



INSECT EXTERNALLY

EXTERNAL STRUCTURES OF THE INSECT BODY





DIRECTIONAL TERMS FOR INSECT ANATOMY

- **VENTRAL** - lower surface
- **DORSAL** - upper surface
- **LATERAL** - side
- **MEDIAL** - center



DIRECTIONAL TERMS FOR INSECT ANATOMY

- **ANTERIOR**-toward the head end
- **POSTERIOR**-toward the abdomen
- **DISTAL/APICAL** - toward the tip
- **PROXIMAL/BASAL** - toward the body

THE INSECT BODY

- Three Body Regions
 - Head
 - Thorax
 - Abdomen
- Two Antennae
- Three Pairs of Legs
- Winged or Wingless



INSECT BODY REGIONS

- HEAD
- THORAX
- ABDOMEN



HEAD AND THORAX

- Compound eyes
- Antennae
- Mouthparts

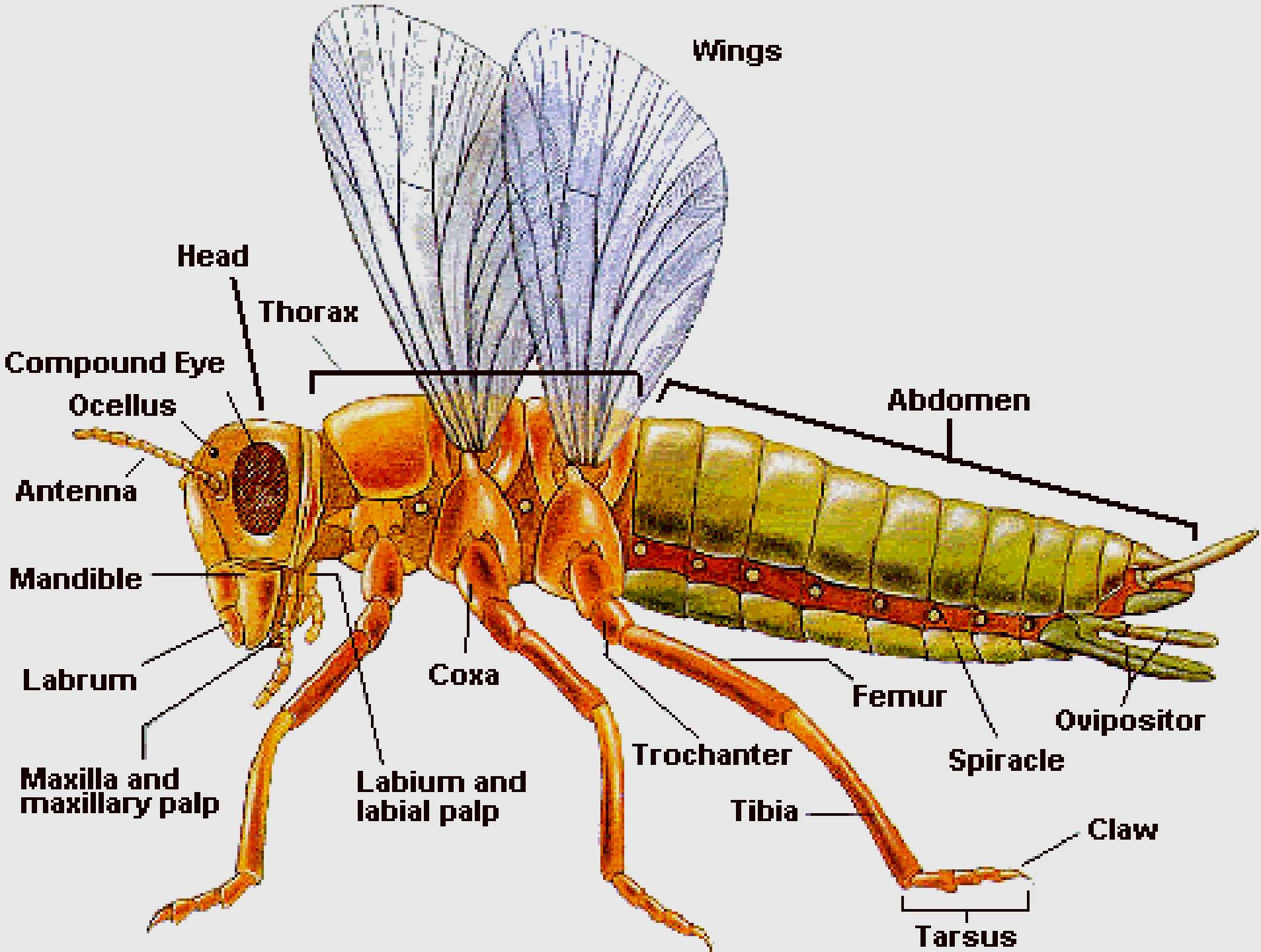
- Legs
- Wings



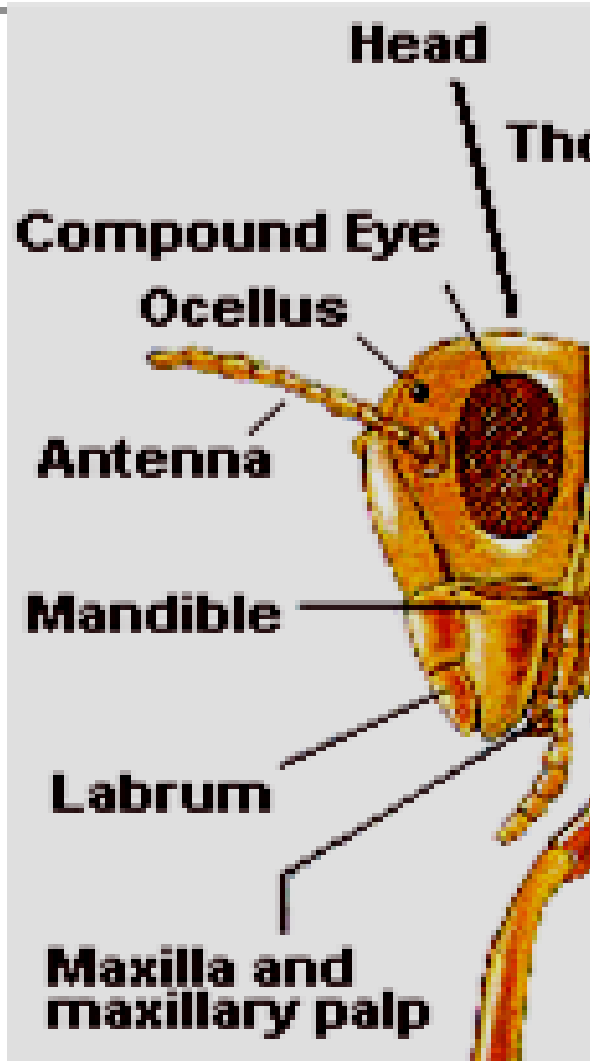


ABDOMEN

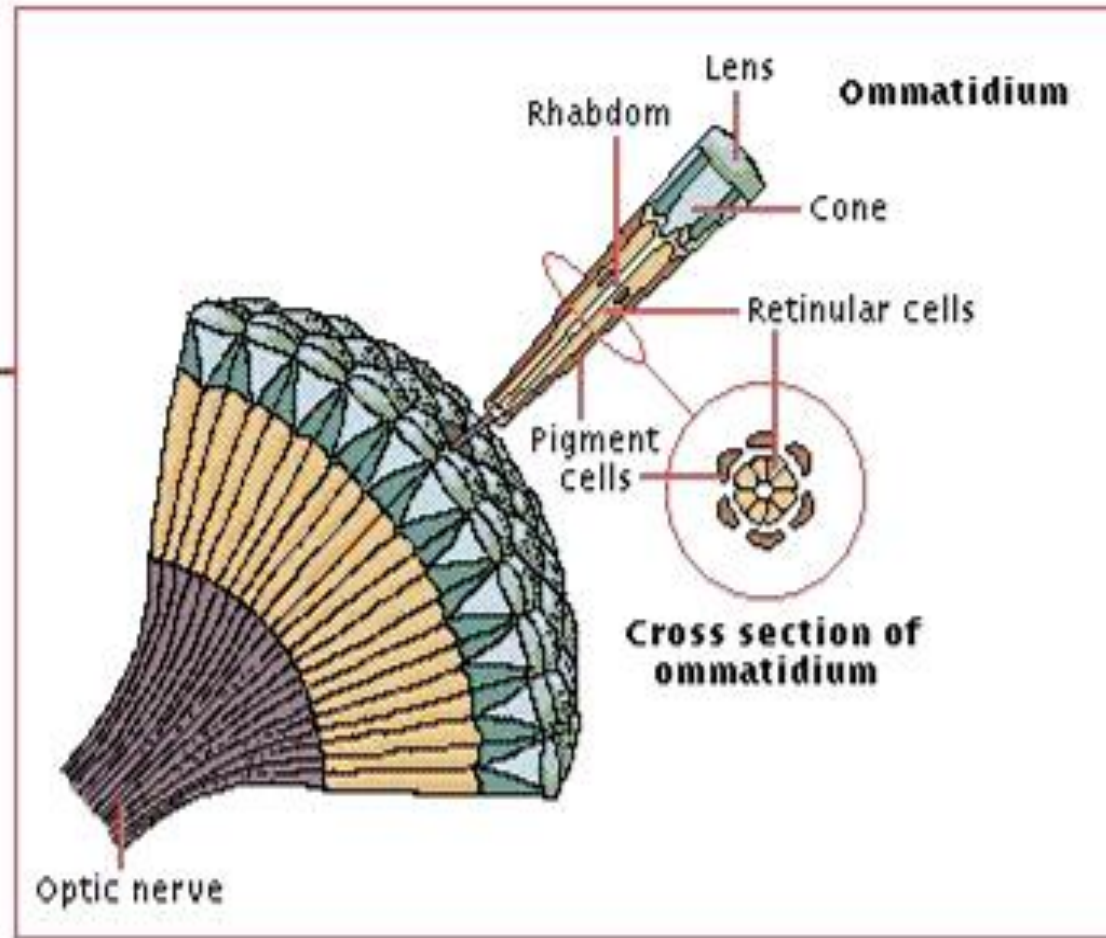
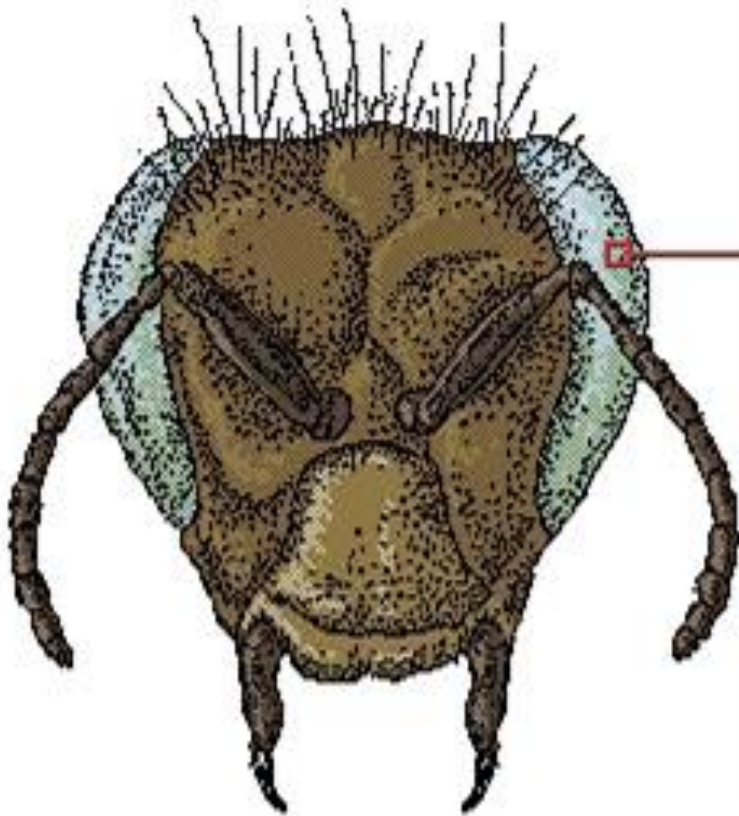
- Reproductive structures
 - **Ovipositor**
- Non-reproductive structures
 - **Spiracles**
 - **Prolegs**
 - **Cornicles**



