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CONTRIBUTIONS TO A KNOWLEDGE OF AUSTRALIAN CULICIDAE.  
No. VII.

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Medicine, University of Sydney.

(Nine Text-figures.)

[Read 30th August, 1944.]

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The present paper represents some notes which were made several years ago concerning synonymy and which have been confirmed recently. I have also added illustrations of several species with but little or no explanatory letterpress, it being my opinion that a correctly drawn illustration, provided that it is of such a magnification as to be of easy interpretation, requires no, or very little, explanation.

The larva and pupa of *Taeniorhynchus* (*Coquillettidia*) *xanthogaster* Edwards are made known for the first time. I have borrowed, and herewith acknowledge, the description and illustrations of the larva of *Taeniorhynchus* (*Coquillettidia*) *crassipes* van der Wulp from Bonne-Wepster.

One species of *Finlaya* has been described and renamed due to the incorrect association of the sexes. It has been necessary to rename a previously described species, since the species name had been previously used.

BIRONELLA (BRUGELLA) HOLLANDI Taylor.

Proc. Linn. Soc. N.S.W., lix, 1934, 229.

The terminalia and wing of this species have not previously been illustrated.

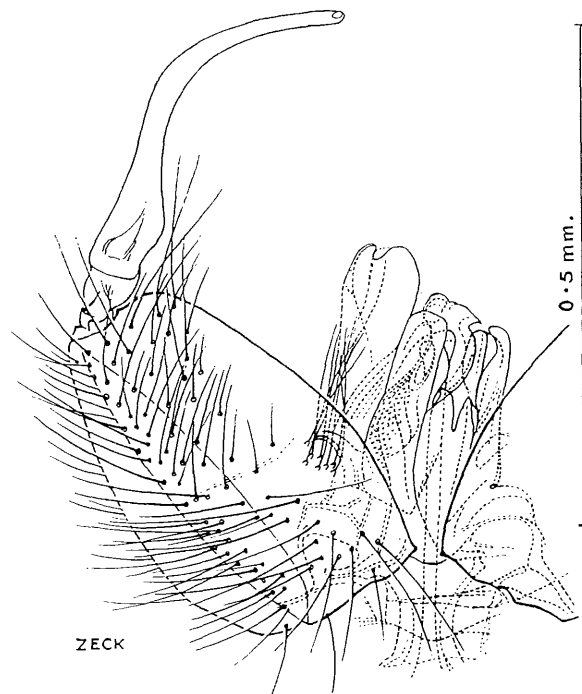


Fig. 1.—*Bironella* (*Brugella*) *hollandi* Taylor. ♂ terminalia.

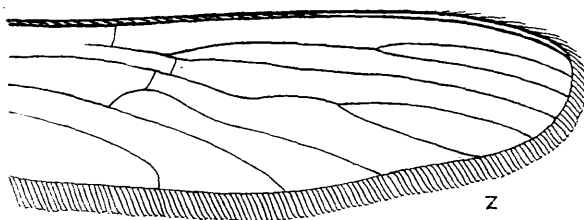


Fig. 2.—*Bironella (Brugella) hollandi* Taylor. Wing.

*AÈDES (FINLAYA) ALBITARSIS* Taylor.

*Trans. Ent. Soc. Lond.*, 1913 (1914), 194 (*Leucomyia*); Edwards, *Bull. Ent. Res.*, xiv, 1924, 382 (*Finlaya palmarum*).

I was in error in describing the thoracic ornamentation as a median "line of white scales. . . ." It is in fact a moderately broad *stripe*. The remaining differences are so slight that they do not matter. Edwards stated that the thoracic stripe in his type was composed of golden and not white scales. Even so, I see no reason for keeping the two 'species' names.

*Habitat*.—Queensland: Eungella *via* Mackay (F. H. Taylor); Berner Creek *via* Innisfail (F. H. Taylor).

The type specimen of *albitarsis* came from the Lakekamu Gold Field, Papua, that of *palmarum* from Palm Island, north of Townsville, Queensland.

*AÈDES (FINLAYA) PULCHERRIMUS* Taylor.

*Proc. Linn. Soc. N.S.W.*, xliii, 1919, 830 (*Mimeteomyia*); Edwards, *Bull. Ent. Res.*, xiv, 1924, 382.

