longer than yellow rings); primary black rings on body complete (except nuchal collar), 9 to 10 in males (6), 9 to 15 in females (20); primary black rings on tail 5 to 8 in males (5), 5 to 8 in females (10); ventrals 128 to 131 in males (6), 133 to 144 in females (19); caudals 88 to 108 in males (4), 85 to 100 in females (9); range central and southern Veracruz (Atoyac,¹ Córdoba, Cuautlapan, Jalapa, Mirador, Orizaba, Potrero Viejo), extreme north-eastern Puebla (Hueytamalco, near Tezuitlán), and central eastern Oaxaca (La Raya, San Cristobal).

2. *elapoides laticollaris*, with 10–10 infralabials (one specimen in four with 9–9); outer rings of triads very narrow or obsolete; primary black rings on body incomplete ventrally, 9 to 11 in males (2), 9 to 16 in females (2); ventrals 124 to 128 in males (2), 127 to 130 in females (2); caudals 114 in a male, 97 to 105 in females (2); range Tabasco (Macuspana, Teapa, Tenosique) through parts of northern Guatemala to British Honduras (Double Falls, west of Stann Creek).

3. A hitherto unnamed race:

¹ It is believed that Boulenger's record (*Cat. Snakes*, vol. 3, 1896, p. 636) of *elapoides* from Atoyac, Guerrero (Godman), refers to the town by the same name in Veracruz, since several other records given by Boulenger for the same locality and of the same collector are for species otherwise unknown from the Pacific Coast north of the Isthmus of Tehuantepec, but well known in the area about Atoyac, Veracruz. Boulenger's "Jalisco" record (*Cat. Snakes*, vol. 2, 1894, pp. 182–183), the only other indication of the possible occurrence of *elapoides* on the west coast north of Tehuantepec, is yet to be explained.

***Pliocercus elapoides schmidtii*, subsp. nov.**

Type.—Mus. Comp. Zool. No. 26843, female, from Chichen Itza, Yucatán. *Paratypes*.—Mus. Comp. Zool. No. 26836, topotype; EHT-HMS No. 11642, Tres Brazos, Campeche, and No. 11643, Encarnación, Campeche.

Diagnosis.—Normally 9–9 infralabials (no exceptions, four specimens); outer rings of black triads very narrow or obsolete; primary black rings on body complete (except nuchal ring), 11 to 13 in males (2), 13 to 18 in females (2); primary black rings on tail unknown in males, 8 to 12 in females (2); ventrals 127 to 128 in males (2), 128 to 134 in females (2); caudals unknown in males, 97 to 99 in females.

Description.—Head scales normal; portion of rostral visible from above nearly as long as internasals; latter a little more than half again as broad as long, a little less than half as long as prefrontals; frontal pentagonal, the anterior edge forming a slight angle, sides very slightly convergent posteriorly, posterior edges forming a right angle; frontal almost exactly as long as its distance from snout and from posterior median edge of parietals; nasal completely divided, posterior section a little longer and higher than anterior; loreal as large as anterior section of nasal, a little higher than long; a large upper preocular, and a very small lower one separating third labial from orbit; two postoculars, lower two-thirds size of upper; temporals 1–1–2, anterior the longest; 8–8 supralabials, the last two nearly subequal in size and larger than any others; 9–9 infralabials, five in contact with anterior chinshields, the first in contact medially with its mate, sixth largest; chinshields elongate, anterior a little longer than posterior; latter in contact with each other anteriorly, but rather strongly divergent posteriorly.

Dorsal scales smooth everywhere, pitless, in 17–17–17 rows; ventrals 128; anal divided; caudals divided, 99; total length 472 mm., tail 196 mm.; female.

A black head cap extending posteriorly to the posterior edges of the postoculars and frontal, and including the anterior tips of the parietals, laterally to about the middle of the first to fifth infralabials; a few irregular light areas on tip of snout; a black nuchal collar extending anteriorly to include the extreme posterior tips of the parietals, tertiary temporals and 8th supralabials, and covering five scale lengths on the nape; this collar extending laterally to the tips of the ventrals; between head cap and nuchal collar a light temporal band (yellow in life ?) involving two thirds the length of the temporal scales. Posterior to nuchal collar, a series of 12 complete black rings on body, each involving 2 or 3 ventral scales, the narrower ones slightly wider dorsally; on tail 8 similar but slightly longer rings; black rings bordered on either side by a narrow ring, unmarked by black pigment, covering a little more than one scale length; scales in red areas between yellow rings usually with black tips, although numerous scales lack them; red rings not black-marked ventrally; ventral surface of entire head, body and tail lacking dark marks, save the complete primary black rings on body and tail.

