F_2 Look for cultures lacking D^3 (this can be done without etherization). From these cultures, test for the presence of a T(2L;3R) or T(3L;2R) by crossing or If; Sb/free arms males to structurally normal females and discard any cultures which show pseudo-linkage of If and Sb. Isolate stocks of the putative In(2LR)'s and In(3LR)'s and check for inversions cytologically.

A small scale test (about 300 F_1 males tested; 4000 r) yielded one In(2LR), five In(3LR)'s, and one translocation between 3L and the short arm of 3^PJ139. These are further described under New Mutants (this DIS). Techniques for freeing the inversions from the free arm complex are detailed in Genetics 99:75-97.

Engeln, H. Institut fur Genetik, Freie Universitat Berlin, FR Germany. Apparatus for measuring temperature preferences in Drosophila.

For measuring temperature preferences of adult Drosophila in short time experiments with many replicates a smaller and more simple apparatus as that one presented by Fogleman (1978) may be sufficient. Our thermal gradient field consists of a sheet of aluminum heated at one end by a heating flex and cooled by circulating water at the other end (Figure 1). Heating is controlled by a rheostat and a contact-thermomemter switching the flex on and off. Continuously circulating cold water is obtained by a small laboratory cooler. Different stable temperature gradients can be adjusted in this way. In Figure 2 temperature profiles are shown along the centre line and along the margins of the aluminum sheet.

Two cages, each consisting of three observation chambers, run parallel with the center line (Fig. 1). These chambers are made from transparent plexiglass without any bottom and put directly on the surface of the aluminum sheet. Each chamber is divided lengthwise into 10 fields by optical marks. To avoid influences of different degrees of relative humidity caused by the temperature gradient moistened filter paper is placed on the upper horizontal surface of the aluminum, so that about 100% relative humidity will be obtained everywhere in the chambers. For immediate anaesthetization of the tested flies carbon dioxide is conducted through pipes and little holes into each observation chamber (Fig. 1). All remaining parts of the aluminum sheet which are exposed to airflow are covered with styrofoam insulation.

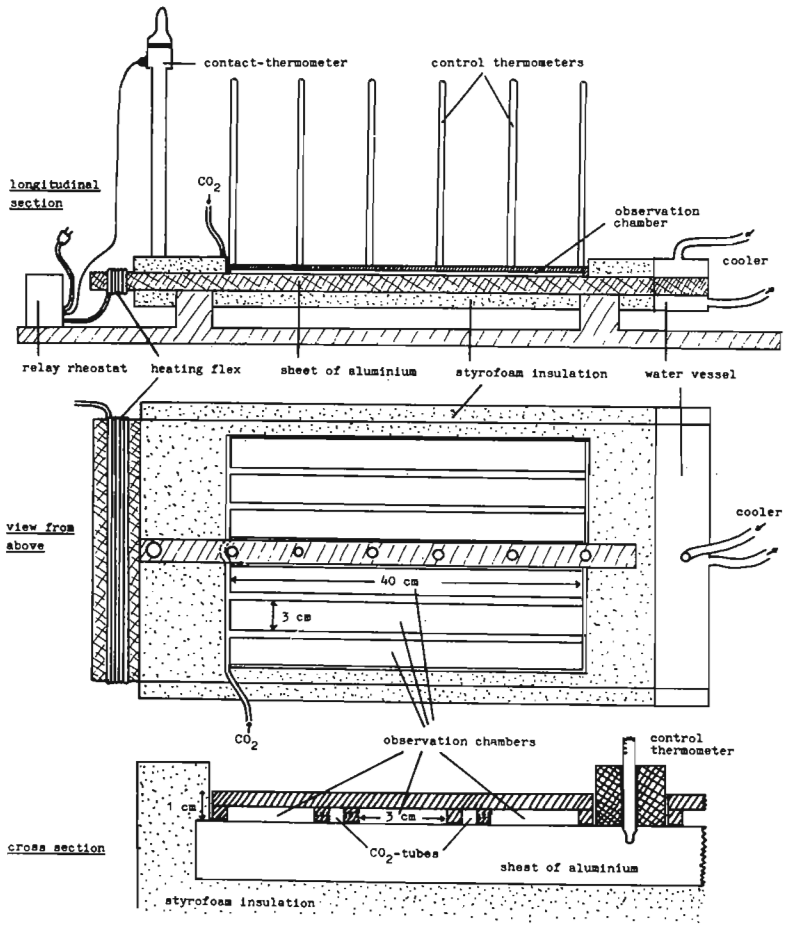

Fig. 1. Apparatus for measuring temperature preferences in Drosophila.