Some female *Finlaya* were associated with the male type of the above species in the Collection of the School of Public Health and Tropical Medicine, University of Sydney. The type, a male, is not a *Finlaya* nor even a valid species, being nothing more than an aberrant form of *Aedes (Stegomyia) aegypti* L. By whom the female, a good species, was associated with the name, it is now impossible to say. Possibly Hill associated the sexes, since he found females at Townsville (*vide* Edwards above). Hill did not put these specimens in the collection when on the staff of the Australian Institute of Tropical Medicine, Townsville. Female specimens, which were taken at Eidsvold, Queensland, were presented to the Institute by the late T. L. Bancroft.

My attention was first called to the above confusion by Lieutenant-Colonel W. V. King, who was going over our collection. He remarked that the type of scales of the thoracic ornamentation was different in the sexes and had I noticed it? I told Colonel King that I had not examined the type since I described it, nor had I looked at the female specimens. I made a preparation of the terminalia of the type and found that, though somewhat aberrant, the specimen was nothing more than *Aedes (Stegomyia) aegypti* L.

The female specimens from Eidsvold require a new name and are described below as *Aedes (Finlaya) mallochi*, n. sp.

*AÈDES (FINLAYA) MALLOCHI*, n. sp.

♀. Head covered with dusky brown flat scales and upright-forked black ones, a small patch of semi-erect fairly broad white ones basally in the centre, a row of small pure white broad ones bordering the eyes; palpi black scaled, white scaled at the base and apex; there is also a median white band; antennae dark brown, verticillate hairs dark brown, pubescence pale; proboscis dusky brown.

Thorax blackish covered with dull coppery narrow-curved scales adorned with lyre-shaped pattern of pure white small broad, flat scales, posterior arms of the lyre reaching the posterior border of the scutum, a median line of similar white scales extending from the anterior margin almost to the posterior margin, where there is a very short sloping white line on either side of the median; another line of similar scales extends from,

and includes, the pronotal lobes, curving upwards over the wing-roots to the posterior margin of the scutum; scutellum with posterior border covered with dense white flat scales; pleurae with two equally spaced oblique lines of white, small, flat scales, another arising about the middle of the upper oblique line and extending to below the posterior margin of the wing base.

Legs: Coxae with a pronounced line of white flat scales, trochanters white scaled, femora and tibiae with a conspicuous white line of scales laterally. Knee spots white; first, second and third tarsal segments of fore- and mid-legs with white basal banding, inconspicuous on the third, tarsal segments of hind-legs, one to four with conspicuous white basal banding, fifth all white.

Wings covered with chocolate-brown scales, bases of the first and second fork-cells level; *m-cu* about one and a half times its length from *r-m*. Length of wing 3.5 mm.

Abdomen covered with chocolate-brown scales, unbanded, segments with white lateral basal spots, first segment with the entire lateral margin white; venter apparently white scaled.

*Habitat*.—Queensland: Eidsvold (T. L. Bancroft); Townsville (G. F. Hill, *vide* Edwards).

This species may be separated from *Aedes (Finlaya) notoscriptus* (Skuse) by the white lines being composed of broad flat small scales, whereas in *notoscriptus* they are composed of narrow-curved ones. The proboscis is also entirely dark. Named after J. R. Malloch, whose contributions have materially advanced the study of Australian Diptera.

#### AÈDES (FINLAYA) PURPUREUS Theobald.

*Mon. Culicidae*, v, 1910, 479 (*Molpemyia*); Taylor, *Trans. Ent. Soc. Lond.*, 1913 (1914), 684 (*Calomyia priestleyi*); Edwards, *Bull. Ent. Res.*, xiii, 1922, 94 (*pecuniosus*); *op. cit.*, xiv, 1924, 380.

There are specimens, ♂, ♀, in the collection of this School from Derby, West Australia, bred from larvae taken from a rot hole in a tree by Dr. A. H. Baldwin and the late L. E. Cooling, a female taken by L. E. Cooling on Elcho Island, Northern Territory, male and female specimens bred from larvae found in a rot hole in a tree at Herberton by C. O'Brien and, finally, the type of *priestleyi*, a female specimen taken by Dr. H. Priestley at Townsville, Queensland.

