

mation on the proper maintenance of the parasite. Greenhouse temperature is one of the most critical conditions for maintaining *Encarsia*. An average temperature of 75°F must be maintained, with temperatures no lower than 55°F at night. The yellow boards should not be used when *Encarsia* is present because the boards will attract the wasps more readily than white flies.

Generally, *Encarsia* must be released in two stages. Two releases are necessary to ensure progressive parasitizing of the white flies as they reach the late scale stage.

We have found using both control methods (the yellow boards and *Encarsia formosa*) highly effective in controlling the white fly population in a small greenhouse. Both methods are biologically safe, inexpensive,

and uncomplicated. In addition to these benefits, we have used this project to illustrate biological control mechanisms for our environmental biology students and to demonstrate life cycles and parasitic relationships to general biology students.

We are presently experimenting with biological control methods for scales, mealy bugs, and spider mites and will report on the success of these methods in the future.

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Another Worm Flattener

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Any number of devices for flattening annelid worms during fixation have been proposed, produced, and promoted. The system described here, however, is cheaper and simpler than most and yet quite effective. This system was devised specifically to prepare whole mount slides of leeches, but one of the unique features of the system is that it can be adapted readily to other forms as well by simple manipulations of its elements.

Live leeches are narcotized individually in the lid of a deep plastic petri dish by adding a few pieces of tobacco to the water. When they no longer respond to direct stimulation with a probe, the tobacco and some of the water are removed. The bottom of the petri dish is placed into the top, resting directly on the narcotized specimen, and weight is added to flatten the specimen. The remaining

water is pipetted off and replaced quickly with the desired fixative.

A major advantage of this particular system is that the extent of flattening can be controlled rather precisely and conveniently by carefully controlling the weight placed in the petri dish bottom that rests on the specimen. A convenient method for accomplishing this is to set a beaker or other container large enough to cover the specimen in the petri dish

bottom and then to add water to achieve the desired degree of flattening.

There is one precaution that should be noted. Because the fluid volume is relatively low in this system, several changes of fixative at 15-20 minute intervals assure more expedient and effective fixation. The fluid level can be conserved in the extended fixation period by enclosing the entire system in a plastic bag.

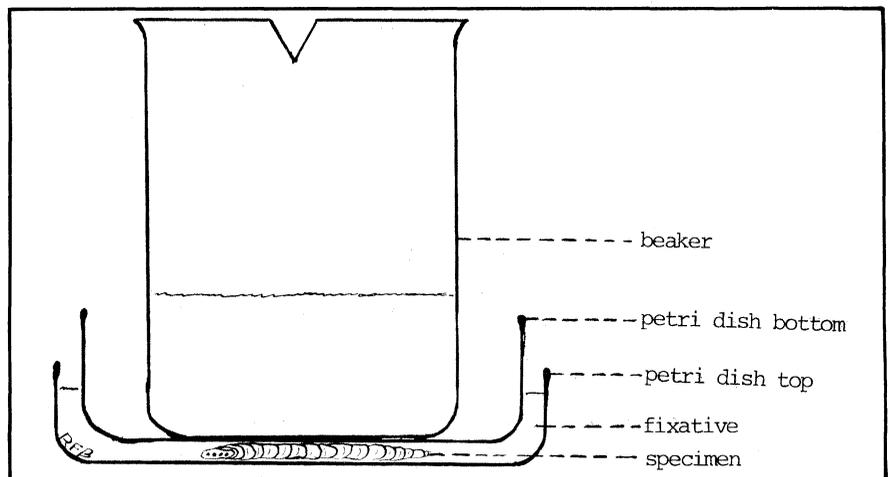


FIGURE 1. Worm-flattening device described in this article.