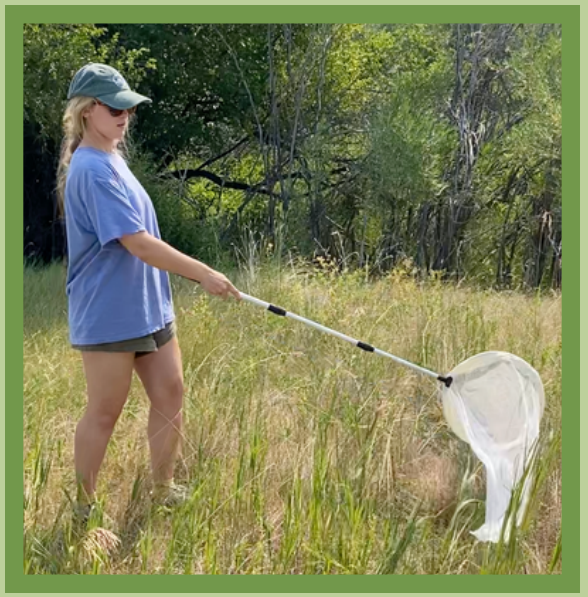
ADVENTURE SCIENTISTS

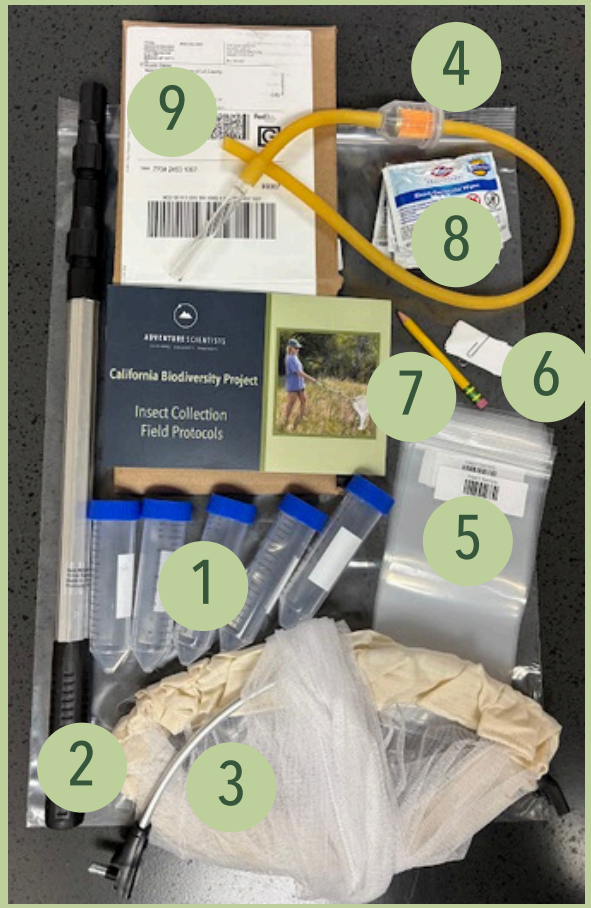
EXPLORE. COLLECT. PROTECT.

California Biodiversity Project

Insect Collection Field Protocols

updated May 2025





REQUIRED GEAR LIST

WE PROVIDE:

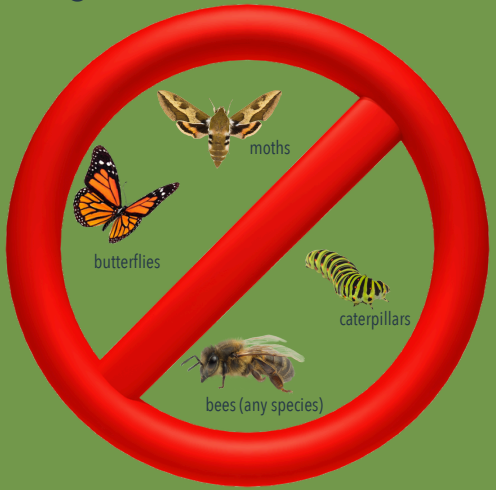
1. Vials with ethanol
2. Sweep net pole
3. Sweep net
4. Aspirator
5. Barcoded bags for samples
6. Small paper strips
7. Pencil
8. Bleach Wipes
9. Pre-addressed return envelope
10. CDFW permit (you must download)
11. Location based permit

YOU PROVIDE:

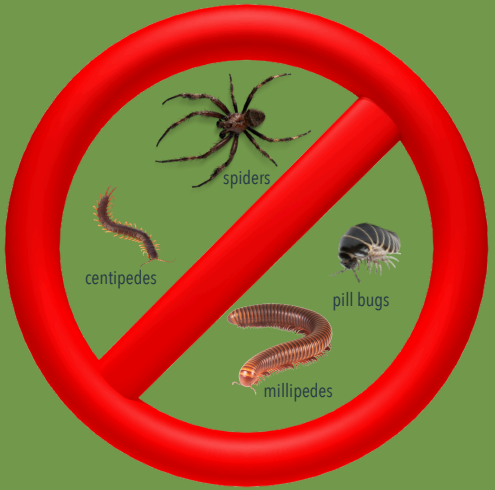
- Smartphone with Survey 123 app and California Biodiversity Project loaded

Special Notes

This is an insect study, but we are not collecting certain insects such as:



Some species in your net may not be insects. Don't collect them.



