

OCCASIONAL PAPERS OF THE MUSEUM OF
ZOOLOGY

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

UNIVERSITY OF MICHIGAN PRESS

STUDIES ON NEOTROPICAL COLUBRINAE

IV. AN APPARENTLY NEW SPECIES OF *COLUBER* FROM
GUATEMALA

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IN the course of studying material collected in Guatemala by the third University of Michigan-Carnegie Institution of Washington Expedition I have found a colubrine snake which appears to be new. Because of Dr. A. I. Ortenburger's contribution to our knowledge of the whip snake and racer groups, it is fitting that this new form should be named

***Coluber ortenburgeri*, sp. nov.**

TYPE.—Museum of Zoology, University of Michigan, No. 75588. An adult male collected by L. C. Stuart, June 9, 1933.

TYPE LOCALITY.—Kalto Sabana, 3 miles west of La Libertad, El Peten, Guatemala.

DESCRIPTION.—Head scutellation normal. Rostral about as broad as high; visible from above. Internasal suture slightly shorter than prefrontal suture. Frontal longer than its distance from the end of the snout; as long as parietals. Nasal divided. Loreal about once and a half as long as high. Supralabials 8, fourth and fifth entering the orbit. Infra-labials 8, the fourth the largest; 4 in contact with the anterior

chin shields. Two preoculars, the inferior one minute; postoculars 2. Temporals 3 + 2 + 2. Dorsal scale formula 17-(4)-15-(M)-14. Ventrals 157, subcaudals 95 + (tip of tail broken). Anal divided. Maxillary teeth 16. Total length 640 mm., tail 190 mm. Head length-head width proportion .57.

The hemipenis appears to be slightly bilobed with a single sulcus. There are 3 large basal spines, about 95 other spines (arrangement obscure due to preservation), and an unknown number of calyces at the distal end of the organ.

In life the dorsal ground color is olive-brown and the belly bright yellow. In alcohol the dorsal color has become purplish brown and the belly yellowish white. Upper surface of the head colored as the dorsum; the supra- and infralabials, chin, and throat are yellow.

REMARKS.—An intensive study of this snake has left me in a state of complete confusion, and my decision to place it in the genus *Coluber* is purely tentative. Ortenburger in separating *Coluber* from *Masticophis* used as his more important characters the number of maxillary teeth, the number of ventral scales, the structure of the hemipenis, the number and arrangement of supralabials, the head length-head width proportion, the tail length, and the dorsal scale formula.¹ Although the number and arrangement of the supralabials, the tail length, the head proportions, and the number of ventral scutes do not definitely separate the two genera, they show rather definite trends through the two. Application of these tests to the new snake results in the following:

1. The low number of ventrals and the broad head point it toward *Coluber*; the long tail and the 8 supralabials show trends toward *Masticophis*.

2. As there are 16 maxillary teeth in the specimen, it might fit in either genus.

3. The hemipenis is that of *Coluber*.

¹ A. I. Ortenburger, *The Whip Snakes and Racers: Genera Masticophis and Coluber*, "Mem. Univ. Michigan Museums," I (1928): xviii + 247, 36 pls., 64 figs.

4. The reduction of the dorsal scales from 17 to 15 by the loss of the fourth scale row in each side of the body and from 15 to 14 by the loss of the vertebral scale row is typical of *Masticophis*.

From this it is apparent that there are only two characters available for diagnosing the two genera, namely the hemipenis structure and the dorsal scale formula. It is to be noted that the snake is definitely *Coluber* on the basis of the former and decidedly *Masticophis* on the latter.

Dr. E. R. Dunn has clarified the situation rather nicely. He has pointed out, in corresponding with me, that the geographical aspects of the problem offer an important clue to the generic relationships of the species. If it belongs to the genus *Masticophis* it must be relegated to the *formenkreis flagellum* since it is apparently closest to *M. lineatus*. On the other hand the species is closest to *C. c. mormon* if it is to be placed in the genus *Coluber*. To consider it as a species of *Masticophis* would result in two species of the same *formenkreis* occupying the same region, a rather unusual state of affairs. Thus, geographically, the species fits only into *Coluber*, and in the absence of distinctive morphological characters I have relied upon this argument in placing it.

In combining the characters of the two genera the importance of the new species is at once apparent. It appears to be closest to *lineatus* in the genus *Masticophis* and to *mormon* in the genus *Coluber*. Dr. Dunn believes that *lineatus* might well represent the stock form of the *formenkreis flagellum*, and it is possible that the new species, while closest to *mormon*, is the stock form from which the *formenkreis constrictor* has been derived. As a result it may prove to be the primitive form from which both *Coluber* and *Masticophis* have developed.

Although this species might well fall within the range of variation of *C. c. mormon* (from which it differs by the possession of two more maxillary teeth and several less ventral scutes), I feel that it is best to call attention to it by describing it as new. Dr. A. I. Ortenburger feels that to relegate it

to *C. c. mormon* would seem "to be unreasonably straining the probable elasticity of the range of the subspecies."

For aid and advice in studying this form I wish to express my thanks to Mrs. Helen T. Gaige of the Museum of Zoology, University of Michigan, Dr. E. R. Dunn of Haverford College, and Dr. A. I. Ortenburger of the University of Oklahoma.