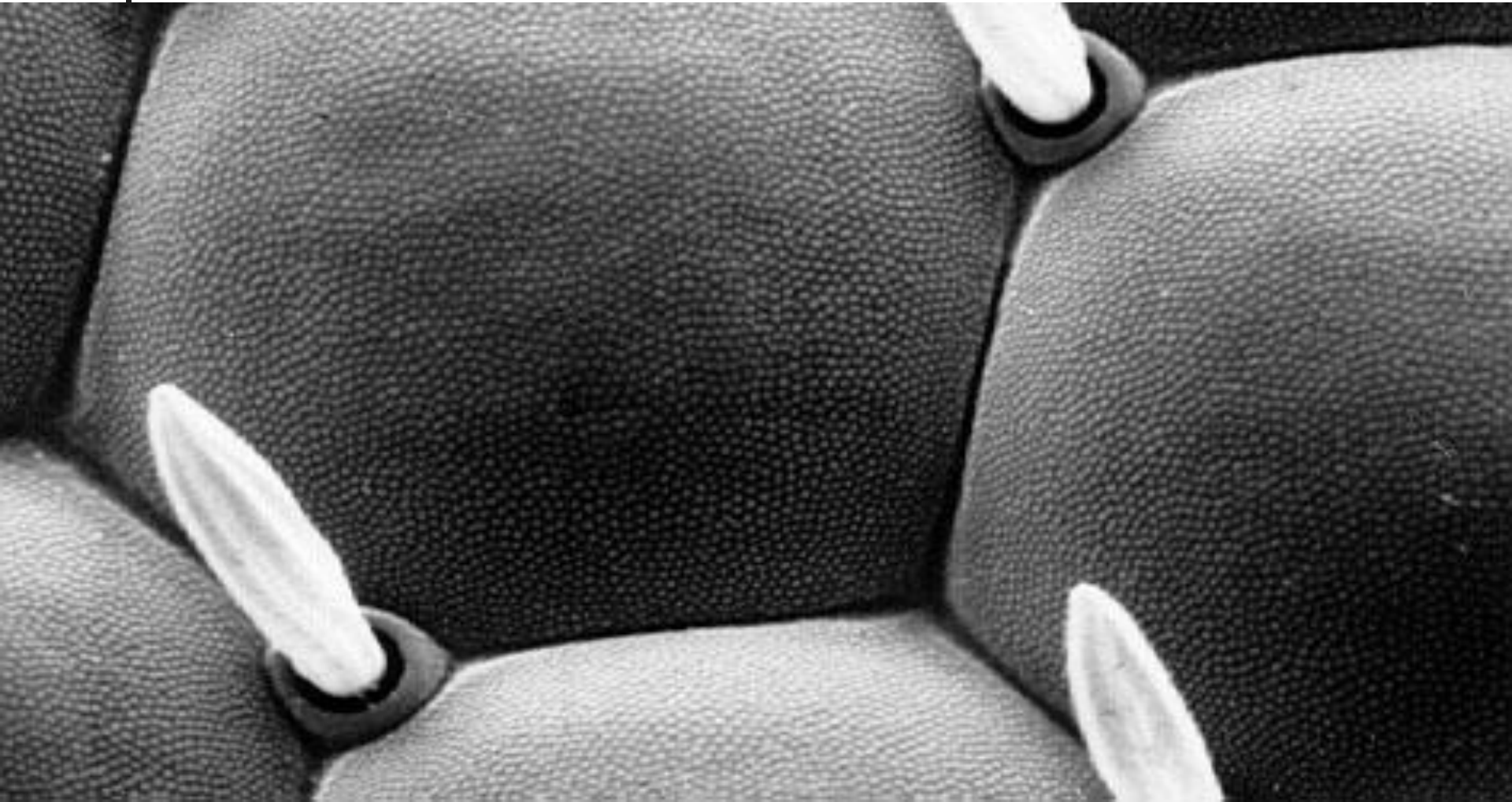
INSECT HEAD



COMPOUND EYE AND OMMATIDIA



Compound Eye of *Drosophila* Fruit Fly



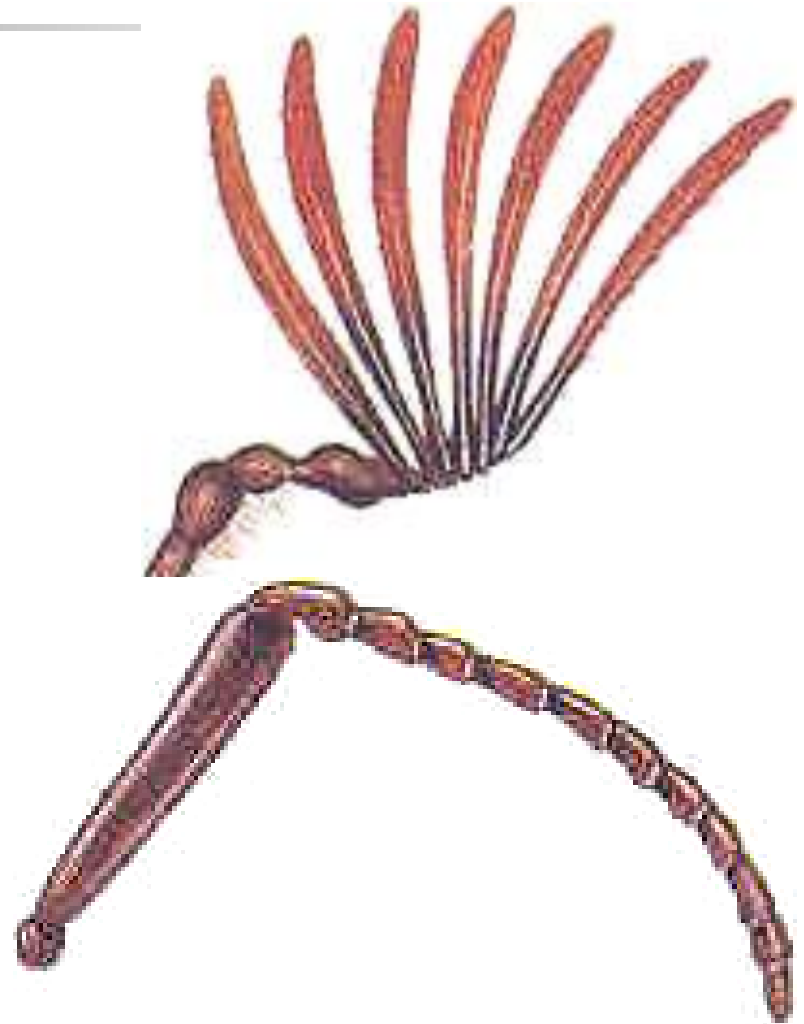
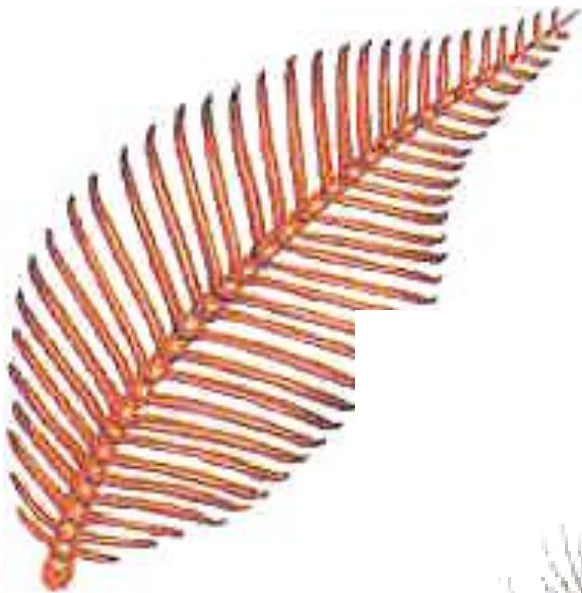


SIMPLE EYES

- **Ocelli**-simple eyes that do not perceive images, but are sensitive to small changes in light intensity
- **Stemmata**-clusters of simple eyes found larval stages of insects (Fig. 46)

