

First larval instars of Strepsiptera

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Strepsiptera is an order of obligatory parasitic insects. They are parasites of seven insect orders (Thysanura, Blattodea, Mantodea, Orthoptera, Hemiptera, Diptera, Hymenoptera) (KATHIRITHAMBY 1989). In the light of the latest studies, Strepsiptera appears to be closely related to Coleoptera (WIEGMANN et al. 2009, FRIEDRICH & BEUTEL 2010, LONGHORN et al. 2010, BEUTEL et al. 2011).

During the evolutionary progress, first instar larvae of Strepsiptera, often called ‘triungulinids’, got through the extreme degree of miniaturisation (POHL & BEUTEL 2008). In spite of this, it has preserved many morphological features.

Complicated microtrichia distribution, simple and stable chaetotaxy as well as the other morphological features can provide us a suitable tool to distinguish particular species, but we can also proceed a phylogenetic study of the Strepsiptera based on morphological data of the first instar larvae (POHL 2002). Considering to very simplified morphological characters of females and frequently unknown males, the morphology of first instars could be very helpful in strepsipteran phylogeny.

Using morphological data of Strepsiptera triungulins we have recognized a new genus and put it to tribal relationship within the Strepsiptera family Stylopidae. We also revealed four new species of Strepsiptera with unique autapomorphies within the tribe Crawfordiini. This tribe is unique in bifid femoral spurs as well as bifid setae in some species. Their caudal filaments are very long and in one species are almost twice longer than body. Reversal state in chaetotaxy is found in one undescribed species within this tribe. This unusual species is very similar to basal Strepsiptera first instars in distribution of body setae.

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