Alatortsev, V.E. and E.V. Tolchkov.* Institute of Molecular Genetics, USSR Academy of Sciences, Moscow 123182 USSR; *Institute of Microbiology, Riga, USSR. Complementation analysis of rearrangements affecting the 2D-F region of the **D.melanogaster** X-chromosome.

Twelve complementation groups were detected in the 2D3-2F5 region of the X-chromosome by the saturation method. The complementation map of this region, based on the earlier (Gvozdev et al. 1973, 1975a, 1975b; Gerasimova 1976; Tolchkov et al. 1984; Tolchkov & Gvozdev 1984) and present data is shown in Figure 1.

The extent of deficiencies was determined for the following rearrangements: Df(1)pn7a, Df(1)pn38, T(1;3)pn12, In(1)pn45 (for a description of the rearrangements, see Ilyina et al. 1980) and Df(1)2T, Dp(1;Y)3T, Dp(1;Y)43T (described by Gorelova, see Belyaeva et al. 1982).

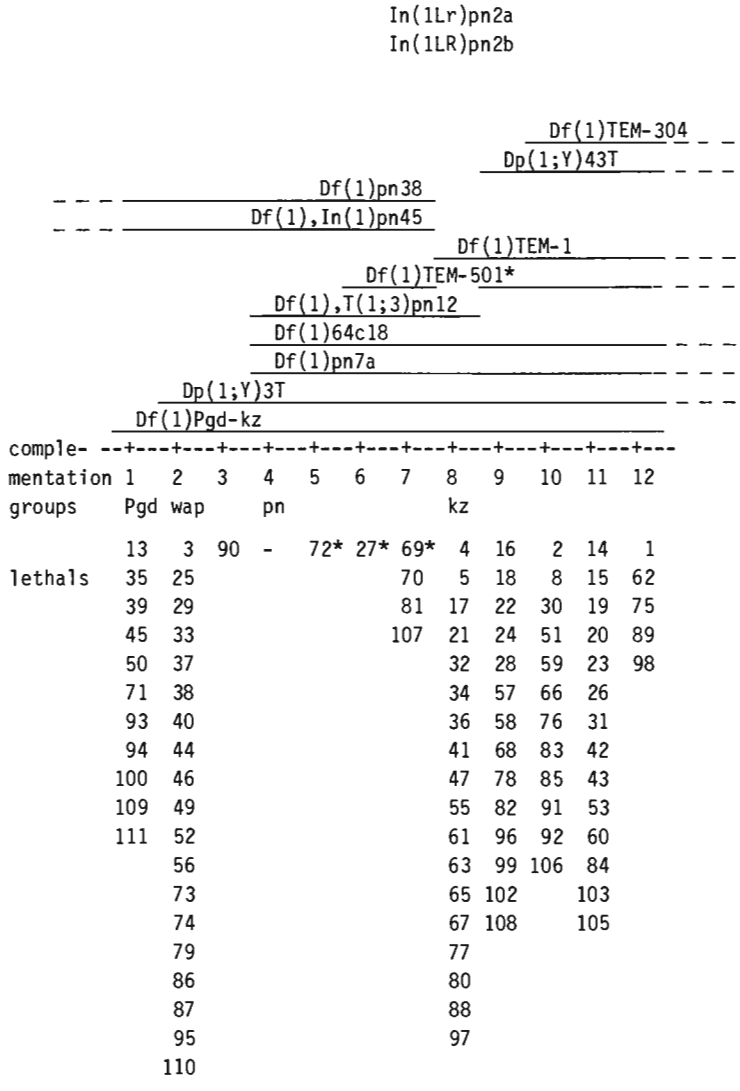
It should be noted that Dp(1;Y)3T and Df(1)pn7a rearrangements reveal only partial complementation with lethals of the first and third groups, respectively.

The Df(1)TEM-304 chromosome carries the pn mutation (Gerasimova 1976).

As Df(1)TEM-501 complements the kz group, it either carries two deletions (one to the right, the other to the left of kz) or the deletion is accompanied by a transposition of the kz^+ gene into the same X-chromosome.

T(1;3)pn12 and In(1)pn45 fail to cover complementation groups 1 to 7 and 4 to 8, respectively. These findings may be explained by a microdeletion or by the position effect.

The Df(1)2T deletion complements all mutations of the given region, although its right breakpoint has been localized cytologically in 2E1,2 (Belyaeva et al. 1982).



References: Gvozdev, V.A., S.A. Gostimsky, T.I. Gerasimova & E.M. Gavrina 1973, DIS 50:34; Gvozdev, V.A., S.A. Gostimsky, T.I. Gerasimova, E.S. Dubrovskaya & O.Yu. Braslavskaya 1975a, Genetika (Russ.) 11:73-79; _____ 1975b, Molec. Gen. Genet. 141:269; Gerasimova, T.I. 1976, Ph.D. Thesis, Inst. Molec. Genet., Moscow USSR; Tolchkov, E.V., M.D. Balakireva & V.E. Alatortsev 1984, Genetika (Russ.) 20:1846-1856; Tolchov, E.V. & V.A. Gvozdev 1984, DIS 60:194-195; Ilyina, O.V., V. Sorokina, E.S. Belyaeva & I.F. Zhimulev 1980, DIS 55:208; Belyaeva, E.S. et al. 1982, DIS 58:184-190.

Figure 1. Fine genetic map of the 2D3-2F5 region. The complementation group arrangement is oriented from the distal to the proximal end of the X-chromosome. Straight lines above the complementation group numbers indicate the absence of complementation, for both deletions and duplications. Asterisks (*) mark lost lethals and rearrangement. Arcs connect the complementation groups not localized in relation to each other.