ENTOMOLOGY NOTES

No. 13

PUBLISHED AS A SERVICE OF
THE MICHIGAN ENTOMOLOGICAL SOCIETY

The Insect Collecting Tent

Whether out of curiosity or for other reasons, have you ever asked yourself, "I wonder how many kinds or numbers of insects, spiders, etc. are on that tree or shrub?" There are ways to find out. You can shake or beat a tree with a stick and knock off a sample of the insect fauna, but tight-grasping species will stick tighter and the skiddish and flying kinds will undoubtedly depart. A better way to census an entire tree or shrub is to cover it with a plastic tent-like bag and then asphyxiate the arthropods with a safe quick-knockdown chemical such as pyrethrum. Small shrubs and trees are easy to do, and conifers, because of their usually conical shape, are easier than the more brood-topped hardwoods. Of course, you can design a tent to fit the shape of nearly any small tree or shrub.

THIS IS HOW TO MAKE ONE

Good and inexpensive material for the tent is heavy clear plastic (or visqueen) sheeting used for house vapor barriers and sold in most building supply stores. The tent can be made any convenient size, but one about 8 ft. tall and 6 ft. wide works for most small trees and shrubs. Shape is not critical but one with a square base and built like a truncated pyramid is easy to construct (fig. 1B). First cut the four plastic sides and then attach them to form the pyramid. The seams can be sewed, but paper staples, if spread 2-3 inches apart are quite satisfactory. All seams should be folded twice before stapling to insure a tight closure. Be sure to leave the lower 4 or 5 inches unstapled. Fold the base of each plastic sheet upward a few inches and staple it, leaving a space large enough to insert the rigid poles that support the tent base. For those, you can use one-half inch plastic plumbing pipe, joined at the four corners by plastic elbows (fig. 1C). Cement two elbows on two of the pipes so they won't get lost. When assembled the other two pipes are just inserted into the elbows. They often fit snugly, but a small wire or cotter pin inserted through a hole drilled through both pipe and elbow will secure it while in use.

HERE'S HOW TO CENSUS A TREE

In order to keep the specimens from escaping and to readily find them after they fall, you'll need to place a large square sheet of muslin beneath the tree before covering the tree with the tent. This dropcloth must be at least one foot larger on all sides than the base of the collecting tent. Also it should have a slit on one side that runs to the middle. A small strip of muslin (1 ft. wide) sewed along the slit seals the slit when the sheet is in place. This flap helps prevent the escape of your specimens. In use you simply place the dropcloth in position like putting on a bib. It is easiest with two people, who pull it around the tree base. Be sure to avoid jarring the tree when you do this (fig. 1A).

Once the dropcloth is in place and the flap is folded over, the two people pick up the tent by its base, walk to the tree, and quickly place it over the top. The tent will inflate while this is being done if you move into the wind. Be sure not to jar the tree until the tent is in place. Immediately fold the dropcloth over the base of the tent and tuck under the ends to seal the tent tightly (fig. 1B). (Note, be sure to check the tree beforehand and be certain you don't sample one with a birdnest). Pierce a tiny hole in one side of the tent and spray with enough pyrethrum aerosol (1-2 minutes) to asphyxiate all the arthropods (you can usually purchase pyrethrum from scientific and restaurant supply houses). Don't remove the tent for 15 to 20 minutes, even though some insects fall immediately. After removing the tent, shake the tree to dislodge any specimens caught in the foliage or branches. You should find insects, harvestmen, spiders and related creatures on the dropcloth. Only the most tenacious creatures such as scale insects, and of course those within the leaf or stem tissues will still be on the tree. The entire contents of the dropcloth can be gathered up and dumped in a plastic bag if desired, or specimens can be selected and placed in killing jars or alcohol. Don't tarry too long while collecting because some specimens will awaken in the fresh air and depart.

