California All Taxa Biodiversity Inventory
Sampling Protocol: Leaf Litter

The following are instructions for handmade wire mesh leaf sifter. If using a commercial leaf litter compacter, follow the instructions outlined in the instruction manual.

Precautions and Guidance on Sampling:

- The leaf litter sampling should be done when the litter is damp but not saturated. Avoid entirely dry litter, the litter needs to be damp enough to support life. Collecting in the early morning or evening when humidity is highest is best.
- If there is no moist leaf litter at the site, do not collect leaf litter.
- When collecting litter material, avoid trampling or disturbing the litter.
- Once the litter is collected, be very careful not to crush the litter bags.

Equipment:

- Gloves
- Barcode sticker labels or pre-labeled collection bag (1 per site)
- Commercial leaf litter compacter OR
- DIY wire mesh sifter with ¼" mesh, cloth stuff sack (e.g., pillowcase), and binder clips
    - Instructions for making DIY wire mesh sifter: PowerPoint Presentation (spongymesophyll.com)
- Hand rake
- Zip ties (optional)
- Collection bag (1 per site)
    - Breathable bag (Option 1- preferred)
    - 2.5-gallon Ziplock bag (Option 2)

Steps:

Option 1 (preferred)

1. Put on gloves.
2. Secure a breathable bag to the bottom of the wire mesh sifter using binder clips. The top of the sifter can be covered using a bag, cardboard, or any functional material to prevent litter from spilling out from the top while sifting.
3. Use a hand rake to rake the leaves directly into the litter sifter.
4. Remove any twigs or pieces of rotting wood in the sifter.
5. Place litter on top of the sifter until the sifter is ¾ full.
6. Shake the sifter in all directions continuously for 30 seconds. Turn the litter over and shake for another 30 seconds.
7. Collect at least 1 cup of compacted litter. This may require sifting several times. Check litter volume and moisture, and abandon collection if there is less than 1 cup of moist compacted litter.

8. Unclip the breathable bag from the sifter. Close the breathable bag and shake it around to dislodge any arthropods that may be crawling up the inside of the sack.
9. Close the stuff sack bag tightly, tying a knot on the top or using zip ties.
10. When carrying the litter samples, be very careful not to compress them or place anything on top of them. If possible, the best way to transport the bags is to carry them by hand, or to tie them to a backpack so that they hang freely.
11. Store the litter samples in a cool, dark, and dry location (e.g. in a cooler with leakproof ice packs or in a fridge). Ideally, litters samples should be refrigerated (e.g. in a cooler with ice packs) from the time they are sampled until delivered to the laboratory.
12. **Ship or drop off samples within 48 hours or as soon as possible.**

Option 2

1. **The samples collected using this option will need to be ship or dropped off for processing within 48 hours.**
2. Put on gloves.
3. Collect leaf litter by hand and place it into a 2.5-gallon Ziplock bag.
4. Fill the Ziplock bag until it is full (or at least half full). Be sure the leaf litter will not be crushed when closing the bag.
5. When carrying the litter samples, be very careful not to compress them or place anything on top of them. If possible, the best way to transport the bags is to carry them by hand, or to tie them to a backpack so that they hang freely.
6. Store the litter samples in a cool, dark, and dry location (e.g. in a cooler with leakproof ice packs or in a fridge). Ideally, litters samples should be refrigerated (e.g. in a cooler with ice packs) from the time they are sampled until delivered to the laboratory.
7. **Ship or drop off samples within 48 hours.**