

The Berlese Funnel

Building a Berlese Funnel

The goal of litter sampling is to extract the arthropods that live in the dead leaves and twigs that lie on the ground. Many of these arthropods are very small. When a good patch of litter is sampled, it is amazing to discover how many unnoticed critters live right below our feet!

To perform the extraction, you need a Berlese funnel. Here is how to build one:

Materials

2-liter soda bottle (preferably clear plastic with the label removed)

Piece of hardware cloth (with a mesh of $\frac{1}{4}$ inch)

Desk lamp or similar light source (with a 20- to 40-watt light bulb)

Small jar or dish (2 centimeters deep) to catch the litter critters

Alcohol (rubbing alcohol is fine)

Step 1

Use scissors to cut the soda bottle in half. While wearing safety goggles, fill the small jar or dish halfway with alcohol and place it at the bottom of the bottle. Turn the top half of the soda bottle upside down and put it inside the bottom section of the bottle.

Step 2

Cut out a piece of hardware cloth about 6 inches square. Fold up the corners as shown to build a roughly circular platform that will nest inside the funnel part of the bottle. Your Berlese funnel is ready.

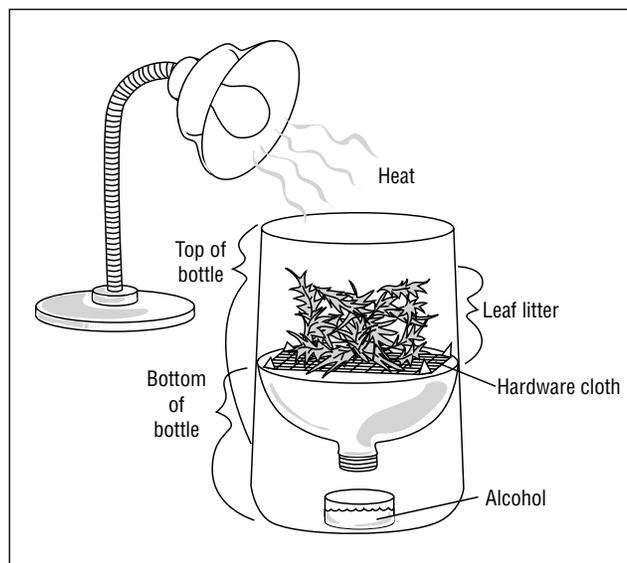
Extracting Arthropods from Leaf Litter

Once you have your sample of leaf litter, remove the top portion of the Berlese funnel and gently scoop the litter from your plastic bag into the funnel. Some dirt and debris will fall through the mesh, so work over a trash can. When you have added the two cups of litter, gently nest the funnel back into the bottom half and move the lamp over the litter (see illustration).

Berlese funnels work by gently heating and drying the top of the litter. Since most critters like the litter

moist, they will work their way down until they fall through the mesh. The larger ones will tumble into the alcohol. Some of the smaller ones may “stick” to the tapered part of the funnel, especially if water condenses on the inside.

When the litter is dry (this usually takes about 24 hours), carefully lift the top portion away from the bottom. If you bump it, you may end up with a dish full of dirt! Pour off the litter into your plastic bag for disposal. With alcohol, rinse the funnel into the dish to get any small things that are stuck to the side. Don't forget to use safety goggles while working with the alcohol.



Remember to post
your leaf litter data on
Team JASON Online!

