

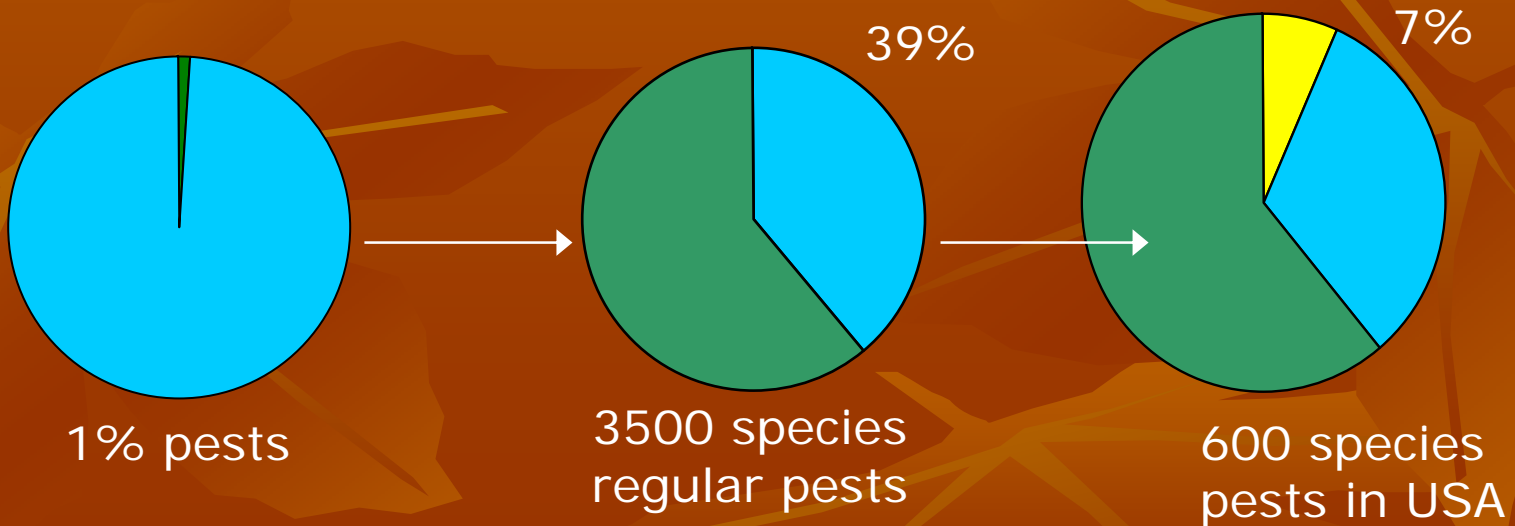
# **Pest Identification**

PMA 4570/6228

Laboratory 1

# Insects as Pests

- Over 900,000 described species of insects
- 1% of insects could be considered pests
- 3500 species require regular attention
- 600 species considered significant in the US



# Six Steps to Successful Pest Management

1. Correct Identification
2. Understanding of pest and crop dynamics
3. Monitoring
4. Economic thresholds
5. Choice of optimum pest control options
6. Evaluation

# Correct Identification



Western Flower Thrips

*Frankliniella occidentalis* (Pergande)



Six-spotted thrips

*Scolothrips sexmaculatus* (Pergande)

