

OCCASIONAL PAPERS OF THE MUSEUM OF
ZOOLOGY

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

UNIVERSITY OF MICHIGAN PRESS

STUDIES ON NEOTROPICAL COLUBRINAE
V. A NEW SNAKE OF THE GENUS *LAMPROPELTIS*
FROM YUCATAN

BY L. C. STUART

IN his revision of the genus *Lampropeltis*, Blanchard states, with reference to the ventral scutellation of *L. polyzona* Cope:

The material from Yucatan and Guerrero is too scanty to be more than suggestive, but differentiation by isolation is indicated in the former locality and either that or approach to *nelsoni* in Michoacan is the inference in the latter.¹

He notes further,² that the yellow snout band, so characteristic of *polyzona*, is absent in specimens from Yucatan.

Since the publication of this study considerable material has accumulated, and there are now before me eight specimens of *L. polyzona* from Yucatan and four from Guerrero, directly south of Michoacan. With this material, contained in the collections of the Museum of Comparative Zoology, Harvard University, and the Museum of Zoology, University of Michigan, it is now possible to clarify the problems indicated by Blanchard. In brief, the specimens now in hand convince me that the Yucatan *polyzona* represents an undescribed race and

¹ F. N. Blanchard, "A Revision of the King Snakes: Genus *Lampropeltis*," *U. S. Nat. Mus. Bull.* 114, 1921: 143.

² *Ibid.*: 145.

that *polyzona* in Guerrero, if not actually intergrading with *nelsoni*, certainly approaches that species. Since the latter point remains obscure, it is best to consider *polyzona* distinct from the *triangulum* subspecies.

I am happy to have the opportunity to associate the name of Dr. F. N. Blanchard, of the University of Michigan, with a subspecies of the genus which he so painstakingly investigated. The new race may be referred to as

Lampropeltis polyzona blanchardi, new subspecies

Holotype, Museum of Zoology, University of Michigan, No. 68239, a half-grown male collected along the Valladolid Trail near Chichen Itzá, Yucatan, Mexico, February 13, 1930, by F. M. Gaige.

Paratypes, Museum of Zoology, University of Michigan, Nos. 68238, 68705, 73029; Museum of Comparative Zoology, Harvard University, Nos. 7252, 28753, 29242; all from Chichen Itzá, Yucatan, Mexico.

DIAGNOSIS.—Readily distinguishable from *polyzona*, to which it is closest, by the absence of the white snout band, producing an entirely black snout; by its lower average number of ventrals, 208 as compared with 225 in *polyzona*; and by its lower average number of annuli, 25 in *polyzona* and 19 in *blanchardi*.

DESCRIPTION OF TYPE.—Head scutellation normal except for an incomplete suture between the left internasal and prefrontal. Supralabials 7, infralabials 9. One praeocular and two postoculars; temporal 2 + 3 + 5/2 + 3 + 4. Loreal present, a little longer than high. Two pairs of chin shields, the anterior much longer than the posterior and in contact. Dorsals 21–19, ventrals 208, caudals 57/57. Body length 333 mm., tail length 50 mm.

In alcohol the ground color of both dorsum and ventrum is a faded pink. Superimposed upon this dorsally are 15 body annuli composed of black bands generally 3 scales in width inclosing white bands of 2 scales width. On the tail the black bands fuse and pinch out the intervening pink

ground color. On the ventrum the annuli break up for the most part, and the black bands tend to pinch out the yellow bands. The tip of each dorsal scale is black. The surface of the head is entirely black with the exception of the last 3 supralabials and the rear temporals. A white band of about the same width as those on the body encircles the head, extending as far forward as the fourth infralabial on the lower jaw. Immediately behind the white band is a black one of 4 scales width which entirely encircles the neck. The anterior half of the lower jaw is black.

VARIATION.—The paratypes, which are essentially like the holotype, are described in the following table.

Museum	Number	Sex	Dorsals	Ventrals	Caudals	Annuli
Mus. Zool.	68238	♀	21-23-21-19	213	50	22
“ “	68705	♀	do	203	47	20
“ “	73029	♂	21-19	210	57	17
M. C. Z.	7252	♂	irregular	211	51	18
“ “	28753	J	21-19	205	42	19
“ “	29242	♀	21-23-21-19	204	48	—

In another female specimen in the Museum of Zoology (No. 76162), not designated as a paratype, the dorsals are 21-23-21-19, the ventrals 214, and the caudals 53. Thus the range in the ventral scutes is 203-214, in the caudals 42-57, and in the annuli 17-22.

As was noted by Blanchard,³ there is color variation in the specimens from Yucatan, but there is too much variability to aid in defining the new race. In one specimen, Museum of Comparative Zoology, number 7252, the black and yellow annuli on the belly have been pinched out almost entirely by the red ground color. In several others, Museum of Zoology, numbers 68238 and 68705, the black annuli pinch out the yellow ventrally, and in another, Museum of Comparative Zoology, number 29242, the black bands expand dorsally to crowd out the intervening pink.

³ *Ibid.*: 141.

