ON A NEW SPECIES OF DENISONIA (REPTILIA, SERPENTES) FROM NEW GUINEA

by

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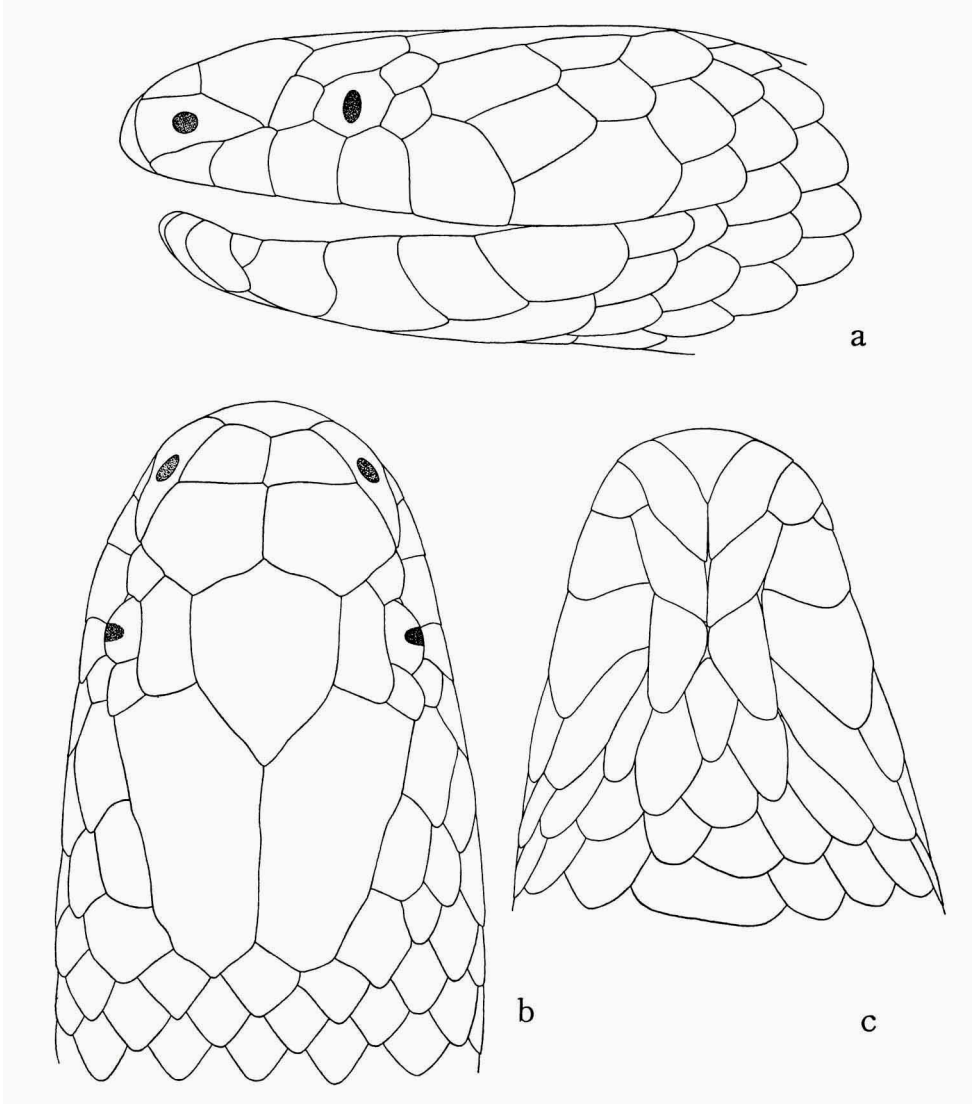
Until now the Elapid genus *Denisonia* had not been recorded from New Guinea, and this is remarkable in so far as the genus is known from Australia (and Tasmania) to the south, and from the Solomon Islands to the north-east of New Guinea. It is therefore not very surprising that now evidence has been procured of the presence of the genus in New Guinea. A single specimen of a species that we believe to be new to science was collected at Merauke in southern West New Guinea by Mr. A. J. M. Monsanto in 1959.

