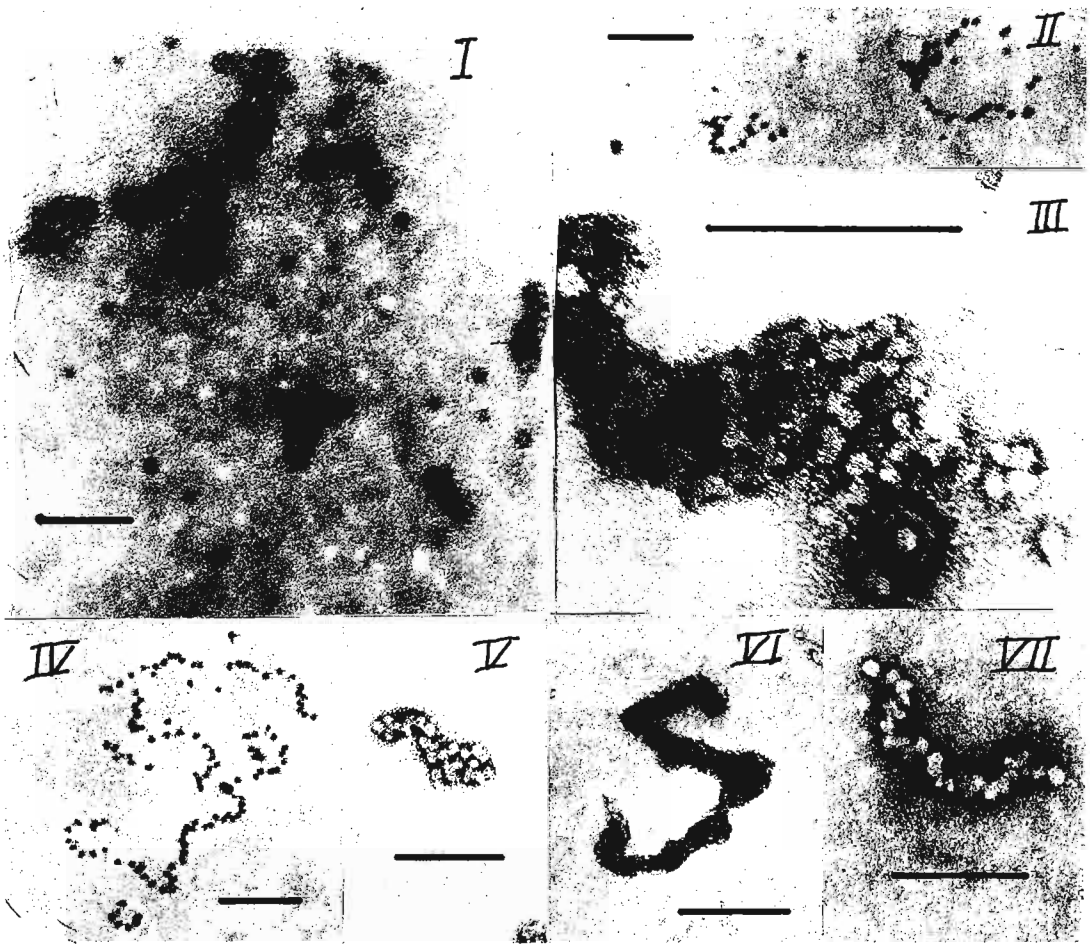


Note the length of some polysomes and the apparent ribosome disposition in doublets, or the polysome in helix.

allowed to adsorb for a few minutes. The excess is removed with a lens tissue. Immediately, the grid is dipped in absolute ethanol, then in 0.5% Photo-flo and air dried. Finally the preparation is dyed with an ethanolic solution (70%) of uranile acetate 2%, for 30 seconds.