# Correct Identification

Corn stalk lodging

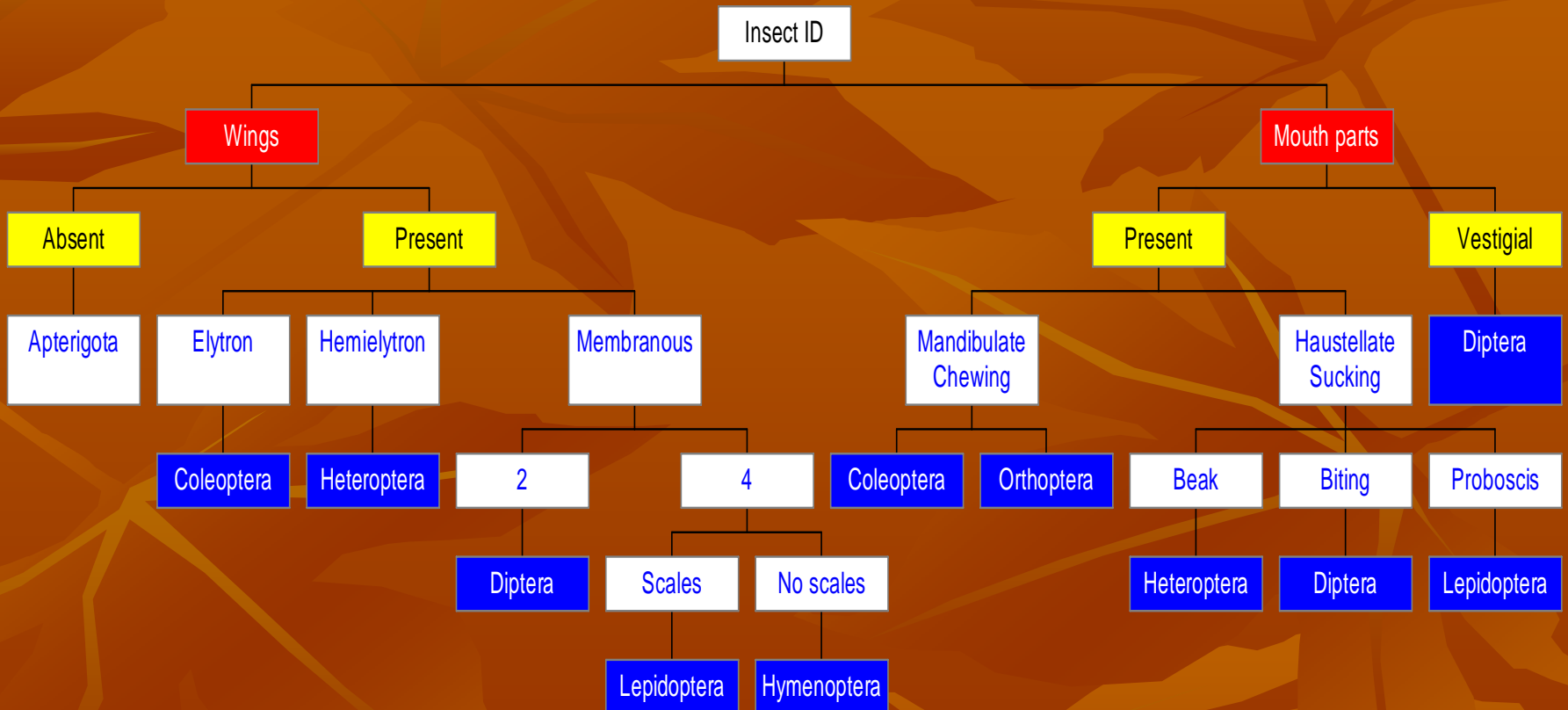


Drought

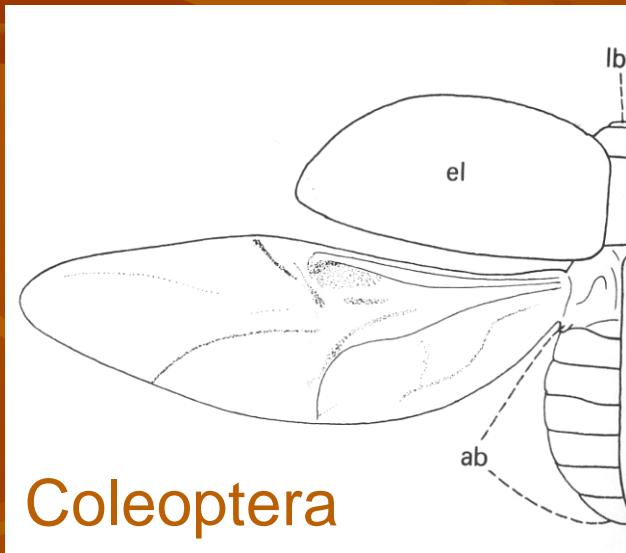


European Corn Borer  
*Ostrinia nubilalis* (Hübner)