The genus *Denisonia* is here accepted in its old sense, such as it was used by Boulenger (1896, p. 332), and by the majority of subsequent authors. Recently, Worrell (1961a; 1961b, pp. 24-26; 1963) has made attempts to divide *Denisonia* into eight genera, but as yet the new genera diagnosed by him do not seem to be well founded. In his key to seven of the genera distinguished by him at that time, Worrell (1961b, p. 25) uses inter alia the character "preocular and prefrontal scales in contact" as opposed to "preocular and prefrontal scales not in contact". However, in all species concerned the preocular is in contact with the prefrontal. Probably Worrell meant to indicate that in one of the genera described by him (*Unechis*) the prefrontal borders the preocular not only above, but also anteriorly, thus reaching the labials, and separating the nasal from the preocular; in other genera described by Worrell (1961b: *Cryptophis, Drysdalia, Parasuta,* and also in *Suta* and *Denisonia* Krefft) the preocular is in contact with the nasal, separating the prefrontal from the labials. However, it may be pointed out that this character is subject to individual variations. Thus, Boulenger (1896, p. 345) already stated that in *Denisonia pallidiceps* (Günther), the type species of Worrell's *Cryptophis,* the posterior nasal is in contact with or narrowly separated from the preocular; in one of the types of *D. pallidiceps* (Brit. Mus. (Nat. Hist.) no. 1946.1.20.65) the nasal and preocular are in contact on the right side, but they are separated from each other on the

left side. A more striking example was given by Kinghorn (1920, p. 111, figs. 1-2): from a female of *Denisonia suta* (Peters), in which the extreme point of the nasal was in contact with the preocular, six embryos were taken; in three of these the nasal and preocular are in broad contact, in two the nasal and preocular are separated, and in the sixth embryo these shields are in contact on one side, but separated from each other on the other side. Therefore, neither the one, nor the other condition can be taken as characteristic of *D. suta.* Nevertheless, Worrell (1961b, p. 25) mentions "nasal scale contacts preocular" as one of the characters of his monotypic genus *Suta.*

A further character used by Worrell (1961b, p. 25) refers to the prefrontal and postfrontal bones being in contact (his genus *Cryptophis*), or to these bones being separated from each other (his genera *Drysdalia* and *Parasuta*; also in the genus *Denisonia* as limited by Worrell, 1961b, p. 24); in his genera *Unechis* and *Suta* these bones are said to be almost in contact. With regard to *Denisonia dwyeri* Worrell (1956a, p. 202, fig. 3), which is placed (Worrell, 1961b, p. 26) in the genus *Cryptophis,* this author states: "In the original illustration of the skull of the species the postfrontal and prefrontal in *dwyeri* (1956) are not shown in contact", thus inferring that the original figure was erroneous; however, in a later paper (Worrell, 1963, p. 2) it is stated that *D. dwyeri* should be transferred to *Parasuta,* in which the prefrontal and postfrontal bones are separated, and thus the original illustration may have been correct after all. These bones are also shown as distinctly separated in the figure of *D. pallidiceps* (Günther) (Worrell, 1956b, fig. 5b; 1963, p. 6, upper figure: *Cryptophis pallidiceps*), which species is the type of his genus *Cryptophis* of which the prefrontal and postfrontal bones being in contact is said to be one of the generic characters. Before this character can be accepted to be of primary importance to distinguish between genera, it should be studied in more detail.

These examples may be sufficient to show why we do not accept the new genera proposed by Worrell. If one tries to refer the new species from New Guinea to one of the genera recognized by Worrell by using his key (1961b, p. 25), this proves to be impossible. The species would come into the group of genera having an undivided anal, and an elliptical pupil, but it differs from the two genera of this group (*Denisonia* sensu Worrell and *Suta* Worrell) in having a lower number of scale rows, viz., fifteen rows at mid-body, instead of 17 or 19 rows respectively. Rather than to raise the number of (useless) genera by one, we refer the new species to the genus *Denisonia* Krefft, which as said above we accept in the wide sense, such as was done by Boulenger.



Denisonia boschmai nov. spec. a, left side of head; b, upper view of head; c, lower view of head. a-c, about × 7. W. Bergmans del.

