

Introduction to Insects and Basic Morphology

Silvia I. Rondon

**Hermiston Agricultural Research &
Extension Center**

Crop & Soil Science

***Disclaimer: Pictures were taken from the www web for teaching purposes only**

Outline

- **Introduction**
 - **The World of Insects**
 - **Basic Morphology**
 - **Head**
 - **Thorax**
 - **Abdomen**
-

Fact

Insects are the largest group in the animal kingdom.

“One million insect species live on the planet”; living in every conceivable environment from volcanoes to glaciers

http://entnemdept.ufl.edu/walker/ufbir/chapters/index_order.shtml

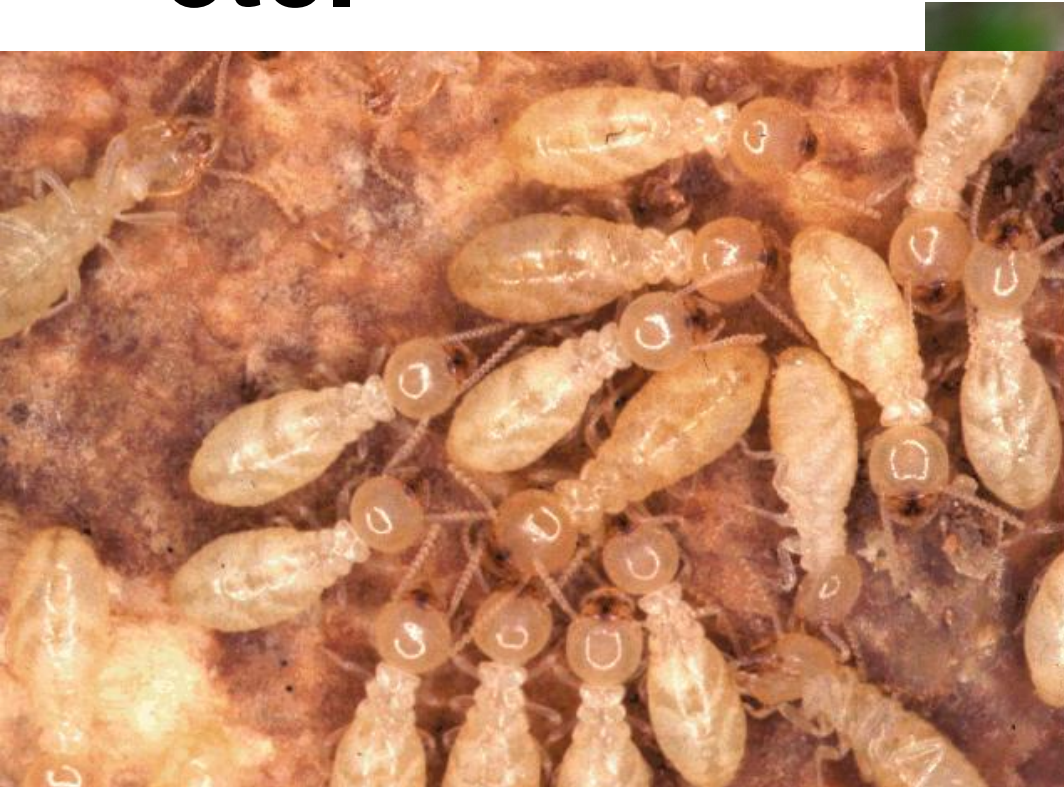
The good....

Insects help us by pollinating our food crops, decomposing organic matter, providing researchers with clues to a cancer cure

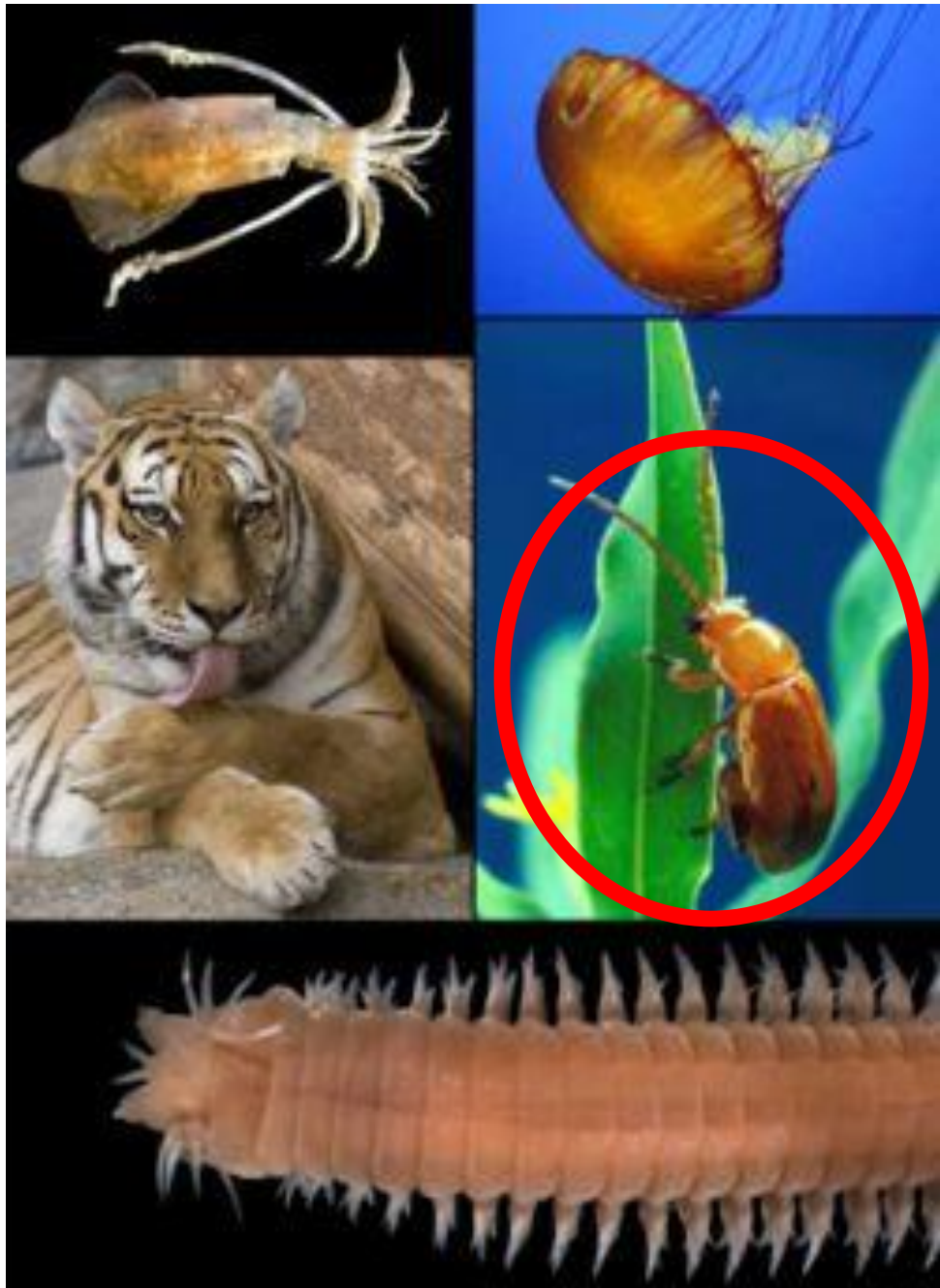
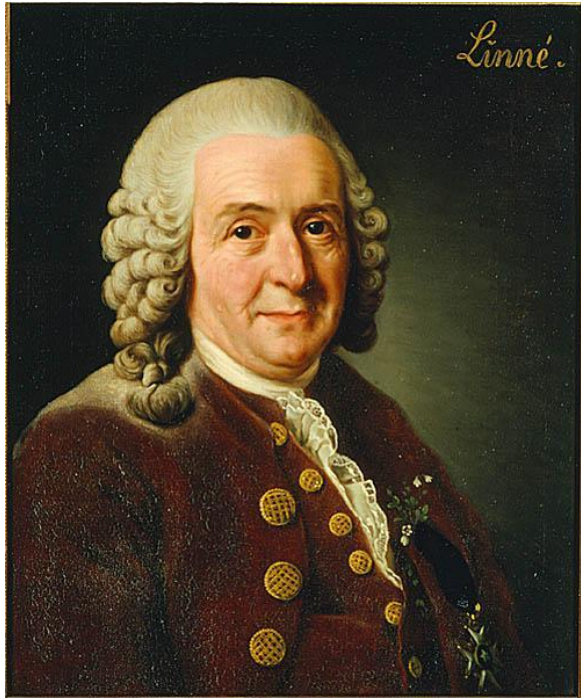
**(<http://www.sciencedaily.com/releases/2010/01/100119121208.htm>),
and even solving crimes.**

