

Hollis, R.J. College of William and Mary, Williamsburg, Virginia. Allozymic variation in *D. melanogaster* from Virginia.

Drosophila melanogaster populations were collected using baited traps at four locations (Toano, Short Pump, Afton Mt., and Monterey Mt.) in Virginia. Individual flies were then assayed via starch gel electrophoresis for

Table 1. Data for Esterase 6

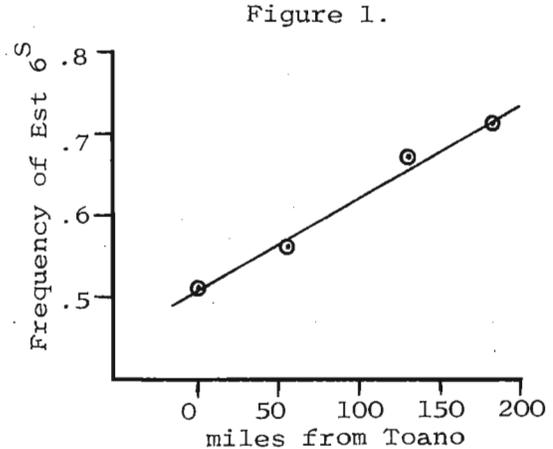
Site	Miles*	n	Genotypes			Frequency of S
			S/S	F/S	F/F	
Toano	0	50	12	27	11	0.51
Short Pump	56	56	20	23	13	0.56
Afton Mt.	130	35	13	21	1	0.67
Monterey Mt.	182	36	16	19	1	0.71

* approximate air miles west of Toano

Table 2. Alcohol dehydrogenase data

Site	Miles*	n	Genotypes			Frequency of S
			S/S	F/S	F/F	
Toano	0	96	36	39	21	0.58
Short Pump	56	68	37	28	3	0.75
Afton Mt.	130	41	16	16	9	0.59
Monterey Mt.	182	35	14	12	9	0.57

* approximate air miles west of Toano



Esterase 6 and Alcohol dehydrogenase using the methods of Johnson (p.c.).

These allozymes are described in Wright (1963) and Johnson and Denniston (1964).

Tables 1 and 2 summarize the results of this study. Both of the loci were found to segregate in all populations sampled. As the sample sites lie on an approximate east-west line which passes through several topographic regions (coastal, piedmont, and mountains), linear regressions were performed by least squares analysis using miles from the most easterly site as the abscissa and allele frequency as the ordinate. No apparent pattern was observed for Adh. For Est 6, a cline is suggested, with $r^2 = 0.94$. A graph of the Est 6 data, including the regression line is presented in Figure 1. I fully recognize that both the sample sizes and numbers were extremely limited in this preliminary study; however, this cline, if it does indeed exist, would indicate that selection is operative.

References: Johnson, F.M., personal communication; Johnson, F.M. and C. Denniston 1964 Nature 204:906-907; Wright, T.R.F. 1963, Genetics 48:787-801.

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terminal wire.

From 80-100 isogenic Canton-S wild type females were collected and placed in each of several 1/2 pint bottles along with several males, on fresh, yeasted cornmeal medium for 24-48 hours. The flies were then very lightly etherized and 20 females were placed in each of several vials for 1 hour to lay eggs after which time the deposited eggs were counted. The vials containing the eggs were then subjected to the treatment field or were used for the control study. The control vials were placed between capacitor plates but were not subjected to the treatment field. The temperature in the treatment field or in the control field was $24 \pm 0.5^\circ\text{C}$.

Egg hatch counts were begun 20 hours after the egg counts and continued for 3 hours. Egg hatch was scored by counting the number of empty egg cases per vial.

The accumulated average number of eggs hatching at each counting time was calculated. Table 1 shows the percent egg hatch for each experimental treatment. Figures 1 and 2 show the relationship of the accumulated average percent egg hatch to time of count for eggs subjected to a 0.3 kV/cm and 0.6 kV/cm electrostatic field respectively.

The electrostatic fields used have no effect on egg hatch time or frequency of egg hatch.

References: Avio, C.M. and G. Tarozzi 1956, Riv. Biol. 48:49-74; _____ 1958, Riv. Biol. 48:145-152; Steen, H.B. and P. Oftedal 1967, Experientia 23:814.