

REVISIONARY NOTES ON THE GENUS *VERMICELLA* (SERPENTES, ELAPIDAE)

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INTRODUCTION

Since my revision of *Vermicella* (Storr, 1967) collections made in critical areas have necessitated changes in the taxonomic status of several forms, especially the elevation of certain subspecies to full species. *Cacophis warro* is redescribed and removed from *Vermicella*.

For the loan of specimens I am grateful to Mr J.C. Wombey of the CSIRO Division of Wildlife Research, Canberra, and Mr G.F. Gow of the Northern Territory Museum, Darwin. All other specimens cited in this paper, apart from the holotype of *V. minima*, are lodged in the Western Australian Museum.

VERMICELLA BERTHOLDI SPECIES-GROUP

This group comprises the species *bertholdi*, *littoralis*, *anomala* and *minima*. Because of their allopatry and obviously close relationship, the first three of these taxa were previously regarded as subspecies of *bertholdi*. Many more specimens have subsequently been collected but none shows any evidence of hybridization or primary intergradation, despite in many instances their geographic proximity. It has thus become clear that these 'subspecies' are in fact parapatric or marginally sympatric species. Also, but for different reasons, the fourth taxon (*minima*) is now elevated to a full species.

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VERMICELLA MINIMA (WORRELL)

Diagnosis

Very like *V. anomala* in scutellation but differing markedly in coloration, especially the absence of dark bands on body and tail.

Distribution

Dampier Land (southwest Kimberley, Western Australia).

Description (based on two specimens)

Total length (mm): male 172; female 217. Length of tail (% total length): male 13.3; female 9.2.

Rostral much wider than high, apex obtuse and reaching back 30-40% of way to frontal. Suture between internasals 1.2-1.3 times as long as suture between prefrontals. Frontal 1.2-1.4 times as long as wide, 0.6-0.8 times as long as parietals, and 1.8-2.0 times as wide as supraoculars. Nasal contacting preocular, which is narrowly separated from frontal. Postoculars 2 (1 on one side of one specimen), lower smaller. Temporals 1 + 1 + 2, primary much the largest and broadly contacting lip. Upper labials 5, last largest and widely separated from fourth. Scale rows 15 at midbody, 15 or 17 on neck, 13 just before vent. Ventrals: male 125; female 127. Subcaudals: male 22; female 19; the first 3-5 undivided.

Head blotch black, reaching forward to anterior edge of frontal or a little past it and back to a little past end of parietals, and narrowing as it descends to side of lower jaw. Nuchal blotch black, 3-4 scales wide, narrowing as it descends side of neck, encircling body in one specimen (but less than half a scale wide on under surface), and separated from head blotch by 4-5 scales. Rest of coloration whitish, except for blackish brown edges to rostral, internasals, dorsals and supracaudals, and greyish brown clouding on chin and throat.

Remarks

Previously I regarded the holotype of *minima* as a freakishly coloured individual of *anomala*. However, the collection of another specimen (of the opposite sex, but almost identical in coloration) forces me to revise my opinion.

In scutellation *minima* seems to differ from *anomala* only in its relatively shorter frontal. In coloration there are the negative differences of absence of bands and shorter nuchal blotch. Much more significant is the positive difference of dark edging to dorsal scales in *minima* (the interannular dorsals of

anomala are not dark-edged). This difference separates two other species in the *V. bertholdi* group, i.e. yellow interannular scales edged with red in *bertholdi*, not edged in *littoralis*.

V. minima and *V. anomala* are sympatric at Broome and must be treated as full species. For a photograph of the holotype of *minima* and line drawings of its head scales see the original description (Worrell, 1960).

Material

Kimberley Division (W.A.): 4 km SE of Coulomb Point (60910); Broome (holotype, R16494 in Australian Museum).

VERMICELLA APPROXIMANS (GLAUERT)

Diagnosis

Distinguishable from all subspecies of *V. semifasciata* by the extremely broad dark bands (at least five times as wide as pale interspaces), the less strongly upturned snout, and the less oblique suture between internasal and prefrontal; and from *V. fasciolata* by the nasal contacting preocular. Further distinguishable from *V. s. semifasciata* by 6 (rather than 5) upper labials and primary temporal never fused to secondary.

Distribution

Western arid zone of Western Australia from Broome south to Mileura and Wiluna; also Barrow I.

