

# AN INEXPENSIVE TRAP FOR MONITORING SCALE PARASITOIDS IN THE FIELD

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Field sampling of the parasitoids that attack armored scales is problematic. Samples of the infested plant host can be collected and incubated in laboratory emergence traps; however, since many economically important scales are found on the bole or branches of orchard or shade trees, sampling in this manner is destructive and injurious to the tree. Another method is to hang sticky traps in the branches of the infested tree. This technique is not selective for the parasitoids emerging from a specific insect host, and it is time-consuming to collect and prepare the material for identification.

An effective method for monitoring the emergence of scale parasitoids in the field was developed using black plastic 35 mm film canisters (Fig. 1). The canisters were cut to fit the shape of the infested branch by using a contour gauge and a single edged razor blade. A hole was drilled into the side of the canister and into the cap of a 35 × 12 mm glass vial. The hole in the cap of the vial was aligned with the hole in the canister and the cap glued in place using a Thermogrip® glue gun. The trap was placed over the scale infested portion of the tree, held in



Fig. 1. Parasitoid emergence trap on the branch of a peach tree infested with *Pseudaulacaspis pentagona*.

place with Twist-ems<sup>®</sup> paper covered wire, and the edges of the trap sealed to the tree with Clayola<sup>®</sup> non-hardening modeling clay. Emerging parasitoids are phototactic and move toward the source of light provided by the glass vial. They are therefore easily collected by unscrewing, capping, and labeling the vial. The entire trap can then be moved to a new location on the infested host tree.

These traps have several advantages. They are inexpensive, easy to construct and large numbers can be monitored on a regular basis. In addition to parasitoids and hyperparasitoids, male scales and crawlers have been collected from the vials, suggesting that these traps may be of value in determining the phenology of the entire host-parasitoid complex. — Christine A. Nalepa, Biological Control Laboratory, North Carolina Department of Agriculture, P. O. Box 27647, Raleigh, NC 27611. (Accepted for publication October 7, 1986)

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