

Hunter, Alice S. Centro Experimental de Estudios Superiores, Barquisimeto, Venezuela. Mating preferences of iso-female lines of *D. mesophragmatica*.

Certain iso-female lines of *Drosophila mesophragmatica* of Bogotá, Colombia differ from others in that they can be crossed with *D. pavani* and *D. gaucha* (Hunter & Hunter '64). Studies were made of several of these lines in order to test for possible

isolating mechanisms between the "crossing" and "non-crossing" lines.

Male choice experiments were carried out with virgins of three weeks of age. In order to distinguish the two females, one anterior scutellar bristle was removed from one of them. The three unetherized flies were introduced into a vial at 9 AM and the vials observed till noon. When a pair copulated, the non-copulating female was discarded and the identity of the "selected" or "receptive" female was determined. The results are shown in Table 1.

Table 1

Female line	Copulas	Female line	Copulas	Male line	Chi Square
Cross 3	61	Non 57	16	Non 54	26.29
Cross 3	46	Non 57	18	Cross 3	12.25
Cross 3	30	Cross 45	21	Non 54	1.58
Cross 3	28	Non 53	20	Non 54	1.33
Cross 3	33	Non 60	24	Non 53	1.42
Cross 3	26	Non 60	27	Non 60	0.02
Cross 22	38	Non 53	21	Non 53	4.89
Cross 22	41	Non 53	40	Cross 3	0.01
Cross 22	20	Non 54	23	Cross 22	0.21
Cross 44	34	Non 53	17	Cross 3	5.78
Cross 44	23	Non 53	25	Cross 22	0.08
Cross 44	59	Non 60	29	Non 60	10.22
Cross 45	25	Non 54	27	Cross 44	0.08
Cross 45	32	Non 54	25	Non 57	0.86
Cross 22	22	Cross 45	29	Cross 45	0.96

It can be seen that in certain combinations there are preferences. However they are not simply preferences of "crossing" males for "crossing" females and vice versa nor are they simply homogamic preferences within a line. Female choice experiments were also carried out but no significant differences suggestive of preferential mating were found. Further experiments are under way in order to try to clarify these results.

Reference: Hunter, Alice S. and Robert A. Hunter, 1964. The *mesophragmatica* species group of *Drosophila* in Colombia. *Ann. Entomol. Soc. Amer.* 57:732-736.

Minamori, S. Hiroshima University, Hiroshima, Japan. A killing agent found in a natural population of *D. melanogaster*.

Some flies having a killing agent were found in sampled flies of *D. melanogaster* from a natural population in 1964. The number of their offspring was reduced distinctly, and the distorted segregation of

second chromosomes in the offspring was observed by using dominant marker genes.

The killing agent was transmitted from both females and males to their progenies. The agent had been maintained by a carrier strain, though its all original chromosomes were substituted with marked chromosomes. However, most strains, having the killing agent originally, had lost it within one year. The killing agent seemed to have been transmitted by copulation from males to females and by contact of larvae. The development or multiplication of the agent at 30° C was faster than that at 20° C. Flies under two days old could not transmit the agent to their progenies. Such experimental results indicate that the killing agent might be an infective microorganism for flies.

The survival rates of flies carrying Cy, L, Pm or bw^D chromosomes respectively to the killing agent were observed to be different. The similar experiment was performed by using 184 second chromosomes isolated from a natural population. The survival rate of flies carrying chromosomes derived from the carrier strain was higher than that of flies having no infection. Flies carrying a lethal chromosome reduced the survival rate more than flies carrying a quasnormal chromosome.