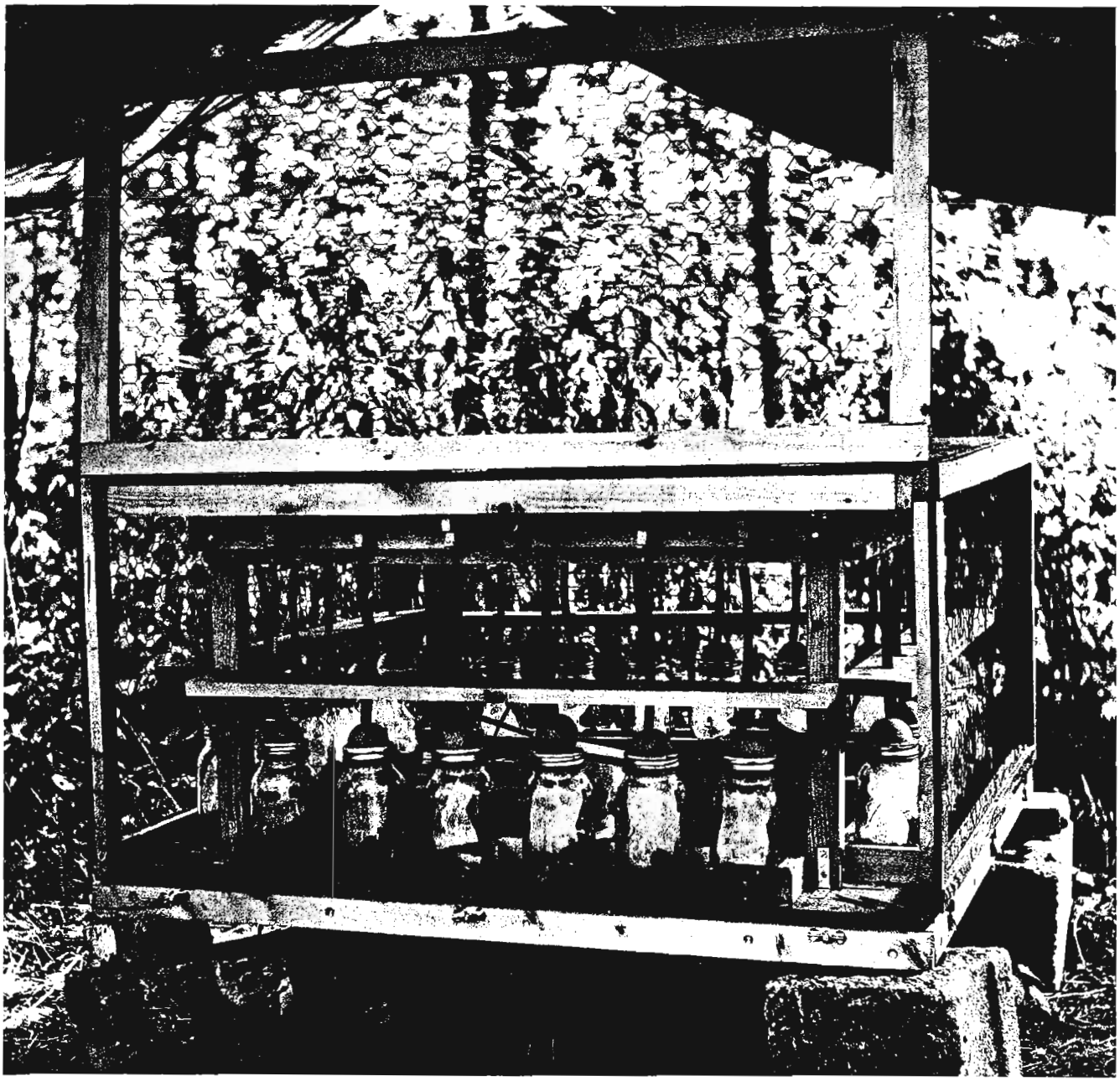
Hooper, G. B. Marist College, Poughkeepsie, New York. An automatic trapping apparatus for Drosophila.

