

OCCURRENCE OF TWO ADDITIONAL SETAE ON THE PUPAL CEPHALOTHORAX OF *Aedes (Stegomyia) krombeini* HUANG (DIPTERA: CULICIDAE)

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ABSTRACT. Two anomalous setae on the pupal metathorax of *Aedes (Stegomyia) krombeini* are described and illustrated.

The occurrence of an anomalous seta on the pupal metathorax has been reported in various species of mosquitoes. Belkin (1962) described an unnumbered seta laterad of seta 12-CT on the metathorax in *Aedes (Stegomyia) rotumae* Belkin. Similar setae, varying in position from laterad to caudad of seta 12-CT, have been described in species of *Orthopodomyia*, *Anopheles*, *Toxorhynchites*, *Uranotaenia*, *Bironella* and *Aedes (Stegomyia)* by Zavortink (1968, 1973), Berlin (1969), Peyton (1973, 1977), Marks (1976) and Huang and Hitchcock (1980) respectively. Reinert (1980), while reporting the same seta in *Aedes (Paraedes) aurotaeniatus* Edwards, reviewed these findings and named the seta 13-CT.

While examining pupal exuviae from wild-caught specimens of *Aedes (Stegomyia) krombeini* Huang from two

localities in southern India, and additional specimens from a colony of this species established in the laboratory, two distinct anomalous setae were observed and are illustrated (Fig. 1). These are provisionally designated as 13-CT and 14-CT as their actual homology is not known. The former is probably homologous with 13-CT and the latter is a new addition to the mosquito chaetotaxy. Both are clearly anomalous setae, since their alveoli are very much weaker than those of regular setae. Seta 13-CT is located laterad of 12-CT, on the dorso-apical area of the metathorax. It is long, slender, simple, single (rarely bifid), 0.22-0.70 (mean = 0.51) length of 12-CT. Seta 14-CT is located caudad of seta 12-CT, usually bifid (rarely single or trifid), 0.39-0.69 (mean = 0.46) length of 12-CT and stronger than 13-CT. The position of 13-CT of *Ae. krombeini* corresponds with

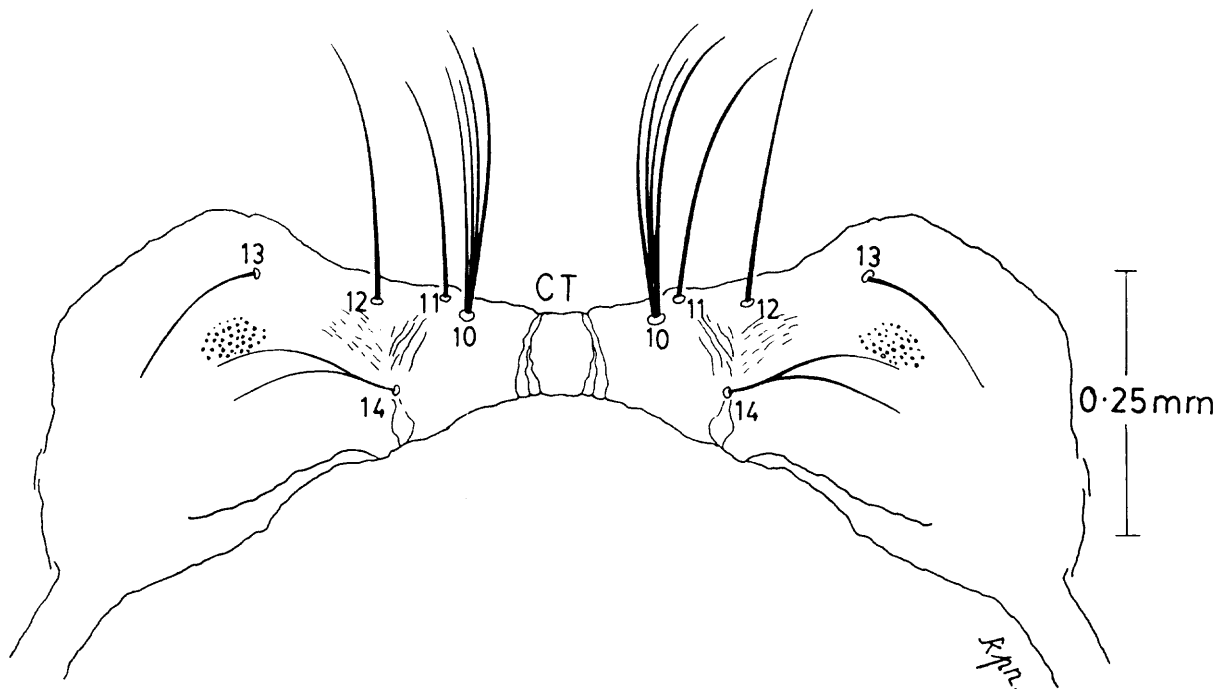


Fig. 1. *Aedes (Stg.) krombeini*. Pupal cephalothorax.

Table 1. Variation observed in the presence of anomalous setae of *Ae. (Stg.) krombeini*.

Seta	No. specimens examined - 122		
	On one side	Both sides	Absent
13-CT	31	49	42
14-CT	21	93	8
13-CT + 14-CT	26	44	5

Belkin's unnumbered seta of *Aedes (Stegomyia) rotumae* Belkin (Belkin 1962), except that the distance between the bases of 12-CT and 13-CT is somewhat greater than that in Belkin's illustration. The position of 14-CT corresponds with unnumbered setae in *Orthopodomyia flavithorax* Barraud (Zavortink 1968) and in *Aedes (Stegomyia) futuanae* Belkin (Huang and Hitchcock 1980). Harbach and Knight (1980) stated that usually three, sometimes four pairs of setae (10,11,12,13-CT) occur on the metathorax. Therefore, with this report 14-CT will be the fifth pair. A total number of 122 pupal exuviae of *Ae. (Stg.) krombeini* has been examined and in 44 of the specimens 13-CT and 14-CT are both present on both sides, in 26 both are present on one side of the same specimen, and in a small number (5) the anomalous setae were absent altogether (Table 1). Pupal exuviae of two males and two females mounted on four slides are deposited in National Museum of Natural History, Smithsonian Institution, U.S.A.

Harrison and Peyton (1984) described and illustrated variations in the structure of 13-CT in *Anopheles (Anopheles) lesteri*, *Anopheles (Anopheles) pollicaris* and *Anopheles (Cellia) culicifacies*. Belkin (1952) noted that anomalous setae were common among *Anopheles* and wrote that "Anomalies, particularly those produced through developmental arrest or excess, furnish some of the most convincing evidence for the homology of structures and are widely used in the field of comparative anatomy". On the other hand Huang (pers. comm.) feels that anomalous setae have no homology at all with regular setae, and should not be included in pupal chaetotoxy. However, since this is the first time two distinct anomalous setae have been observed on the pupal metathorax, we wish to place them on record.

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