Recycle for your spider safari

Roma Oxford - British Arachnological Society

Spider hideouts are easy to find. Just look around you for their webs, but the running, jumping and scuttling ones are a lot less easy to see and catch. A few items of stuff you'd normally put in the recycling bin, or just throw away as useless, can be exceptionally helpful with your research into spiders. Read on for four ideas.

1. Sweep nets

Bug-Clubbers know that swishing a sweep net about is the quickest and most impressive technique for catching large numbers of invertebrates. However, the ones used by professional entomologists are expensive, so here's an affordable version. Garages, sheds and attics are good hiding places, not just for spiders, but also for the main part of your sweep net. An old wrecked tennis or badminton racquet serves as the frame for the 'net'. Remove the strings leaving an open racquet. Now attach a cheap pillowslip round the edge of the frame. You can do this with drawing pins, if the frame is wooden or with staples from a large stapler if using a badminton racquet. Sewing the pillowslip on is another alternative. Be on the look-out in toy shops for inexpensive racquets as they can be adapted too.



Left: Sweep net

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Photos: R. Oxford

Choose a dry, warm and still day and a field of long grasses with wild flowers. (Sweep netting after rain is a crushing experience for most invertebrates.) Sweep the net, figure of eight fashion, for a good few minutes through the vegetation. Allow the pillowslip to billow out behind. Let wasps and bees out (if you caught any) and examine the catch. If you're just interested in spiders allow other insects to escape too. Collect single spiders in specimen tubes. Be sure to have lots of space around you, especially if you're with other people.

2. Pitfall traps

Spiders that run over the ground, like wolf spiders, are best caught in pitfall traps. Use two plastic drinking cups, **without** ridges inside. Make small drainage holes in the bottom of each cup. Put the two cups, one inside the other and then bury them in the ground. Add a bit of damp moss to the inner cup and make sure its lip is exactly at the soil surface. Very fast moving animals will fall in and can hide under the moss. The smooth plastic sides should prevent any escapes.

Why two cups? When you pull a single cup from the hole, soil tumbles in so by having two cups, the outer cup allows you



you to slide the inner one in and out easily. This is especially useful for repeat trappings, for example for comparing day



and night catches. What if torrential

rain is predicted? Simply balance some sort of cover over the trap and support it on two or three well-placed stones. Leave space for spiders and other invertebrates to run underneath. Check the trap often. Even spiders have predators!

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3. Pooters

A pooter is a mouth-operated suction tube for small invertebrates. The simplest one to make is shown in the photo and consists of two lengths of flexible plastic tubing, one of which fits snugly inside the other. Cut about 30-40 cm of the thin tubing and about 8-10 cm of the wide tubing. You also need a 3 cm square of fine nylon mesh. Old net curtain or tights material are ideal. Put the nylon mesh over one end of the thin tube and push both together into the wide tube, trapping the mesh. This process will be easier if you warm the wide tube in hot water first.

To use the pooter, put the free end of the thin tube in your mouth and the free end of the wide tube next to the spider you want to catch. Suck – but not too hard! The spider will travel up the wide tube as far as the mesh. Quickly put a finger over the wide end of the tube to prevent the spider escaping. Examine the spider with a hand lens if the tubing is transparent

enough, or gently shake the spider into a clear specimen tube. If you want to study minute details on your spider, what follows is a clever way to hold it still for a short while.



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4. Spi-pots

Next time you visit a café that serves small portions of milk in tiny plastic pots, each with a peel-off top, save a few of them from land fill. They will be invaluable tools in the identification of very small animals that are normally far too fidgety to observe closely. The spi-pot restrains a live specimen comfortably and was first introduced by Mike Roberts in his 'Collins Field Guide to Spiders of Britain and Northern Europe'. To make one, you'll need two of the milk containers. Ask an adult to cut off the very bottom of one container with a razor blade. Stretch a piece of cling film over the cut end and secure it with an elastic band. (Pot A). Carefully cut out a circle of thin foam or expanded plastic packaging material that should just fit the outside base of the second container. Glue it in place. (Pot B). This material for Pot B should be slightly squashy. Once the glue is dry, you're in business.

Hold Pot A as if to drink from it. Add your spider, letting it walk about on the cling film. Gently push in Pot B to half way down Pot A. Turn both pots upside down so that you can adjust the amount of pressure that will comfortably hold the spider still against the cling film. If the spider stood upright on the cling film when Pot B was added, you can examine its under (ventral) side. To see the upper (dorsal) surface, pull Pot B up a little to give the spider room to turn round. You might need to give a gentle shake as you turn the spi-pot so that the specimen walks on the squashy material. Push Pot B gently to trap the spider against the cling film.

Held in a spi-pot, spiders are easy to position for

photography and for close inspection with a hand lens. These mini spi-pots will even fit under some microscopes. Check on the eyes, fangs and hairy body. For a small number of spiders the body shape and colour pattern can aid identification to species level (*see:* <u>Bug Club</u> <u>Magazine</u>, Feb-March 2013, p.19). The young Garden spider *Araneus diadematus*



shown here was photographed in a spi-pot.

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Mini spi-pots are really only suitable for small-to medium sized spiders. You'll need a larger version for Large House spiders (*Tegenaria* species), Daddy-longlegs spiders (*Pholcus phalangioides*) and mature Garden spiders. Examine spiders and any other invertebrates you catch as soon as possible and then release them. Cling film is not a life-friendly substance.

As you can see, hanging back from throwing some things away can make arachnid and general invertebrate studies truly fascinating. Can you think of any other gizmos you could utilise for research?

Please send your ideas to the Editor and bring your gizmos to the Kempton Park Exhibition - we'll have a prize for the best one!