...and the bad

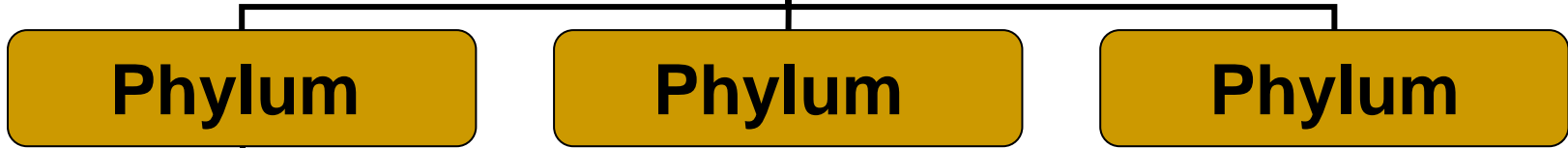
**Insects can spread diseases,
damage plants and structures,
etc.**



Animal Kingdom, Linnaeus 1758



Kingdom



Class



Order



Family



Genus



Species

Phylum arthropod

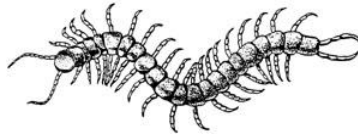
**Class insecta
(insects)**



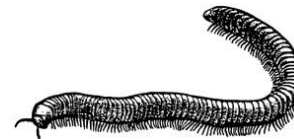
**Class crustacea
(lobster, crabs,
pill bugs)**



