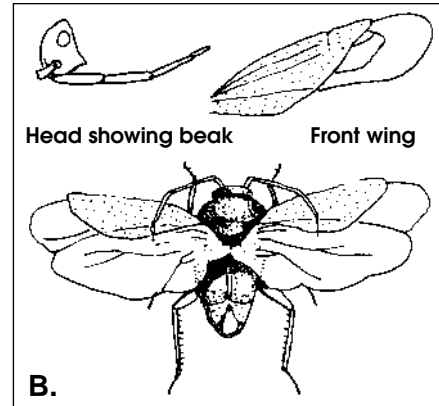
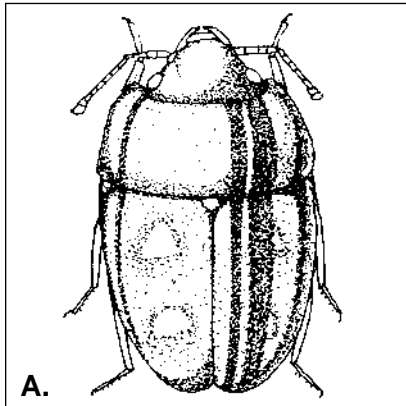


**Chapter 21**

Use with Section 3

**ENRICHMENT****● Identifying Organisms****A Bug or a Beetle?**

Often we pick up an insect and casually refer to it as a bug or a beetle. Using scientific definitions, the insect may not belong to either of these orders of insects. Bugs belong to the order Hemiptera and beetles belong to the order Coleoptera. Look carefully at these two pictures and use the key below to find out which order these insects belong to. The key is not complete for all orders of insects, but it should help you tell the difference between bugs and beetles. There are a few wingless bugs that are not covered by this key. Use references if needed.



1. **Wing type**
  - a. Wings transparent. Go to step 2.
  - b. Front wings hard or leathery and covering hind wings. Go to step 2.
2. **Type of mouthparts**
  - a. Mouthparts chewing. Go to step 3.
  - b. No chewing mouthparts. Go to step 4.
3. **Wing venation**
  - a. Front wings with veins. Order: Orthoptera
  - b. Front wings without veins. Antennae usually 11 segments, often 8–10. Order: Coleoptera
4. **Front wing texture**
  - a. Front wings nearly always thickened at the base; membranous at tip; beak comes from front or bottom of head; antennae have 4 or 5 segments. Order: Hemiptera
  - b. Front wings of uniform texture; beak comes from hind part of head. Order: Homoptera

1. Which insect is a true bug and which is a true beetle? \_\_\_\_\_

2. What are some of the distinguishing characteristics of the insects shown? List them below.

	<b>Bug</b>	<b>Beetle</b>
Order:	_____	_____
Wings:	_____	_____
Antennae:	_____	_____
Mouthparts:	_____	_____