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A NEW SNAKE OF THE GENUS *SONORA*
FROM MEXICO

BY

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Through the kindness of Robert Hoard of San Diego State College, I have received a *Sonora* from the state of Sonora, Mexico, which, while obviously related to *Sonora occipitalis*, the Shovel-nosed Ground Snake of southeastern California and southwestern Arizona, differs conspicuously from that species in pattern. It is likewise somewhat low in ventral scale counts, although the significance of the latter difference cannot be determined until more specimens of the new form are available. The territory intervening between the most southerly known specimens of *S. occipitalis* (these are from southern Arizona), and the type locality of the new snake (central Sonora) is suitable in character to either form, consequently the two may later be shown to intergrade. However, the extreme southerly specimens of *S. occipitalis*, as compared with those from the center of its range, do not show directive character trends toward the new form. I therefore deem it advisable to consider it a full species, until intergradation be demonstrated, and suggest for it the name of

***Sonora palarostris* sp. nov.**

SONORAN SHOVEL-NOSED GROUND SNAKE

Holotype.—No. 26,771 in the collection of LMK. Collected 5 miles south of Magdalena, Sonora, Mexico, by George Lindsay, April, 1937.

Diagnosis.—A *Sonora* resembling *S. occipitalis* in configuration, but with fewer dorsal blotches and with a low ventral scale count. An examination of 219

specimens of *S. occipitalis* reveals from 18 to 40 black dorsal rings on the body, the average being 26.3. The holotype of *S. palarostris* has 10 black rings. *S. occipitalis* males have from 147 to 170 ventrals, the average being 155; *S. palarostris* has 144.

Description of the Type.—Adult male. The head is somewhat wider than the neck, and is narrowed anteriorly. The snout is wedge-shaped in profile, with the lower jaw inset, the rostral projecting beyond the mental. The rostral is wider than high, recurved above, and deeply concave below; it extends farther backward below than above. The scales on the top of the head consist of a pair of internasals, which are wider than long; a pair of prefrontals which widen laterally; a large hexagonal frontal; a pair of supraoculars, not conspicuously imbricate and shorter than the frontal; and a pair of contacting parietals, considerably larger than the frontal, and one-third longer than wide. The nasal is small, entire, longer than high, and with the nostril somewhat posterior to the center. There is a single loreal on each side, smaller than the nasal, and longer than high. The preoculars are 1—1; postoculars 2—2, the lower being the smaller. The temporals are 1+2. There are 7 supralabials; the 6th is the largest; the 3rd and 4th contact the eye. The mental is small and quadrangular. There are eight infralabials, the first pair contacting on the median line; the fourth is the largest. The chin shields are in two pairs; the first pair in contact and nearly twice as long as the second; the latter are separated by a single gular. There are six gulars between the posterior tips of the first chin shields and the first ventral. The dorsal scale rows number 15—15—15; they are smooth and polished, with single apical scale-pits. The ventrals number 144; anal divided; subcaudals 39, all divided except the rather blunt terminal scale.

The pattern consists of alternating black and red rings or blotches, separated by narrow strips of yellow ground color.¹ There are 10 black rings on the body and 3 on the tail, the last being at the tail tip. The black rings are about twice the width of the yellow separating strips, and the red rings or blotches in turn have about twice the longitudinal extent of the black. In terms of dorsal scales (end to end) the rings have approximately the following widths: yellow, $1\frac{3}{4}$ scales; black, $3\frac{1}{2}$ scales; red, $6\frac{1}{2}$ scales. Both the black and red rings narrow on the sides, so that laterally the ground color is more in evidence than dorsally. The anterior black ring does not contact the ventrals; the second, while not complete, is represented ventrally by a pair of black spots. The third and all subsequent black rings completely encircle the body. They widen ventrally, compared with their lateral extent, but are not as wide as on the mid-dorsal line. The red blotches fade out laterally at the first row of scales above the ventrals; the two red rings on the tail are complete ventrally, but none on the body crosses the ventrals. There are a few black dots irregularly disposed in the red areas.

The snout is cream colored. There is a large black parietal blotch covering the posterior $\frac{2}{3}$ of the frontal and extending to the posterior edge of the parietals; on the sides the blotch engages the eyes and the upper edges of the posterior supralabials. While this blotch is analogous to the crescent-shaped black blotch

¹ The ring arrangement formula is that usually given as distinguishing the coral snake from various harmless snakes.

characteristic of *S. occipitalis*, in this form it is more rectangular. The underside of the head is cream. Referring to Ridgway (Color Standards, 1912), the three dorsal colors of the alcoholic type are Maize Yellow, Brazil Red, and Black; these colors were observed shortly after preservation. The ventral shade is Cream Color.

The length over-all is 312 mm.; tail length 57 mm. The pupil of the eye is round.

Habits.—The type specimen was found abroad crawling across the road at about seven o'clock in the evening. From the likeness to *S. occipitalis* it may be assumed that this snake is a burrower; however, the top of the head is slightly convex from frontal to rostral, whereas in *S. occipitalis* this digging wedge is flat, or may even be dished. The type contained the remains of a large spider.

Remarks.—The number of black cross-bands on the body in *S. occipitalis* is a relatively constant character. Statistics of specimens ranging from Inyo County to Imperial County in California, and eastward in Arizona to Wickenburg and Picacho, are as follows:

Range	18 to 40 bands ²
Mean	26.3 ± 0.18 bands
Standard deviation	4.03 bands
Interquartile range	23.6 to 29.0 bands
Coefficient of variation	15.3 per cent

There is some tendency of the number of bands to increase as we go north from the southern border of California to Kern and Inyo Counties, but the Arizona specimens, nearest to the probable range of *palarostris*, are not low. Thus there is no directive tendency toward intergradation, as far as cross-bands are concerned. The deviation of the *palarostris* type, from the mean of *occipitalis*, is 4.04 times the standard deviation of the latter—a highly significant difference. The relative lengths of the red and black blotches in *occipitalis* are also quite different. *Palarostris* is a brilliantly colored little snake, and with its conspicuous red blotches is even more beautiful than *occipitalis*, which is admired even by persons who do not usually care for snakes.

² The type of *occipitalis* from the Mohave Desert had 33 black bands.



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