**Class chilopoda
(centipids)**



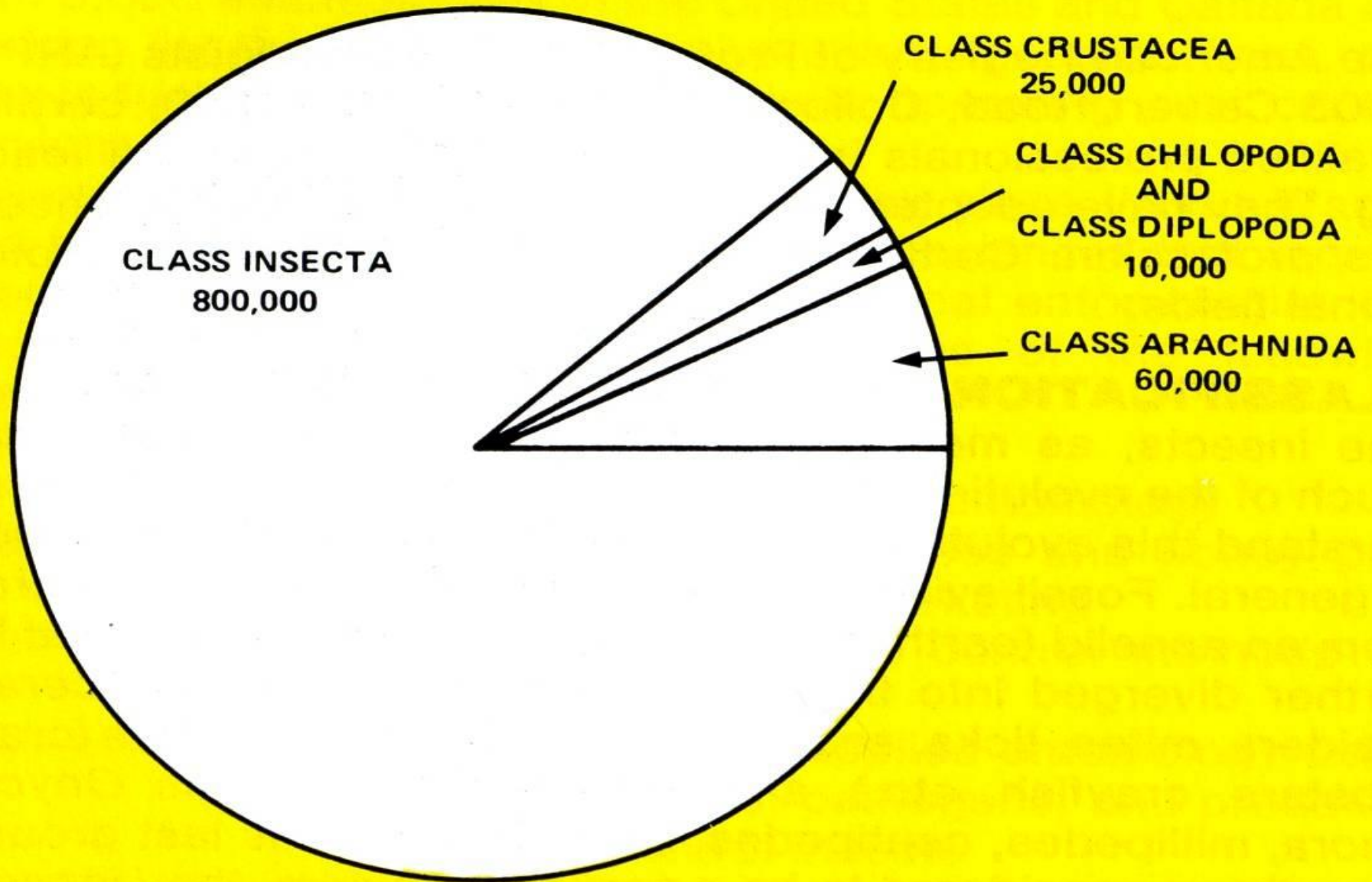
**Class diplopoda
(milipids)**



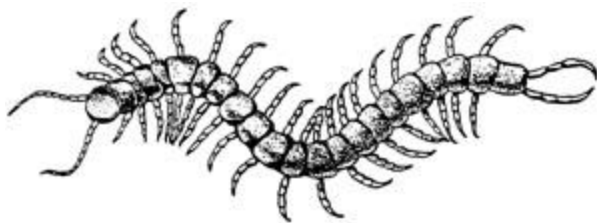
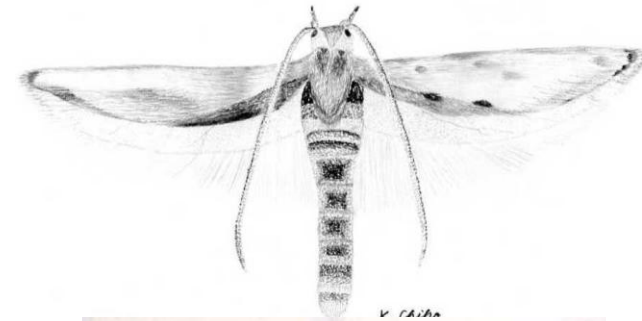
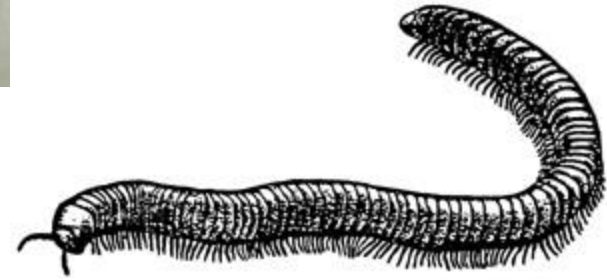
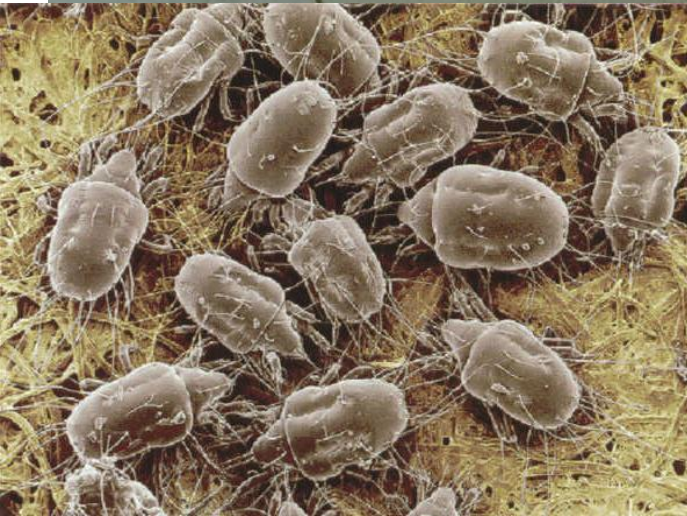
**Class arachnida
(spiders and
mites)**