If a moth, bee, butterfly, or larva is caught in the sweep net, carefully release it. Larva should be placed on a nearby host plant. If a bee, butterfly, or moth is injured, you must take a photo of each injured organism and submit in the Survey 123 app.

DATA COLLECTION

Sweep Netting

Step 1: Arrive at your selected site and assemble your sweep net.

Step 2: Sweep your net across all vegetation from ground level to as high as you can reach, for a minimum of 20 minutes.

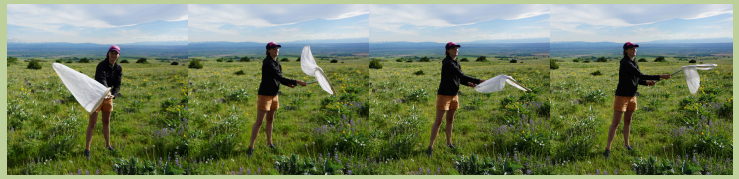
Move around - as long as you are in the same type of habitat (an entire meadow, a grove of oak trees, etc.), keep sweeping. We want to collect as many species from one area as we can.

PRO TIP

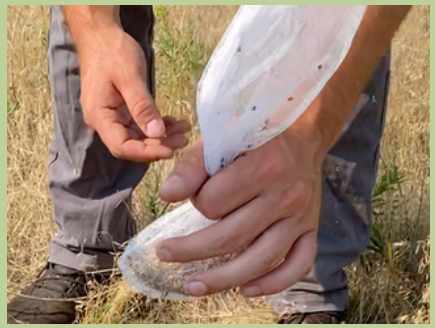
Think like a bug! Look for puddles, different types of plants, and anywhere a bug would hide.

Collecting insects inside net

Step 3: Swing the net quickly in a circle to ensure all insects are at the pocket portion of the net.



Step 4: Grab the net toward the back to enclose everything inside.



DATA COLLECTION

Inspecting insect collection

Step 5: While still holding the net with the insects enclosed, invert the net (turn it inside out) to bring your hand closer to the outside.

Step 6: Inspect the net to be sure there are no moths, butterflies, bees, or non-insect organisms. Do not feel discouraged if you collected only tiny insects - these are very valuable to the project!

If you don't find insects after at least 20 minutes, move on to another site. Don't submit empty vials.

Aspirating insects

Step 7: Slightly relax your netted hand to make a small opening. With your free hand, insert the glass end of the aspirator tube into the opening.

Step 8: Use your mouth on the rubber end of the aspirator to suck all the insects into the filter, which is inside the glass tube.

Don't forget to collect the tiny insects at the bottom of the net!

Step 9: Place your finger over the opening in the glass tube so no insects escape.

DATA COLLECTION

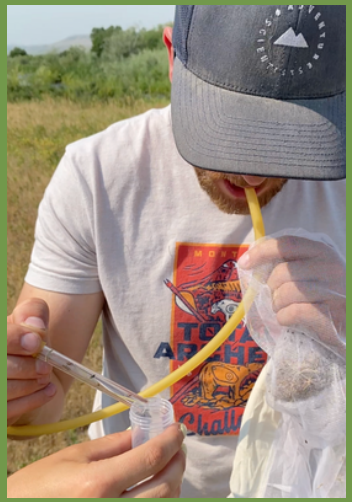
Gathering insects into vial

Step 10: Remove the lid from the 50mL sample vial; remember it is partially filled with ethanol.

Step 11: Place your mouth back on the rubber end of the aspirator and hold the glass end so that it points into the vial.

Step 12: Blow all of the insects collected inside the aspirator out and into the provided vial.

Step 13: Securely replace the lid on the vial.



Repeat this process until you have collected a large, biodiverse sample as pictured in the reference photos below

The goal is to capture biodiversity. Sweep until your vial fills up to look like these!

If your vials look like this, keep sweeping!

DATA COLLECTION

Logging data

Step 14: Grab a barcoded bag. Use a pencil* to clearly record the corresponding barcode number on a paper slip.

Step 15: Open the vial and insert the paper slip into the sample you just collected. Close the vial and place inside the barcoded bag.

Step 16: Open the Survey123 app and complete all prompts.

*pencil must be used, because inks will dissolve in the ethanol solution within the vial

Cleaning sweep net

Step 17: Place a bleach wipe in your hand and grasp the sweep net.

Step18: Gently pull downward on the net to ensure the bleach wipe touches the entire net. Do this at least 2 times.

Step 19: Swing the sweep net side to side at least 5 times.

SUBMITTING SAMPLES

Store your samples in a cool, dark place while waiting to ship. You must send your samples within 2 weeks of collection.

Ship bagged samples using the provided shipping label to:

Austin Baker
Natural History Museum of Los Angeles County
900 Exposition Blvd
Los Angeles, CA 90007

If you are done participating, ship your empty vials and barcoded bags, sweep net, aspirator, and protocol booklet back to Adventure Scientists using the provided shipping label to:

Adventure Scientists
214 E Mendenhall St
Suite 203
Bozeman, MT 59715

IN CASE OF EMERGENCY FIRST, CALL 911

Once you are in a safe situation, after the emergency, alert Adventure Scientists staff about the incident by contacting: (406) 579-9702. ONLY contact this number if you are reporting an incident.

Have project-related questions? Email:biodiversity@adventurescientists.org