PAPERS READ.

NOTES ON AUSTRALIAN *TYPHLOPIDÆ*.

By Edgar R. Waite, F.L.S., Zoologist, Australian Museum.

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(Plate i.)

*4. Typhlops batillus, sp.nov.

(Pl. i. figs. 1-3.)

Habit slender and of moderately even thickness. Snout prominent, much depressed and shovel-shaped. Head shields granulated above and below. Rostral half the width of the head, extending almost to the level of the eyes, widest in front, the portion visible from beneath as broad as long; nasal completely divided, the fissure much curved and extending from the second labial; nostrils lateral, close to the rostral; preocular smaller than the ocular, in contact with the second and third labials. Eye very distinct. Internasal, supraoculars, and parietals larger than the scales on the body. Four upper labials. Diameter of the middle of the body fifty-three times in the total length. Tail longer than broad, terminating in a blunt spine. Twenty-four scales round the body.

Colours.—In spirits, tawny above, the edges of the scales forming noticeable longitudinal lines, lighter beneath.

Dimensions.

Total length 320 mm.	Length of head 5 mm.
Width of head 5 mm.	Width of body 6 mm.
Length of tail 7 mm.	Width of tail 5 mm.

Hab.—Wagga Wagga, New South Wales. One example.

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* Articles 1-3 were published in the Records of the Australian Museum, ii. pp. 57-62.

Type.—In the Macleay Museum, Sydney. No. 3.

Note.—Connecting the parietal with the fourth upper labial is a broadened scale; this is shown in figs. 1 and 3, but I have not included it in the general description, as the fusion of two or more scales is a common occurrence in the Ophidia, and is very probably in this instance an individual peculiarity. I mention it here, however, as the scales on both sides of the head are precisely alike.

The completely divided nasal is a character not shared by any Australian form hitherto described, and at once serves to distinguish this species.

I am indebted to the Trustees of the Macleay Museum for having kindly granted me permission to describe this, the only new species in the series.

5. Typhlops diversus, sp.nov.

(Pl. I. figs. 4-6.)

Habit slender, slightly thickened posteriorly. Snout rounded. Rostral nearly half the width of the head, extending almost to the level of the eyes, slightly narrowed in front, the portion visible from below about as long as broad; nasal incompletely divided, the fissure extending from the anterior edge of the preocular to slightly beyond the nostril; nostrils lateral; preocular narrower than the ocular, in contact with the second and third labials. Eye distinct. Internasal, supraoculars, and parietals larger than the body scales. Four upper labials. Diameter of the middle of the body about sixty-seven times in the total length. Tail a third longer than broad, terminating in a very minute spine which scarcely projects beyond the scales. Twenty scales round the body.

Colours.—In spirits, light horn-colour throughout, slightly darker on the dorsal surface.

Dimensions.

Total length 212 mm.	Length of head 3 mm.
Width of head 3 mm.	Width of body 3·2 mm.
Length of tail 4 mm.	Width of tail 3 mm.

Hab.—Mowen, Central Railway, Queensland. One example.

Type.—In the Queensland Museum. No. D 4432.

The peculiarity of the nasal fissure not touching the labials distinguishes *T. diversus* from all other Australian forms, and the only described species with which it might be confounded is *T. braminus*, Daud.* It differs from this species in having the nasal incompletely divided, the head more depressed, the rostral of greater width and of different shape, and the body of more slender form.

I am enabled to describe and figure this interesting species owing to the kindness of Mr. C. W. De Vis, who has placed in my hands the whole of the Australian *Typhlopidæ* in the Queensland Museum.

6. Typhlops unguirostris, Peters, and T. affinis, Boulenger.

As previously mentioned, I have received a valuable collection of Australian *Typhlopidæ* for study and determination from the Queensland Museum, kindly sent to me by the Curator, Mr. C. W. De Vis. An examination of this collection placed me in a position to understand the discrepancies which, since the publication of the British Museum Catalogue,† I saw existed in either the descriptions or the figures of the species above-named.

In the collection are two examples which I identify as *T. unguirostris.*‡ In both these specimens the nasal fissure is in contact with the first labial, and although Peters does not mention this, his figure shows very clearly that such is the case in the type specimen.