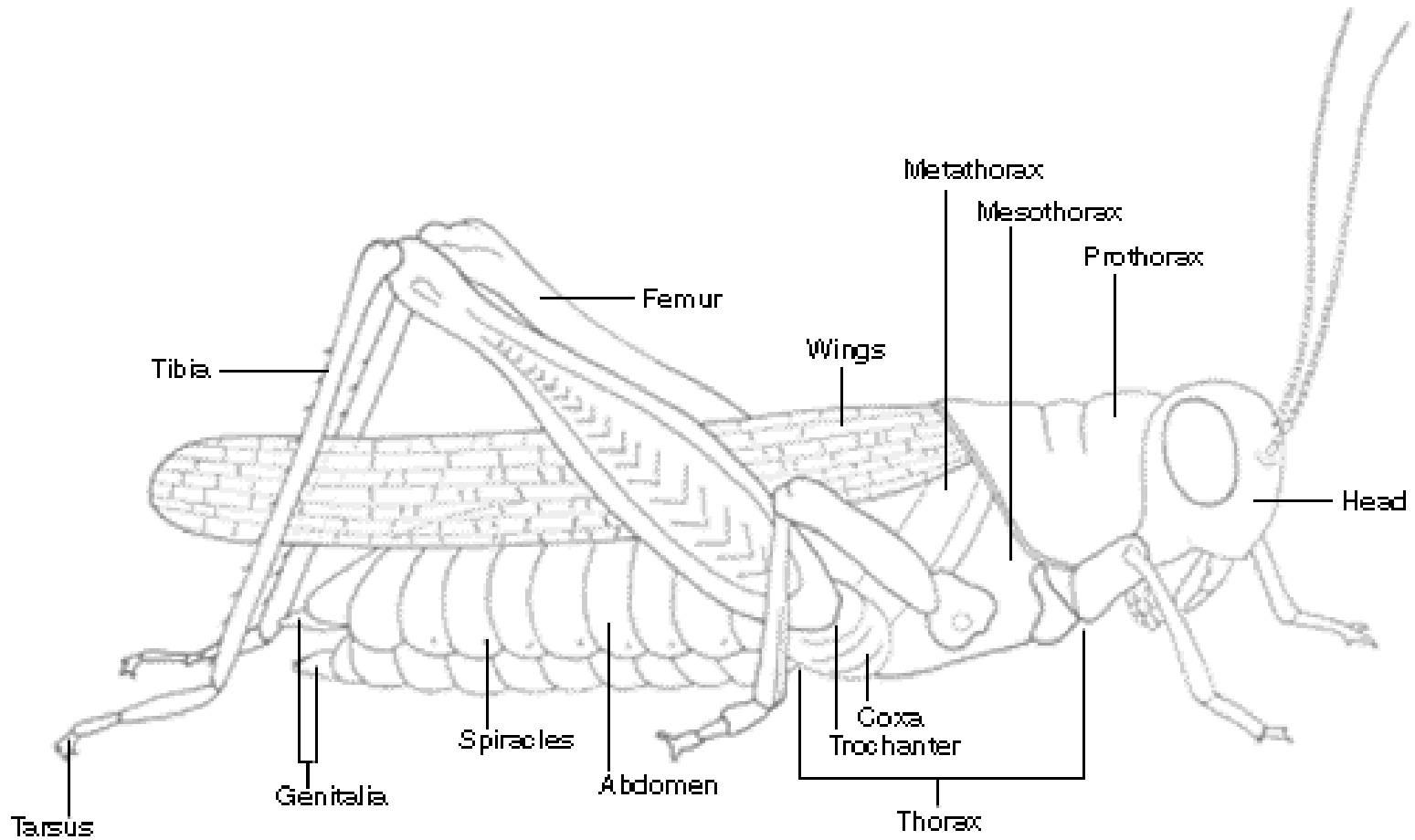
PHYLUM ARTHROPODA



Phylum arthropod



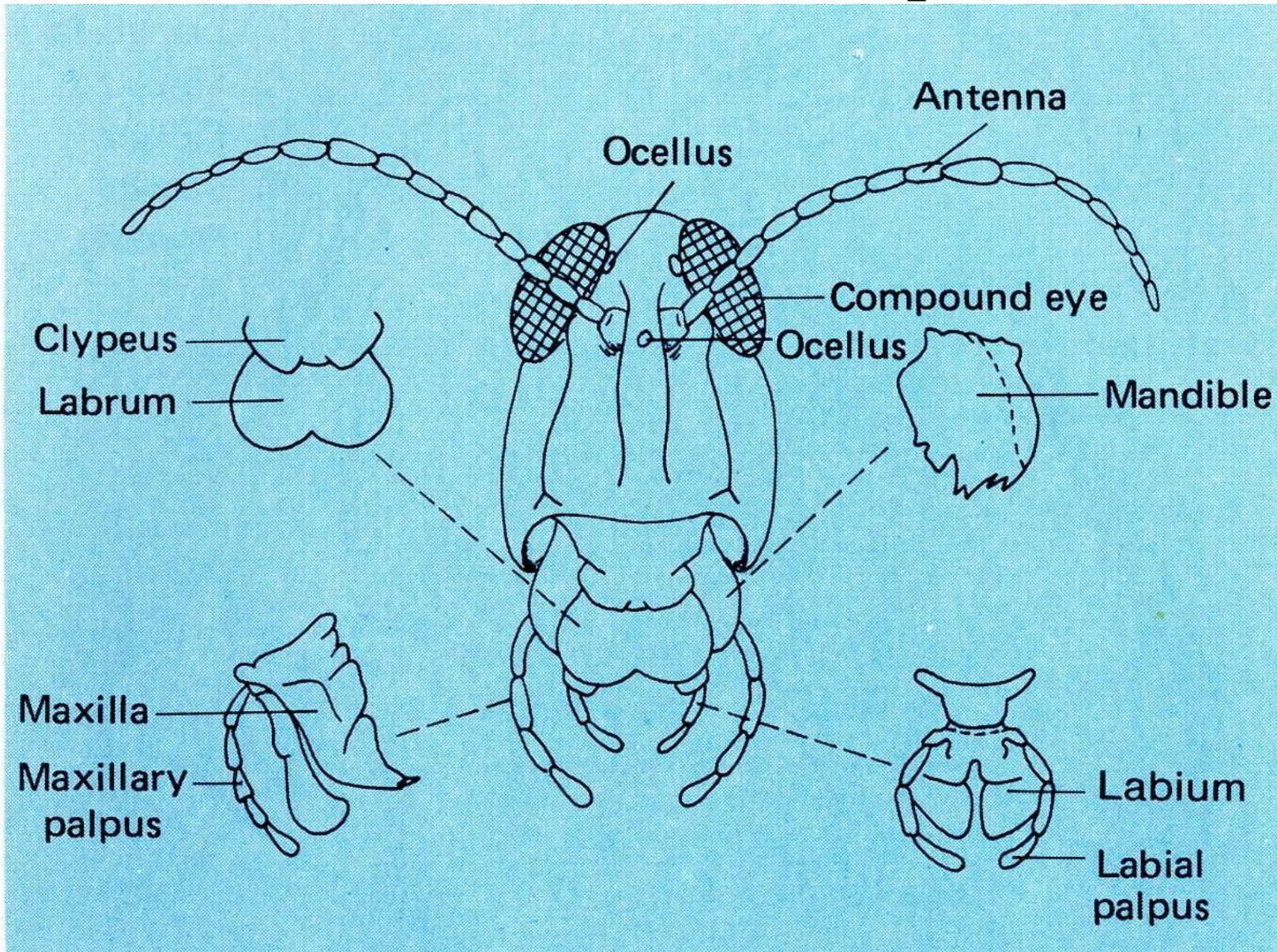
Insects



How to use the microscope



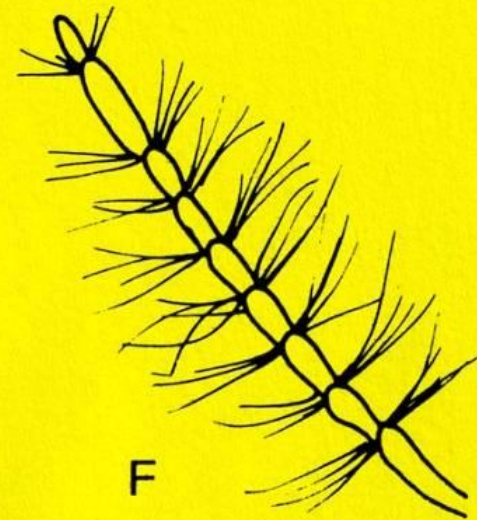
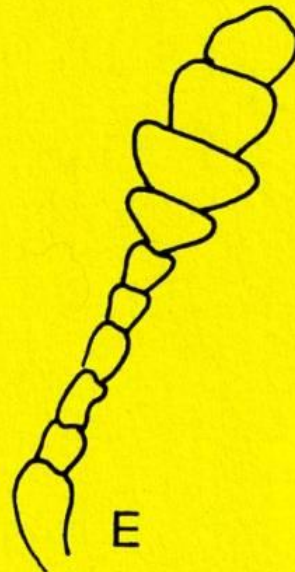
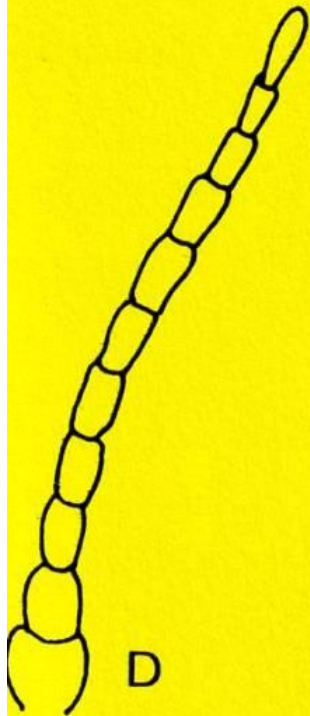
