

147. Honey-bee : *Apis* : Mouth Parts of Worker

Comments :

- (1) Honey-bee belonging to the order **Hymenoptera**, contains **rasping** and **lapping** mouth parts, adapted for collection of **nectar** and **pollen**.
- (2) Head is triangular, containing large **compound eyes**, **3 ocelli antennae** and **mouth parts**.
- (3) Mouth parts are composed of **spoonshaped mandibles**, **labrum** and **maxillae** devoid of **lacinia**.
- (4) **Mandibles** are smooth and **spatulate type**, found on either side of the **labrum**.
- (5) It contains **vestigial maxillary palps** and **blade-like galea**.
- (6) **Labellum** is **spoon-shaped**, **grooved internally** forming a tube and is called as **tongue**.
- (7) **Epipharynx** is soft and triangular lying below the **labrum**. **Cardo** and **stipes** are well developed.
- (8) Liquid food taken along tongue is converted into honey in honey-sac by enzymes from salivary glands.
- (9) **Prementum** contains segmented **labial palps**, **paraglossae** and **glossae**.
- (10) Honey-bee also **moulds waxes** in its hive.

Identification : Since the mount contains spoon-shaped labellum, hence these are **mouth parts of worker**, honey bee.

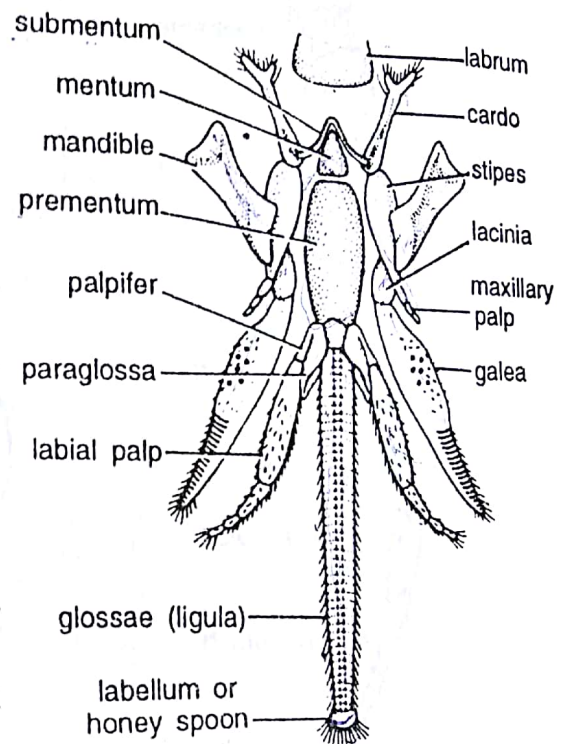


Fig. 147. Honey-bee. Mouth parts of worker.

149. Honey-bee : *Apis* : Sting Apparatus

Comments :

- (1) **Sting apparatus** of honey-bee is a modified **ovipositor**, found at the posterior extremity of abdomen in queens and workers.
- (2) It is composed of **sting** or **terebra**, **bulb**, **levering plates** and **glands**.
- (3) Sting is made up of 2 pairs of **gonapophyses** : those of the 8th segment forming **stylets** and of the 9th segment **stylet sheath**, which enclose **poison canal**.
- (4) Distally the stylet sheath and stylet contain **pointed spines** or **barbs**.
- (5) Stylet sheath is expanded into the bulb at the base of the sting.
- (6) There are 3 pairs of plates. The anterior one is triangular **fulcral plate**, the **postero-dorsal** is **quadrate plate** and the innermost is **oblong plate** bearing sting palp.
- (7) There are two glands namely **poison gland**, opening into the poison-sac and a small **alkaline gland** opening into sting bulb. The bite of the **sting** causes burning sensation, pain and swelling of the part concerned.