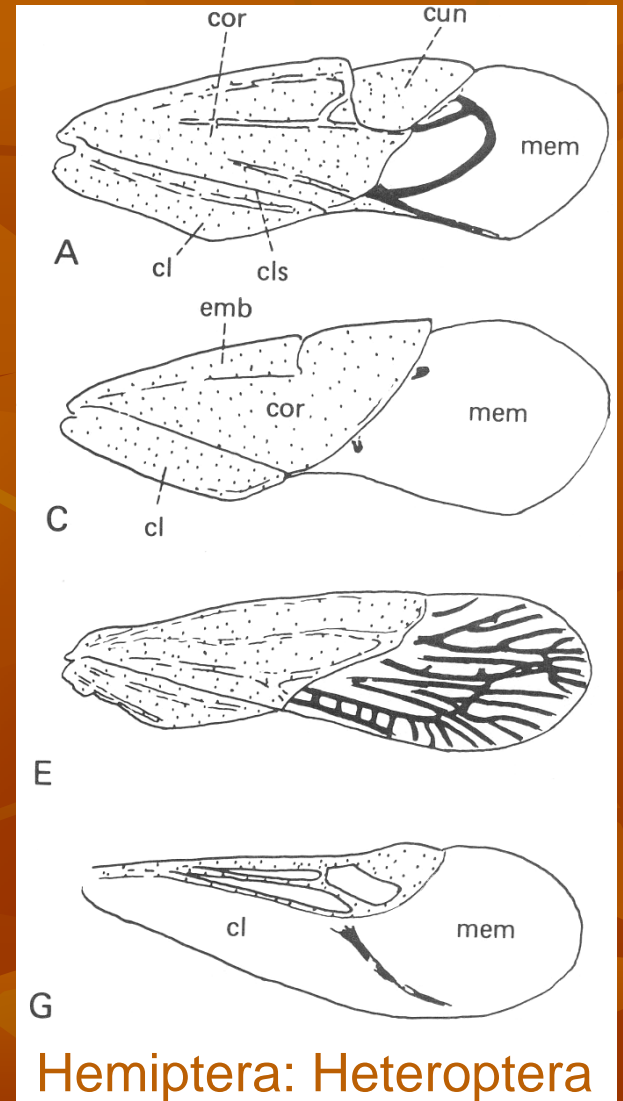
# Insect Taxonomy



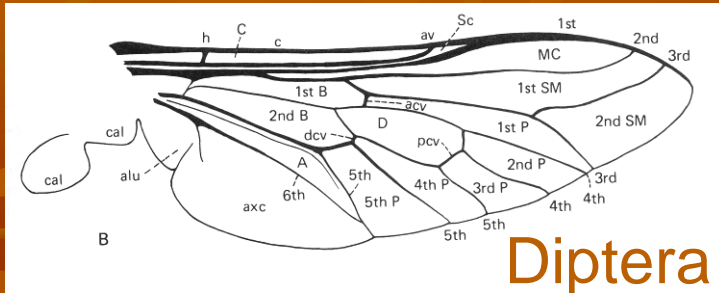
# Wings



Hemielytra

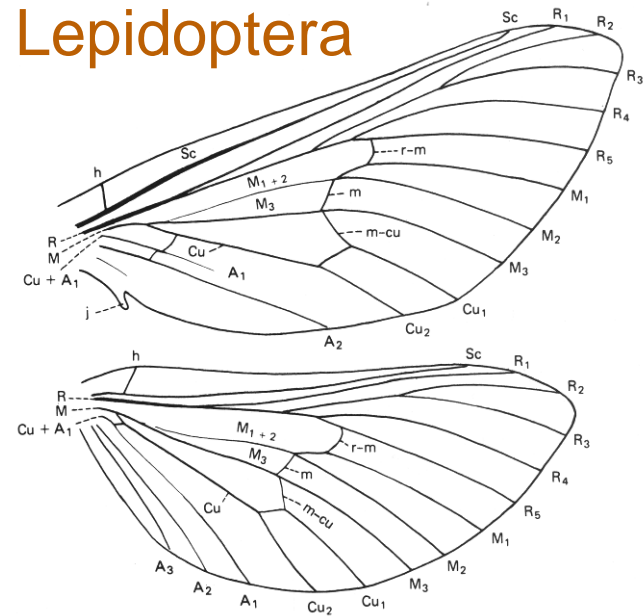


# Wings

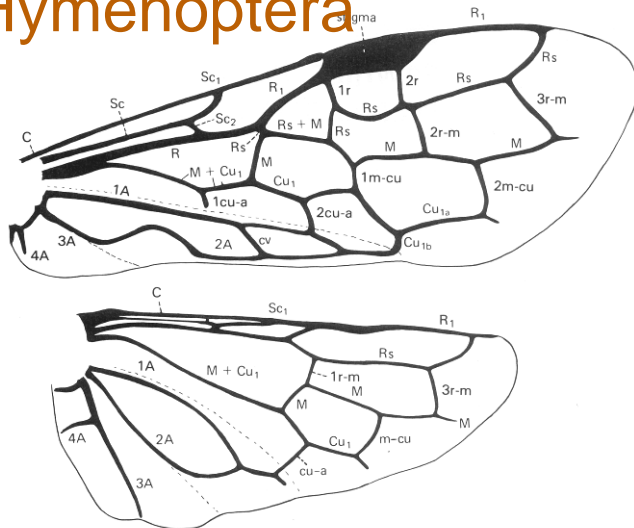


Diptera

# Lepidoptera



# Hymenoptera



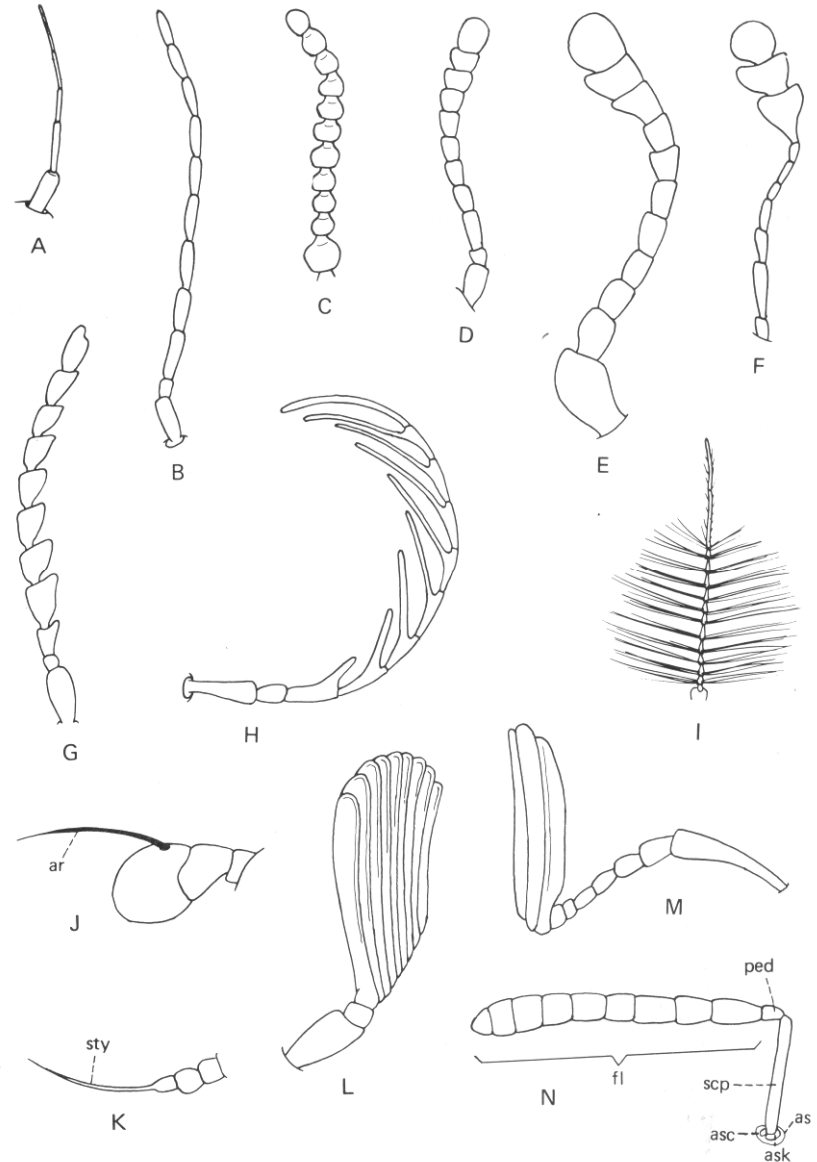
# Thysanoptera



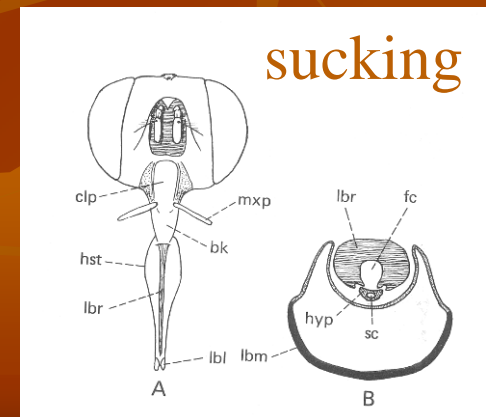
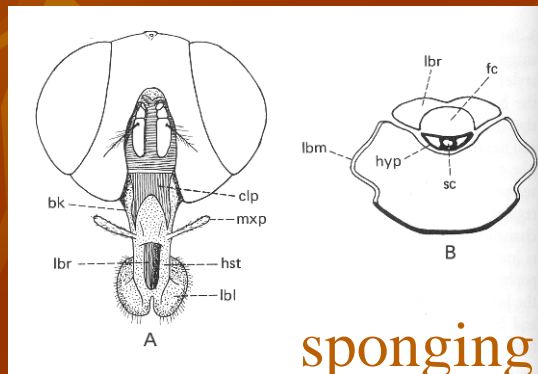
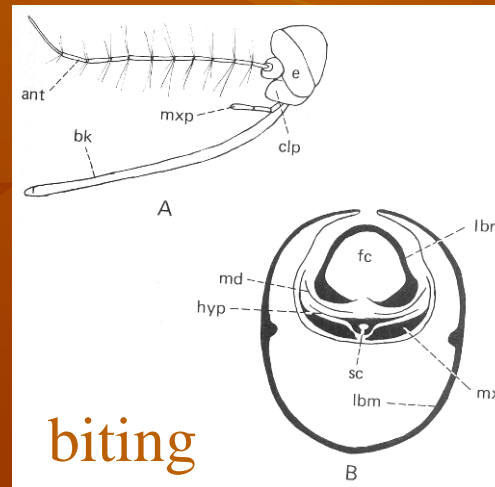
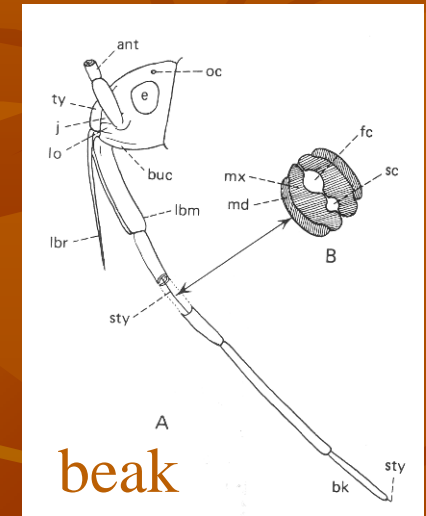
