

Brousseau, G.E., Jr. University of Iowa, Iowa City, Iowa. V-type position effects for e^+ and ro^+ in *Drosophila*.

females or to Xa/Ubx^{130} , e females depending upon the locus being tested. The F_1 progeny were examined for any expression of the recessive phenotype. All putative mutants were confirmed by a retest and salivary chromosomes were checked where possible. The experiments were designed to only recover the desired position effects and no counts of F_1 were made with one exception. The e experiments involved about 4 times as many F_1 progeny as the ro tests.

The matings to ro were carried out first. A large number of progeny with some roughness of the eye were recovered. Many of these were sterile and others proved to be dominant changes at loci other than ro . Among the fertile rough eye F_1 progeny were 3 ro mutants and 2 V-type position effects of ro^+ . The mutants proved to have normal salivary chromosomes while both the position effects had rearrangements that brought region 97D, in one case, and 97E, in the other, next to the chromocenter. Both of these latter rearrangements were associated with marked variegation of the eye.

The experiments with ebony yielded 8 e mutants but no position effects. This was a surprising result because of the contrasting ease with which ro^+ position effects were found and because current thinking of the mechanism of position effect does not take into account the possibility that a particular locus might be immune to position effect. One trivial explanation is that e might be non-autonomous in action. This is not the case because 2 of the 8 e mutants were mosaic mutants. The last of the three tests carried out with e was conducted at 19°C in the hope that the temperature enhancement might maximize the likelihood of recognition of the ebony phenotype. This run yielded 1 ebony whole body mutant and 1 mosaic mutant but no position effects among 3700 F_1 flies.

There is presently no hypothesis that would permit reconciliation of the discrepancy between these results with ro vs e . Either the appropriate rearrangements are not recoverable in the case of breaks near e^+ or some property of this locus confers upon it an immunity to the gene-repressing effect of heterochromatin. The nature of the respondent locus must also be taken into account in formulating hypotheses to explain V-type position effects. (Supported by NIH Grant GM06508-10)

Petit, C. Faculté des Sciences, Paris, France. Is *D. melanogaster* a domestic species?

genetic homogeneity (see Reeve and Robertson, 1954).

The investigation has revealed an important genetic heterogeneity both in the sparse populations encountered in the beginning of summer and in the large populations found at vintage time. A start in differentiation has been noted in a basement where constant conditions allowed important populations to develop all the year round, but in the case of a "wild" population the characteristics seem to be maintained from one year to another.

An attempt to recover induced V-type position effects for the loci ro^+ and e^+ yielded quite different results for each of these two genes. Oregon-R males were irradiated with 4000 r of X-rays and mated either to ro females, to e

females or to Xa/Ubx^{130} , e females depending upon the locus being tested. The F_1 progeny were examined for any expression of the recessive phenotype. All putative mutants were confirmed by a retest and salivary chromosomes were checked where possible. The experiments were designed to only recover the desired position effects and no counts of F_1 were made with one exception. The e experiments involved about 4 times as many F_1 progeny as the ro tests.

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The genetic structure of various populations of *D. melanogaster* has been examined, the character chosen as reference being the number of ovariolae. The coefficient of right - left correlation (ρ) was used to estimate the

genetic homogeneity (see Reeve and Robertson, 1954).

The investigation has revealed an important genetic heterogeneity both in the sparse populations encountered in the beginning of summer and in the large populations found at vintage time. A start in differentiation has been noted in a basement where constant conditions allowed important populations to develop all the year round, but in the case of a "wild" population the characteristics seem to be maintained from one year to another.

		Wild populations		Cellar populations	
		$m \pm e$	ρ	$m \pm e$	ρ
Populations encountered in July	1964	21.85 ± 0.18	0.38*	22.90 ± 0.14	0.43*
	1965	21.31 ± 0.16	0.35*		
Populations found at vintage time	1964			22.78 ± 0.18	0.43*
	1965	21.58 ± 0.16	0.39*		

* significant

These results tend to prove that the species *D. melanogaster* is less domestic than is generally believed.