To facilitate the daily collection of drosophilids an automatic trapping apparatus was designed to collect flies continuously on an hourly basis. The unit (see accompanying photograph) consists of 24 one-quart mason jar traps containing fermenting bananas that are opened on a sequential basis areound the clock. Each trap is sealed by a 2 1/2 inch diameter hollow rubber ball that fits into the space normally occupied by the central disc of the cap. The ball in turn is attached to a solenoid (Herbach & Rademan, Phila., Pa. #TM9419) above the trap by a beaded chain which is covered with rubber tubing to minimize the bouncing of the ball when the solenoid is activated. Activation of the solenoid raises the ball approximately a half inch allowing flies to enter the trap. In the photograph the fourth trap from the left is open. Flies are collected in a basket 5 1/2 inches long and 2 1/4 inches in diameter made of



finely meshed nylon curtain material. The top of the basket fits snugly into the neck of the jar while the bottom rests on the banana mash to allow flies to feed while in the trap. To ventilate the closed trap, small holes 1/8 inch in diameter have been drilled around the periphery of the top of the cap and covered with organdy. The sequential opening of traps is controlled by a stepping relay (H & R #G4-101) housed in the protected cover of the apparatus.

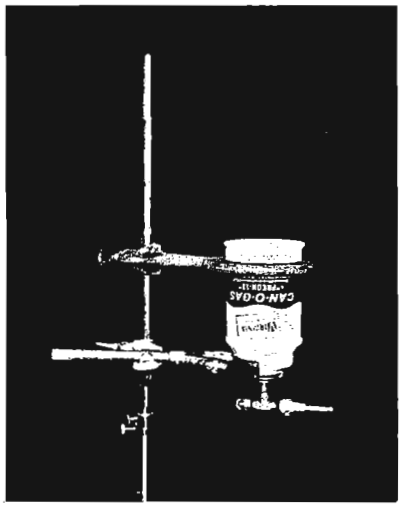
Traps are sealed prior to removing them from the apparatus by replacing the metal with plastic caps. With a little practice this can be done with almost no loss of flies. Flies are readily removed from the traps later in the laboratory by anesthetizing them through a hole in the plastic caps and removing the baskets. During an active hour of the day, upwards of 250 flies have been collected in a single trap.

The 'trapper' operates on 110 volts and has three separate circuits: one powers the hourly timer (H & R #HR-027c) that activates the stepping relay; a second activates the solenoid of the stepping relay; and the third brings current to the 24 solenoids. The entire unit measures 47 inches square and is 24 inches high. The traps are protected from small mammals by a chicken-wire screen, while a 12 x 16 foot tarpaulin protects them from rain, falling leaves and branches.

Hoch, Floyd. Ohio Northern University, Ada, Ohio. Cover glass removal.

Dry ice has been used extensively for the removal of cover slips when preparing microscope slides by the squash technique. Several disadvantages experienced in using dry ice have been eliminated in a method developed in our Laboratory Technique course. These problems are availability, storage, and difficulty in removal of the cover slips.

Freon 12 is a non-inflammable, colorless, odorless, non-toxic gas that boils at -22°F at atmospheric pressure. It is used in many household refrigeration systems and is available in 1 and 2 pound disposable cans from any refrigeration supply. They can be stored on the laboratory shelf indefinitely with no problems. Beginning students have had very little difficulty in removing cover slips using the following method.



The freon can is fitted with a reusable valve which punctures the sealed can and controls the release of the gas. With the can in the upright position, only gas escapes and very little cooling is accomplished, but if the can is inverted, the liquid freon is expelled. We used an ordinary ring stand with a clamp at the bottom and a ring at the top to hold the can in the inverted position. A 1 1/2" piece of 1/4" tubing was flared and attached to the valve with a 1/4" flare nut. The tubing acts as a nozzle in directing the liquid onto the slide.

To remove a cover slip, hold the slide at a slight angle in front of the nozzle with the cover slip down. Open the valve releasing liquid freon onto the slide for about 10 seconds. Flip off the cover slips immediately. To avoid frostbitten fingers do not allow the liquid freon to contact the skin.

Other refrigeration gasses boil at even lower temperatures than Freon 12, but it works well and is less expensive than the others. A one pound can costs about one dollar and can be used to remove about 35 to 40 cover slips.