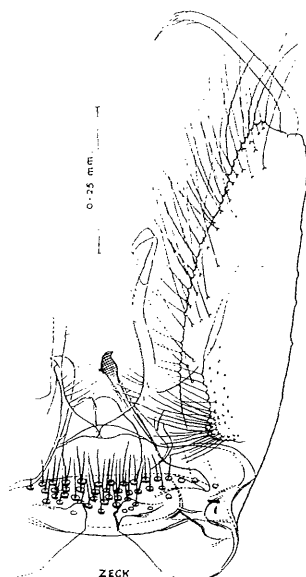


Fig. 3.—*Aedes (Finlaya) purpureus* Theobald. ♂ terminalia.

Theobald's type was a female from Stannary Hills, Queensland. Edwards' type, a female, came from Darwin, Northern Territory.

Geographically the above material comes from related areas, Derby in the west and Townsville in the east being the left and right wings of the distribution.

I have thought from the time that the additional material became available to me in 1925, that the three names represented one and the same species. The ornamentation of the thorax and the leg markings vary somewhat, as is to be expected in species that show a high degree of ornamentation. Moreover, the male terminalia of specimens from Derby and Herberton show no differences.

Colonel W. V. King, who compared a male and female specimen from Derby with a male and female from Herberton, could find no tangible differences in the males. There is no question that *priestleyi* Taylor is the same as the Herberton specimens which are definitely *purpureus* Theobald. I can not conceive that the Elcho Island and Derby specimens are not *pecuniosus* Edwards. I have no hesitation in placing *priestleyi* Taylor, and *pecuniosus* Edwards as synonyms of *purpureus* Theobald. Responsibility for the synonymy is entirely mine.

*AËDES* (*AËDES*) *CUNNINGHAMI*, new name.

*bancrofti* Taylor (*nec* Skuse), Proc. LINN. Soc. N.S.W., xxxix, 1914, 465.

A change of name is necessary since *bancrofti* was used for *Culex bancrofti* Skuse, which is a synonym of *Aedes* (*Stegomyia*) *aegypti* Linn. Named after Allan Cunningham, the botanist, who spent some time in New South Wales.

*TAENIORHYNCHUS* (*COQUILLETIDIA*) *GIBLINI* Taylor.

*Trans. Ent. Soc. Lond.*, 1914, 198; Edwards, *Bull. Ent. Res.*, xiv, 1924, 365.

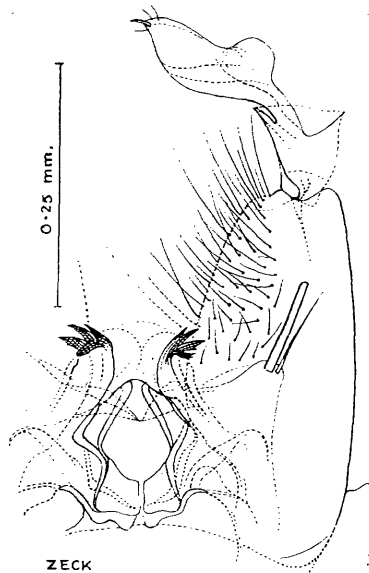


Fig. 4.—*Taeniorhynchus* (*Coquillettia*) *giblini* Taylor. ♂ terminalia.

TAENIORHYNCHUS (COQUILLETIDIA) XANTHOGASTER Edwards.  
*Bull. Ent. Res.*, xiv, 1924, 366.

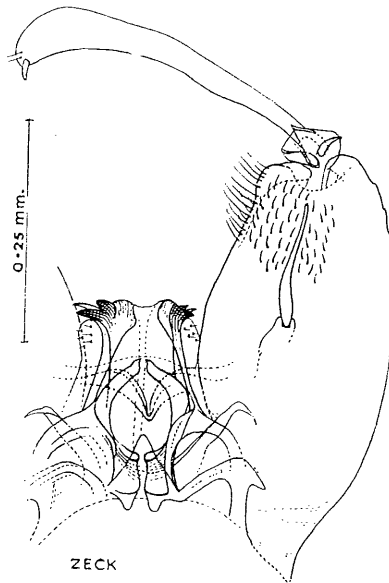


Fig. 5.—*Taeniorhynchus (Coquilletidia) xanthogaster* Edwards. ♂ terminalia.

