

## LECTURE 7.

### LEG TYPES AND FUNCTION

**Cursorial:** Used for walking/ running.

Some textbooks distinguish the two by calling walking legs ambulatory or gressorial, but the leg structure is basically the same.

**Raptorial:** Fore legs modified for grasping. These are often associated with Preying Mantids.

**Fossorial:** Fore legs and tibiae specialized for digging; common in ground-dwelling insects.

**Saltatorial:** Hind legs adapted for jumping; characterized by an elongated femur and tibia.

### PRONOTUM

Is the dorsal sclerite of the prothorax, which can be highly modified in various groups such as the Homoptera, Blattaria, and Coleoptera.

### Types of legs

Insects are six legged arthropods and hence the class is also called Hexapoda. In

insects legs perform varied functions and are modified accordingly.

1. Digging or Fossorial type: The forelegs are greatly expanded, tibia is digitate

with three segmented tarsus beneath. The legs are used for digging soil.

E.g.

Mole cricket

2. Jumping or Saltatorial type: The hindlegs are modified for leaping or jumping.

Femur is greatly enlarged, tibia is very long e.g. Grasshopper

**Natatorial:** fore or hind legs adapted for swimming; characterized by elongated setae on tarsi

3. Walking or running type: All three pairs of legs are equal in size and comparatively long. Trochanter is two segmented. E.g. Cockroach

4. Grasping or Raptorial type: The forelegs are modified for catching prey. The

coxae are elongate and moveable, the femora are spiny and grooved along

the

lower side, the tibiae are also spiny and fit into the groove along the femur. The

prey is held between the femur and tibia. Tarsus is five segmented. E.g.

Preying

mantids.

5. Swimming or Natatorial type: Usually the hind legs are modified for swimming.

Hind coxae are flat and fixed to the body. Numerous long stiff hairs are present

on the lateral aspects of the tibia and tarsus. E.g. diving beetles.

6. Pollen carrying type: The hind legs of honey bees are modified for carrying

pollen. At the junction of tibia and basitarsus, a cavity guarded by hairs is present

which is used for carrying pollen. This structure is also called carabaculum.

E.g.

Worker honeybee.

7. Antenna cleaner: the forelegs of honey bees are modified for cleaning antenna.

The first segment of tarsus has a notch, which can be closed by the flat tibial spur.

The notch has an inner lining of fine hairs. The antenna is placed in the notch,

closed by the spur and then drawn out to clean. E.g. Worker honeybees

8. clinging type: The legs are strong and adapted for maintaining a strong and firm

hold on the host. Tarsi are single segmented and terminate in a single sickle

shaped claw which works against a tibial process. E.g. Head louse and body

louse.

9. Climbing type: The terminal segment of the leg, pretarsus, bears two claws and

beneath the claws are two lobes called pulvilli. Between the pulvilli is an

elongate spine called empodium. The empodium and pulvilli help the

insect to  
climb smooth surfaces. E.g. housefly.

## **Sources**

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