EDITOR'S NOTE: Starting on the next page the reader will find a new account of the details of meiosis in the amphibians. This is such an extraordinary story, with universal appeal, that the reader will quickly understand why the editor did not hesitate to include this non-Drosophila work. This does not, however, represent a permanent change of policy.

Basden, E.B. Institute of Animal Genetics, Edinburgh, Scotland.
Attitude of killed melanogaster adults.

Specimens after etherisation, or after killing, pinning and setting, usually do not expose the minute discal sternopleural hairs, these being overlaid by the drawn-up first coxae, and the wings are variously positioned. If specimens are required for pinning, or for scoring or measuring, it will save time if they die (or are anaesthetised) with appendages conveniently extended to allow maximum easy examination. Therefore a few reagents were tested for attitude of killed flies.

Live adults from a selected (da Silva) Kaduna strain were sucked into 3" x 1" corked vials, the corks dampened inside with the reagent, and the flies allowed to die with the vial on its side.

Acetone: Legs half-stretched, rarely drawn up. 1st coxae raised. Wings flat, extended.
Amyl acetate: Hind legs semi-stretched, 2nd legs sometimes drawn up. 1st coxae 50% raised. Wings up or flat.
Carbon tetrachloride: Mid and hind legs stretched. 1st coxae rarely raised. Wings up.
Chloroform: Legs usually drawn up. 1st coxae rarely raised. Wings 50% up, 50% down.
Ether: Legs mostly drawn up. 1st coxae rarely raised. Wings up or flat.
Ethyl acetate: Mid legs stretched, sometimes upraised. 1st coxae 50% raised. Wings up.
Xylol: Hind legs stretched, often up-raised, 2nd legs stretched. 1st coxae sometimes raised. Wings up.
75% Ethyl alcohol + 5% glycerine (total submersion): Legs various, usually drawn up. 1st coxae 50% raised. Wings up, flat or down.

Acetone allowed best examination and the wings did not hide the scutellum. The effects of the same reagents on different species have not been studied but with xylol D. subobscura and D. obscura adults usually had the wings down (thus obscuring some pleura and legs) and the male genitalia were well extruded.

Ward, Calvin L. Department of Zoology, Duke University, Durham, North Carolina.
Handling of single fly homogenates for acrylamide gel disc electrophoresis.

Acrylamide gel disc electrophoresis of single Drosophila poses several technical problems. The inclusion of the small amount of material in a sample gel according to the technique of Davis (1964) is time consuming, and the layering of the sucrose homogenate through the buffer (Wrigley, 1968) on the surface of the stacking gel is tedious and difficult with such small amounts of material. We found the following technique to be fast and effective. Glass tubes 8 1/2 cm. long are filled to 7 cm. with the separating gel and layered with water. After polymerization, the water is removed and 1/2 cm. of stacking gel is added and water layered. Upon the completion of photo-polymerization of the stacking gel, the water is removed and the tubes inserted into the upper bath. Each stacking gel is immediately layered with 25 lambda of 40% sucrose. Homogenates are prepared by the technique of Johnson (1966); however, we use individual Lucite slides, 3" x 1" x 3/8", each drilled with a single hole, 1/4" in diameter and 1/4" deep. A small amount of powdered glass and 25 lambda of 40% sucrose are placed in each cavity. To facilitate homogenization the larva is first torn open on the surface of the slide. At this stage the salivary gland may be removed for cytological analysis if desired. The larva along with hemolymph is wiped into the cavity with a single layer of Kimwipe handled with jewelers forceps: the material is homogenized with a Pyrex rod driven by a variable speed motor. The sucrose homogenate plus powdered glass and chitinous remains are absorbed by a pad of four layers of Kimwipes (punching several layers at a time causes the edges to adhere) handled by jewelers forceps: filtration is unnecessary. The homogenate saturated paper is inserted into the sucrose layered on the stacking gel. Sufficient buffer is added with a Pasteur pipette to fill the tube and finally the upper bath is carefully filled. This method of sample application has given good reproducible results in esterase studies on Drosophila melanica.

References: Davis, B.J. Ann. Acad., Sci. 121: 404. Johnson, F.M. D.I.S. 41: 193. Wrigley, C. Sci. Tools 15.