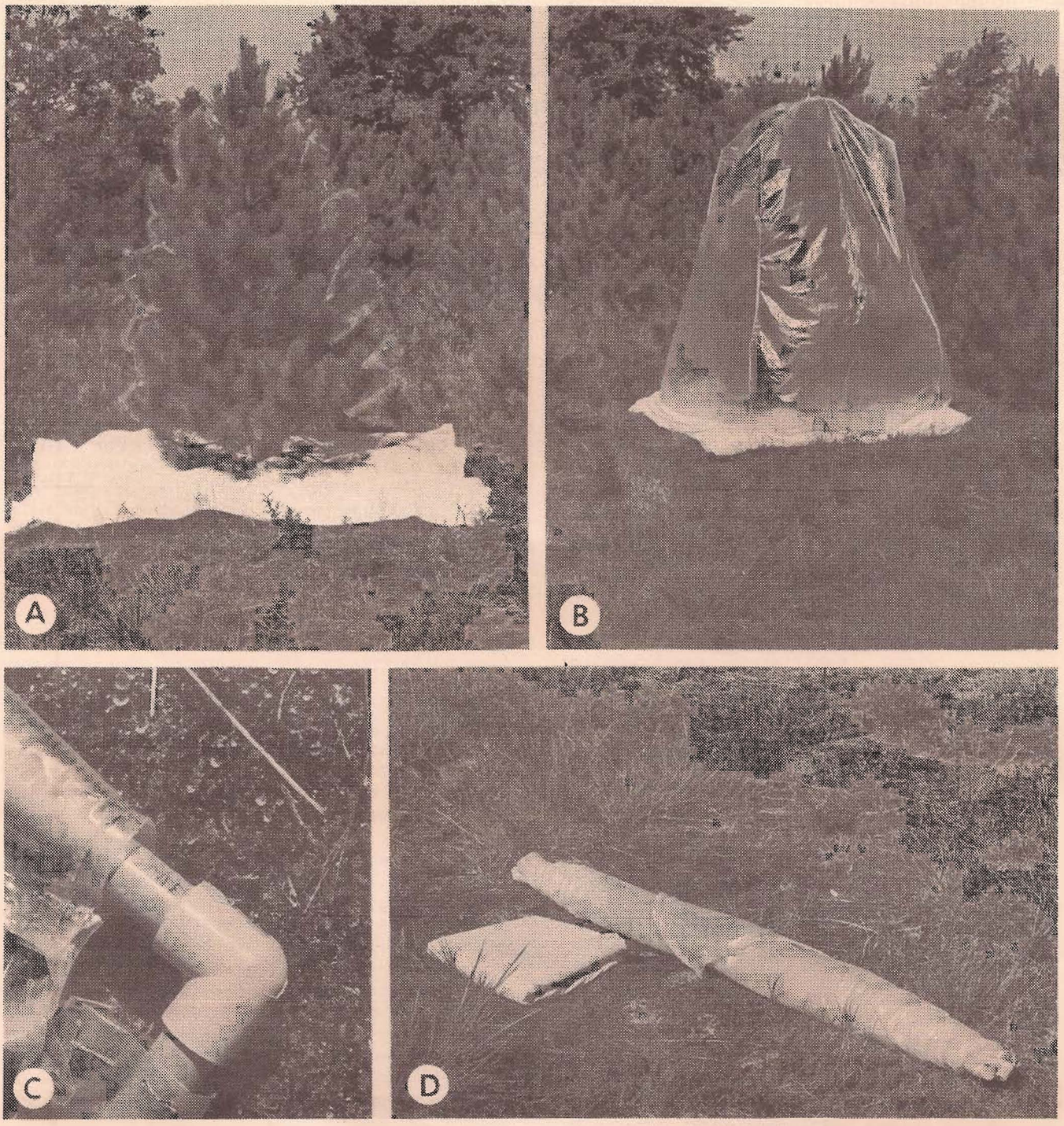

Figure 1. Insect collecting tent: A. Sample tree with dropcloth in position; B. Collecting tent in place with dropcloth tucked over base of tent-frame; C. Construction of plastic base and corner of frame; D. Ready for transport and storage.

TRANSPORT AND STORAGE

When ready to transport or store the tent, just unhitch and pull out two plastic pipes, leaving the ones with the elbows attached in their sheaths. Lay the tent flat on the ground and neatly tuck in the sides until the plastic touches in the middle. Press the tent and remove as much air as you can. Then place the two loose plastic pipes next to and parallel to the other pipes and start rolling up the tent from the base toward the tip. A few small airholes punched in the tip of the tent will let the last bit of trapped air escape. Completely folded, the tent and dropcloth look like those in fig. 1D.

Louis F. Wilson

Michigan Entomological Society, c/o Department of Entomology, Michigan State University, East Lansing, Michigan 48824--(28-11-79).