Variation.—The topotypic paratype, a male, has 127 ventrals, tail incomplete; four (instead of five) infralabials touching anterior chin

shields on one side; snout-vent measurement 88 mm., tail (incomplete) 181 mm., black rings on body 11, on tail perhaps seven (six present, but tail incomplete); all dorsal scales in red areas black-tipped; yellow temporal collar involving posterior tip of frontal; otherwise as in type.

The male paratype from Tres Brazos has 128 ventrals; tail broken; 13 black rings on body. The female paratype from Encarnación has 134 ventrals, 97 caudals, 18 black annuli on body, 12 on tail.

Comparisons.—*P. e. elapoides* is well differentiated from other Atlantic coast races; the closest resemblances are between *schmidtii* and *laticollaris*. As at present understood, the latter two differ from each other in number of infralabials (usually 9–9 in *schmidtii*, 10–10 in *laticollaris*), in the completeness of the primary black rings on body (complete in *schmidtii*, broken in *laticollaris*), and perhaps in the average number of rings on body (more numerous in *schmidtii*, 11 to 13 in males, 13 to 18 in females; less numerous in *laticollaris*, 9 to 11 in males, 9 to 16 in females) and tail (more numerous in *schmidtii*, 8 to 12 in females, unknown in males; less numerous in *laticollaris*, 6 to 10 in females, 8 in a male).

Remarks.—The type of *laticollaris* is not wholly characteristic of the population to which its name is here restricted, nor of course is it much like *schmidtii*. It appears to be intermediate between the two races. However, since the character of the body rings (probably the most important character of all) in the type is much more like that of the southern race, and since the number of body and tail rings fits better into the variation pattern of the same race, I have chosen to apply the name to the southern subspecies; the number of infralabials in the type, which agrees with the number present in the northern peninsular race, appears to me a somewhat more variable character than those of pattern.

His personal encouragement, unsolicited courtesies, and outstanding contributions to a knowledge of the herpetology of the Yucatán Peninsula make particularly welcome this opportunity to associate the name of Karl P. Schmidt with the Yucatecan race of *Pliocercus elapoides*.

In checking the foregoing conclusions with Mr. K. P. Schmidt, whose opinion concerning *semicinctus* concurs with mine, it was discovered that Field Museum also possesses specimens of a new form of *Pliocercus* from Yucatán. These, oddly enough, do not prove conspecific with *e. schmidtii*, but represent an entirely different species which Mr. Schmidt has very kindly suggested I describe. It is a pleasure to name the species in honor of the collector of the first specimen, Mr. E. Wyllys Andrews, who has contributed much to the knowledge of the fauna of the Yucatán peninsula.

***Pliocercus andrewsi*, sp. nov.**

Holotype.—Field Mus. Nat. Hist. No. 36323, female, from Libre Unión, Yucatán, collected November 15, 1939, by E. Wyllys Andrews. *Paratype.*—F.M.N.H. No. 36322, female, from Yohdzonot, Yucatán, collected October 25, 1939, by E. W. Andrews.

Diagnosis.—A *Pliocercus* related to *elapoides*, having yellow, black and red rings about the body, the latter alternating with the black, and the yellow rings narrow and separating the black and red rings from each other; ventrals 128 to 131; differing from *elapoides* in having very broad

black rings extending over 8 to 11 scale lengths dorsally and over 6 to 10 ventrals; black rings on body 6 or 7.

Description of holotype.—Head flattened, somewhat broader than neck; length of portion of rostral visible from above a little less than length of internasals; latter a half wider than long (1.3 mm.) about a fourth the size of, and a little less than half as long (3 mm.) as prefrontals; frontal pentagonal, anterior edge convex, posterior sides forming an angle a little greater than a right angle, lateral sides slightly convergent posteriorly; frontal a little shorter than its distance from tip of snout (4.7 mm.), subequal to length of median suture between parietals, about two-thirds maximum length of parietals (6.4 mm.); nasal completely divided into subequal halves, nostril largely in anterior portion and in contact with upper edge, which is indented; loreal nearly square, nearly two-thirds size of an internasal; two preoculars, lower half as large as loreal and wedged between labials; two postoculars, upper two or three times as large as lower; temporals 1-1-2, anterior elongate and narrow; 8-8 supralabials, 7th largest, 1st smallest, 4th and 5th entering eye; 8-9 infralabials, the penultimate quite elongate, 4 or 5 in contact with anterior chinshields, two (4th and 5th, or 5th and 6th) in contact with posterior; latter a little larger than anterior chinshields, divergent posteriorly; two rows of small scales between chinshields and first enlarged ventral.

Dorsal scales smooth, pitless, in 17-17-17 rows; ventrals 128; anal divided; tail broken near base; snout to vent length 368 mm., tail (incomplete) 49 mm.; female.

