

ON A NEW GENUS AND SPECIES OF COLUBRINE SNAKES FROM  
NORTH AMERICA.

BY

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The necessity of recognizing the two species treated of in this paper as forming a separate genus, and the discovery of one of them in southern Arizona, add another genus to the list of those peculiar to the Sonoran and the Lower Californian provinces. This genus is also a curious addition to those snakes peculiar to these zoological subdivisions, in which the rostral shows a most extraordinary development. In the present instance this shield resembles a thick leaf loosely attached to the front of the snout and turned over on top of the muzzle. The generic appellation here proposed has reference to this peculiarity, being derived from *φύλλον*, leaf, and *ρύγχος*, snout.

**Phyllorhynchus**, gen. nov.

DIAGNOSIS.—Head slightly distinct, short; tail short, less than one seventh of total length; palatine teeth present; dentition diacrantian; rostral plate greatly enlarged, with free lateral borders, and produced backwards so as to separate the supranasals entirely; anal undivided; no scale-pits; pupil vertical; nostril large; two nasals; loreal present; supralabials not in contact with orbit; one pair of genials only; 19 scale rows.

HABITAT.—Arizona and Lower California.

Type.—*Phyllorhynchus browni* STEJNEGER.

To this genus also belongs Cope's *Phimothyra* (or *Salvadora*) *decurtata*, which agrees with the above type in all essential characters. In all these, except the general shape of the rostral, it differs from *Salvadora* proper, the type of which is *S. grahamia*. In fact, while *Salvadora* seems to be correctly placed among the *Natricinae*, *Phyllorhynchus* appears to be one of the *Coronellinae*, as these subfamilies are defined by Professor Cope (Bull. U. S. Nat. Mus., No. 32, p. 51).

The most conspicuous characters which separate *Phyllorhynchus* from *Salvadora* may be tabulated as follows:

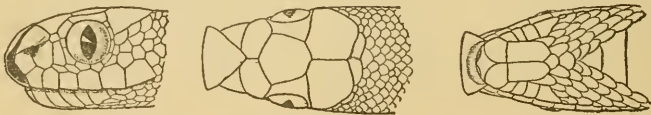
	<i>Phyllorhynchus</i> Steja.	<i>Salvadora</i> B. & G.
Anal.....	Entire.....	Divided.
Pupil.....	Vertical.....	Round.
Supralabials.....	Not entering orbit.....	Entering orbit.
Genicals.....	One pair.....	Two pairs.
Rostral.....	Separating supranasals.....	Not separating supranasals.
Tail.....	Less than one-sixth of total length..	More than one-sixth of total length.
Head.....	Slightly distinct.....	Very distinct.
Scale rows.....	Nineteen.....	Seventeen.
Coloration.....	In blotches.....	In stripes.

*Phyllorhynchus browni* sp. nov.

DIAGNOSIS.—Scales distinctly keeled on the posterior two thirds of the body, in 19 rows; 4 loreals; labials  $\frac{6}{9}$ ; gasterosteges 159; anal entire; urosteges 31, divided; tail about one-eighth of total length; upper surface with about 15 saddle-shaped brownish blotches on back and tail no lateral spots.

HABITAT.—Tucson, Arizona.

Type.—U. S. Nat. Mus., No. 15719; Herbert Brown coll.



♂ natural size.

*Phyllorhynchus browni*, U. S. Nat. Mus., No. 15719.

*Description of type specimen.*—Rostral very prominent and broad, recurved on the top of the snout so as to separate the supranasals entirely and the prefrontals partially, with free lateral edges which are rather sharp and thin; lower side of rostral deeply concave; two prefrontals; frontal large, hexagonal, as broad as long; parietals scarcely longer than frontal, their width equaling their length; at their posterior border a broad but very short shield with a median groove in continuation of the interparietal suture; nostril large, opening between the two large nasals and overhung by the prominent lower edge of the supranasal; the loreal proper high and narrow surmounted by a small supraloreal which joins the supranasal, the upper preorbitals, and the prefrontals, being a detached portion of the latter; between the loreal proper and the supralabials two small subloresals; three preoculars, upper largest and not in contact with the frontal; two suboculars; four postoculars; three anterior temporals, upper largest; six supralabials, the two posterior largest (on the left side a narrow portion of the last is divided off anteriorly by a vertical suture not shown in the

figure), none in contact with orbit; nine infralabials, the first five largest; mental triangular, with two well-defined concavities on the anterior border; only one pair of large, broad genieal shields, with a straight anterior border joined in its whole length by the posterior border of the first infralabials, the lower border of the second infralabial only meeting the lateral border of the genieal; a small scale wedged in between the genieal and the fourth and fifth infralabials probably represents the second pair of genieals. Scales nearly equal, in 19 rows, those on the anterior third of the body nearly smooth, but becoming gradually more distinctly keeled posteriorly; gasterosteges 159; anal entire; urosteges 31 pairs. Tail rather blunt.

*Dimensions.*—Total length, 325<sup>mm</sup>; length of tail from anus, 42<sup>mm</sup>; proportion of tail to total length = 1:7.75.

