

ZOOLOGY

MOUTH PARTS OF INSECTS

Insects are dominant animals on earth. They are most powerful and most dangerous and most in everything else. Due to such a huge number, there is struggle for existence going on among insects.

The most important adaptation are highly modified and specialized mouth parts, which are adapted for different kind of food.

The appendages which are related to mouth constitute the mouth parts and serve for detection, manipulation and grinding.

Following types of mouth parts found in insects are as follows:

① BITING AND CHEWING TYPE OF MOUTH PARTS:

This is simplest type. They are meant for pinching off, chewing up and swallowing the pieces of plants and animal tissues. They have the following parts in one set of mouth parts:

- (i) Labrum or upper lip (ii) Mandible (iii) Maxilla (iv) Labium

Labrum is broad, oblong plate, movably attached to the lower edge of the Clypeus. Labrum overhangs the upper part of the mouth, covers the mandibles. Between the mandibles are found first pair of maxillae. Each maxilla is made up of basal Cardo and stipes. Endopodite consists of inner lacinia with bristle and outer hood like galea. Exopodite consists of 5-jointed maxillary palp.

Behind first maxillae are found second pair of maxillae termed as Labium. Each labium is made up of protopodite consisting of sub-mentum, mentum and inner glossa and outer paraglossa.

Exopodite has 3 jointed labial palp. Hypopharynx is a conical projection found attached to the dorsal surface of mentum. Such type of mouth parts are found in Cockroach.

② CHEWING AND LAPPING TYPE :

This type of mouth parts are found in honey bee. They are adapted for collecting pollen and nectar of flower.

Labrum is ~~situated~~ situated below the clypeus and epipharynx project below the labrum. Mandibles are found on the both sides of labrum they are spoon shaped. Lacinia is completely absent in maxilla. Maxillary palp are rudimentary, however, gland is well developed and blade like. Palpoglossa are reduced while glossa are united and form a lingular tongue which end in a labellum or honey spoon.

③ PIERCING AND SUCKING TYPE :

This types of mouth parts are found in mosquito and bug etc.

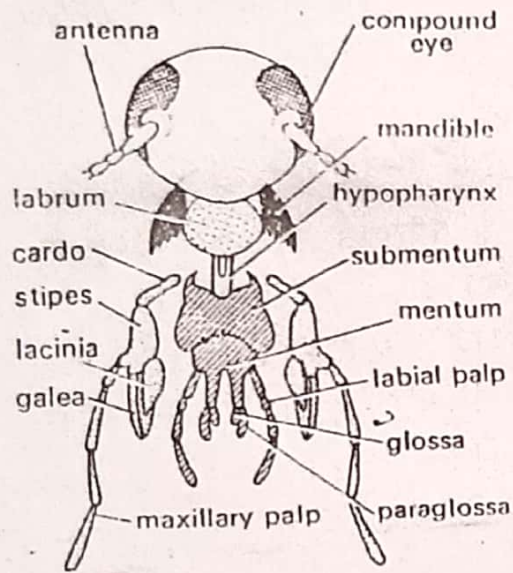
The insects having this type of mouth parts feed on sap of plant or blood of animal. Therefore, in order to get food, they puncture and pierce either the epidermis of plant or skin of animal. They make a small invisible hole through which they suck up the sap or blood.

Two very distinct operation of (a) piercing and (b) sucking are involves. The insect possessing this type of mouth parts include both dangerous animal parasite.

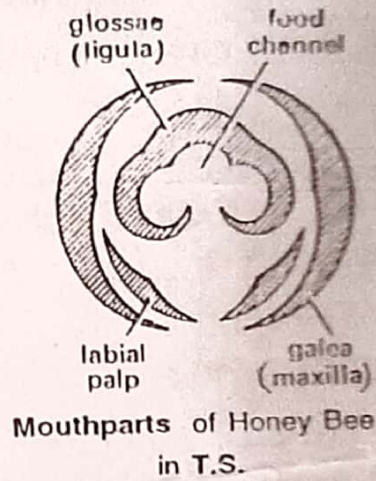
This type of mouth parts can be discussed under two sub types:

(a) Dipterous mouth parts (b) Hemipterous mouth parts

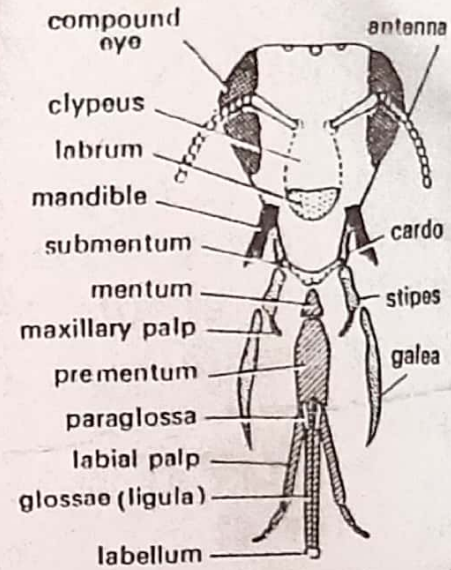
(a) Dipterous mouth parts are found in mosquito. Mandible, maxilla, hypopharynx are elongated and needle like for piercing the host. Labrum is also long and needle like. During feeding ~~labrum~~ hypopharynx and labrum-epipharynx form a close type for sucking up blood.



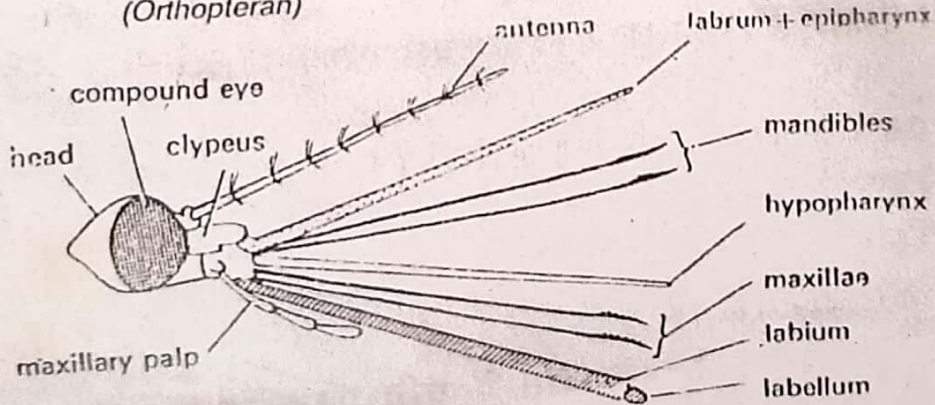
Biting and chewing
(Orthopteran)



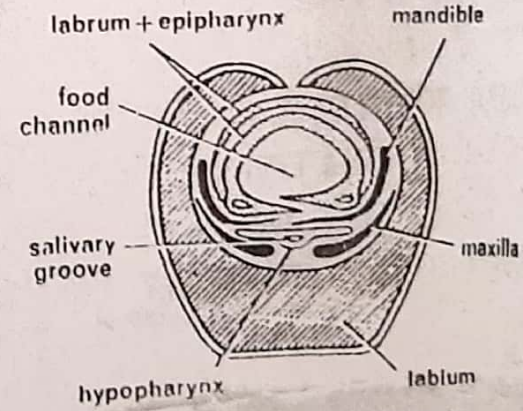
Mouthparts of Honey Bee
in T.S.



Chewing and Lapping
(Honey Bee)



Piercing and Sucking
(Mosquito)



Mouthparts of Mosquito
in T.S.

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