Anterior portion of head, including all of frontal, extreme anterior tips of parietals, the postoculars, and the upper portion of the 5th supralabial black; no light areas on anterior part of dorsal or lateral surfaces of head, except on lower part of rostral and the extreme lower edges of labials (none of these light areas visible from above); a broad yellow collar across temporal region, involving all except extreme anterior and posterior tips of parietals, and expanding laterally to include all of the posterior supralabials and the lower half of the fifth; a black nuchal collar, covering 9 scale lengths middorsally, but becoming narrower laterally and extending only to the edges of the ventrals; anterior edge of nuchal collar nearly straight, slightly convex; 5 other black rings on body, varying in length from 9 to 11 scale lengths dorsally, and from 6 to 10 ventrally; these separated from each other by spaces one and one-third to two times as long as the black rings, each space occupied by two narrow yellow rings and a large red ring; yellow rings covering about one and one-half scale lengths, the red ones about 11 to 18; yellow rings unspotted, red rings with numerous, irregular, small black spots, one at the tip of each dorsal scale and a very small one at the ends of some ventrals; ventral surface of head yellow, immaculate save for a pair of small black spots, each involving mainly the anterior tips of the first infralabials; tail marked like body, much of tip missing, the stump with a red, two yellow, and a black ring, disposed and marked as on body.

Variation.—The single paratype has 131 ventrals, tail incomplete; infralabials 9-10, on one side the penultimate typically elongate, split on the other; the lower preocular is very minute on one side; otherwise the scutel-

lation is much like that of the type. Yellow temporal band involving extreme posterior tip of frontal and the postoculars; black rings on body 7 (including nuchal collar); no chin markings; otherwise much as type.

Remarks.—This remarkable species is well differentiated from other *Pliocercus* species. It is most like *elapoides*, but all races of this species have narrow black rings occupying 2 to 4 scale lengths, while in *andrewsi* they are much longer. Moreover, *l. schmidtii* occurs in the same territory occupied by *andrewsi*.

The species and subspecies of *Pliocercus* now known from Mexico, more than doubled since my summary was written in 1941, may be compared in the following key.

KEY TO MEXICAN *Pliocercus*.

1. Rings on body alternating red and black, all subequal in length (black rings a little the longer).....2
 Yellow rings, as well as red and black, present on body; black rings or saddles in triads or, if single, the spaces between them at least a half greater than their own length.....3
2. Black rings numerous, on body 25 to 27, on tail about 17; primary caudal black rings separated from each other by spaces equal to their own length; in addition, secondary, incomplete black rings (saddles) present in middle of red spaces on tail.....*aequalis*²
 Black rings less numerous, 14 on body; black tail rings twice as long as interspaces, which lack secondary black rings or saddles (Tuxpan, Veracruz).....*bicolor*
3. Black rings very long, covering 6 to 10 ventrals and 8 to 11 dorsals (Yohdzonot and Libre Unión, Yucatán).....*andrewsi*
 Black rings short, covering 2 to 4 scale lengths.....*elapoides*. 4
4. Black rings single on body or, if triad, the outer rings considerably narrower than the yellow rings.....5
 Black rings triad on body and tail, the outer rings of each triad very distinct and as long as or longer than yellow rings; primary black rings complete (except nuchal), on body 9 to 10 in males, 9 to 15 in females; primary black rings on tail 5 to 8; infralabials usually 9, sometimes 8, rarely 10; ventrals 128 to 131 in males, 133 to 144 in females (central and southern Veracruz, north-eastern Puebla, central eastern Oaxaca).....*e. elapoides*
5. Most primary rings on body incomplete ventrally, 9 to 16; infralabials usually 10; ventrals 124 to 128 in males, 127 to 130 in females (Tabasco through northern Guatemala to British Honduras).....*e. laticollaris*
 All primary black rings, except nuchal collar, complete.....6
6. Black rings on body 11 to 13 in males, 13 to 18 in females; black rings on tail 8 to 12; usually 9 infralabials; ventrals 127 to 128 in males, 128 to 134 in females (Chichen Itzá, Yucatán).....*e. schmidtii*
 Black rings on body 5 to 10, on tail 4 to 6; usually 10 infralabials; ventrals 123 to 128 in males, 132 to 137 in females (Pacific slopes of southern Chiapas and Guatemala).....*e. diastemus*

² Recorded by Bocourt (Miss. Sci. Mex., Rept., livr. 10, 1886, pp. 637-638, pl. 41, fig. 7) from "Mexico." It may occur on Atlantic slopes in the foothills of Chiapas and Tabasco.



Smith, Hobart M. 1942. "Additional notes on Mexican snakes of the genus *Pliocercus*." *Proceedings of the Biological Society of Washington* 55, 159–164.

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