

FUNCTION OF THE EPIPHARYNX AND HYPOPHARYNX IN THE DIPTERA

ABSTRACT

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The epipharynx and hypopharynx of one or more species of fifty-three families of the Diptera have been studied. In all these forms the epipharynx is closely associated with the labrum and these two parts comprise the labrum-epipharynx while the hypopharynx is a separate piece in itself but it is associated with the labium in that its proximal portions join with the labium.

The structure of the labrum-epipharynx and the hypopharynx is closely related with the function of the mouth-parts as a whole. Generally speaking in Diptera with sucking mouth-parts the labrum-epipharynx and the hypopharynx are long and needle-like as in the Culicidae, Tabanidae and Asilidae, while in those having a licking type of proboscis as in Muscidae, Sarcophagidae and the Drosophilidae the labrum-epipharynx and the hypopharynx are short and blunt and only form a small part of the proboscis. Many striking modifications occur in the structure of the labrum-epipharynx and the hypopharynx, but in all the forms studied both parts are always present. Possibly the greatest reduction of the hypopharynx is found in the Borboridae. In *Borborus equinus* it is completely joined with the labium.

This is an abstract of a more extensive discussion on the epipharynx and hypopharynx of the Diptera, which may be found in a paper entitled, "The Head-capsule and the Mouth-parts of Diptera." This paper is to be published in "Illinois Biological Monograph."