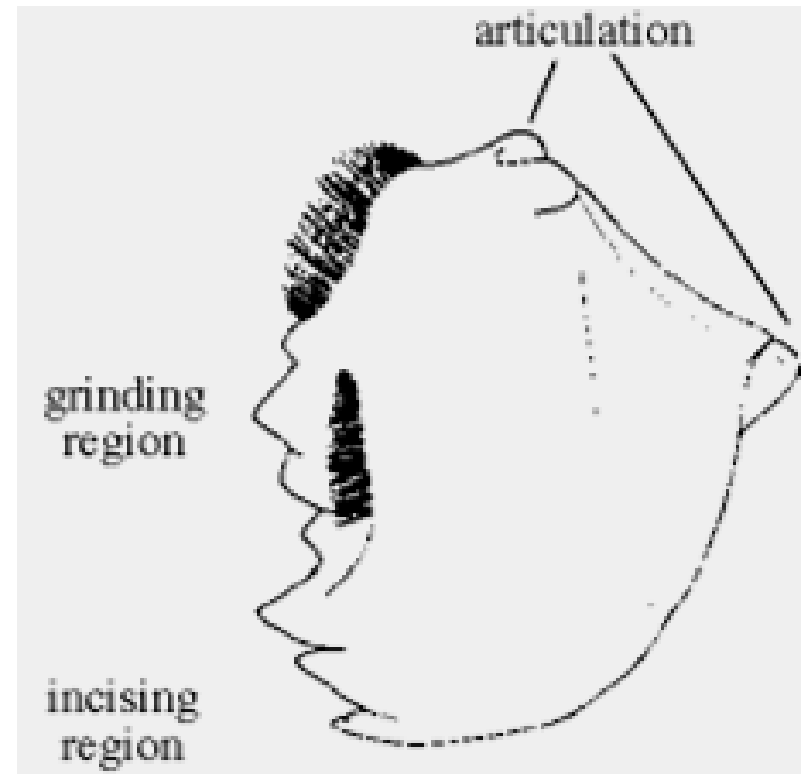
TYPES OF INSECT ANTENNAE

Figure 47

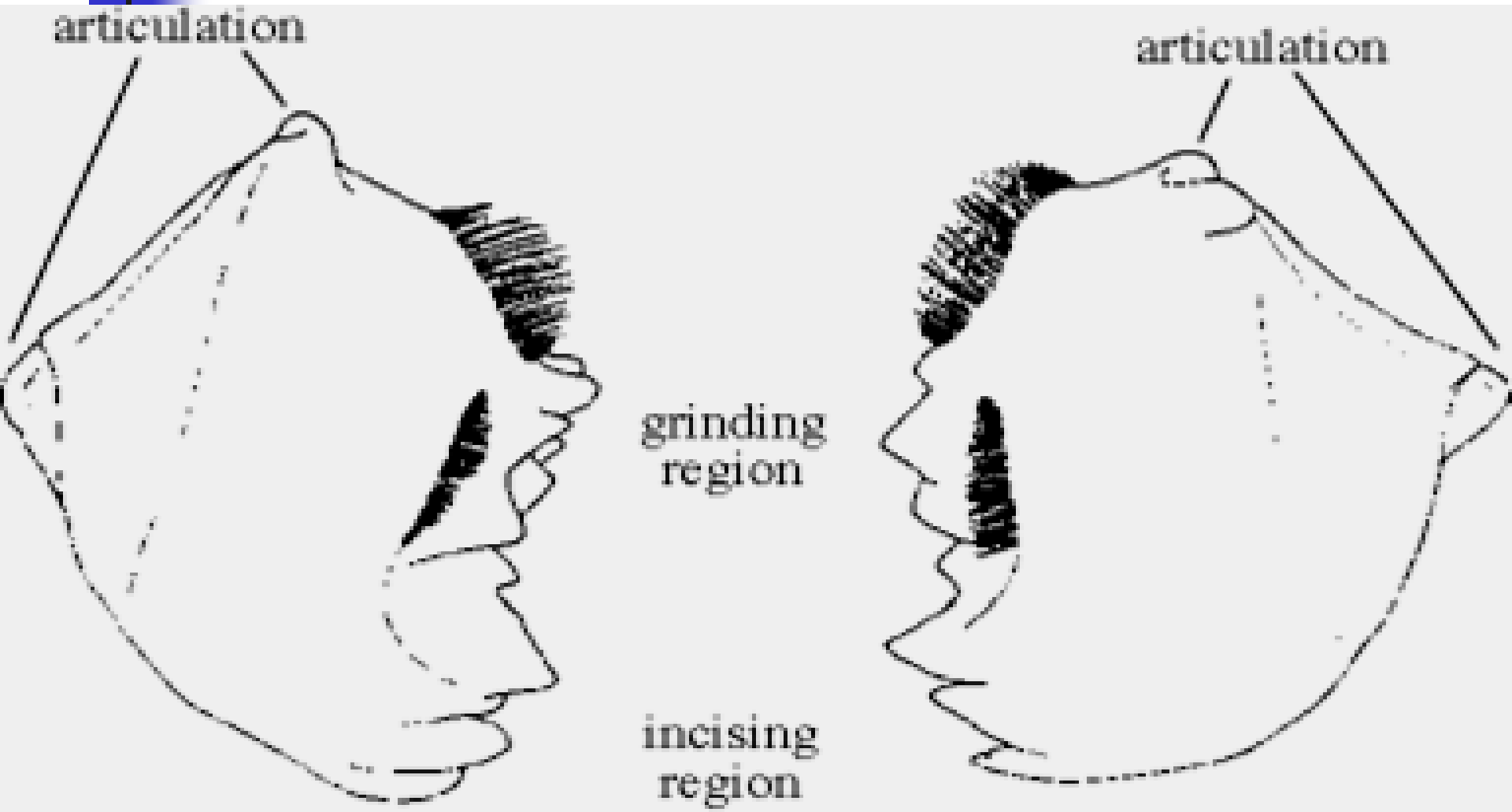


CHEWING MOUTHPARTS OF PREDATORS AND LEAF-FEEDERS

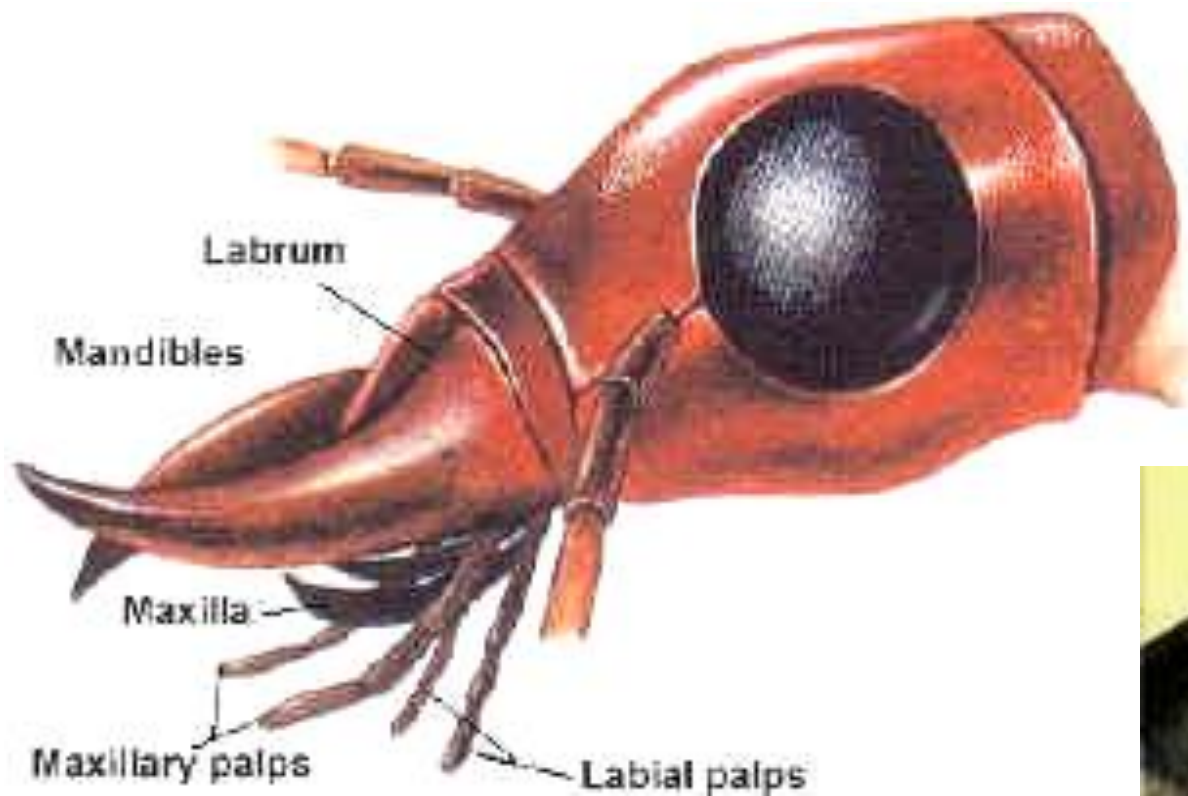
- **Mandible**
- Labrum
- Palps



CHEWING MOUTHPARTS OF PREDATORS AND LEAF-FEEDERS



