



FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

ENT-121: Fundamentals of Entomology

Lecture 8: Body Segmentation:

Insect body is differentiated into three distinct regions called head, thorax and abdomen. Grouping of body segments into distinct regions is known as tagmosis and the body regions are called as tagmata.

1. Head: First anterior tagma formed by the fusion of **six segments**. Head is attached or articulated to the thorax through **neck or cervix**. Head capsule is sclerotized and the head capsule excluding appendages formed by the fusion of several sclerites is known as **cranium**.

Sclerites of Head: i. Vertex: ii. Frons: iii. Clypeus: iv. Gena: v. Occiput:

Sutures of Head: The linear invaginations of the exoskeleton between two sclerites are called as suture.

1. Epicranial suture 2. Epistomal suture/Fronto clypeal suture 3. Clypeo-labral suture **4. Postoccipital suture**

Endoskeleton of insect cuticle provides space for attachment of muscles of antenna and mouthparts, called as **tentorium**.

Functions of Head

- i. Food ingestion
- ii. Sensory perception
- iii. Coordination of bodily activities
- iv. Protection of the coordinating centers

Thorax: Second and middle tagma which is three segmented, namely prothorax, mesothorax and metathorax. Meso and metathorax which bear wings are called as **Pterothorax**. Thoracic segments are made up of three sclerites namely, dorsal body plate tergum or nota, ventral body plate sternum and lateral plate **pleuron**.

Thoracic appendages are three pairs of legs and two pairs of wings. Two pairs of spiracles are also present in the mesopleuron and metapleuron.

Abdomen: Third and posterior tagma of insect body. This tagma is made up of 9-11 uromeres (segments) and is highly flexible. Abdominal segments are telescopic in nature and are interconnected by a membrane called **conjunctiva**. Abdomen bears male genital organs at 9 and female at 9 10.