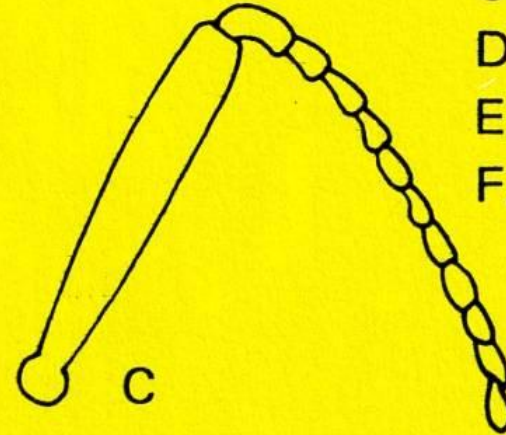
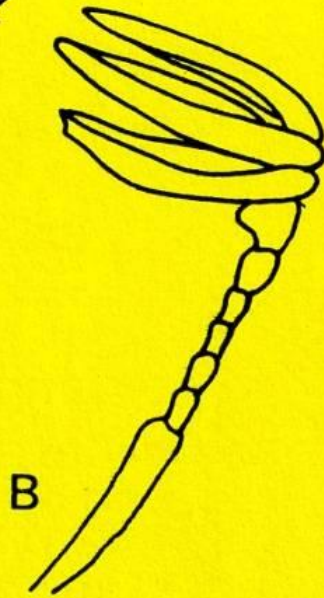
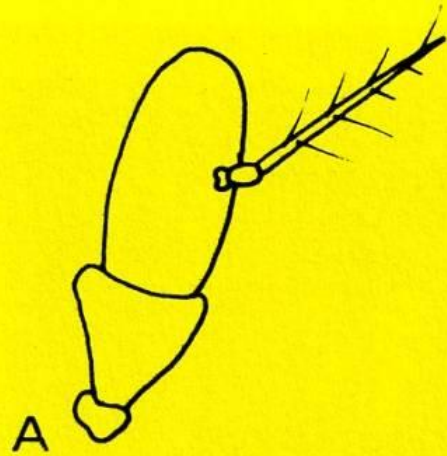
Head - Mouthparts

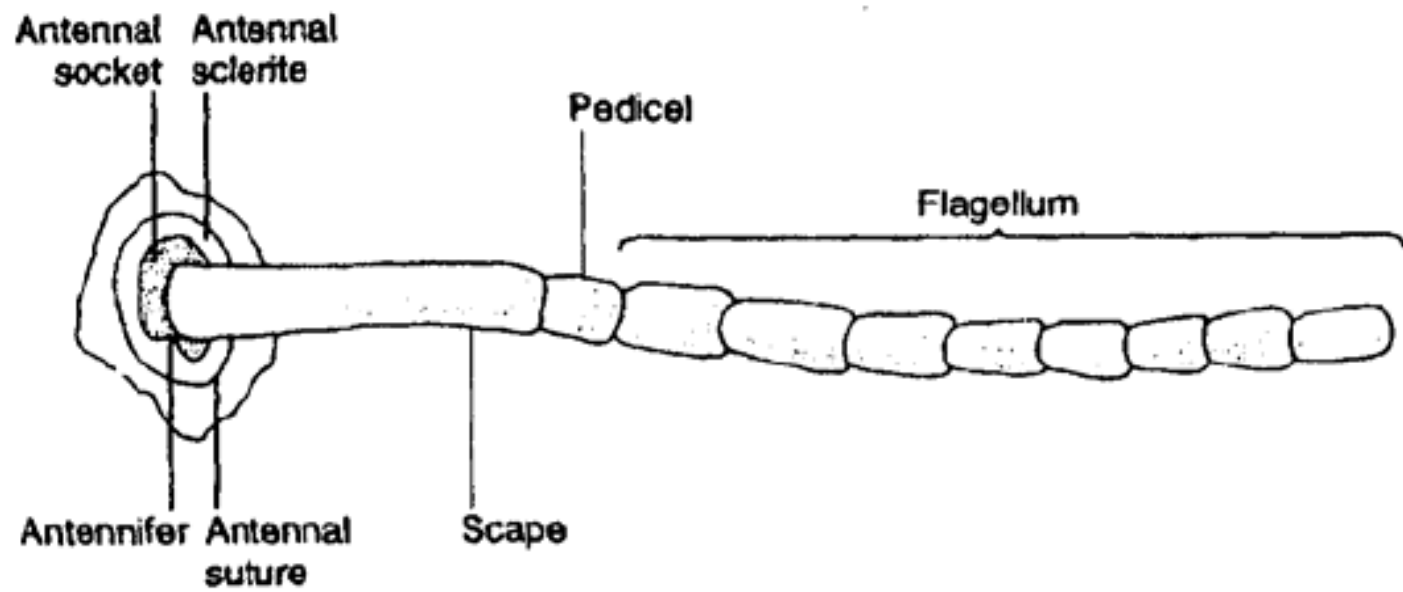


- **Chewing**
- **Sucking**
- **Siphoning**
- **Siphoning/sponging**
- **Rasping**

