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A New Species of the Colubrid Genus *Mehelya* from Nigeria

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When Loveridge reviewed the snakes of the genus *Mehelya* Csiki in 1939, he recognized seven species. Two additional species have since become known, *Mehelya vernayi* in Angola (Bogert, 1940) and *Mehelya laurenti* in the Congo (Witte, 1959). Also, Laurent (1956) has recognized *unicolor* as a subspecies of *Mehelya capensis*, whereas Loveridge had placed it as a synonym of *M. c. savorgnani*. Three of the species recognized by Loveridge, *crossi*, *guirali*, and *poensis*, have been reported in Nigeria (Romer, 1953), and I have previously obtained *M. stenophthalmus* in the rain forest at Songo-Otto, north of Lagos. It was surprising, therefore, to find that a fifth species is represented in the fauna. The holotype described below was found at Egbe, Nigeria (latitude 8° 14' N., longitude 5° 31' E.), by a surgeon-missionary, Dr. Dion Warren, F.R.C.S., who discovered the snake beneath a compost heap. The snake attempted to escape by burrowing beneath loose clods of earth. Several peculiarities of the specimen are those of fossorial snakes, but the vertebrae, the dentition, and most external features are those of *Mehelya*. There are such marked differences between this specimen and other members of the group that it is necessary to extend the definition of the genus to include it. In allusion to the source of the holotype the species is named as follows.

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***Mehelya egbensis*, new species**

HOLOTYPE: A.M.N.H. No. 96100, male, obtained at Egbe, Nigeria, by Dion Warren, in October, 1964.

DIAGNOSIS: A small species belonging to the genus *Mehelya* but readily distinguished from all other members of the group in having fewer ventrals, fewer subcaudals, fewer maxillary teeth, and a narrow rostral that projects well beyond the anterior edge of the mental. In having nearly smooth dorsal scales, with only faint traces of keels, the species

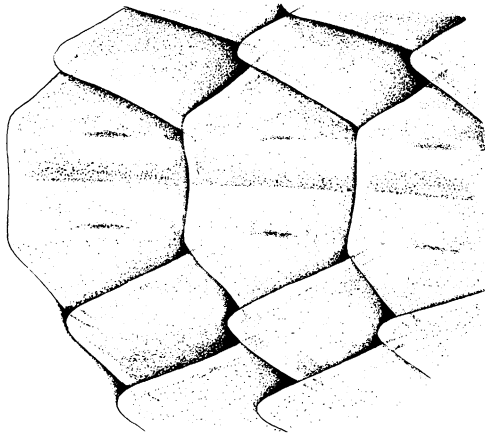


FIG. 1. Middorsal scales on posterior portion of trunk of *Mehelya egbensis* (holotype), showing vestiges of the paired keels on the broader scales in the vertebral row.

most closely resembles *M. stenophthalmus* (Mocquard). In *M. egbensis* the diameter of the eye is greater instead of less than its distance from the mouth, and the tail of *egbensis* is proportionately shorter. According to Loveridge (*supra cit.*), *Mehelya stenophthalmus* has from 198 to 214 ventrals and from 47 to 60 pairs of subcaudals, whereas the holotype of *M. egbensis* has 147 ventrals and 36 pairs of subcaudals.

SCALATION: The dorsal scales are disposed in 15 rows throughout the length of the trunk, but increase to 17 rows at the sixth ventral and drop to 13 rows on the base of the tail. The vertebral scales are enlarged (fig. 1), hexagonal, and weakly bicarinate. The other dorsal scales are smooth except for faint vestiges of a median keel and tubercular remnants of secondary keels, and light keeling on the scales of the lateral rows above the vent. The skin between the body scales is not visible in

the preserved specimen. The body scales lack apical pits, and their posterior borders are pointed rather than round. The scales bordering the ventrals are no larger than those of the second row.

With the use of the method recommended by Dowling (1951) to identify the first ventral, there are 147 ventrals, with pronounced lateral keels. The anal plate is entire. The subcaudals are in two rows, 36 in number, and without lateral keels. The tail terminates in a moderately sharp spine.

The rostral is twice as broad as high and sharply curved horizontally

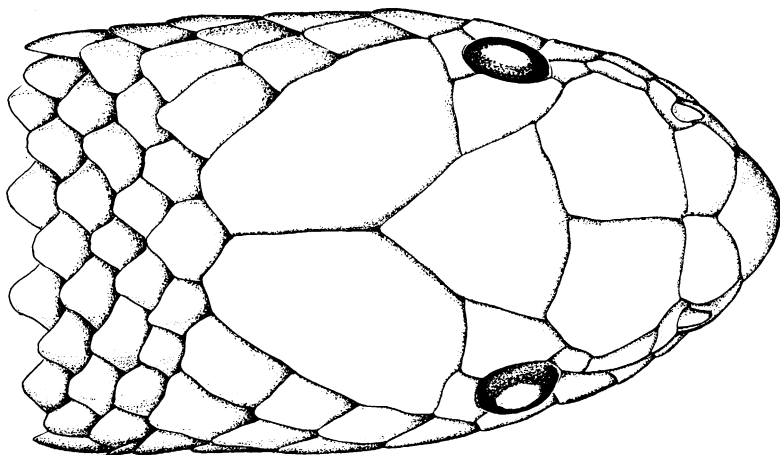


FIG. 2. Holotype of *Mehelya egbensis*, upper surface of head.