*Coloration (in alcohol).*—White, with fifteen "seal brown"\* blotches on the back from head to tip of tail, becoming paler posteriorly; the first of these blotches which begins three scale rows behind the parietals is of a uniform dark color, rather long and nearly hour-glass-shaped, its anterior border being concave, and the antero-lateral corners produced to the angle of the mouth, and nearly meeting the posterior ends of a broad line of dark color which runs from the upper posterior labials on one side through the eye across the interorbital space down to the hinder labials on the other side; the other blotches are more or less square with rounded corners, the middle portion being lighter—the dark color only "powdered" over the white ground—with dark borders. The anterior and posterior borders wider than the lateral ones, the white interspaces faintly "powdered" with brown on the sides; hinder supralabials with the posterior margin dark brown; lower surface uniform white.

This very distinct and interesting novelty with which I wish to associate the name of its discoverer, Mr. Herbert Brown, of Tucson, Ariz., in recognition of his successful researches in that Territory, differs in many important points from the previously described *Ph. decurtatus*, from Lower California. It is apparently of stouter build, with a proportionately longer tail; the dorsal scales are decidedly keeled on the posterior two-thirds of the body, while in *Ph. decurtatus* they are all smooth; the number of gasterosteges is larger and the urosteges fewer; in *Ph. decurtatus* the rostral seems to be thicker, and the shields on the sides of the face are fewer; finally, the coloration is very different, *Ph. browni* having only fifteen dorsal blotches and no lateral spots, against double the number of dorsal blotches and very pronounced lateral spots in *Ph. decurtatus*.

Through the courtesy of the authorities of the Philadelphia Academy of Natural Sciences I have before me the type of the latter species, and as the original description is meager and inadequate I take the opportunity to present a more detailed one.

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\*Ridgway, Nomencl. Colors, pl. iii, fig. 1.

*Phyllorhynchus decurtatus* (COPE).

- 1868.—*Phimothyra decurtata* COPE, Proc. Phila. Acad., 1868, p. 310.—*Id.*, Bull. U. S. Nat. Mus., No. 1, pp. 38, 92 (1875).—YARROW, Bull. U. S. Nat. Mus., No. 24, pp. 15, 99. (1885).  
*Salvadora decurtata* GARMAN, N. Am. Serp., pp. 39, 145 (1883).—*Id.*, Bull. Essex Inst., XVI, p. —; List N. Am. Rept. Batr., p. 25 (1884).—COPE, Bull. U. S. Nat. Mus., No. 32, p. 72 (1887).—BOCOURT, Miss. Scientif. Mex., Rept., 11 livr., p. 663 (1888).

**DIAGNOSIS.**—Scales smooth throughout, in nineteen rows; 2-3 loreals; labials  $\frac{6}{5}$ ; gasterosteges 172-177, anal entire; urosteges 26-27, divided; tail about  $\frac{1}{11}$  of total length; upper surface with about thirty "amphicœlous" brown blotches on back and tail alternating with a more or less double series of smaller spots of same color on the sides.

**HABITAT.**—Lower California.

**Type.**—Mus. Phila. Acad. Nat. Sc.; Wm. M. Gabb coll.

**Description of type specimen.**—Rostral as in *Ph. browni*, but apparently thicker and not produced quite so far backwards, as its posterior apex only just touches the suture of the prefrontals; under side of free lateral border of rostral very distinctly folded transversely; two prefrontals; frontal hexagonal, longer than broad; parietals as long as frontal, and as long as broad; no shield behind parietals; nostril and nasals as in *Ph. browni*; loreal rather large, joining the prefrontal above, and meeting (on the right side) the second supralabial and a rather large subloreal below, which is wedged in between third and fourth supralabials, while on the left the upper portion of second supralabial is cut off so as to form a small second subloreal; three preoculars as in *Ph. browni*; two suboculars; three postoculars; two anterior temporals, on right side upper smallest, on left lower smallest; six supralabials, three posterior largest; infralabials and genials as in *Ph. browni*; scales smooth, slightly decreasing in size towards the middle of the back, in 19 rows; gasterosteges 177; anal entire; urosteges 26 pairs.

**Dimensions.**—Total length, 350<sup>mm</sup>; length of tail from anus, 29<sup>mm</sup>; proportion of tail to total length = 1:12.

**Coloration (in alcohol).**—Ground color whitish, with about thirty-two "chocolate brown"\* blotches on the back from neck to tip of tail; shape and size more or less irregular, but usually more or less concave in front and behind, pale in the middle, the brown color being merely sprinkled over the white ground; on the sides a row of smaller brown spots, two or three scales large, in a more or less double series, and, as a rule, alternating with the dorsal blotches; on the head a broad line from above each angle of the mouth running upward and forward through the eyes and meeting on the prefrontals; a few irregular spots on posterior portion of frontal, on parietals and anterior portion of neck, as well as on some of the supralabials; lower surface unspotted.

\*Ridgway, Nomencl. Colors, pl. iii, fig. 4.

This specimen is said to have been collected "in the upper part" of Lower California. Another specimen is in the U. S. National Museum (12639), and was collected by Mr. L. Belding at La Paz, near the southern extremity of the peninsula.

This specimen agrees with the type in all essential points. The *scutellation* is identical with the right side of the type (one subloreal only) except that there are three anterior temporals, lower largest; gasterosteges 172; urosteges 27 pairs. The *dimensions* are: total length, 300<sup>mm</sup>; tail from anus, 28<sup>mm</sup>; proportion of tail to total length = 1:10.7. The coloration is also quite similar, the number of dorsal blotches being twenty-nine.