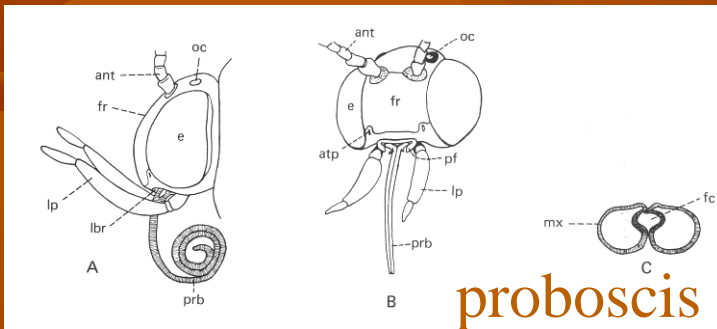
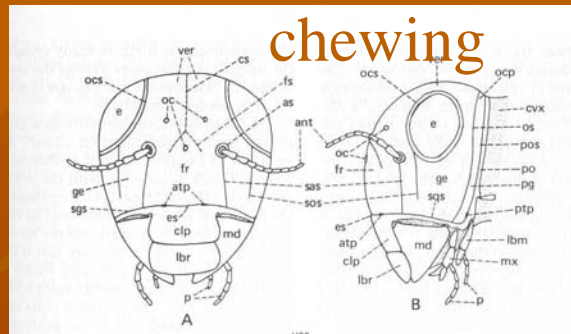


# Antenna

- a. Setaceous: Dragonfly
- b. Filiform: Ground beetle
- c. Moniliform: Bark beetle
- d. Clavate: Beetle
- e. Clavate: Sap beetle
- f. Capitate: Click beetle
- g. Serrate: Click beetle
- h. Pectinate: Beetle
- i. Plumose: Mosquito
- j. Aristate: Fly
- k. Stylate: Snipe fly
- l. Flavelate: Cedar beetle
- m. Lamelate: June beetle
- n. Geniculate: Chalcids



# Mouthparts



# Bottom Line

- Insect taxonomy is complicated!
- **Get to know your area and your crop**
  - Blueberry pests
    - Flower thrips
    - Blueberry gall midge
    - Blueberry maggot
    - Blueberry bud mite

# Pest Identification

- What you need to know for lab practical:
  - ID by sight
  - Damaging stage(s)
  - How is the pest a pest?
    - Type of damage (direct or indirect)
    - Specific damage (what part does it feed on)
    - Pest of \_\_\_\_\_
  - How is the beneficial insect beneficial?
    - Predator or parasite
    - What it attacks