Two specimens at hand show variations which are distinctly aberrant. The first, Museum of Comparative Zoology, number 7252, has the dorsal scales arranged very irregularly to produce a count which is approximately 20-19-20-21-19-18-17-18-19. I am inclined to believe that this represents a variation from the typical 21-19 count which occurs in all males. The other specimen, Museum of Zoology, number 76162, lacks all the body annuli, the dorsal ground color (in alcohol) being white with each scale tipped with black.

It is interesting to note that sexual dimorphism is present in the specimens at hand. In the males the dorsal scale formula is 21-19, while in the females it is 21-23-21-19.

RANGE.—The types are known only from Chichen Itzá, Yucatan, but the aberrant specimen mentioned above, Museum of Zoology, number 76162, was secured in the vicinity of Colonia Santa Maria, Yucatan, about 90 miles to the northeast of Chichen Itzá. It is quite likely that further collecting may prove that the species is generally distributed over the region referred to as "Northern Yucatan" by Lundell,⁴ an area in which there has been considerable speciation in the herpetological fauna.

DISCUSSION.—On comparing the Yucatan material described above with specimens from Guerrero, Mexico, I was amazed to find that the snakes from the two localities are almost inseparable. In each there is a reduction in number of ventral scutes and annuli, and in each the snout is either completely or almost black. I believe, however, that although but a single form is apparent, the two groups have had an independent origin as suggested by Blanchard.⁵

This similarity, except in the dorsal scale formula—sex relationship, between the two groups is readily brought out by the following descriptive table of the specimens from Guerrero in the Museum of Zoology.

⁴ C. L. Lundell, "Preliminary Sketch of the Phytogeography of the Yucatan Peninsula," *Carn. Inst. Wash., Pub.* 435, 1934: 257-321, map.

⁵ *Op. cit.*: 143.

Number	Sex	Dorsals	Ventrals	Caudals	Annuli	Snout
72421A	♀	21-19	214	49	17	black
72421B	♀	19-21-19	213	48	22	evidence of band
72421C	♀	21-19-21-19	216	48	22	“ “ “
73933	♂	21-23-21-19	209	51	22	slightly mottled

These specimens, while probably not true intergrades, certainly indicate an approach towards *Lampropeltis triangulum nelsoni* Blanchard for the following reasons:

1.—They are geographically situated where intergrades between *polyzona* and *nelsoni* are to be expected.

2.—The obliteration of the snout band and the mottled snout in one specimen may indicate an approach to the mottled condition in *nelsoni*.

3.—The reduced number of annuli points towards *nelsoni*, which averages 19 annuli as compared with 25 in *polyzona*.

4.—The ventral scutes in the Guerrero specimens average 213, and again approach *nelsoni*, which averages 214 on the Mexican mainland, as opposed to *polyzona*, which averages 225.

5.—Although in three of the specimens which are juveniles the typical black-tipped scales are present, the fourth, an adult, lacks this black tipping and is similar to the condition existing in *nelsoni*.

It is fairly certain, therefore, that, despite the fact that the Guerrero specimens are not readily separable from *blanchardi*, they have no direct relation to it, but have arisen as a result of the approach of *polyzona* to *nelsoni*. As intergradation has not been proven, it seems best, for the present, to retain *polyzona* as distinct from the races of *triangulum* and to refer to the new race as *Lampropeltis polyzona blanchardi*.

Intergradation with *polyzona* must remain as an inference until material is available from Campeche, a locality in which intermediate types would be most likely to occur. It is peculiar that specimens from central El Peten, Guatemala, show no tendency towards *blanchardi*, for a study of the Peten fauna has convinced me that this area is a transition zone

for numerous species. It is possible that intergrading forms will be found farther to the north. So close is *blanchardi* to *polyzona* that it does not seem straining the point to consider it, even in the face of a lack of material, as a subspecies.

As to the existence of *Lampropeltis polyzona blanchardi* two explanations may be offered. First, as suggested by Blanchard,⁶ it may be the result of isolation and have originated *in situ* from *Lampropeltis polyzona polyzona*. This has certainly been the case in a number of forms which have speciated in northern Yucatan. Second, it is to be noted that Blanchard⁷ considers *annulata* as the primitive type of the *triangulum* group. This species has a relatively low number of ventral scutes and annuli, the condition existing in *blanchardi*. Moreover the dorsal scale formula in the males of both *annulata* and *blanchardi* is 21-19, while the formula in females is always 21-23-21-19 in *blanchardi* and the same in about 50 per cent of the females of *annulata*. In *polyzona*, on the other hand, the two formulae average about 50 per cent in both males and females. It does not seem illogical, therefore, to consider the low ventral and annuli count and the 21-19 dorsal scale formula in males and 21-23-21-19 in females as primitive characters. If such is the case, it is quite probable that *blanchardi* represents a primitive species which now remains as a relict in this peripheral position on a peninsular tip.

ACKNOWLEDGEMENTS.—For aid and numerous suggestions in the preparation of this paper I wish to thank Dr. F. N. Blanchard, of the University of Michigan, and for the privilege of examining material contained in the Museum of Comparative Zoology, Harvard University, I am grateful to the authorities of that institution. I wish also to acknowledge financial aid from the Faculty Research Fund of the University of Michigan.

⁶ *Ibid.*: 143.

⁷ *Ibid.*: 241.