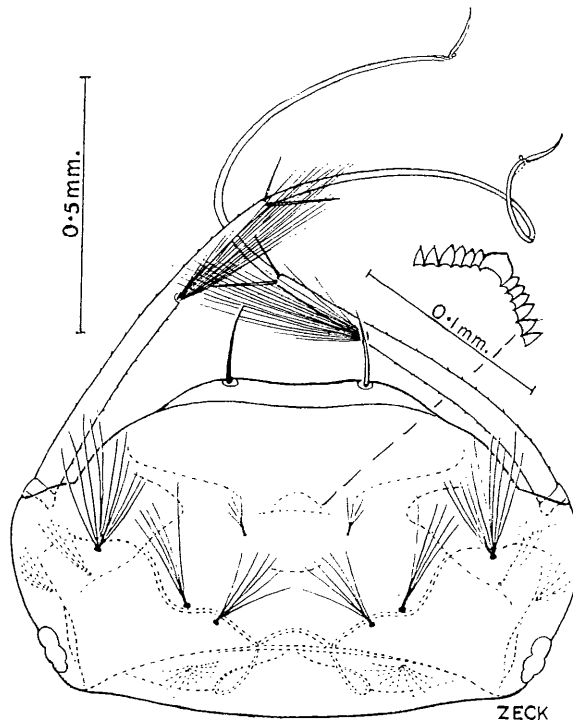


Fig. 6a.—*Taeniorhynchus (Coquilletidia) xanthogaster* Edwards. Larva, head.

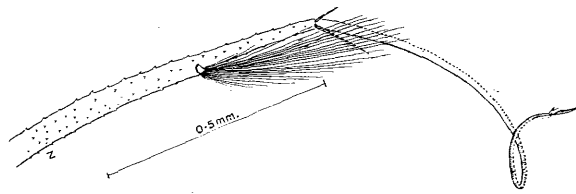


Fig. 6b.—*Taeniorhynchus (Coquillettidia) xanthogaster* Edwards.  
Larva, antenna enlarged.

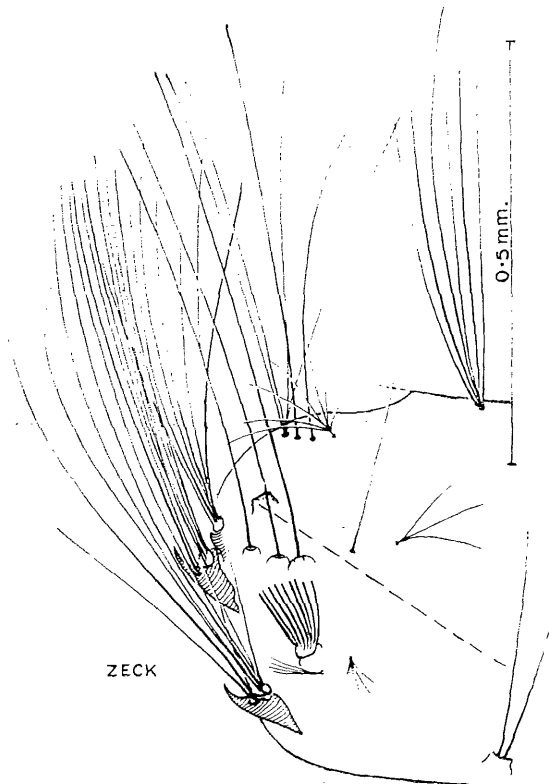


Fig. 6c.—*Taeniorhynchus (Coquillettidia) xanthogaster* Edwards. Larva, thorax.

Larva: Head with preclypeal spines stout, moderately long, dusky-brown. Antennae with antennal hair-tuft slightly above the base of the apical half of shaft, individual hairs, apparently simple, shaft dusky, becoming paler toward the hair-tuft, apical extension very long with a pointed spine-like apex. Hair A moderately long, well developed, with eleven branches, apparently simple, B slightly shorter than A and with five well-developed branches, apparently unbranched, C shorter than B with well-developed, apparently simple, branches, d about half the length of C with four simple branches.

Thoracic hairs as illustrated, the inner metapleurals (cut off in illustration) are all frayed.

Comb on the eighth segment composed of nine scales, form of scale as illustrated. The long bristle-like hair arising from below the comb distinctly frayed for about the apical half. Air-tube short, cone-shaped, the piercing apparatus saw-toothed on outer

edge, dark brown, the rest as illustrated. Anal segment slightly longer than air-tube, saddle almost completely covering it except for a narrow apical area, basal portion of saddle dark brown, heavily chitinized, dorsal edge with numerous small, fine teeth; anal papillae broken off.

