

Identity of the So-called Seta 13-S of *Uranotaenia*
Larvae (Diptera: Culicidae)^{1,2}

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The conventional seta 13-S of most *Uranotaenia* larvae of the subgenus *Uranotaenia* is a well developed, basally twisted cuticular projection of the posterolateral spiracular lobe (Fig.1). Peyton (1972,28) referred to this structure as a "chitinous filament," probably because a basal alveolus is not visible in the light microscope. The possible non-setal nature of the structure was brought to my attention while studies were being conducted on the structure of the culicid spiracular apparatus (Harbach and Knight 1978). Subsequent examination of the spiracular apparatus of *Ur. barnesi* Belkin in the scanning electron microscope revealed that the twisted process arises from a weakly developed alveolus (Fig.2) and is therefore a true seta. More important however, as a result of this inquiry a small, perhaps vestigial seta was discovered on either side of the twisted seta (Fig.2). Further investigation showed that these small setae occur in the same positions relative to the twisted seta in four other species of the subgenus *Uranotaenia* (*alboabdominalis* Theobald, *argyrotarsis* Leicester, *civinskii* Belkin and *geometrica* Theobald). The small setae were also found in the same locations in two species of the subgenus *Pseudoficalbia* (*anhydor* Dyar and *quadrifaculata* Edwards) in which the twisted seta is absent (Figs.3,4). From these observations it appears that the so-called seta 13-S of larvae of the subgenus *Uranotaenia* is probably homologous with seta 12-S of other mosquito larvae, and that the small setae borne on either side of this seta are setae 11- and 13-S (Figs.2,4).

Belkin (1953) described the chaetotaxy of *barnesi*, *civinskii* and *quadrifaculata*. He reported the presence of seta 13-S in all three species, the presence of 12-S in *barnesi* and the presence of 10-, 11- and 12-S in *quadrifaculata*. His seta 13-S is the twisted seta 12-S. His seta 12-S in *barnesi* is probably seta 11-S. In *quadrifaculata*, the occurrence of 10-S was not confirmed (Fig.3), his 11-S is apparently the true 11-S and his 12-S is probably one of the flaplike projections located on the margin of the posterolateral spiracular lobe between setae 11- and 13-S (Fig.4). Seta 13-S described in *anhydor* as "minute" and "peglike" (Belkin and McDonald 1956,117) may be either seta 11-S, seta 13-S or one of several flaplike projections.

¹The subject of this communication was included in the introduction of a paper presented at the Symposium on Mosquito Systematics at the 1979 annual meeting of the American Mosquito Control Association in Washington, D.C. The main theme of the paper entitled "Phylogenetic significance of the labiohypopharynx of larval Culicidae, a scanning electron microscope study" was published prior to the symposium

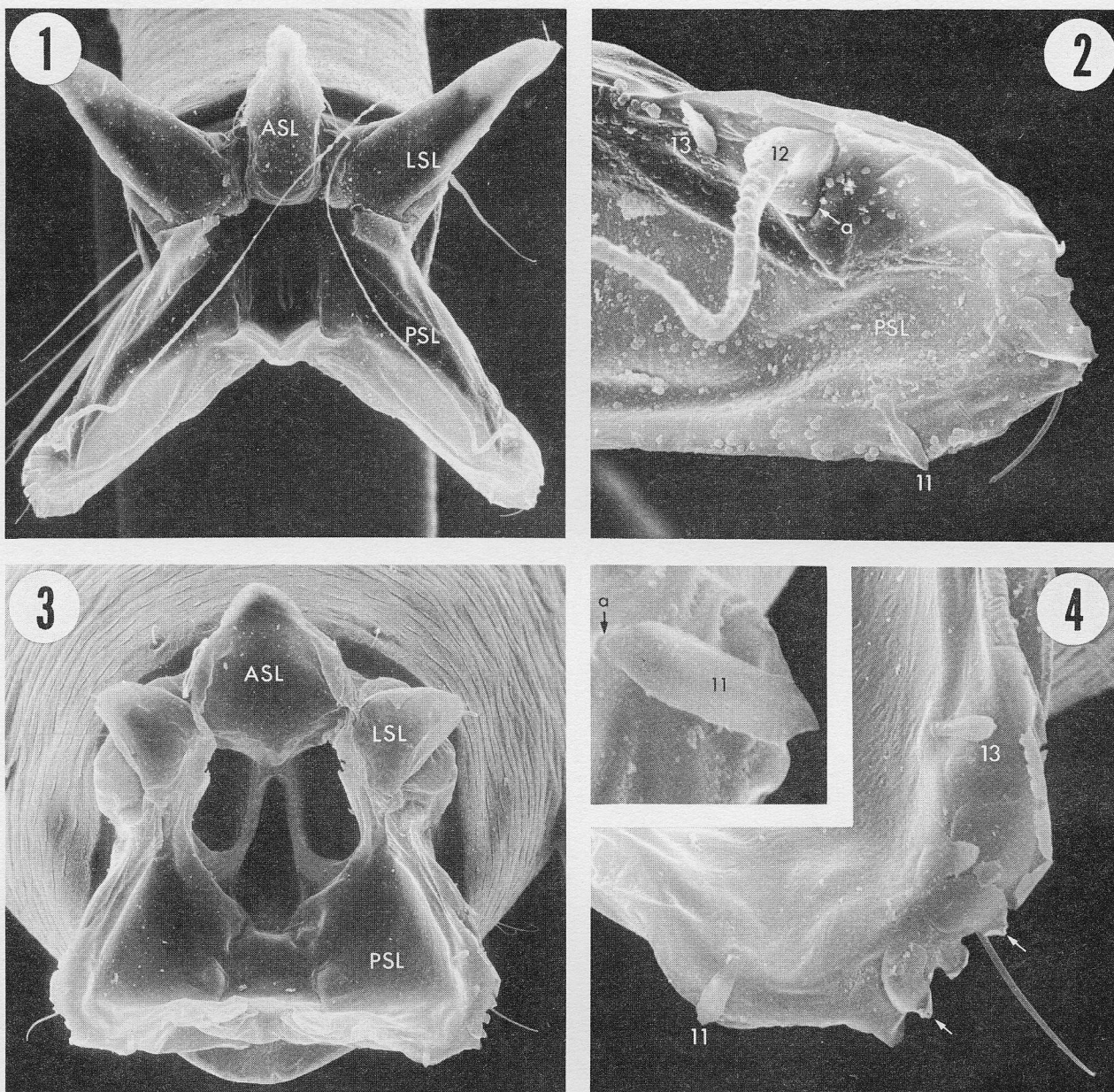
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Figs. 1, 2. *Uranotaenia (Uranotaenia) barnesi* Belkin.

1. Dorsal aspect of spiracular apparatus of fourth stage larva with twisted seta on posterolateral spiracular lobes.
2. Right posterolateral spiracular lobe showing twisted seta 12-S flanked by setae 11- and 13-S.

Figs. 3, 4. *Uranotaenia (Pseudoficalbia) quadrimaculata* Edwards.

3. Dorsal aspect of spiracular apparatus of fourth stage larva. Note absence of twisted seta on posterolateral spiracular lobes.
4. Right posterolateral spiracular lobe showing setae 11- and 13-S. Note flaplike projections on margin (arrows) which probably represent vestiges of fringe found in *Chagasia* and dixid larvae (Harbach 1978, 328). Insert - seta 11-S, note alveolus.

Abbreviations: a, alveolus; ASL, anterior spiracular lobe; LSL, anterolateral spiracular lobe; PSL, posterolateral spiracular lobe; 11-13, setae 11-, 12- and 13-S.