CHEWING MOUTHPARTS OF PREDATORS AND LEAF-FEEDERS

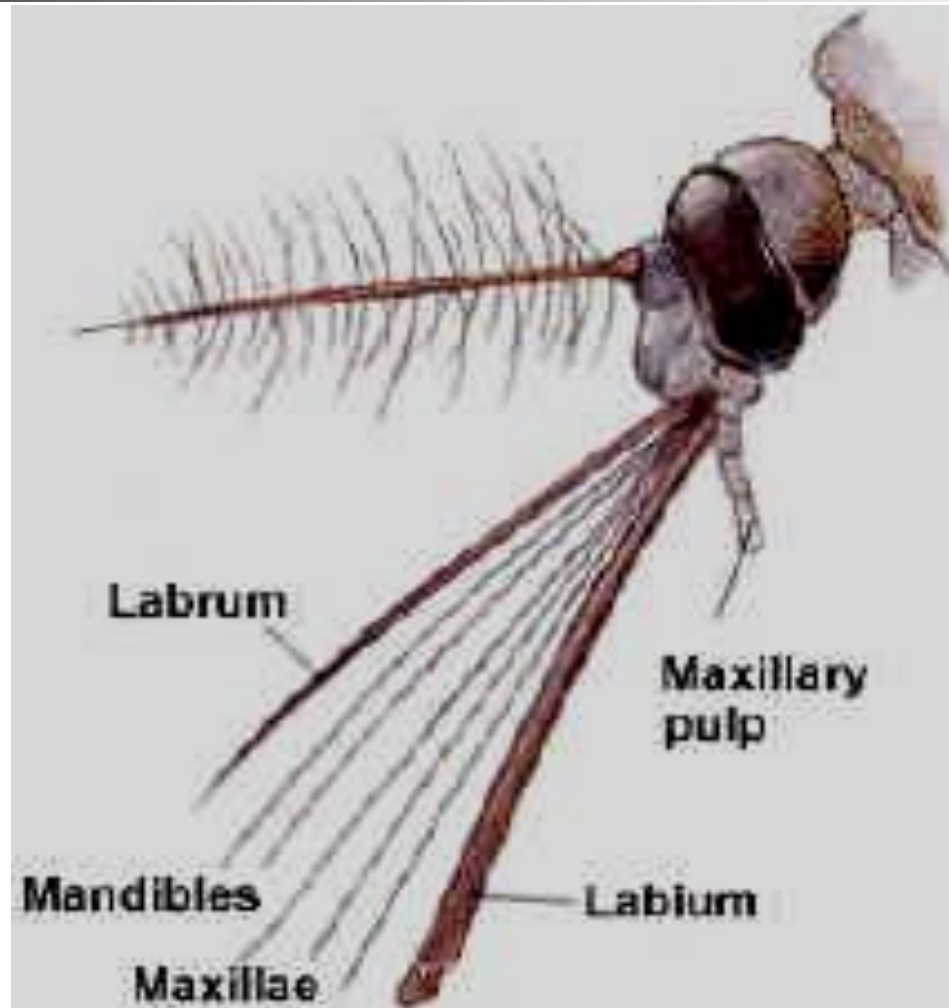


PIERCING-SUCKING MOUTHPARTS OF **SAP-FEEDERS**

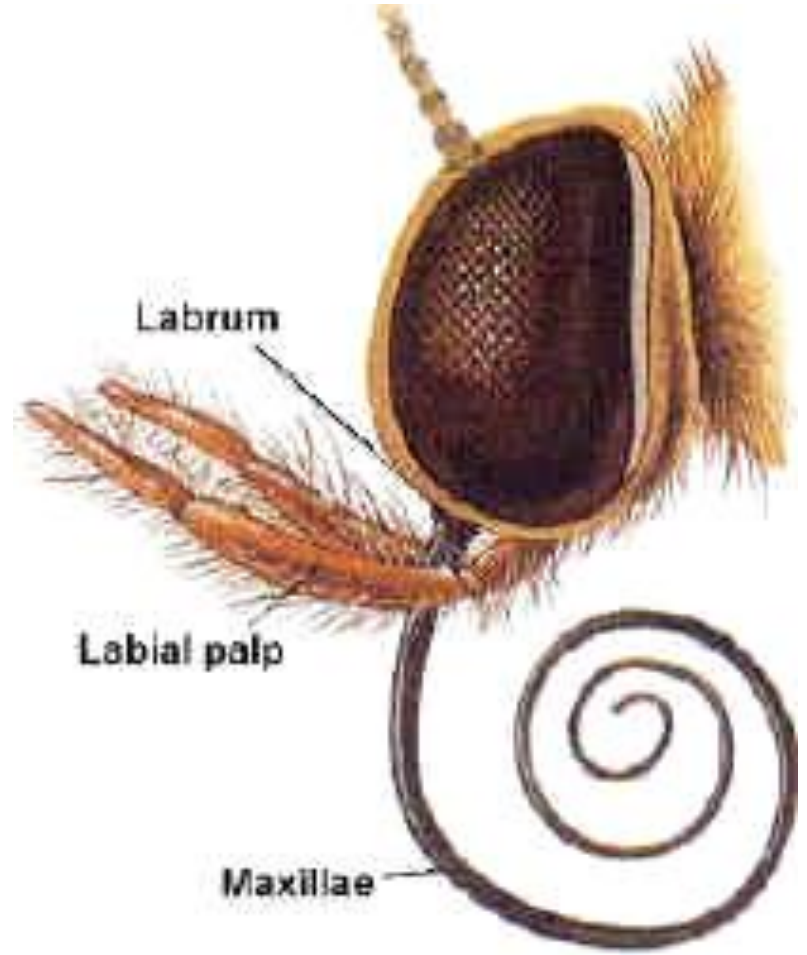
- **Proboscis** or “beak” and **stylets**
- Sap-feeding and blood-feeding insects



