

Mosquito Eggs XXIX  
Genus *Hodgesia* Theobald

P. F. Mattingly  
Department of Entomology  
British Museum (Natural History)  
Cromwell Road, London SW7 5BD  
England

and

A. W. R. McCrae  
19 Davenant Road  
Oxford OX2 8BT  
England

The eggs on which the following description is based were briefly described by McCrae and Sempala<sup>365</sup>. They are here described more fully and illustrated for the first time. They were laid in the laboratory on several different occasions by wild caught females from Zika, near Entebbe, Uganda. Females of the African species of this genus cannot be identified with confidence and as all four African species are known to occur at Zika the present eggs are described as those of one or more unidentified species. By far the commonest males found at Zika are those of *H. sanguinae* Theo. and *H. nigeriae* Edw.

*Hodgesia* sp. indet.

The following description is based on eggs laid during July to September 1969. The number of ovarioles counted in both ovaries of 36 females was 20-61, averaging 42. The interval between bloodfeeding and full ovarian development at a mean temperature of 23-24°C. was 4-7 days though oviposition was delayed for up to a further week on the free water surfaces provided in the individual 1 inch diameter oviposition vials. Few if any eggs were laid when only damp surfaces of pulped paper were provided and none were laid on the walls of the vials or the vertical grass stems provided for the adults to rest on. Hatching took place 1-2 days after oviposition.

Isolated, single eggs were found floating horizontally on the surface of the water. Others were found hanging vertically from the surface in groups of 3, 4 or 5 as shown in Fig. 1. Both types of orientation were observed in eggs from the same female. The eggs are sausage shaped, black in colour and some 0.5 mm. long by 0.1 mm. broad. One surface is flattened, slightly concave and hydrofuge. It is presumed to be the ventral surface since it is uppermost when the egg floats horizontally. On drying it rapidly becomes more concave, the whole egg becoming U-shaped in consequence. After hatching the shell is more or less straight.

The presumed dorsal surface is drawn out at the posterior end (proximal in the ovarian follicle prior to oviposition) into a short, blunt lobe projecting at about 20° from the longitudinal axis. The membranous outer chorion is somewhat thickened on the posterior one-fifth where it forms a rather loosely

attached cap. This terminates in a cylindrical portion embracing the posterior lobe with 12 pairs of radially arranged ridges at its apex (Fig. 1). The stout inner chorionic lobe presumably confers mechanical support on the overlying outer chorionic structures. These seem clearly to be functional but whether in relation to flotation, respiration, secretion or some other function or functions, alone or in combination, is not known. Anterior to the lobe, on the ventral surface, is a short frill enclosing a narrow piece of almost occluded deck (Fig. 1). The inner chorion shows irregular reticulation by reflected light.

On the posterior one-fifth, i.e. that portion forming the posterior cap, the outer chorion is ornamented with minute papillae densely and uniformly distributed, circular when seen in plane view but giving the impression of small rods or striations when seen from the side. On the anterior four-fifths it is much thinner, transparent and very closely attached. The papillae are larger, less regular in size and more scattered. They are only slightly raised and are accordingly difficult to see either in plane or in lateral view.

Dehiscence is apical. The detached anterior cap is marked by a small, clear, circular area presumably surrounding the micropyle. There is no sign of a corolla and none was seen in the fresh eggs. In one batch of eggs the chorionic papillae on the anterior cap appear much smaller than in the others (Fig. 1a). This may have some taxonomic significance but needs confirmation from fresh, unrubbed eggs. The whole egg in Fig. 1 was drawn from fresh material but the condition of the preserved material is poor. These remarkable eggs are of interest as suggesting a possible evolutionary grade intermediate between the horizontally floating eggs of *Anopheles*<sup>183</sup> and, among the culicines, *Mimomyia*<sup>184</sup> and the vertically oriented eggs of raft forming genera such as *Coquillettia*<sup>250</sup> and *Culiseta*<sup>361</sup> and some subgenera of *Culex*<sup>366, 367</sup>. Comparable, though more elaborate, eggs with posterior chorionic cap are those of *Trichoprosopon digitatum*<sup>368</sup>. These, however, float only vertically and have complicated means of securing adherence of the eggs when they float together. Both horizontally and vertically oriented eggs are found in *Uranotaenia*<sup>155</sup> and it is interesting that in this genus the rafts are said to float lower in the water than those of *Culex* and the other raft forming genera, again perhaps suggesting a relatively primitive condition. The eggs of *U. bimaculiala* resemble those of the present genus somewhat in shape and in the possession of a posterior chorionic cap but lack the very interesting rudimentary frill. The latter recalls the frill of *Mimomyia* but in a greatly reduced condition as in some anophelines, especially the *An. hispaniola* group<sup>183</sup>. Without such reduction the vertical orientation would probably not be possible.