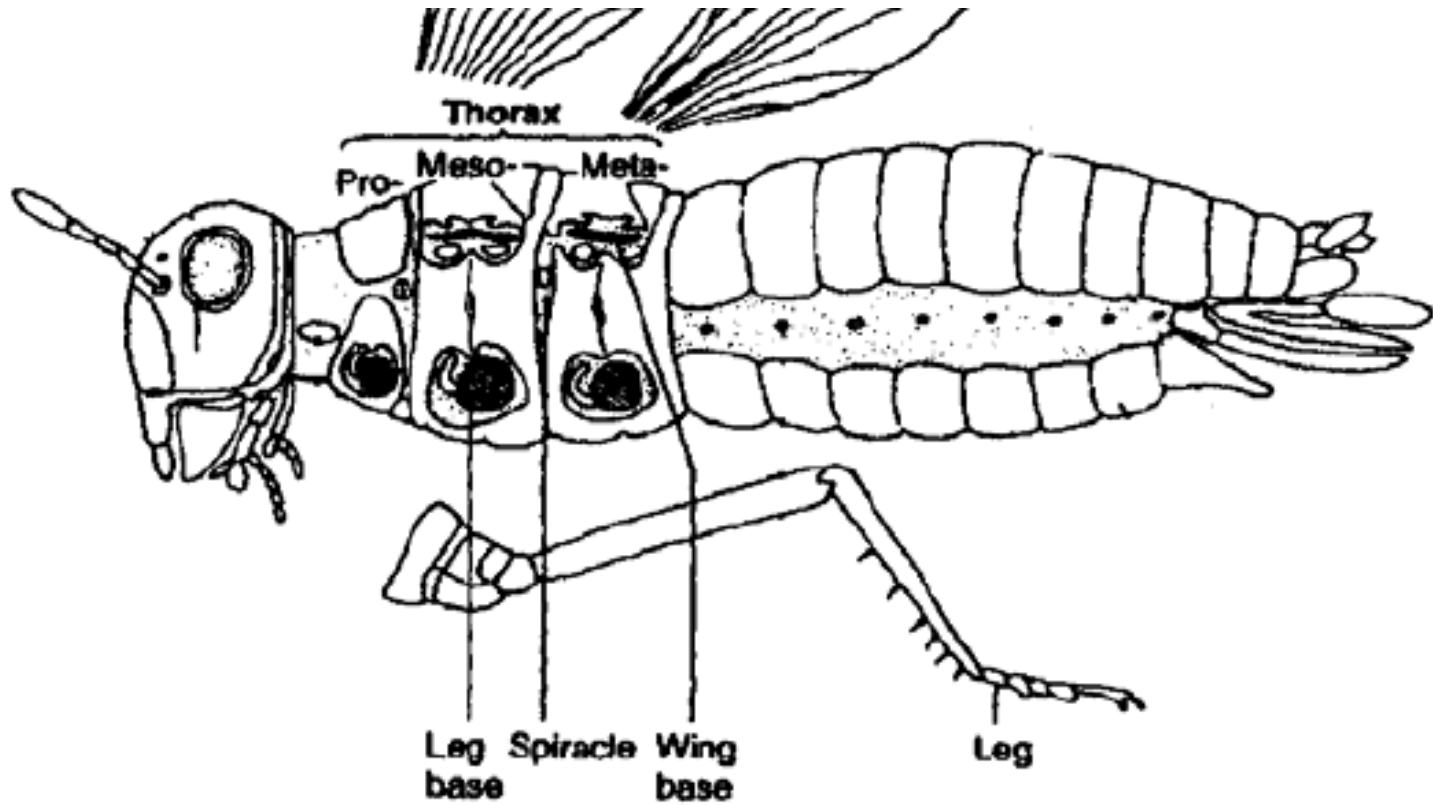


- A. Aristate
- B. Lamellate
- C. Elbowed
- D. Filiform
- E. Clavate
- F. Plumose