PIERCING-SUCKING MOUTHPARTS OF BLOOD FEEDERS

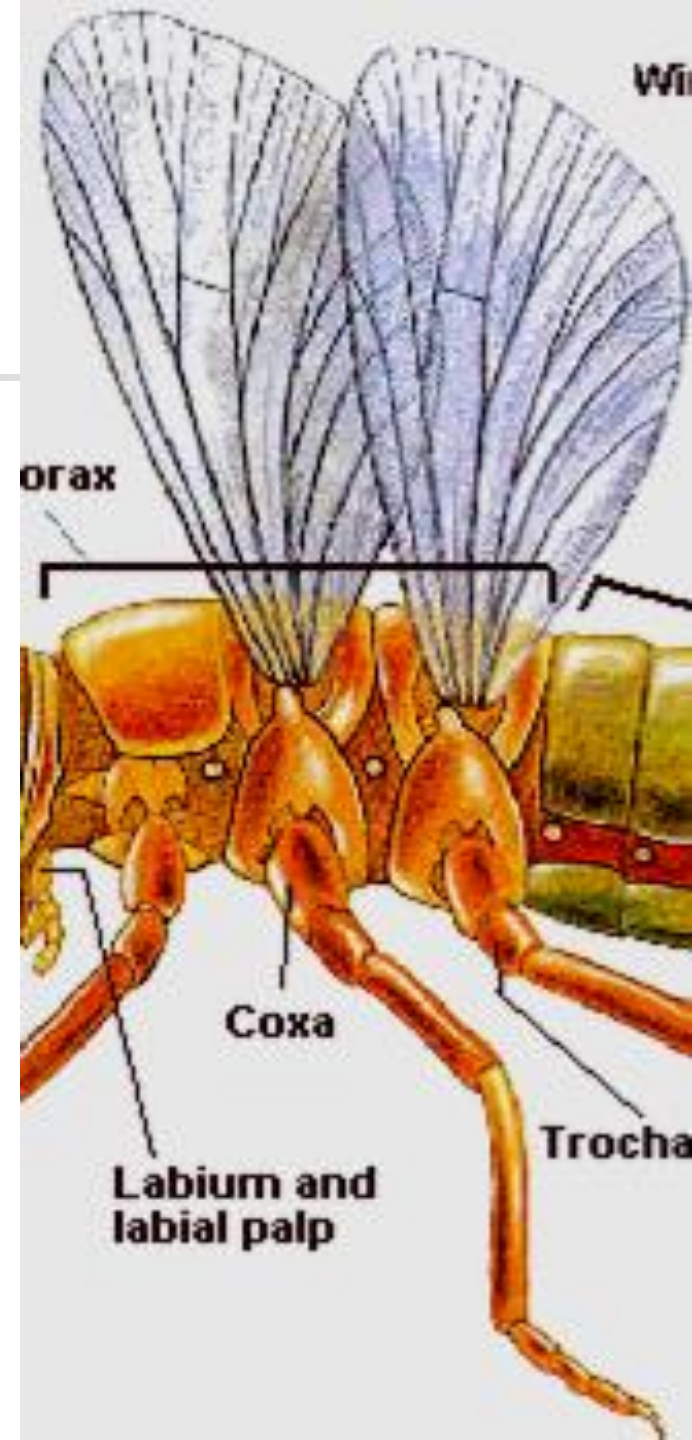


SIPHONING MOUTHPART OF A MOTH OR BUTTERFLY



THE THORAX

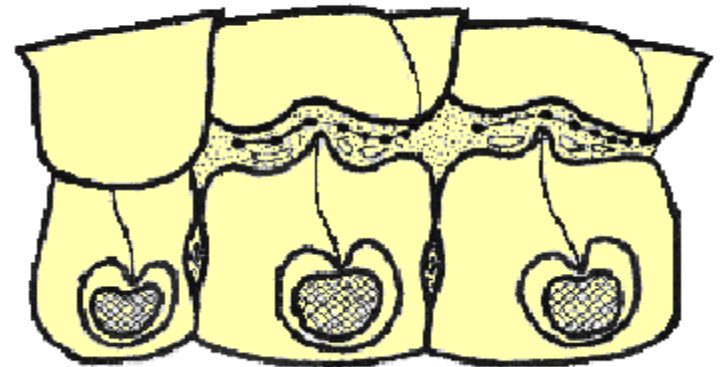
- **PROTHORAX**
 - First pair of legs
- **MESOTHORAX**
 - Second pair of legs
 - First pair of wings
- **METATHORAX**
 - Third pair of legs
 - Second pair of wings



THE THORAX

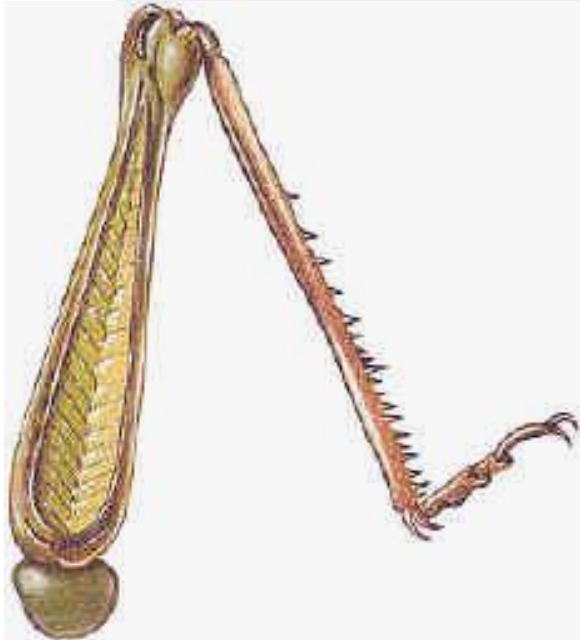
(Figure 50)

- **PROTHORAX**
 - First pair of legs
- **MESOTHORAX**
 - Second pair of legs
 - First pair of wings
- **METATHORAX**
 - Third pair of legs
 - Second pair of wings



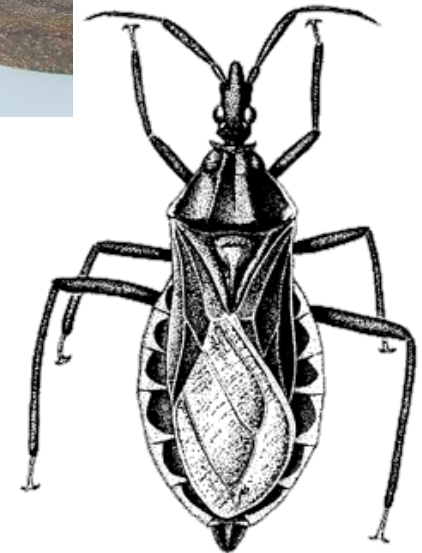
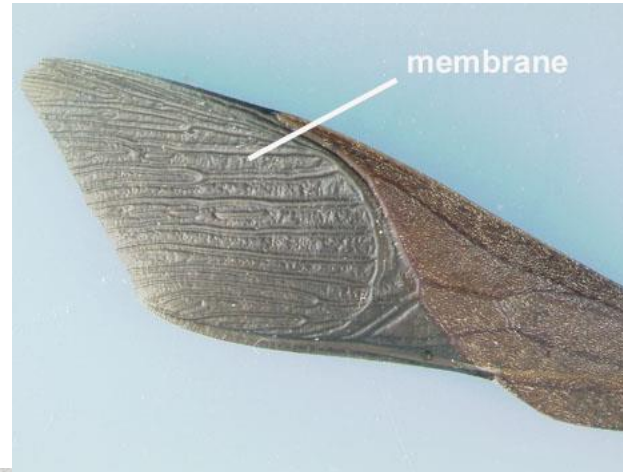
INSECT LEG TYPES

(Fig. 61)