and deeply concave below where it projects beyond the lower jaw. There is a pair of internasals, each broader than long; their common suture is less than half as long as their respective sutures with the prefrontals. The prefrontals are paired, and two-thirds as long as the frontal, twice the length of the internasals, and slightly wider than long. The frontal is as wide as long, and longer than its distance from the rostral. The parietals are rounded posteriorly and nearly one and a half times as long as the frontal, but their common suture is a little shorter than the length of the frontal. The supraoculars are longer than wide and less than half of the width of the frontal.

The anterior nasal is somewhat higher than broad and nearly reaches the lip behind the rostral; the posterior nasal is smaller, but more than twice as high as broad; the lower anterior edge is deflected forward to form part of the posterior wall of the nostril, which is relatively large

but noticeably smaller than the eye. The nostril almost completely separates the anterior and posterior nasal scales, but there is a short commissure above and below the nostril (figs. 2 and 3).

The single loreal on each side is twice as long as high and situated above the suture between the second and third labials. A small preocular is present on each side, in contact with the supraocular, the prefrontal, the loreal, the third labial, and the orbit. The pupil appears to be circular in the preserved specimen. The temporals are 1+2. There are seven supralabials, the fifth and sixth larger, the third and fourth entering the

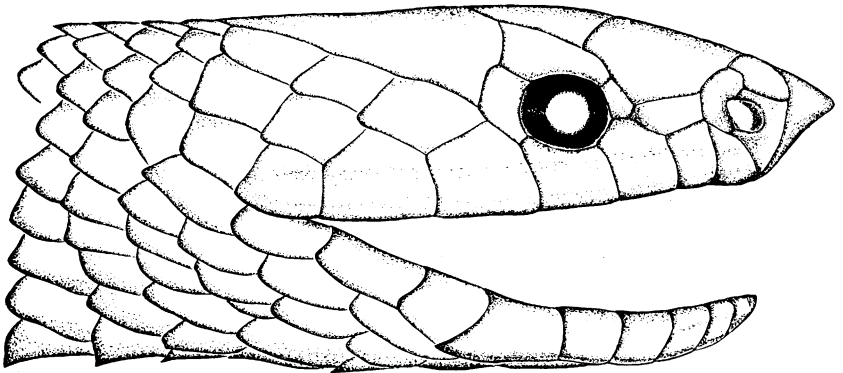


FIG. 3. Holotype of *Mehelya egbensis*, lateral view of head.

orbit. There are eight infralabials, the first pair meeting on a broad suture behind a small mental plate; the first and fifth are larger than the others (fig. 4). The first five infralabials touch the anterior chin shields, which are larger than the posterior chin shields, and are followed by a pair of gular scales and, in addition, two undivided gulars anterior to the first ventral plate, which extends to the first row of scales continuous with the lowermost row of dorsal scales.

FORM: The body is slightly subtriangular in cross section, and the head is flattened, especially the snout. The head is rounded anteriorly, as seen from above. In profile the snout is pointed. The head is only moderately distinct from the neck. The chin is semicircular anteriorly. The tail is short, and moderately stout.

DIMENSIONS: The total length is 235 mm., and the tail, 30 mm. in length, comprises 13 per cent of the over-all length.

DENTITION: There are six anterior maxillary teeth that increase in size posteriorly, followed by a diastema and 11 teeth subequal in length, but

the last two are slightly stouter. On the dentary there are eight anterior teeth progressively larger posteriorly, and followed by 10 teeth that diminish in size toward the rear of the jaw. The largest teeth in the dentary are situated below the diastema in the maxillary teeth.

HEMIPENIS: The copulatory organ of the holotype, which appears to be immature, proved to be so small in diameter that no attempt was made to slit it and examine it in detail. Nevertheless, it could be ascertained that it extended to the level of the fourteenth pair of subcaudals and bifurcated near the seventh.