Denisonia boschmai nov. spec.

Holotype: 1 ♂, Merauke, West New Guinea, 10 April 1959, leg. A. J. M. Monsanto, RMNH no. 10874.

Description. — Palatine extending rostrally just beyond the maxillary; the anterior tip of the maxillary is at the level of the second palatine tooth. A pair of enlarged poison fangs, followed after an interspace by four small grooved teeth. Anterior mandibular teeth larger than posterior teeth.

Pupil vertically elliptic; the vertical diameter of the eye (1.6 mm) is nearly equal to its distance from the mouth (1.7 mm). Rostral about 1.6 times as wide as high; internasals narrower anteriorly; the length of the prefrontals 1.8 times that of the internasals. Frontal about 1.4 times as long as wide, about 1.2 times as long as its distance from the tip of the snout; the width of the frontal is 2.2 times the greatest width of the supraocular, and 3 times the width of the supraocular as measured above the eye; the length of the parietal is about 1.4 times that of the frontal.

Nasal single. The prefrontal is in contact with the second upper labial, thus separating the nasal from the preocular; the contact between the prefrontal and the second labial is narrower on the right side than on the left; if further specimens become available, it is very well possible that the nasal and preocular will show to be in contact in at least some of them. One preocular; two postoculars. Temporals 2 + 2. The lower anterior temporal is separated from the postoculars by the upper anterior temporal; it is wedged in between the fifth and sixth upper labials. Six upper labials, of which the third and fourth border the orbit. On the right side seven lower labials, of which the anterior four are in contact with the anterior chinshield; on the left a small shield at the border of the lip is wedged in between two lower labials, thus bringing the total number of labials up to eight, of which the first, second, fourth, and fifth border the anterior chinshield. Posterior chinshields longer than anterior chinshields.

Colour (in alcohol). — Head pale greyish brown above, the lips whitish. Nape and back bluish black; the scales of the nape with blackish borders. The scales of the first row of scales whitish with dark borders; those of the second row whitish in the centre or at the tip; posteriorly, the second row of scales is almost completely darkly coloured, whilst the white area of the scales of the first row becomes much reduced. Lower surface whitish. The posterior ventrals with a median series of greyish spots. Lower surface of tail with a median series of greyish spots, which together form a more or less interrupted dark median line.

Size. — Length of head and body 361 mm; length of tail 78 mm.

Remarks. — The holotype has been compared by one of us (Brongersma)

to specimens of various species of *Denisonia* with 15 rows of scales in the collections of the British Museum (Natural History), London, and it could not be matched with any of these. A more extensive study of the variability of the species of *Denisonia* is much wanted, because some of the characters used in the literature to distinguish between them may prove to be less constant than has been assumed formerly, and this makes it very difficult to compare specimens to published diagnoses.

The present new species is dedicated to Prof. Dr. H. Boschma.

LITERATURE CITED

BOULENGER, G. A., 1896. Catalogue of the snakes in the British Museum (Natural History), vol. 3, pp. i-xiv, 1-727, text-figs. 1-37, pls. 1-25.

KINGHORN, J. R., 1920. Studies in Australian reptiles. No. 1. Rec. Austr. Mus., vol. 13 pt. 3, pp. 110-117, text-figs. 1-7, pl. 20.

WORRELL, E., 1956a. A new snake from Queensland. Austr. Zool., vol. 12 pt. 3, pp. 202-205, figs. 1-3.

——, 1956b. Notes on skull-characters of some Australian snakes. Austr. Zool., vol. 12 pt. 3, pp. 205-210, text-figs. 3-8, pl. 30.

——, 1961a. A new generic name for a nominal species of Denisonia. Proc. Roy. Zool. Soc. New S. Wales, 1958-59, pp. 54-55, figs. 1, 2.

——, 1961b. Herpetological name changes. West. Austr. Naturalist, vol. 8 pt. 1, pp. 18-27, figs. 1-4.

——, 1963. A new elapine generic name (with skull diagrams of type species recently separated from the Australian genus Denisonia). Austr. Reptile Park Rec., no. 1, pp. 1-7, figs. 1-27.