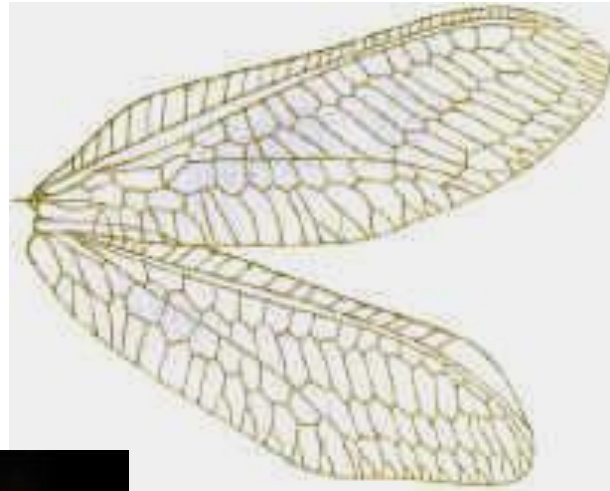
INSECT WING TYPES

("Half Wing" or **Hemelytra**)



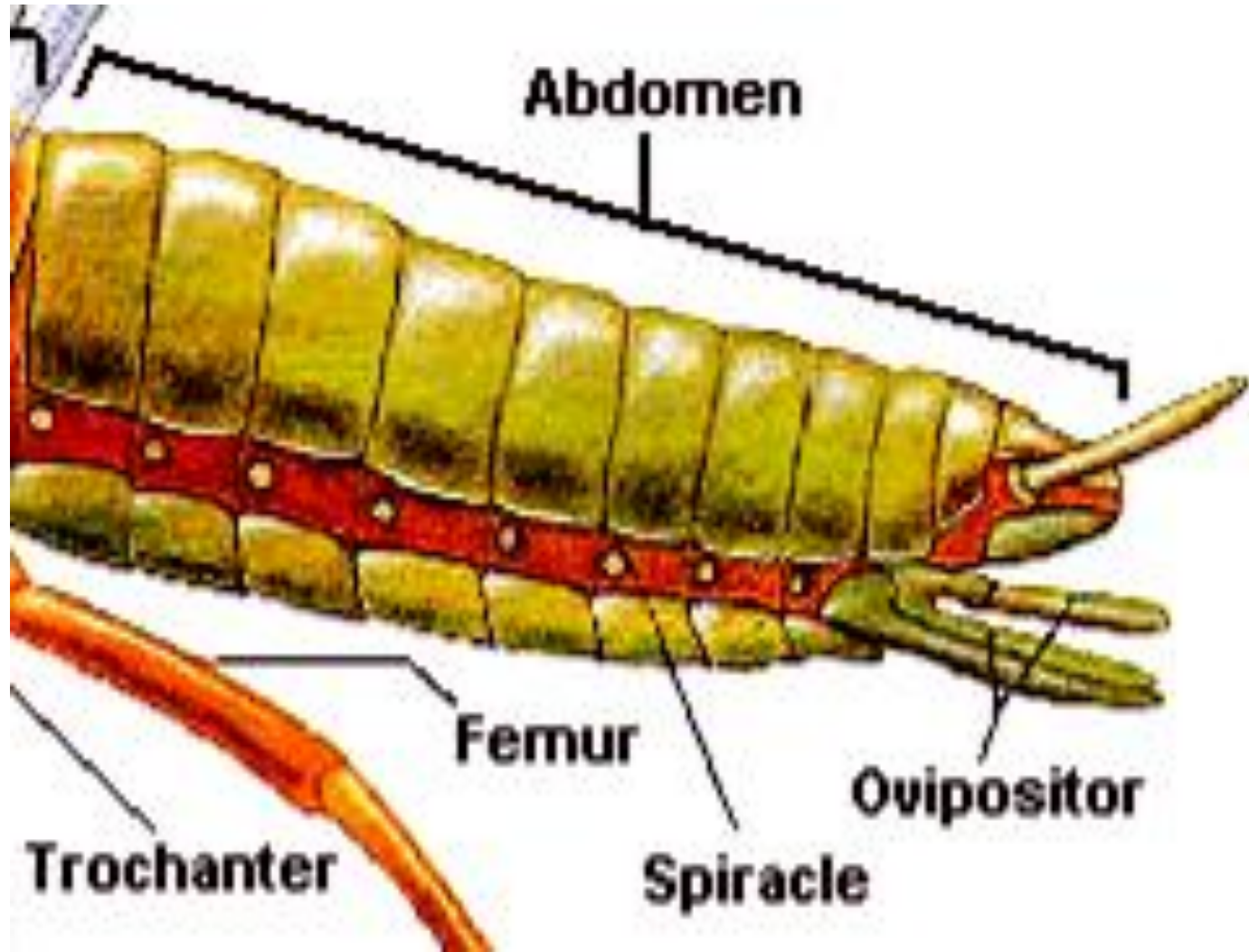
INSECT WING TYPES

(**Elytra**, Membraneous, Scale)



INSECT ABDOMEN

(Figure 63)



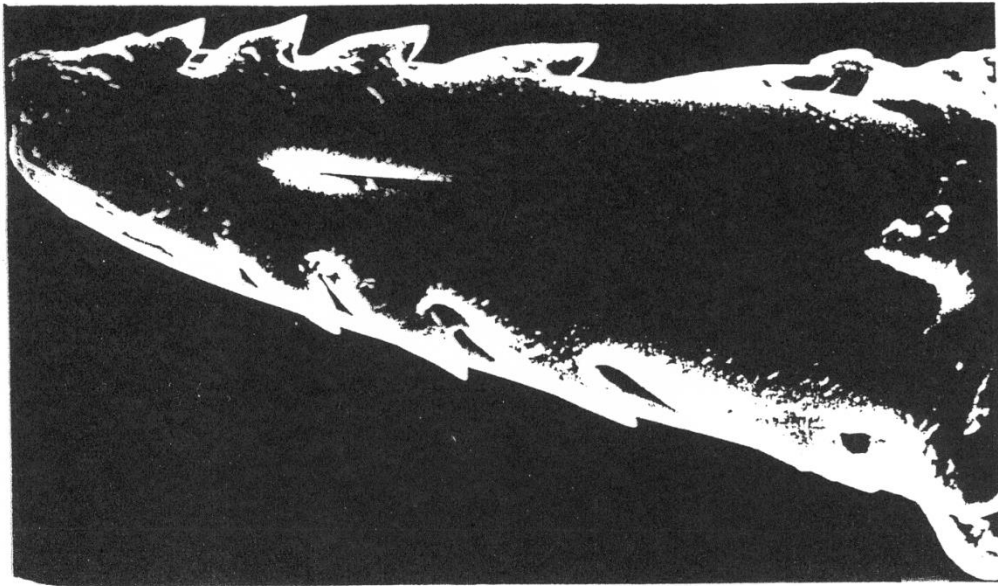
REPRODUCTIVE STRUCTURES

- **Ovipositor** or “Egg Positioner”
(Figure 63-66)

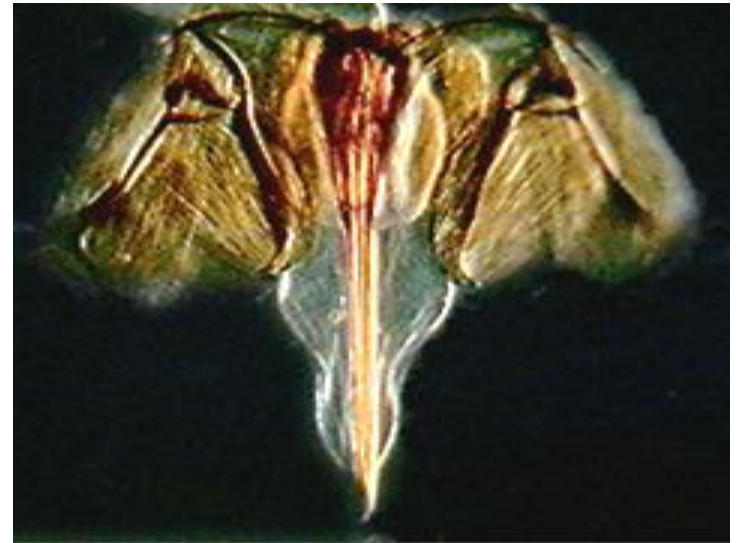


HONEYBEE STINGER

(Modified Ovipositor)