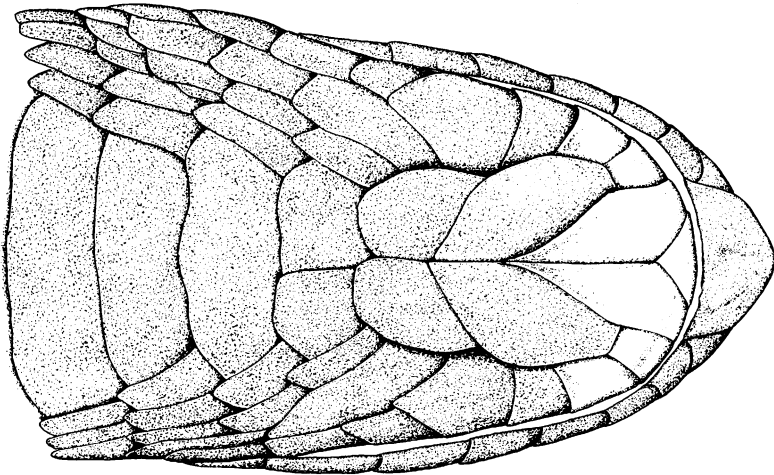


FIG. 4. Holotype of *Mehelya egbensis*, under side of head.

VERTEBRAE: Hypapophyses are present throughout the vertebral column. Prezygapophyses with tablike accessory processes that extend laterally well beyond the articular surface, as illustrated by Bogert (1964) for *M. capensis*, are present on all trunk vertebrae, but the lateral flangelike process is greatly reduced in *M. egbensis*.

COLORATION: The appearance relates to the preserved specimen, for the color *in vivo* was not observed. The dorsum of the snake is brown, the color being darker on the head and the anterior portion of the trunk, but less intense toward the tail, where the color is pale brown. The ventral surface is lighter, but again the color is more intense anteriorly, being dark over the chin and throat, becoming lighter and almost white under the subcaudals. The mental, the first three infralabials, and the supralabials are, however, all light in color. The body scales on the anterior

portion of the body have two small juxtaposed spots of white at the posterior end. The general appearance of the body is semi-glossy, and the head shields and ventral surface are glossy. The pupil appears very dark and blue-black in color.

HABITAT: When found under a compost heap on a sunny day in October, 1964, the snake moved rapidly as it attempted to burrow. Egbe is a town on the southern edge of the Guinea Savannah, 45 miles south of the River Niger and 30 miles away from the edge of the rain forest to the southwest.

DISCUSSION: Specimens of *Mehelya stenophthalmus*, though seen earlier, were not available for direct comparison. Descriptions and illustrations of the species indicate that it has fewer fossorial modifications, and the keels on the dorsal scales are more readily detectable than they are in *M. egbensis*. Loveridge (1939) described the dorsal scales of *M. stenophthalmus* as being "faintly keeled, a short secondary keel on either side of the median one apically." Under magnification, vestiges of these secondary keels are discernible on *M. egbensis* as slightly elongate or round apical tubercles inaptly described as keels. The size and position of these tubercles correspond closely to the apical pits that are represented as tiny pustules rather than depressions on some of the many colubrids described as having pits. Faint vestiges of the median keel on the lateral scales, and the paired keels of the vertebral row, are more readily seen on the posterior scales. Also, the median keel is somewhat more prominent on the scales above the vent. Supra-anal keels occur on many colubrids with smooth scales, more often on adult males than on females, although the keels are rarely evident on juveniles. Supra-anal keels are present on the holotype from Egbe, which is immature; keels may prove to be more conspicuous on adult males.

The near absence of keels on the dorsal scales, the projecting rostral, the proportionately shorter tail (as compared with that of its nearest congeners), and the reduction of the teeth of *M. egbensis* are probably to be construed as fossorial modifications. The reduction in the length of the hemipenis is perhaps correlated with the shorter tail, which comprises scarcely 13 per cent of the total length in *egbensis* but exceeds 20 per cent in *poensis*. As noted, the hemipenis extends to the fourteenth pair of subcaudals and bifurcates near the seventh pair in *egbensis*, whereas Bogert (1940) found the organ of *M. poensis* to extend to the twenty-third pair of subcaudals and bifurcate at the seventh. The distal portions of the paired lobes have evidently been lost in *egbensis* therefore, but the bifurcation has remained in approximately the same position. The dentition and hemipenis of *M. stenophthalmus* (which may resemble

those of *egbensis*), have not been described. Loveridge characterized *Mehelya* as having eight or nine anterior maxillary teeth followed after a diastema by 15 to 28 small teeth; however, there are but six anterior teeth followed by the diastema and 11 teeth in the holotype of *egbensis*.

In superficial respects *M. egbensis* resembles the snakes placed in the genera *Hormonotus* and *Gonionotophis*. The maxillary dentition of *Hormonotus modestus* closely resembles that of *M. egbensis*, which possesses the lateral expansions of the zygapophyses, whereas these structures are not present on the vertebrae of *Hormonotus*, as shown by Bogert (1964). The vertebrae of *Gonionotophis* have not been described in detail, but the snakes of this genus lack the diastema in the maxillary dentition that characterizes *Mehelya*. Plainly, therefore, the snake from Egbe has its affinities with *Mehelya*, and presumably its ancestry is nearest to that of *M. stenophthalmus*. The assignment of *egbensis* to *Mehelya* conveys suitable implications concerning its relationships, even though the definition of the genus must be revised to accommodate this additional species.

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