

Lab Exercise 1 - Insect collection materials and methods

**Introduction**

Collecting insects and preparing insect specimens offers an excellent opportunity to familiarize one's self with the extraordinary diversity of insects and with the breadth of habitats and life histories found within the insects. You will become proficient at insect collection, specimen preparation, and identification this semester. In the process, you will learn that proper specimen preparation is necessary for insect identification. If a specimen is missing legs or antennae, or if its wings are not folded properly, you may be unable to identify it. Similarly, if a pinned insect is not pinned the right way, you may destroy body parts that are necessary for identification.

Insect collecting can be fun, as it gives you the opportunity to explore nature and become familiar with the many habitats in which insects live. When I collect insects, I feel like I am becoming aware of a whole new world of animals, which show interesting behaviors and interact with each other in complex ways that I had never previously noticed. Insects are very habitat specific, and you will need to explore a wide variety of habitats to collect a diversity of insects. Today we will explore habitats on campus to gain an introduction to insect collecting and learn some methods commonly used by entomologists to obtain their specimens.

**Part A. Insect collection techniques and equipment**

**Activity 1: Examination of insect collecting equipment**

**1a. Examination of nets and collecting gear**-Review the first two chapters in Bland and Jaques while sorting through the insect collection material that you will sign out. Make sure that you find materials listed in the manual that you have received or that are shown for you at the front desk. Make a list of the collecting materials below

Collecting materials: \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**1b. Examination of sample preparation materials**-Sort through and identify the insect sample preparation material that you will sign out, using Bland and Jaques. Make sure you find the materials listed in the manual that you have received or that are shown for you at the front desk. Make a list of preparation materials below

Preparation material: \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**1c. Examination of preserved insects**-Many students have taken Entomology before you and SSU has a considerable collection of preserved, labeled insects. We have assembled boxes and vials of specimens, where each item displays a different insect group. Different life stages are also represented. For each specimen, identify the insect order to which it belongs and list its common name and the scientific name of the order. You will find that you know the common names of most of these insects. For pinned specimens, note the general location of the pin.

ID number	Common name	Scientific Name	Location of pin
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____
11.	_____	_____	_____
12.	_____	_____	_____
13.	_____	_____	_____
14.	_____	_____	_____
15.	_____	_____	_____

Pick three insects from the specimens on display and describe them according to the following criteria:

**1. Insect** (use a descriptive English name)

\_\_\_\_\_

**Life stage** (immature nymph, larva, or adult) \_\_\_\_\_

**Habitats used** (broadly) \_\_\_\_\_

**Method of preservation** \_\_\_\_\_

**Text on label 1** (top label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**Text on label 2** (bottom label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**2. Insect** (use a descriptive English name)

\_\_\_\_\_

**Life stage** (immature nymph, larva, or adult) \_\_\_\_\_

**Habitats used** (broadly) \_\_\_\_\_

**Method of preservation** \_\_\_\_\_

**Text on label 1** (top label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**Text on label 2** (bottom label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**3. Insect** (use a descriptive English name)

\_\_\_\_\_

**Life stage** (immature nymph, larva, or adult) \_\_\_\_\_

**Habitats used** (broadly) \_\_\_\_\_

**Method of preservation** \_\_\_\_\_

**Text on label 1** (top label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**Text on label 2** (bottom label in pinned insects)

\_\_\_\_\_

\_\_\_\_\_

**Part B. Campus field trip**

**Activity 2: Exploration of campus habitats**

**2a. Campus garden habitat**-We will go to the campus garden and observe insects there. Watch the flowers and record the kinds of insects you see visiting them. Your instructor will show you how to collect flying insects here.

Insects observed: \_\_\_\_\_, \_\_\_\_\_,

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**2b. Copeland Creek**-Next we will visit the creek bed at Copeland Creek. Look carefully for insects on or near the creek bed. You will want to carefully turn over small and medium sized rocks in the creek bed to search for insects. When you find insects here, place them into a plastic container and save them for your instructor. Record insects observed (you may need help from your instructor to identify some of these!).

Insects observed: \_\_\_\_\_, \_\_\_\_\_,

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**2c. Streamside willows**-Finally, we will look at the willows along the creek and along the road to determine which insects live here. Look carefully at the willows and record any insects you see here. Your instructor will reveal some additional insect habitats once you have spent some time here. Record insects observed (you may need help from your instructor to identify some of these!).

Insects observed: \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_