

Bateman, A. J. Christie Hospital, Manchester, U. K. An attempt to induce ND of chromosome 2 by X-raying ♂♂.

dp b cn bw/b pr vg ♂♂ were irradiated with 1000 and 1500 rad and mated to 2L dp.2R px ♀♀, daily for 12 days. The matings were very infertile: 4000 mated ♀♀ produced only 68 progeny. Expected ND phenotypes in the progeny were dp px

(from nullo-2 sperm) and b +^{Px} (from diplo-2 sperm). Only 4 such flies were found among a total of 68. It would seem that nullo-2 and diplo-2 sperm is non-functional. Moreover, no progeny have been produced from irradiated sperm with the normal complement from which chromosome 2 has then been lost at first cleavage. Perhaps the 4 expected gametic classes are not formed at meiosis in 2L.2R eggs, or are formed in unequal proportions so that nearly all haploid egg nuclei are 2L or 2R. This would explain the moderate yield of progeny (17 proven) with one paternal iso-2, all from X-raying pre-meiotic stages.

Of the remaining 47 progeny, 7 were proved to contain a (spontaneously reconstituted) dp px chromosome. Of the remainder the majority were proven triploids, and were produced with equal readiness from pre- or post-meiotic irradiation of sperm. It seems an open question whether these are due to spontaneously produced diploid eggs or to dispermy in a 2L.2R egg with loss of one paternal chromosome 2.

Watson, J. E. and Allan B. Burdick. Purdue University. The effects of selected background rearrangements on the v to g region in *D. melanogaster*.

In studies dealing with the nature of crossing-over in the miniature-dusky region on the X-chromosome the data presented in table 1, showing the interchromosomal effects of the listed rearrangements, was derived. These data show the alteration effect on the recombination dis-

tances between v, dy^{60k} and g and are presented here for the information of others working in this and other adjacent regions of the X-chromosome. Of interest also is the effect the several rearrangements have on the mean number of offspring produced by a single female.

The detailed description of this study may be found in: Watson, J. E., 1963, "A Comparative Study of the Inter-locus and Intra-locus Response to Chromosomal Rearrangements in *D. melanogaster*;" M. S. Thesis, Purdue University Libraries, Lafayette, Indiana.

Table 1. Recombination data derived from v dy^{60k} g/+ ++ females

Rearrangement	Progeny	v-dy ^{60k}	dy ^{60k} -g	Coef. of coincidence	Mean no. of progeny per female
Control	14,199	3.08 ± .15	6.59 ± .21	.034	237
In(2LR)Rvd	5,029	3.09 ± .25	6.16 ± .34	.209	93
In(2R)Mo ^k	3,206	3.34 ± .32	6.36 ± .34	.103	146
In(2LR)dp	3,584	2.93 ± .28	6.86 ± .43	.139	63
In(2L)NS	12,599	4.17 ± .18	6.83 ± .23	.084	238
In(2LR)Gla	5,706	4.45 ± .28	7.12 ± .34	.387	114
Ins(2L+2R)NS	5,885	4.23 ± .26	7.34 ± .34	.164	101
SM5	7,061	4.32 ± .24	8.10 ± .33	.000	126
In(3L)D	5,451	3.17 ± .24	6.13 ± .33	.094	99
In(3R)Hu	11,766	3.66 ± .17	6.37 ± .23	.269	294
In(3LR)Cx	6,471	3.54 ± .22	7.48 ± .33	.058	175
In(3LR)Ubx ¹⁰¹	7,301	3.48 ± .22	7.96 ± .32	.495	183
In(3L)Me ¹	5,475	4.24 ± .27	7.32 ± .36	.235	140
TM3	10,956	4.58 ± .20	7.67 ± .26	.078	288
Ins(3L+3R)P	4,660	4.06 ± .29	8.37 ± .40	.063	83
(2L+2R)NS-TM3	4,383	4.02 ± .33	9.54 ± .43	.049	115
SM5-Ubx ¹⁰¹	1,727	4.17 ± .48	10.42 ± .74	.000	69
SM5-Cx	1,375	5.45 ± .61	11.05 ± .85	.000	65
SM5-TM3	1,706	5.80 ± .57	10.79 ± .77	.094	11
SM5-P	3,873	5.55 ± .37	12.14 ± .52	.077	76
(2L+2R)NS-P	8,961	5.65 ± .24	12.39 ± .35	.096	172

The underlined values differ significantly from the control at $\alpha = .05$.