In the British Museum Catalogue, Boulenger remarks of this species that the nasal cleft proceeds from the second labial. This,

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* *T. accendens*, Jan, has similar characters, but differs in having twenty-two rows of scales round the body.

† Boulenger, Cat. of Snakes in B.M. Vol. i. p. 49.

‡ Peters, Monatsb. d. K. Akad d. W. Berlin, 1867, p. 708, f. 3.

in view of the evidence above given, I should regard as a mere oversight, did it not cause some difficulty with regard to another species, *T. affinis*.

When describing *T. unguirostris*, Peters stated that in an old example the body scales are in twenty-four rows, while in a young one there are eighteen rows only. In 1889 Boulenger* very properly elevated this small form to specific rank under the name *T. affinis*, remarking that it agrees with *T. unguirostris* in every respect except in having eighteen scales round the body (instead of twenty-two or twenty-four) and a somewhat longer tail.

From observations on the material at my disposal, I would suggest that Boulenger is in error in stating that the nasal cleft of *T. unguirostris* proceeds from the second labial, and if so his description of *T. affinis* (being comparative) is also incorrect, for he figures this species† as having the cleft connected with the second labial. This figure I am able to verify, for the Queensland collection contains a small specimen which, at the first glance, I took to be a third *T. unguirostris*. I found that it differed from my other examples and from Peters' figure in having the nasal cleft in contact with the second labial. It perfectly agrees with the figure of *T. affinis*, and if my conclusions are correct, this species is much better marked than even Boulenger suspected.

As the two examples of *T. unguirostris* have in addition to the character mentioned twenty-four rows of scales and a short tail, and as my single example of *T. affinis* has eighteen rows of scales, and the tail longer than broad, I am able to agree with and verify the other points of Boulenger's descriptions and now characterise the species as follows :—

Typhlops unguirostris, Peters.—Nasal cleft proceeding from the first labial, twenty-four (or according to Boulenger, twenty-two or twenty-four) scales round the body, tail nearly as long as broad.

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* Boulenger, Ann. Mag. Nat. Hist. (6) iv. 1889, p. 363.

† Boulenger, Cat. of Snakes in B.M. i. pl. III. f. 3.

Typhlops affinis, Boulenger.—Nasal cleft proceeding from the second labial. Eighteen scales round the body. Tail longer than broad.

7. Typhlops wiedii, Peters.

(Pl. i. figs. 7-9.)

This is the only Australian species of which no figure has hitherto been published. In order to complete the series, I therefore show three aspects of the head.

Out of very many examples which I have examined, the total length of the largest does not exceed 295 mm.

8. Typhlops polygrammicus, Schlegel.

Until recently, the largest specimen I have seen is the one mentioned in a former article* under the name *T. nigrescens*, Gray, as being 570 mm. in length. This must be regarded as exceptional, however, for out of at least 200 examples which I have seen very few exceed the figure given in the British Museum Catalogue, namely, 435 mm. Lately I have had the opportunity of measuring a specimen which has attained dimensions eclipsed only by the African species *T. humbo*, Bocage, which reaches 775 mm.

The Australian gigantic specimen was obtained at Kempsey on the Macleay River, New South Wales, and sent to me for determination by Mr. A. P. Kemp, to whom it has been returned.

As comparative measurements are so easy to make on such a large specimen I give its principal dimensions as follows :—

Dimensions.

Total length 717 mm.	Length of head 9·5 mm.
Width of head 10·5 mm.	Width of body 14·5 mm.
Length of tail 15·0 mm.	Width of tail 14·0 mm.

* Records of the Australian Museum, ii. p. 59.

In a future paper I hope to deal with the distribution of the Australian *Typhlopidæ*, and shall be very grateful for the loan of specimens, or for any information with which I may be favoured.

EXPLANATION OF PLATE I.

Figs. 1-3.—Head of *Typhlops batillus*, Waite.

Figs. 4-6.—Head of *Typhlops diversus*, Waite.

Figs. 7-9.—Head of *Typhlops wiedii*, Peters.