The ABeeC's of Anatomy

Introduction: Anatomy is the study of body structures. Comparative anatomy compares anatomy of different species, and why those structures are important to the organism. In this activity you will learn about and compare the anatomy of Bumble Bees (genus: *Bombus)* and Honey Bees (Genus *Apis*).

Materials:

Honey bee specimen _____
Bumble bee specimen _____
Probe _____
Magnifying glass _____
Scissors _____
Dissecting pins _____
Scalpel _____
Forceps _____

Group Assignments:

Bombus External Inspectors:

_____
_____

Apis External Inspectors:

_____
_____

Methods:

1) Obtain one honey bee specimen and one bumblebee specimen from your instructor.

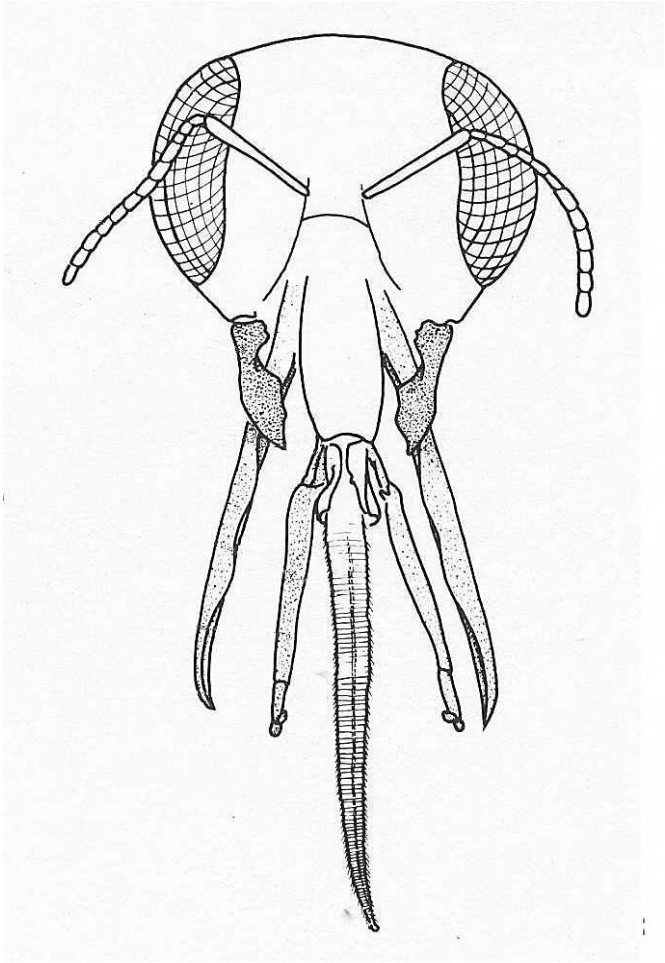
2) Perform a visual inspection of each bee *without* using the microscope. What do you notice about each bee? Record your observations in the table below:

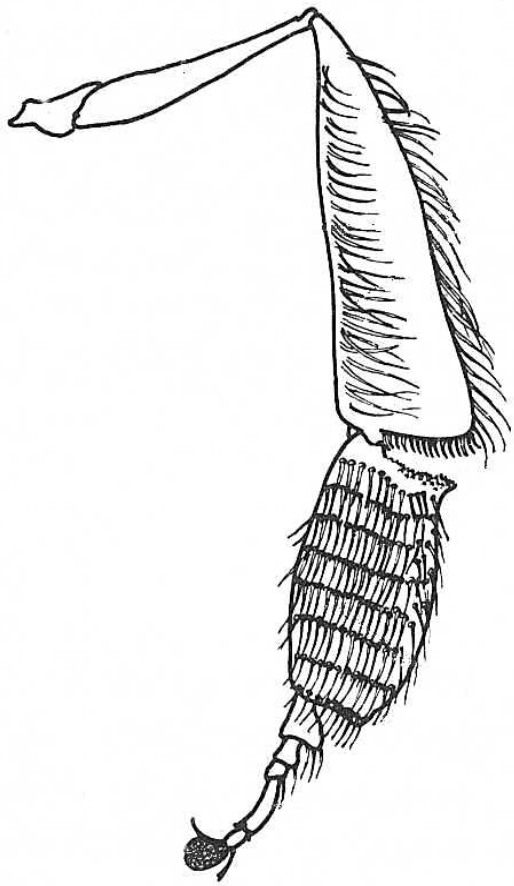
Non-Magnified Observations:

Similarites	Differences

3) *Using* the pictures below, locate and label the following body structures:

a. The proboscis
b. The antennae
c. The occelli
d. The pollen baskets
e. The compound eyes
f. The mandibles





Place each specimen on its side and make a **detailed** sketch of each in the boxes below.

4) Label the following features on your sketch:
   a. The three body regions
   b. The tergites

Specimen Sketches:

Bombus	***Apis***

Challenge! It's Time to Test Your Knowledge! Once you have reached this point in the activity, make sure that every member of your group can Identify all the previously listed body parts ON THE BEE ITSELF UNDER THE MICROSCOPE. Tell your instructor when you are ready, and they will ask a random member of your group to identify two different body parts under the microscope. When your group has completed the challenge, your instructor will initial here: _____

While you are waiting, answer the following questions:

1. How many appendages are found in each body region?
    a. Head =
    b. Thorax=
    c. Abdomen=

    How many legs and how many wings do bees have?

2. What sensory structures found in the anterior body region? The posterior region?

3. Large flight muscles are necessary to drive a bee's wings. Where on the bee's body are the flight muscles probably located? If the muscles are large, what else is there room for in that body region?

For more information, please contact Meg Eckles (meg.eckles@gmail,.com).
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