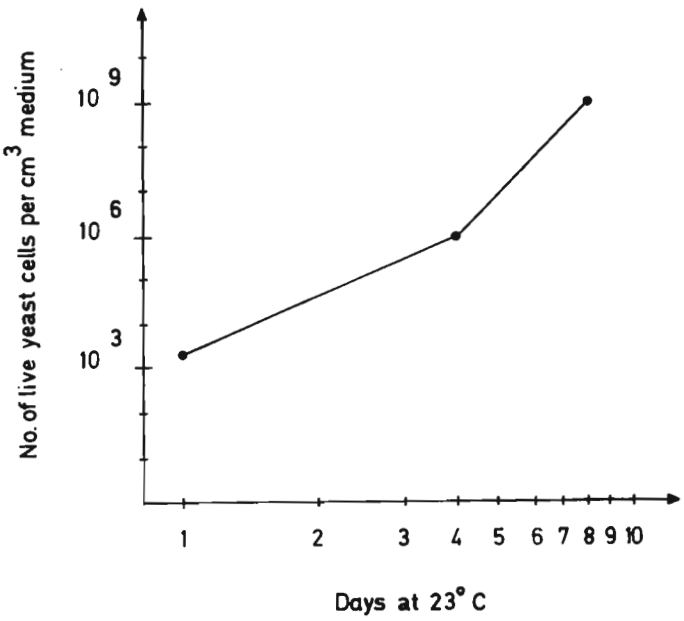

Figure 1. Growth of baker's yeast in the new medium in the presence of D.melanogaster. 25 pairs of flies aged 3-5 days were allowed to lay eggs for 24 hr before day 1. The adults were removed and their progeny cultivated for 8 days. Yeast cells were counted immediately after the removal of adults (day 1), with second instar larvae growing in the medium (day 4), and after all larvae having left the medium for pupation (day 8). From: Köhne, A., A method for determining yeast growth in the medium of D.melanogaster (examination paper, Aachen, 1982, unpubld.).

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References: Begon,M. 1974, DIS 51:106; Hunt,V. 1970, DIS 45:179; Pearl, R. et al. 1926, Am.Nat. 60:357-366; Spencer,W.P. 1950, Collection and laboratory culture, IN: Demerec,M. (ed) Biology of Drosophila, Wiley, New York.

Band, H.T. Michigan State University, East Lansing, Michigan USNA. A high protein medium using soybean protein flour.

The removal of Kellog's Concentrate from the market has created problems for Drosophila workers doing research with species requiring a high protein medium. Two such media used this ingredient (Wheeler & Clayton 1965; Band 1981). In our laboratory we used a high protein diet preparation for a year in place of Kellogg's Concentrate, but this and similar products have been withdrawn from the market. Kellogg's NutriGrain Wheat did not adequately maintain fertility in Chymomyza amoena.

We have found soybean flour to be an acceptable substitute for Kellogg's Concentrate and the high protein diet preparations. The product we use is called Vibrant Health Protein Powder from Michigan Vitamin, Ferndale, MI 48220. We have also continued to use Kellogg's NutriGrain Wheat in our medium since it lists vitamins not specifically mentioned in other ingredients. The following recipe is our current high protein medium:

15 gm Gerber's Hi-Pro	500 ml Spartan applesauce
15 gm Kretschmer's Wheat Germ	650 ml distilled water
5 gm Kellogg's NutriGrain Wheat	45 gm Quick Cream of Wheat
5 gm soybean protein flour	3 ml proprionic acid
7 gm Bacto-agar	9 ml 95% ethyl alcohol

To Prepare: Blend the first 4 ingredients in a Waring Blender for several minutes. Add the applesauce and blend 5 min more. Boil 450 ml of water in a large vessel, add agar and stir to dissolve. Add the applesauce mixture; rinse the blender with 100 ml of water and add to the food mixture. Add the remaining 100 ml of water to the cream of wheat and stir it into the food mixture as it begins to boil. Reduce heat and stir until thickened, usually about