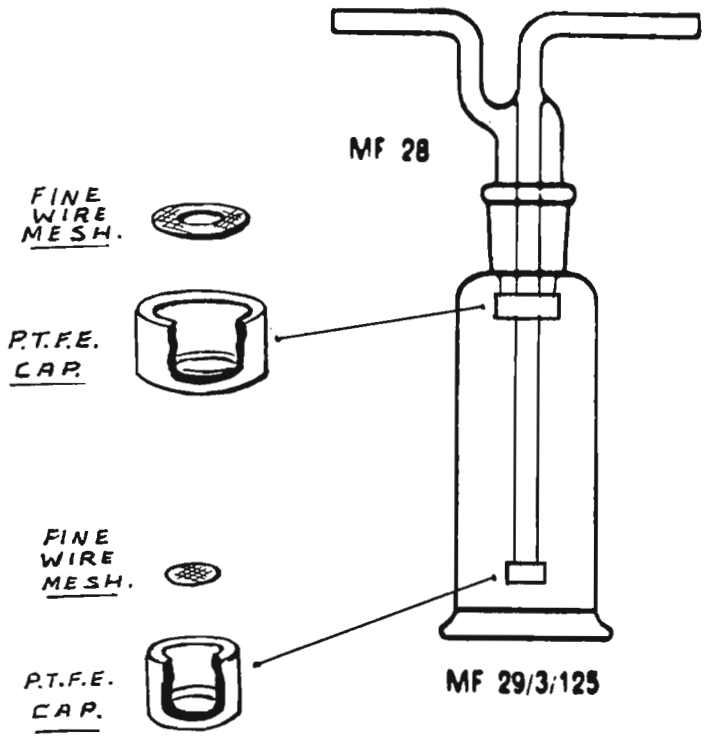
The micrographies shown were obtained with a transmission electron microscope Hitachi at 70 KV at different magnifications. Pictures II and IV present positive staining and the others, negative. (Bar = 250 nm).

Done, J.N. and D.B. McGregor. Inveresk Research International, Ltd., Musselburgh, Scotland. A simple device for Drosophila containment during exposure to gases or vapors.

The apparatus is simply a modified Dreschel bottle. Inlet tubes on Dreschel bottles now have scintered glass discs fused into them to facilitate dispersion of the incoming gas to the washing medium. This disc must be cut off. The only other modifications necessary are those which prevent the flies from escaping. Containment could be done by plugging inlet and outlet tubes with cotton wool or, if preferred, glass fiber. Plugging in this way does impede the flow of gases or vapors through the apparatus. With certain atmospheric analytical techniques such impediment may cause problems (e.g., infrared absorption analysis). We have, therefore, elected to prevent fly escape by closing the inlet and outlet apertures with stainless steel mesh.

A disc of the mesh is cut so as to fit the outlet aperture. Into the middle of this disc is punched a hole which is the same diameter as the external diameter of the inlet tube. The smaller mesh disc punched from the large disc is used to cover the inlet tube aperture. These mesh discs are held in their correct positions by teflon sleeves (Fig. 1).

This simple device allows the flies to be observed during exposure to dynamic test atmospheres passing through the bottle at 3-5 l/min. Following exposure, the bottle may be flushed with air then the flies lightly anesthetized with carbon dioxide before they are re-



turned to their culture vials. Temperature control, by immersion in a water bath, is also possible.

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Graf, U. Institute of Toxicology, Swiss Federal Institute of Technology and University of Zurich, Schwerzenbach, Switzerland. An easy way to test for ring configuration of ring-X-chromosomes in D. melanogaster.

In experiments for mutagen-induced ring-X losses there is a permanent need for verification of the ring structure of the commonly used R(1)2 chromosome. There are several ways of doing this (Leigh 1976). Since cytological analyses may be misleading (Moore 1971), the most common way is to record crossing-over in ring-X/rod-X females. In a recent series of experiments we have found that this type of female produces enhanced rates of nullo-X eggs which lead to XO-male progeny. Six males from a R(1)2, y B/y^{+Y}·B^{S}; bw; st pP strain and five males from an identical strain with a spontaneously opened ring-X were crossed individually to virgin y cv v f females. The heterozygous F_1 females were then mated individually to Berlin wild males. In the F_2 only the male progeny were classified and counted; the bristle phenotype (forked) was not recorded. The results are shown in the table. It is evident that the females heterozygous for a ring-X chromosome produce one order of magnitude more XO-male progeny than those heterozygous for an open ring-X (5.5% and 0.1%, respectively). The presence of the ring-X is further demonstrated by the reduced frequency of females of recombinants in the progeny: The females heterozygous for the ring-X give rise to only 4.4% (57/1297) recombinants whereas the corresponding frequency of females heterozygous for the open ring-X is 35.6% (535/1503). In order to verify that the wild type male progeny are really XO, 30 of these males have been crossed to virgin w females. None of these crosses proved to be fertile.

The experiment has been repeated with the same procedure but using y w females to produce ring/rod heterozygous females. The results were essentially the same (104/2709 = 3.8% XO-males). It is therefore concluded that the registration of phenotypically distinguishable XO-males in the progeny of ring-X/rod-X females is an easier way to check for the ring structure than the laborious registration of crossing-over phenotypes.

[See table on following page.]

References: Leigh, B. 1976, Genetics and Biology of Drosophila, Vol. 1b, pp. 505-528; Moore, C.M. 1971, Can. J. Genet. Cytol. 13:164-166.

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