#### References

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367. Mattingly, P. G. 1976. Mosquito eggs XXVIII. *Culex* subgenera *Melanoconion* and *Mochlostyrax*. *Mosquito Systematics*, 8: 223-231.

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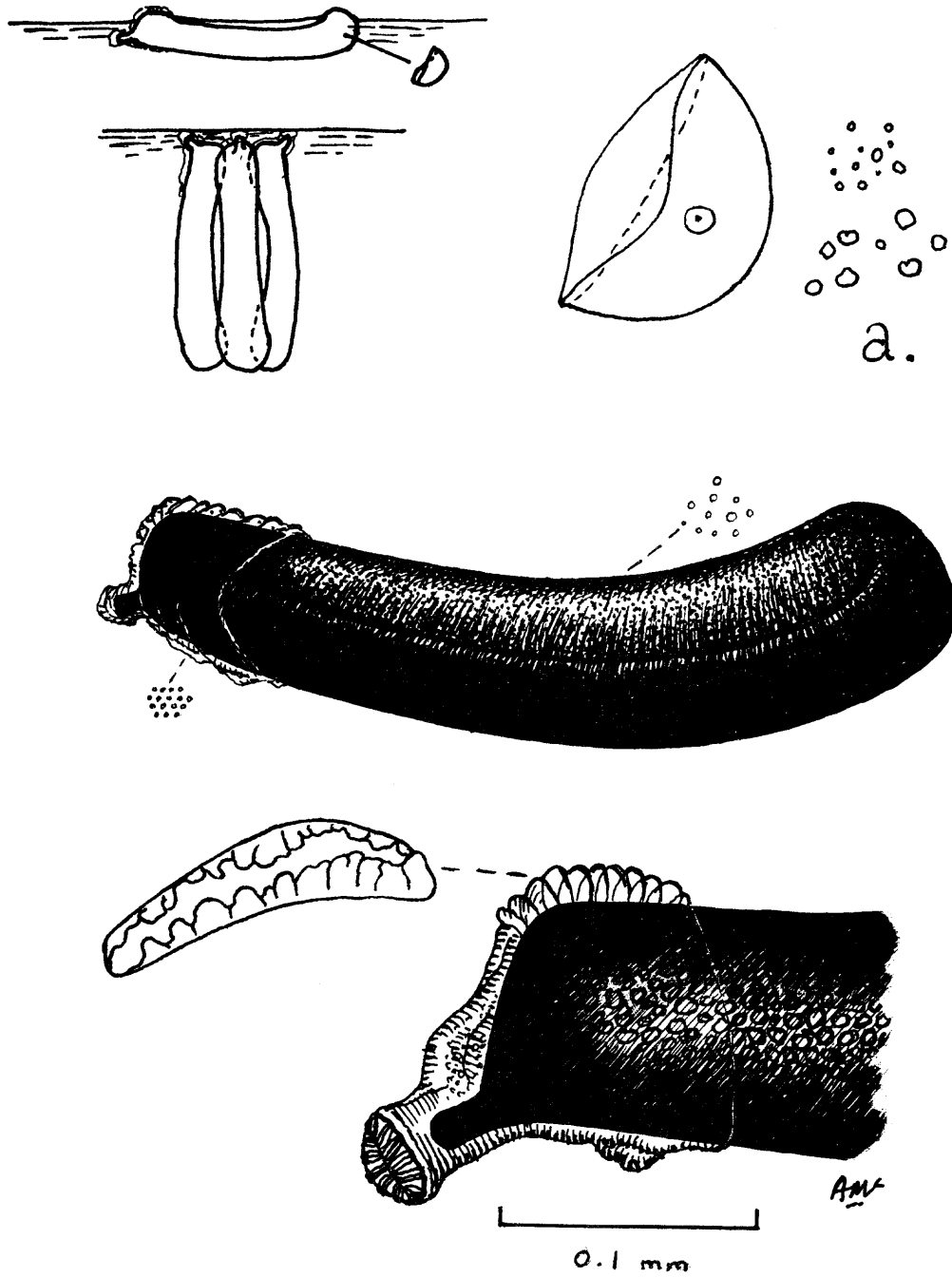


Fig. 1 Egg of *Hodgesia* sp. a. Detached apical cap with chorionic papillae (much enlarged) from two different egg batches showing variation in size.