The larva from which the above notes were made was taken some years ago from a small swamp covered with waterweeds of various kinds; the pupa was found at Cairns in a swamp almost entirely covered with cyperaceous plants.

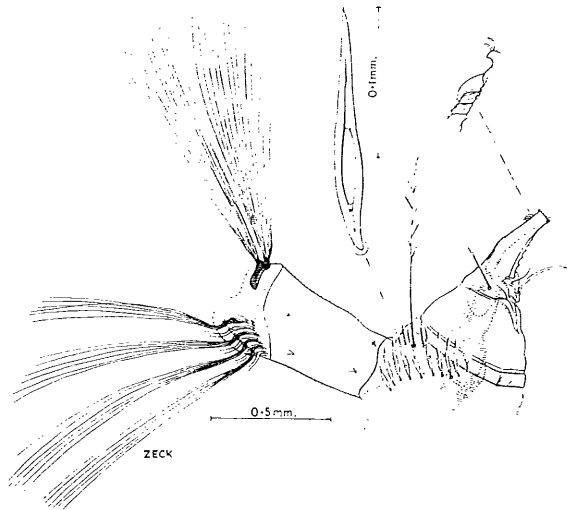


Fig. 6d.—*Taeniorhynchus* (*Coquillettia*) *xanthogaster* Edwards. Larva, apical segments.

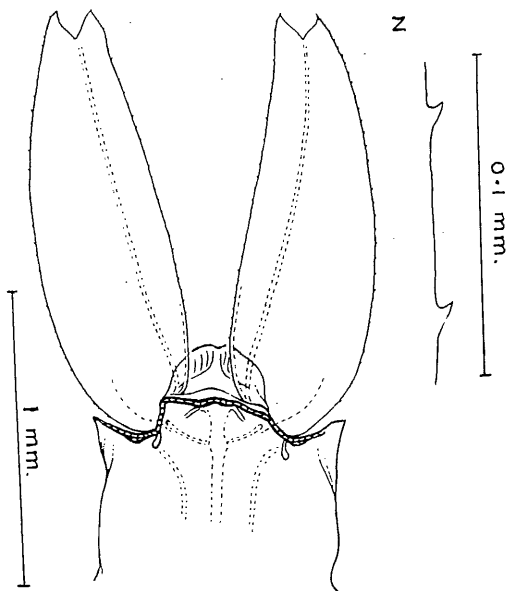


Fig. 7a.—*Taeniorhynchus* (*Coquillettia*) *xanthogaster* Edwards. Pupa, apex of abdomen.

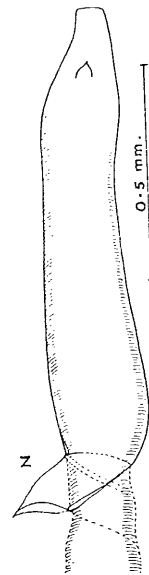


Fig. 7b.—*Taeniorhynchus* (*Coquillettia*) *xanthogaster* Edwards. Pupa, siphon.

## TAENIORHYNCHUS (COQUILLETIDIA) CRASSIPES van der Wulp.

*Bijd. Fauna Midden Sumatra*, Dipt., 1892, 9 (*Culex*); Bonne-Wepster, *Meded. Dienst Volksgezondh. Ned.-Ind.*, xxviii, 1939, 12.

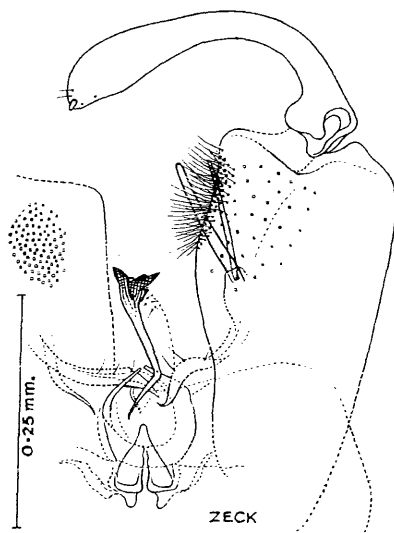


Fig. 8.—*Taeniorhynchus (Coquillettia) crassipes* van der Wulp. ♂ terminalia, slightly lateral.

