

LECTURE 4. Insect mouth part and types of mouth parts

MOUHPARTS

Just as insects take on many different forms, they also possess a variety of different

mouth types, each of which can be grouped under one of two main categories: chewing

(mandibulate) and sucking (haustellate).

Mandibulate mouthparts, like the ones illustrated below, are believed to be the most

primitive. All others, including those categorized as haustellate, are presumed to have

evolved as modifications of this basic type.

The five primary parts of the insect "mouth" are:

- 1) The clypeus
- 2) The "upper lip", or labrum
- 3) Two "jaw-like structures", or mandibles
- 4) The maxillae (sing. maxilla)
- 5) The "lower lip", or labium

The maxillae and labium are divided into various substructures, which include the

galea, paraglossa, glossa, and the maxillary and labial palps.

Hhaustellate mouthparts are primarily used for "sucking up" liquids, and can be broken

down into two subgroups: those that possess stylets and those that do not.

Stylets are

needle-like projections used to penetrate plant and animal tissue.

Examples of insects

with stylets include Hemiptera (true bugs), Diptera (flies), and Siphonaptera (fleas).

Some haustellate mouthparts lack stylets. Unable to pierce tissues, these insects must

rely on easily accessible food sources such as nectar at the base of a flower. One

example of nonstylete mouthparts is the long siphoning proboscis of butterflies and

moths (Order Lepidoptera). Although the method of liquid transport differs from that of the butterfly's proboscis, the rasping-sucking rostrum of some flies is also considered to be haustellate without stylets.

Sources

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