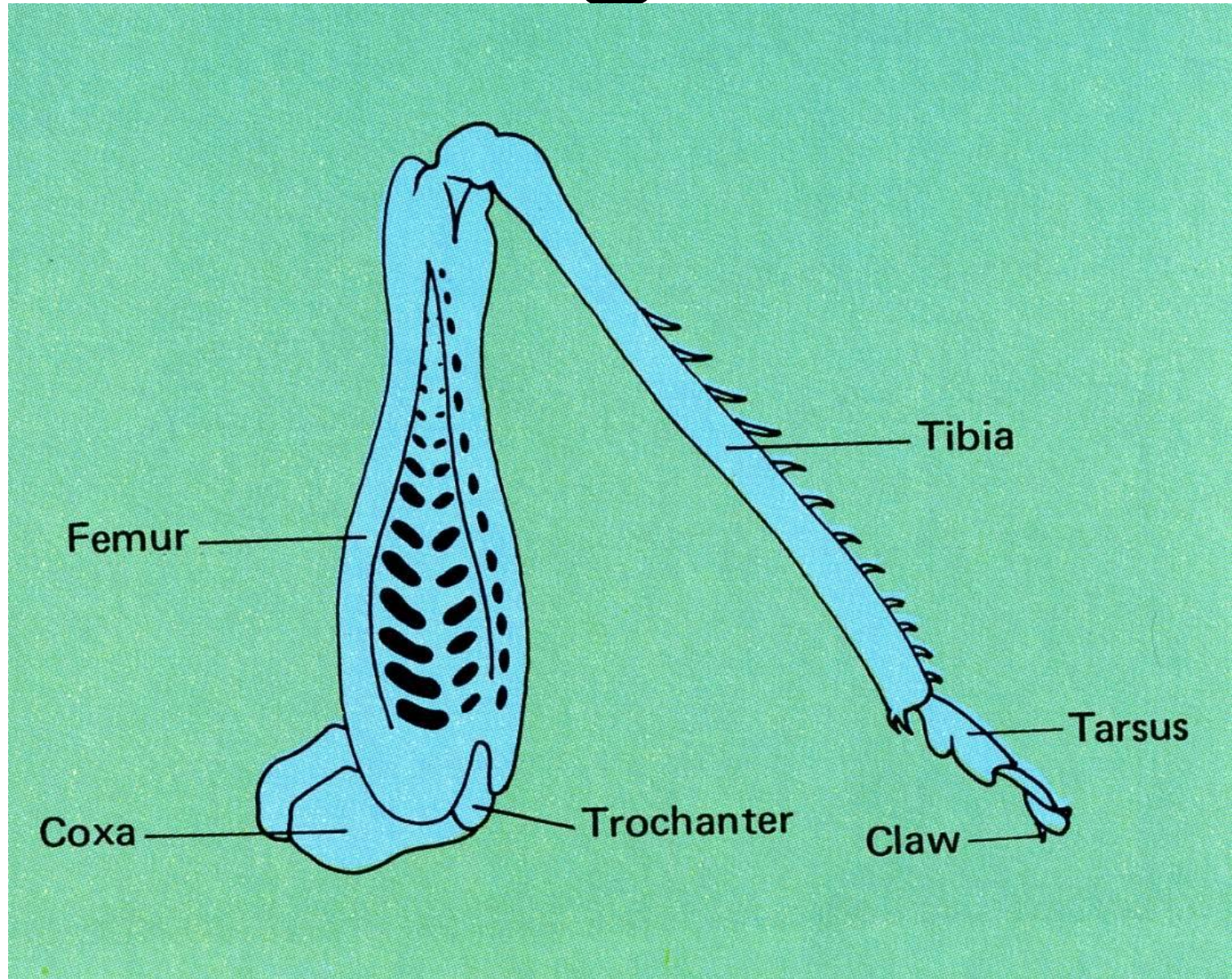




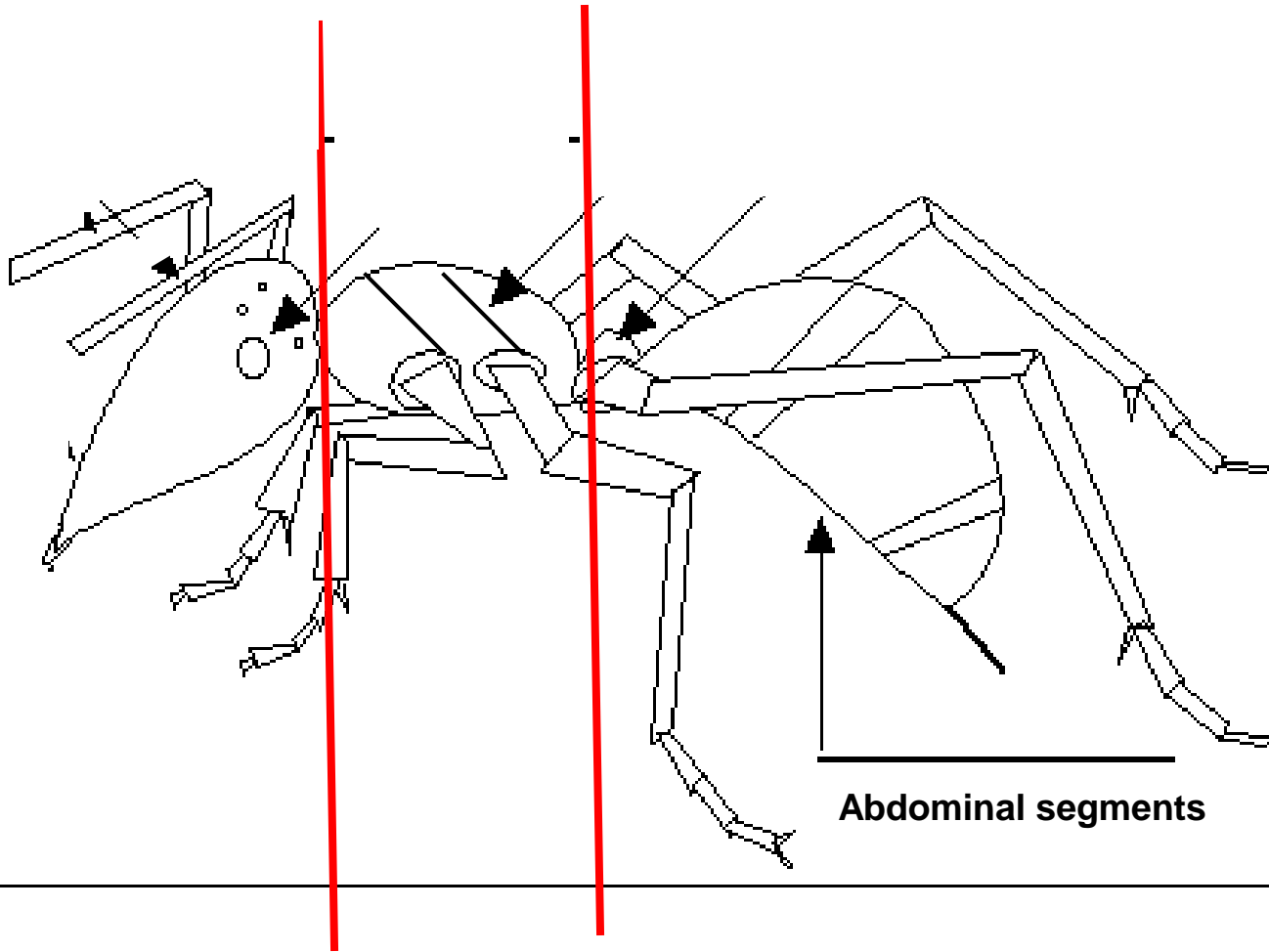
Thorax



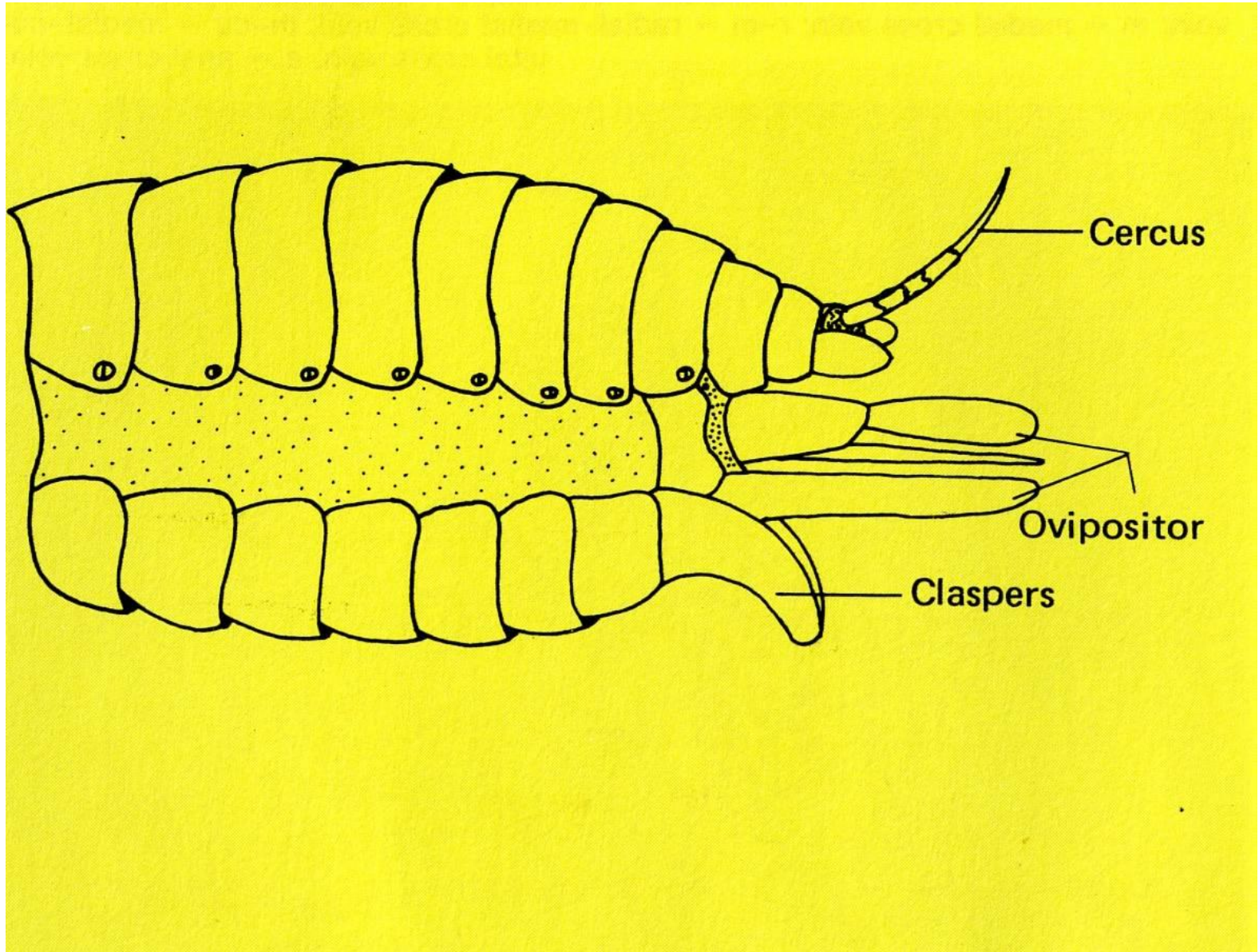
Legs



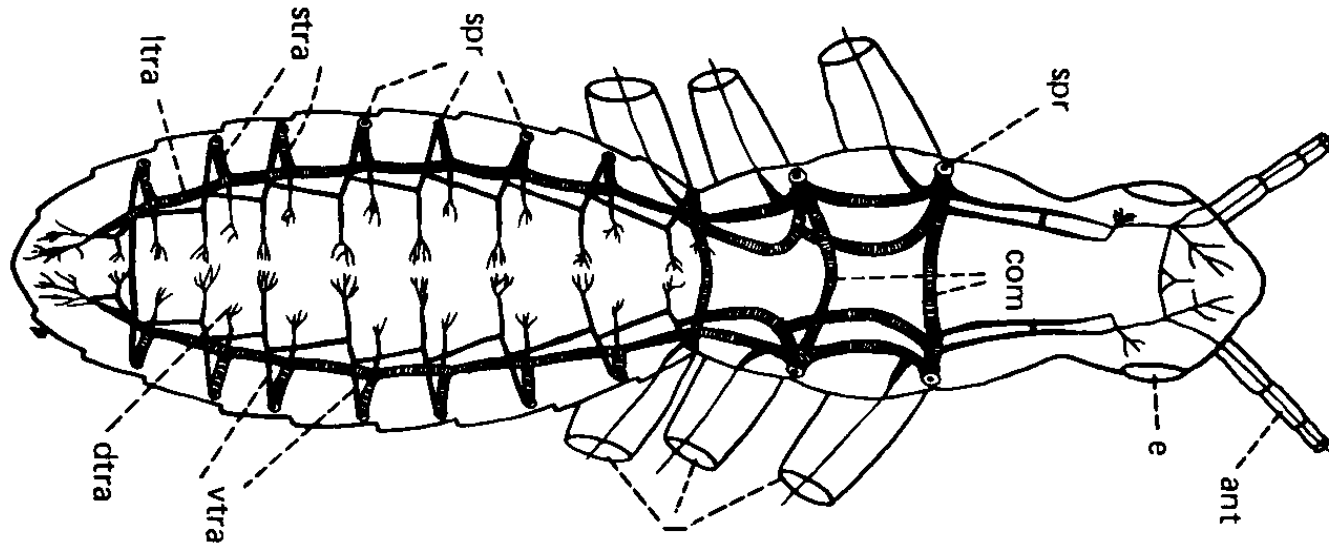
Abdomen



Abdomen



Breathing through spiracles



Summary

- **Segmented body divided into three sections: head, thorax, abdomen.**
 - **Mouth including mandibles.**
 - **Three pairs of legs attached to the thorax.**
 - **One pair of antennae.**
 - **External skeleton (exoskeleton)**
 - **Usually, one or two pairs of wings attached to the thorax**
-