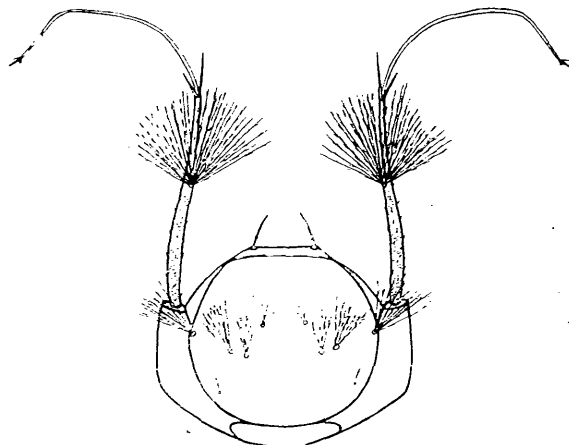


Fig. 9a.—*Taeniorhynchus (Coquillettia) crassipes* van der Wulp. Larva. head.

Larva: Head a little broader than long, slightly angular, clypeal spines long and slender. Antennae very long, much more elongated than in the subgenus *Mansonioides*, for two reasons: the part from base to subapical spines is much longer (longer than the head) and the elongation itself alone is already much longer than the rest of the antennae.

Antennal hair closer to subapical hairs than to base, with 30 hairy branches, shorter than basal part of antenna, subapical hairs short, stiff; apical extension very long and delicate, with pointed flexible apex, a hair and a short leaflet, bulbous in appearance. This extension has the peculiar habit in the dead larva of curling up permanently like a corkscrew as soon as it is exposed to the air. From base to subapical spines the antennae are moderately covered with spines. Basal part up to implantation of antennal hair pigmented.

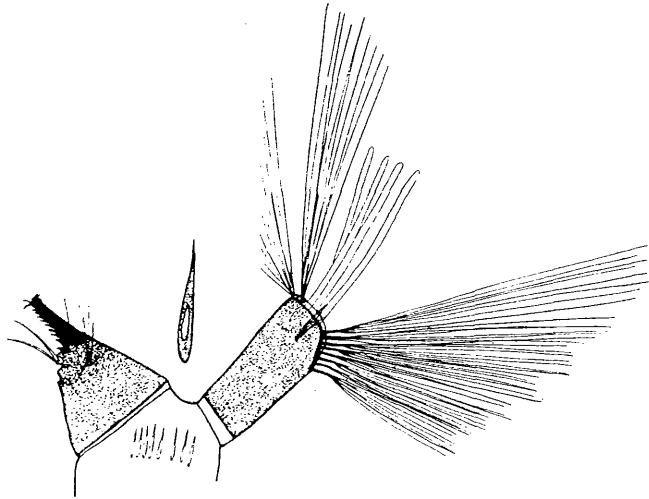


Fig. 9b.—*Taeniorhynchus (Coquillettia) crassipes* van der Wulp.  
Larva, apical segments.

Head hairs: A moderately long, well developed, nine hairy branches, B shorter than A, seven hairy branches, C a little shorter than B, six hairy branches, d though shorter again than C, still very well developed with five naked branches, e two-branched, slender.

Comb on the eighth segment with eight long slender, sharp teeth, the points of the teeth easily breaking off. Air-tube very short, cone-shaped, provided with an apparatus to pierce tissue of aquatic plants, this apparatus black, slender, a little shorter than rest of air-tube with a very distinct sharp saw. At its base, laterally, a single stiff hair, dorsally at its base two flexible spines about as long as lateral hair. About the middle of the air-tube, which is  $1\frac{1}{4}$  times as long as wide, there is a four-branched hair, a little longer than half the width of the tube at base, moved away from the ventral line. No acus. Anal segment distinctly covered with very fine delicate hairs, slightly longer than air-tube, completely ringed by chitin, this chitinous ring about  $2\frac{1}{2}$  times as long as wide. Inner submedian hair with about twelve naked branches, the longest much longer than segment, the shortest shorter than width of segment at base; outer submedian hairs with ten naked branches equal in length, nearly twice as long as anal segment. Lateral hair delicate, four- or five-branched, inserted a little distance from apical margin, half as long as width of air-tube at place of insertion; ventral brush very well developed, with eight seven-branched naked hairs. No ventral hairs piercing the chitinous ring as in *Mansonioides*. Anal gills four, longer than segment, slender with blunt apex.\*

\* Since this paper was written, I have received a mounted preparation of the larva of this species from Mr. R. J. A. Lever, Suva, Fiji.