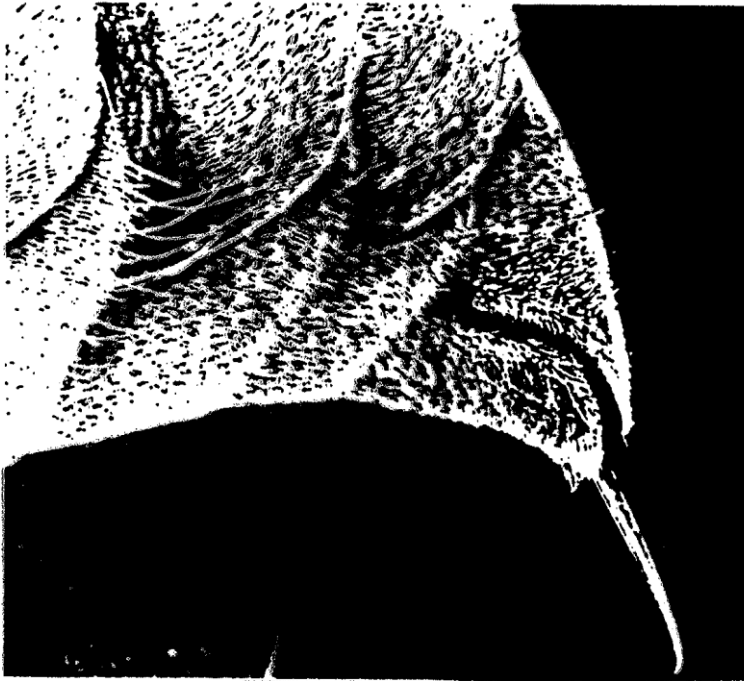


STINGER OF THE WORKER HONEYBEE



WASP STINGER

(Modified Ovipositor)



STINGER OF A VESPID WASP



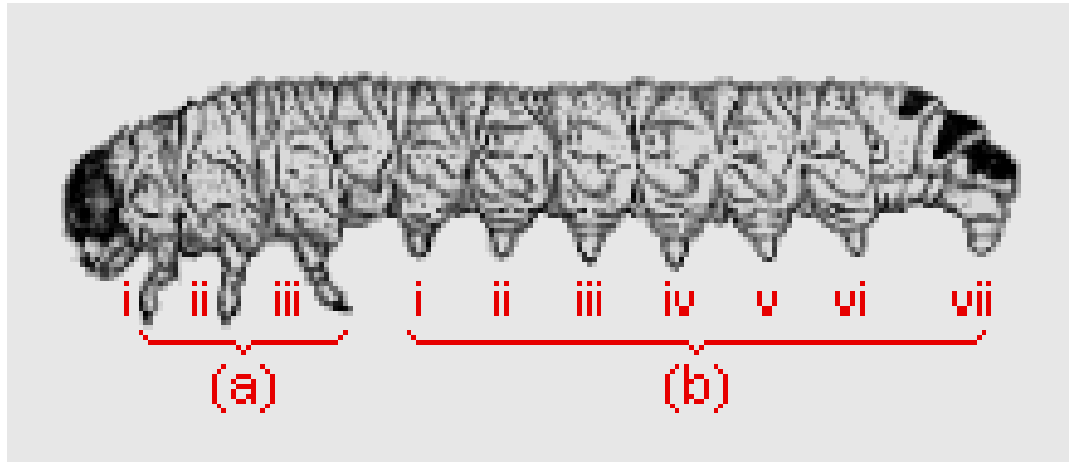
NON-REPRODUCTIVE STRUCTURES (Figs. 67-68)

- **Cornicles**



NON-REPRODUCTIVE STRUCTURES (Figs. 67-68)

■ Prolegs



NON-REPRODUCTIVE STRUCTURES (Figs. 67-68)

- **Crotchets**



PROLEGS ON CATERPILLARS

(Five or less pairs with crotchets)



PROLEGS ON SAWFLY LARVAE

(Six or more pairs without crotchets)



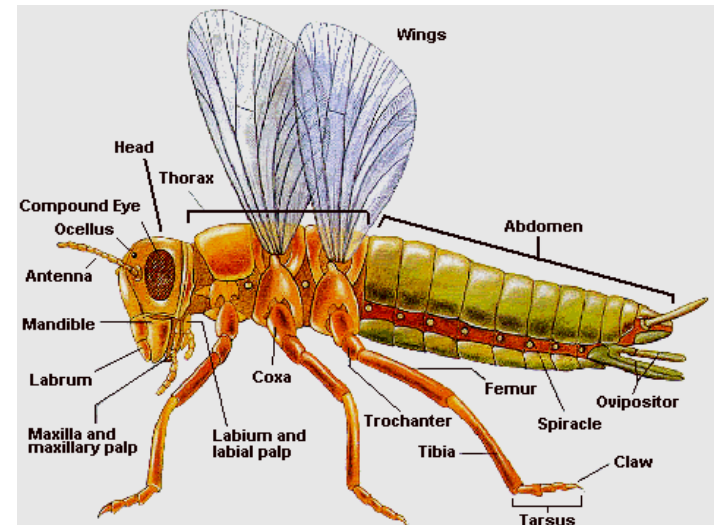
SUMMARY

■ HEAD

- MOUTHPARTS
- COMPOUND EYES
- ANTENNAE

■ THORAX

- LEGS
- WINGS

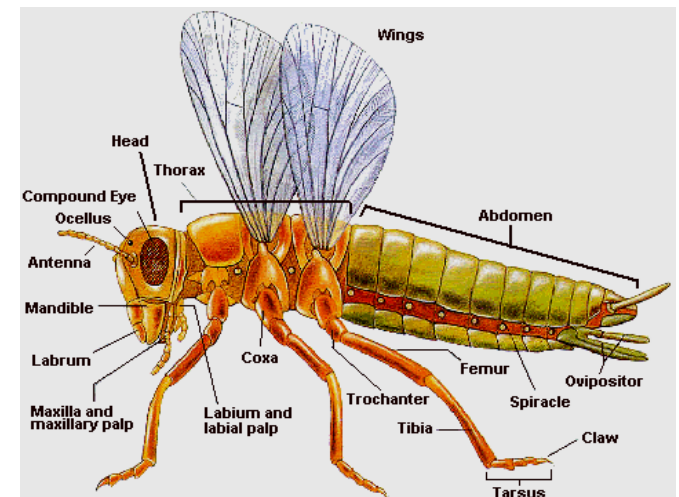


SUMMARY

■ ABDOMEN

■ REPRODUCTIVE STRUCTURES

■ NONREPRODUCTIVE STRUCTURES



END OF PRESENTATION

