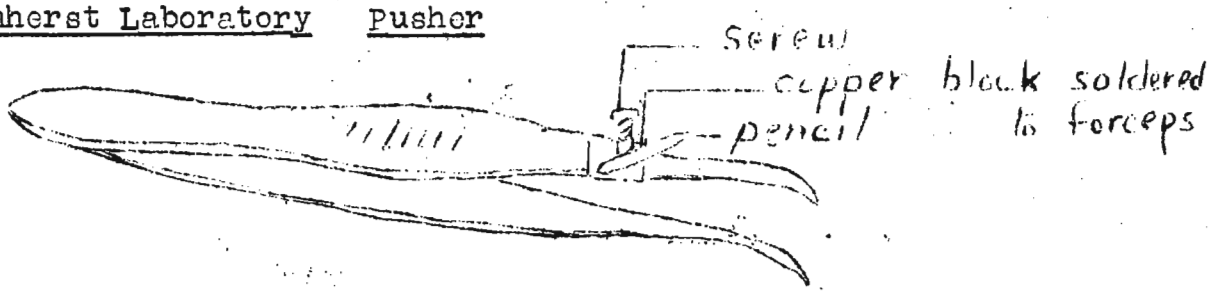
Amherst Laboratory Pusher




Forceps with pencil attached to speed up orienting fly and recording.

Mickey, George H. Pusher An excellent fly pusher may be constructed out of a metal needle holder (80 mm long, with screw chuck for holding needles; 20 cents each, no. 2978 Schaar and Company, Chicago), a steel spear point needle (40 cents doz., no. 3951 Central Scientific Company, Chicago), a piece of rubber tubing 1/8 in. inside diameter, and a no.3 or no. 4 red sable point brush (obtainable at any paoint store for 20-25 cents each). Red sable is little more expensive than camel's hair but is much more satisfactory in that it wears longer and has more "life" or spring. In place of the wooden handle of the brush one should substitute the metal needle holder, the back-end of which is held in place by any good metal cement. Then the piece of rubber tubing should be slipped over the handle to make a larger, firmer grip. The angle of the needle's spear point can be filed down to suit individual preference. When the needle is inserted, the pusher is ready for use.

Shipman, Emmet E. Pushers. In handling individual flies the writer has found a pair of regular dental forceps highly satisfactory. They are about 15 cm. long, the points being set at an angle are about 17 mm. long. The spring tension may be reduced by grinding on the inner part of the springs near the base. The writer has found them more comfortable for long use and the points stay in good alignment. They may be obtained from nearly any store handling dental and medical supplies.

Mickey, George H. Counting plate. Until recently at our Austin laboratories the most satisfactory plates on which to count flies has been old glass photographic or lantern slide plates which were out of date. At first they are rather too light in color, causing reflection and glare, but gradually become darker the longer they are exposed. Disdavantages are that the color finally turns too dark, the emulsion wears off through sliding on the table top, and the plates are broken too easily. We have just received some baked enamel plates from the Burdick Enamel Sign Company, 36 South State

Street, Chicago, which have none of these disadvantages. These new plates, made of 18 Ga. steel 3 x 5 inches in size, either have both sides covered with a medium dark gray baked enamel or have one side white and the other gray. In lots of 24 the price is 75 cents each.

(A plate of opaque glass was found to be a very satisfactory counting plate. It gives a rigid, smooth surface of good optical quality for examining flies. Such a plate can be cut to any size. Opal glass can be procurred from various supply houses. - Editors).

Muller, H. J. Fly morgue — In place of the usual method of having a jar of alcohol or other volatile fluid into which the flies to be discarded are dropped through a narrow slit, it is much more convenient to have a broad dish containing a non-volatile oil. The used oil from automobiles affords a conveniently obtained medium. The opening may be protected by a wide-mesh wire grating. The flies do not have to be brushed off in any exact manner, but may be merely jarred off by knocking the porcelain plate against the screen with one motion of one hand. Renewal is seldom necessary and there are no disturbing odors. This method was used independently in Texas and in the USSR.

Mickey, George H. Trays for vials — A very satisfactory container which has not been reported to DIS but which has been in use for handling flat bottomed shell vials, is a round tray 11 in. across and 3 in. deep, made of 20 Ga. (or lighter) galvanized sheet iron. Such a tray can be washed and sterilized repeatedly and will last indefinitely. Since it holds approximately 100 vials, no more convenient method for handling and filling vials without actually counting them could be desired. Moreover, this container lends itself admirably to a method suggested by Altenberg of etherizing cultures "en masse". For this, the vials are inverted in one tray, covered with a towel half-saturated in ether, and then covered with another tray. There is very little danger of over-etherization and the flies do not stick in the food since the vials are inverted. These "tins", as they are called, were constructed by a local tinner at a cost of 50 cents each.

Bridges, C. B. Light — Light for the binocular should fall on the flies and white-glass plate as a broad-base converging beam whose axis is about 45° from the vertical, which angle gives least highlights and disturbing reflections. A frosted 100 W tungsten globe focused through a 1-liter globular water flask, placed very close to the flies, is excellent.

About 15 diameters seems to be optimum magnification for routine binocular examination of Drosophila, since higher magnifications have so little depth of focus that special or continual refocussing is necessary.