

diagrams giving all lengths, distances, etc. in mm's) have to be described.

9. During irradiation the flies ought to be kept in a container of light-atomic material, such as cellophane, gelatine, or bakelite, which has a wall-thickness equivalent to that of the ionisation chamber of the dosimeter.

Dobzhansky, Th. Collecting,
transporting, and shipping
wild species of Drosophila.

Usual *Drosophila* culture bottles can serve as traps. A sturdy string is tied around the bot-

tle neck to facilitate its hanging in a convenient position on branches of trees, bushes etc. A layer of bait a few centimeters thick is placed on the bottom of the bottle, and covered with a piece of a paper towel or filter paper to absorb excess moisture. Fermenting banana mush is most satisfactory as bait. Ripe bananas are mashed with the aid of a spoon or a fork; some drops of fresh yeast solution is added, and the bottle is left standing for about 24 hours before use (if dry yeast is used this time is considerably lengthened). The bait remains good for at least four or five days after first used. The traps are exposed in such a way as to be readily accessible, and left undisturbed for a few hours; no useful purpose whatever is accomplished by leaving them exposed for days. In the case of some species, notably *pseudobscura* and its relatives, it is important to expose the traps in the late afternoon, since these flies do not come into traps on hot days before sunset. On cloudy days they may be caught any time. The above bait attracts quite a number of species of *Drosophila*, including some, though probably not all, feeding on fungi. When a sufficient number of flies are in a trap, it is closed by the usual cotton stopper, and transported to camp. (if properly packed such bottles can be transported for miles even on pack saddles without harm to the flies). For further transportation and shipping the flies should be placed in shell vials containing solid banana-agar food. Banana agar is prepared in the laboratory, poured into the vials, sterilized in an autoclave under pressure, and cooled in a slanting position. The openings of the vials are stoppered with sterilized cotton and wrapped in wax paper to prevent excess evaporation. Vials so prepared can be then carried for a month before use. Before the flies are put in them, a drop of yeast suspension is placed on the food, and a piece of filter paper inserted. Then the flies are transferred from the traps to the vials (a glass funnel of a proper size facilitates this operation greatly). Some wild species are exceedingly sensitive to heat. If they have to be carried around for any length of time in hot weather, vials with the flies are placed between layers of cotton in a metallic box, and this box is placed into a larger one, the space between the two being filled with cracked ice; changing the ice in this improvised ice box once a day is sufficient in any summer heat. If no ice is obtainable, the box with the flies should be wrapped in a moist towel and exposed to the wind. It a

April 1936

Research methods - Flies

6:29.

is desirable to ship the material collected to the laboratory as soon as possible. During the summer heat shipment via air mail has to be resorted to despite the expense involved. For this purpose the vials with flies are placed in cardboard boxes with cotton and wrapped like any other parcel. In some states the importation of living insects is prohibited, so that special permits may be necessary.