



## 4-H Study Materials for Entomology Contests

January 2003

### II. Structure of Arthropods

Anyone studying insects should have a basic knowledge of insect structure. The following diagrams label the basic structural parts of insects.

To identify insects and understand their role in the environment, one must be acquainted with basic anatomy. Important features include types of mouthparts (chewing, piercing-sucking, siphoning, cutting-lapping, sponging, etc.), types of legs, (jumping, grasping, digging, swimming, running, etc.), and various modifications of wings, antennae, and other body parts. Anatomical features are useful in identifying habitat and food source. For example, we know that the praying mantis is an excellent predator because its front legs are modified to grasp prey and because of its strong, chewing mouthparts.

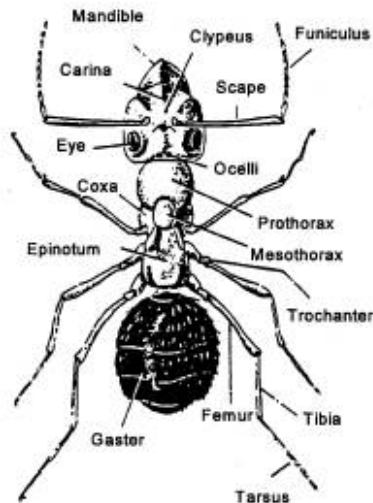


Figure 1. Ant body parts



Black carpenter ant,  
*Camponotus pennsylvanicus* (Fabricius)  
(Hymenoptera: Formicidae),  
worker. Photo by Drees.

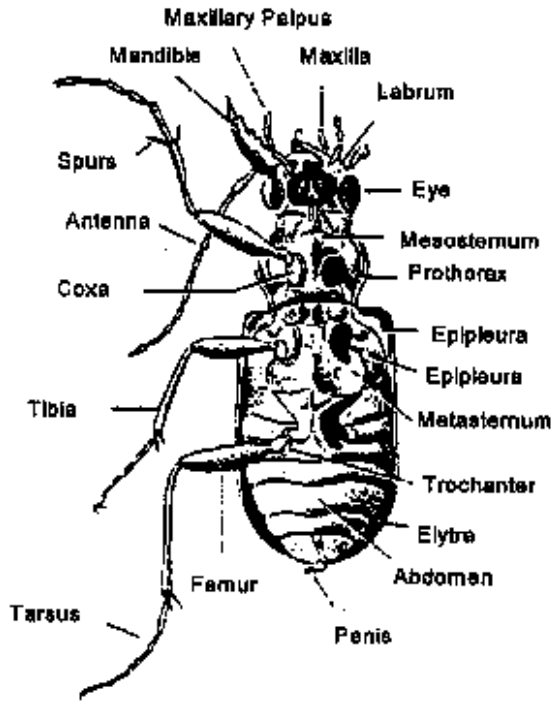


Figure 2. Beetle body parts



Ground beetle

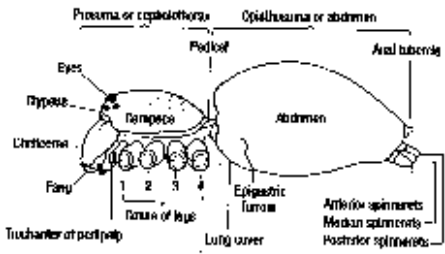
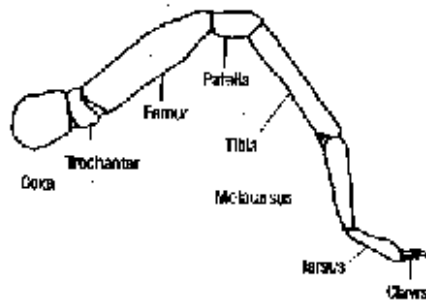


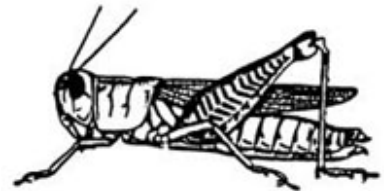
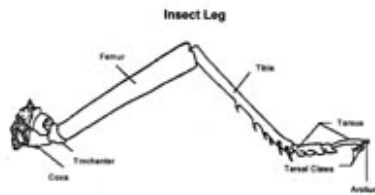
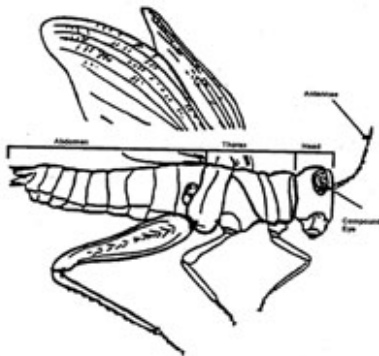
Figure 3. Spider body parts  
(Click on image to enlarge)



Spider leg  
(Click on image to enlarge)



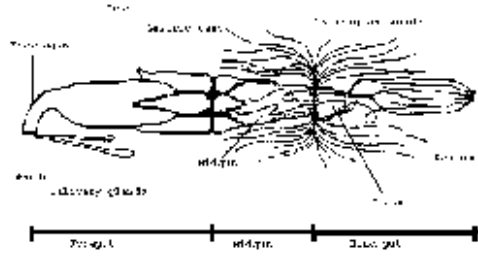
Widow spider



**Figure 4. Grasshopper body parts**  
(Click on image to enlarge)

**Grasshopper leg**  
(Click on image to enlarge)

**Grasshopper**



**Figure 5. Grasshopper Digestive Tract**  
(Click on image to enlarge)

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