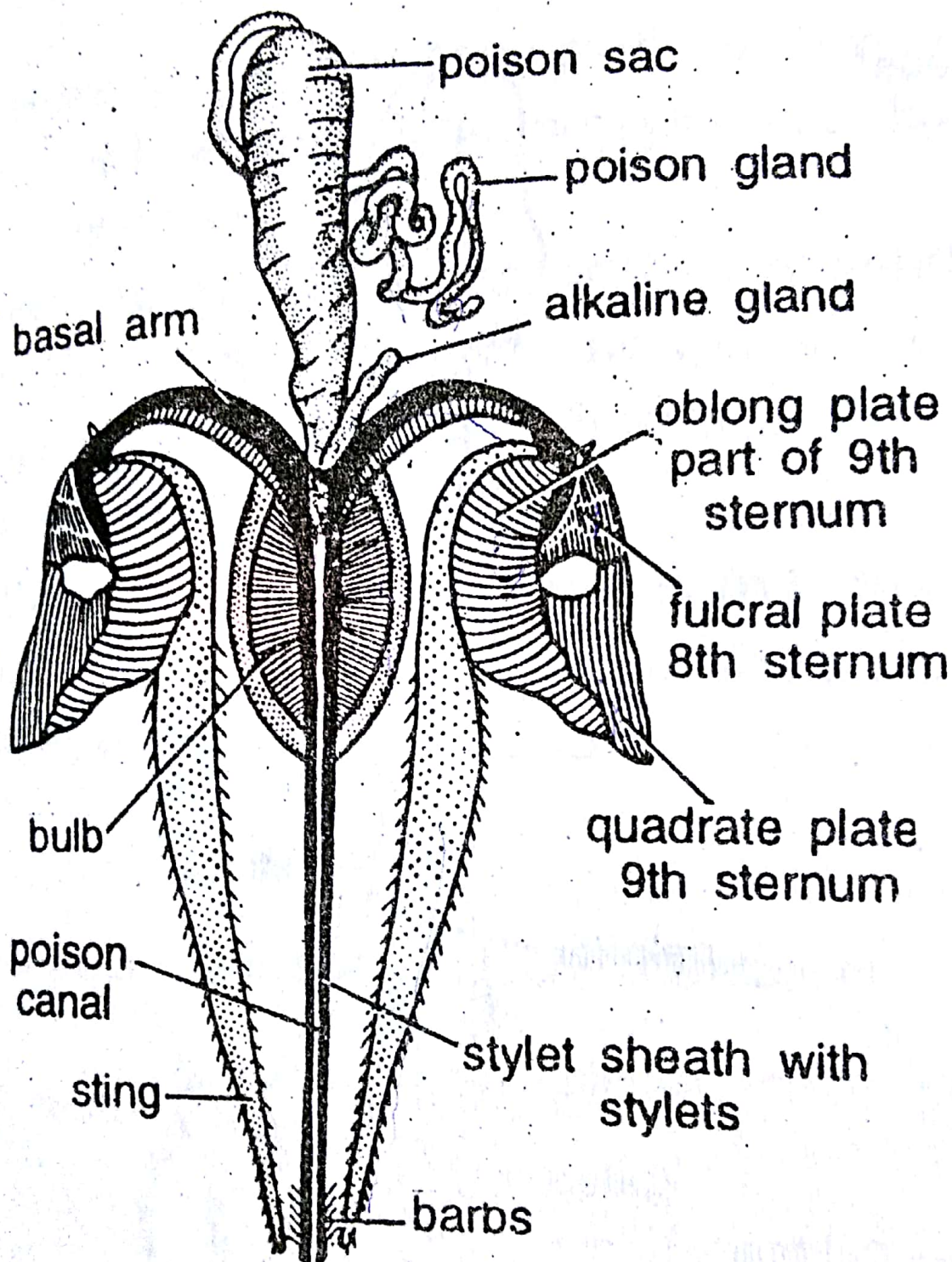


Fig. 149. Sting apparatus of honey-bee.