

Mosquito Eggs XXIII

Eggs of Toxorhynchites amboinensis Containing Two-Headed Monsters

P. F. Mattingly
Department of Entomology
British Museum (Natural History)
Cromwell Road, London, S. W. 7
England

Some eggs of Toxorhynchites amboinensis (Doleschall) were kindly sent me for description by Dr. Steffan from Oahu, Hawaii. They are the first Old World Toxorhynchites eggs that I have had the opportunity to examine. Judging from published descriptions¹³⁰ they seem unlikely to be distinguishable from those of T. splendens (Wiedemann).

The egg (Fig. 1a) is broadly elliptical, very slightly broader at one end than the other. The outer chorion is extremely delicate, colourless, transparent and ornamented with a very minute reticulum densely covered with delicate, spiculate papillae (cp. Coquillettidia²⁵⁰). These papillae vary greatly in size and are easily detached by rubbing. There is a small micropylar plate at one pole, not mentioned in descriptions of other eggs of this genus but very difficult to detect unless seen in plane view.

One of the eight eggs is too badly damaged for an adequate idea of the contents to be formed. The other seven all contain abnormal embryos, each of which consists of two heads joined in the transverse plane (Fig. 1b). No trace of thorax or abdomen is apparent. The most conspicuous feature are the two pairs of mouthbrushes which are well formed in all cases, though less strongly sclerotized in some than in others. Some have a single pair of eyes. In others these are not visible. The maxillae are well defined in most cases and in one embryo there is a single structure half way between the two pairs of maxillae having the appearance of a detached and disoriented maxillary palp. Apart from this the only visible structures are a few small setae.

The fact that both the mouthbrushes and the maxillae point backwards is curious. I suspect that in normal development the larvae may be curled up in the egg, but I have had no opportunity to confirm this by observation. Such a posture is unknown elsewhere in mosquitoes but it is consistent with the shortening of the egg and the occurrence of equatorial, rather than apical, dehiscence in this genus¹³⁰.

The only comparable monsters described from mosquito eggs are, as far as I know, those found by Price⁸⁶ in a colony of Wyeomyia smithii. Although differing strikingly in consisting solely of two fused abdomens, these agree in that the abdomens are joined along the transverse axis (Fig. 1c). Capp de Baillon³²³ has nothing similar in

other groups. His class of "embryons symétriques à extrémités cephaliques opposées" includes only monsters with the thorax present and the heads lying on either side of the longitudinal axis either in the vertical or the horizontal plane.

The eggs described here clearly came from a laboratory colony since they are labelled "4th gen.". I presume them to be the unhatched residuum from a larger sample but have no means of estimating the size of this sample and thus the frequency of the monsters. Price found 15 monsters in 1570 eggs.

Toxorhynchites amboinensis was introduced into Hawaii, under the name T. splendens, with a view to the biological control of Aedes albopictus and was subsequently reidentified³²⁴. It is not known to what extent previous descriptions of the egg of "T. splendens" may have referred to the present species.

REFERENCES

323. Cappe de Baillon, P. 1927. Recherches sur la tératologie des insectes. Encycl. ent. 8:1-291.
324. Steffan, W. A. 1968. Hawaiian Toxorhynchites (Diptera: Culicidae). Proc. Hawaii. ent. Soc. 20:141-155.

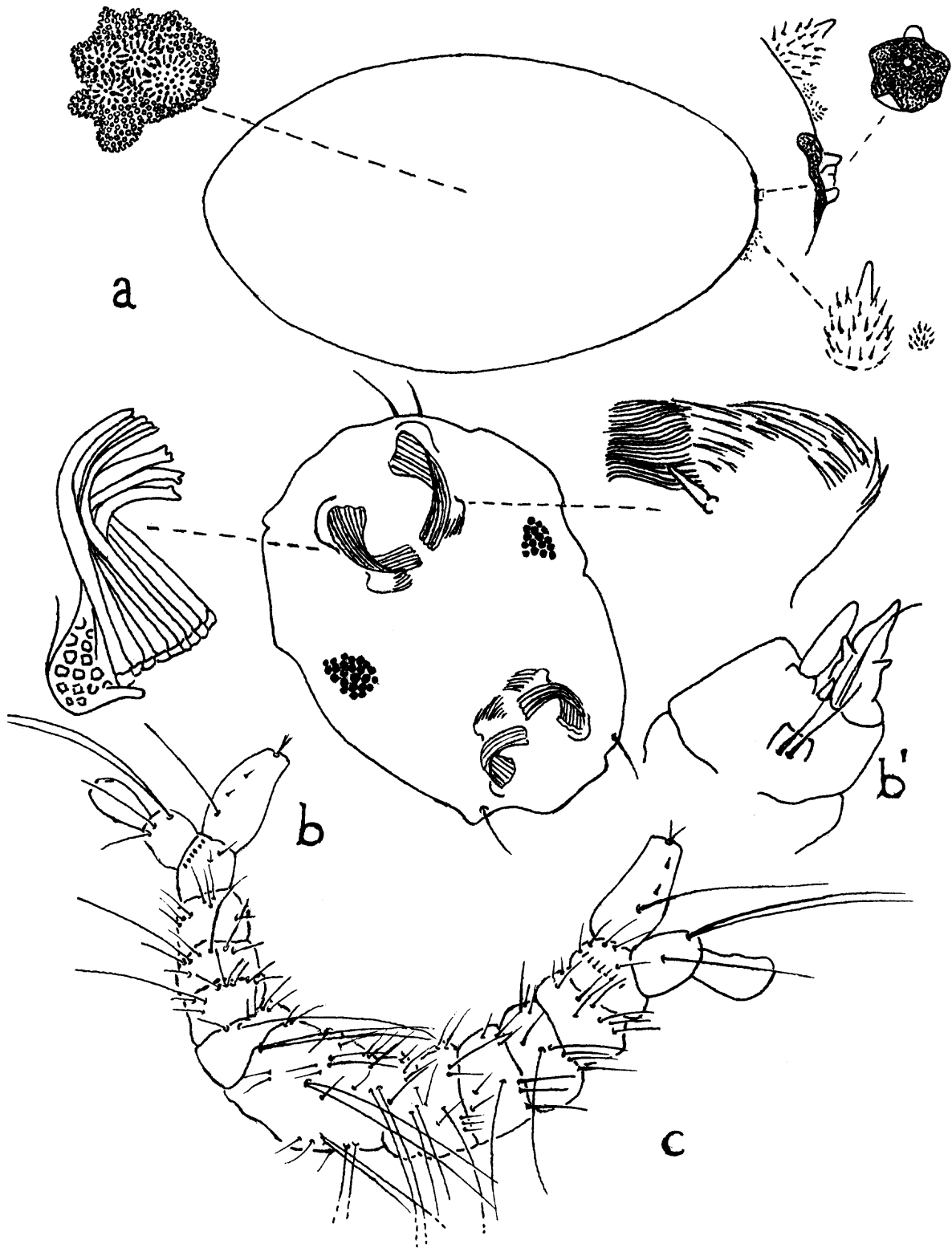


Fig. 1. a, b. *Toxorhynchites amboinensis* a. Egg with details of chorionic ornamentation, b. Two-headed embryo in plane view, b'. Maxillary palp, C. *Wyeomyia smithii*. Monster embryo, after Price.