

## LECTURE 6. Insect thorax:

### segmentation of thorax. Leg structure and its modifications

#### THORAX

The insect thorax is divided into three parts: the prothorax (pro=first), mesothorax (meso=middle), and metathorax (meta=last). Each segment consists of hardened plates, or sclerites. Dorsal sclerites are called nota (sing. notum), lateral sclerites are called pleura (sing. pleuron), and ventral sclerites are called sterna (sing. sternum).

Each of the three thoracic segments contains one pair of legs. Wings are found only on the meso- and metathoracic segments.

#### LEGS

The **fore-legs** are located on the prothorax, the **mid-legs** on the mesothorax, and **the hind legs** on the metathorax. Each leg has six major components, listed here from proximal to distal: **coxa** (pl. coxae), **trochanter**, **femur** (pl. femora), **tibia** (pl. tibiae), **tarsus** (pl. tarsi), **pretarsus**.

The femur and tibia may be modified with spines. The tarsus appears to be divided into one to five "pseudosegments" called **tarsomeres**.

#### Structure:

In almost all insects all the three thoracic segments *viz.*, pro-, meso- and metathorax bear a pair of segmented legs. Each leg consists of five segments *viz.*, coxa, trochanter, femur, tibia and tarsus.

**Coxa** : (Pl. coxae) It is the first or proximal leg segment. It articulates with the cup like depression on the thoracic pleuron. It is generally freely movable.

**Trochanter**: It is the second leg segment. It is usually small and single segmented.

Trochanter seems to be two segmented in dragonfly, damselfly and ichneumonid wasp.

The apparent second trochanter is in fact a part of femur, which is called trochantellus.

**Femur:** (Pl. femora) It is the largest and stoutest part of the leg and is closely attached to the trochanter.

**Tibia:** (Pl. tibiae) It is usually long and provided with downward projecting spines which aid in climbing and footing. Tibia of many insects is armed with large movable spur near the apex.

**Tarsus:** (Pl. tarsi) It is further sub-divided. The sub segment of the tarsus is called tarsomere. The number of tarsomeres vary from one to five. The basal tarsal segment is often larger than others and is named as basitarsus.

**Pretarsus:** Beyond the tarsus there are several structure collectively known as pretarsus.

Tarsus terminates in a pair of strongly curved claws with one or two pads of cushions at their base between them. A median pad between the claws is usually known as arolium and a pair of pads, at their base are called pulvilli (Pulvillus-singular). Leg pads are useful while walking on smooth surface and claws give needed grip while walking on rough surface. When one structure is used, the other is bent upwards.

## Sources

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