Partial redescription

Total length (mm): males 122-362 (N 13, mean 290); females 122-356 (N 5, mean 293). Tail (% total length): males 8.9-9.8 (N 13, mean 9.4); females 6.7-7.6 (N 5, mean 7.2).

Rostral extending back 40-50% of way to frontal. Suture between internasal and prefrontal transverse or slightly oblique. Secondary temporal never fused to primary but occasionally fused to scale behind it (upper tertiary) or to last labial. Scale rows 17 at midbody, 17-21 (usually 19) on neck, 17 just before vent. Ventrals: males 158-181 (N 11, mean 171.0); females 173-181 (N 5, mean 177.6). Subcaudals: males 22-27 (N 13, mean 25.3); females 19-21 (N 5, mean 20.4).

Body crossed by 45-81 very dark brown bands, 2-5 scales wide at midbody and separated by whitish interspaces $\frac{1}{3}$ - $\frac{3}{4}$ scale wide (interspaces often represented by rings of pale spots rather than continuous bands, and in one specimen they are completely absent). Bands on tail: 8-15 in males; 6-9 in females.

Remarks

Previously I treated *approximans* as a subspecies of *V. semifasciata*, first because it was clearly the representative of that species in north-western Western Australia, second because the two forms seemed to intergrade at Wiluna. However, recent collections indicate that though there may have been some gene flow between *approximans* and *semifasciata* in the past there is none now and these taxa behave as good species in the Wiluna district.

In October 1977 J.C. Wombey collected the two forms within 8 km of each other: a *V. approximans* (R1780) in mulga woodland 10 km ESE of Wiluna; and a *V. s. semifasciata* (R1789) on a red sand dune clothed with spinifex 17 km SE of Wiluna. Both specimens are normal in coloration and scutellation.

At the northern end of its range *V. approximans* has now been collected within 170 km of the known range of *V. semifasciata roperi*. A specimen of *approximans* from Broome shows no tendency towards *roperi* from Derby.

Additional material (in W.A. Museum)

Kimberley Division: Broome (56833).

North-west Division: Barrow I. (47438); Bullara (36140); Tom Price (45657-8); Marandoo (56096, 61631); Newman (37034); Karalundi (42658-60); Mileura (44960).

Eastern Division: Rudall River (40317).

'CACOPHIS' WARRO DE VIS

Under various generic names recent authors have treated this species, usually with some hesitation, as congeneric with "*Brachyuropis*" *semifasciata* Günther. Through the courtesy of Mr G.F. Gow I have had the opportunity of examining three Queensland specimens of *warro* in the collection of the Northern Territory Museum, viz. R1148-9 (presumed males from Mareeba) and R2967 (a presumed female from Ayr). I describe them in the same terms as in my revision of *Vermicella* (Storr, 1967).

Description

Body and tail short. Head depressed, broad, wider than neck. Snout produced beyond mouth but not tipped with cutting edge. Total length (mm): males 250, 305; female 333. Tail (% total length): males 10.6, 12.0; female 7.8.

Rostral much wider than high, apex rounded and reaching about one-third of way back to frontal. Internasals considerably smaller than prefrontals. Suture between internasals almost as long as suture between prefrontals. Frontal 1.6-1.7 times as long as wide, about as long as parietals, and about twice as wide as supraoculars. Nasal entire; widely separated from preocular. Postoculars 2, lower smaller. Temporals 2 + 2 + 3. Upper labials 6. Scale rows 15 at midbody, 17 or 19 at neck, 15 or 13 just before vent. Ventrals: males 136-138; female 151. Subcaudals: males 20-23; female 15.

Head blotch dark brown to blackish brown, diffuse and ill-defined. Nuchal blotch brownish black, sharp-edged, 7-11 scales long. Dorsals and supra-caudals brownish white, edged with dark brown (margins thickest at apex of scales).

Remarks

In its coloration, short tail, flattened head and small eyes, *warro* is similar to several species of *Vermicella*. However these features are not exclusive to *Vermicella* but appear in other Australian genera, e.g. *Furina* and *Pseudonaja*. The hall-mark of *Vermicella* is the large single primary temporal which reaches or nearly reaches to the lip. *C. warro* has two primary temporals; they are small and well separated from the lip. I therefore believe that *warro* is not a *Vermicella*. The possibility should be explored of placing it in *Furina*, to which it is superficially similar except for the extremely short tail.

REFERENCES

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