Stocker, Ann J. Department of Anatomy, University of Texas Southwestern Medical School, Dallas, Texas. A simple micro-injection apparatus for Drosophila.

While doing injections of larvae in our laboratory we have developed a convenient device for use on the stage of a dissecting microscope. With this device it is possible to regulate the amount of fluid injected by a microsyringe without taking one's eyes from the injected specimen.

A 10 microliter syringe (Hamilton Co., Inc., Whittier, Calif.) is mounted in a slot which has been sawed lengthwise along the center of a 3 1/4 by 2 1/2 by 1/2 inch piece of plexiglass. (See included photograph.) The slot is made such that the syringe fits snugly to a depth slightly above the level of the plunger. This allows the plunger, the calibrations on the syringe, and the working area nearby to be in focus simultaneously. A microscope stage clamp holds the syringe firmly in place, yet allows it to be slid along the slot so that the calibrations on the syringe can be read successively while the apparatus itself remains fixed to the microscope stage. A glass microinjection needle is connected to the syringe by a length of polyethelene tubing (Adams Scientific Co., Cat. No. PE 20, I.D. 0.015", O.D. 0.043"). The end of the tubing that is to receive the glass needle is heated slightly over a micro-burner so that it is large enough for the fire-polished base of the needle to be inserted. The entire apparatus is attached to its proper place on the glass stage of the dissecting microscope with a piece of Tiger tape. A thin wire clamp affixed to the plexiglass can be used to aid in holding the larva at the area of its posterior spiracles while the injection is being made. In order to avoid the formation of bubbles, a larger syringe with the material to be injected is utilized to fill the entire injection system.