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The effect of trypsin on "survivability" of imaginal disks of D. melanogaster.

In connection with the works concerning dissociation of imaginal disks subjected to the action of trypsin solution, it was of interest to discover "survivability" of these disks under conditions of different concentrations of trypsin solution. For this purpose leg imaginal disks were chosen from the larvae of D. melanogaster of the "Berlin wild" line at the age of 72 hours and were put into trypsin solutions of different dilutions. 0.25% trypsin solution was used as an initial material to prepare the working solutions of 1:1, 1:2, and 1:8 in physiologic Ringer's solution (NaCl 7.500 g, KCl 0.287 g, $CaCl_2 \cdot H_2O$ 0.287 g, distilled water to 1.0 liter). After 5 minutes' treatment of imaginal disks by trypsin solution at room temperature they were washed for one minute with 20% solution of bull serum prepared on the basis of Ringer's solution. Using the standard techniques of transplantation of imaginal disks (1), the latter were transplanted into larvae of the same age and line. In the control, selected disks of the same age were exposed for 5-10 minutes in Ringer's solution and then transplanted into the larval hosts.

For further analysis only those larvae were used that survived for 4 hours after transplantation, since the mortality in the first hours is presumed to be conditional on the imperfection of surgical techniques (2). The larval hosts with implanted disks were placed in tubes with the standard forage for drosophila (agar, raising, treacle) and kept at room temperature. Part of these larvae were allowed to pupate and imagos emerged. The adult flies were dissected and the presence of disk-implants was established. These disks were examined under a microscope to determine the elements of leg tissue. Results are given in Table 1.

Table 1. "Survivability" of leg imaginal disks after treatment with trypsin solution of different dilution.

Dilution of 0.025% trypsin solution	Number of surviving larvae	Number of adult flies (%)	Number of "survived" disks with regard to imago (%)	Number of "survived" disks with regard to larvae (%)
1:1	48	28.6	0.0	0.0
1:2	114	10.5	8.3	0.9
1:8	337	23.7	56.2	16.0
Control	791	40.0	55.0	22.3

This table shows that the increase of dilution of trypsin solution led to the increase of "survivability" of disks, both with regard to adult flies and with regard to surviving larvae; but at the same time this increase did not yield a concrete result in respect to the number of flies concerning surviving larvae. We are inclined to explain all this by unregistered technical conditions of operation rather than by peculiarities of the given trypsin dilution. In the selected disks we did not discover any significant qualitative difference (for example, appearance of allotypical elements) between the experimental and control groups.

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Manifestation of mutation singed on the homoeotic limbs, caused by the action of homoeotic mutations Nasobemia and aristapedia at different temperatures.

The mutation singed (ns,1-21.0) (twisted bristles) is manifested unequally on bristles of different sizes. Specifically, its expressivity is more marked on large bristles in comparison with small ones. As a result of the effects of some mutations on the homoeotic structures (1,2,