Rodinò, E. and A. Martini. University of Padua, Italy. Est 6 V: a new allele at the Est 6 locus in natural populations of D. melanogaster.

The existence in populations of D. melanogaster of a protein polymorphism involving two forms of a non-specific esterase was first established by Wright (1963). By means of electrophoresis it was possible to separate two forms of this enzyme called Est 6 Slow and Est 6 Fast for their different mobilities on starch gel. The inheritance of the two forms was found to be controlled by a pair of co-dominant alleles. A third allele of the same locus was then detected (Wright and MacIntyre, 1965). The third allele, Est 6 F2, has the same electrophoretic mobility as Est 6 F, but differs in producing a heat-stable form of enzyme, vs. a heat-labile form controlled by Est 6 F.

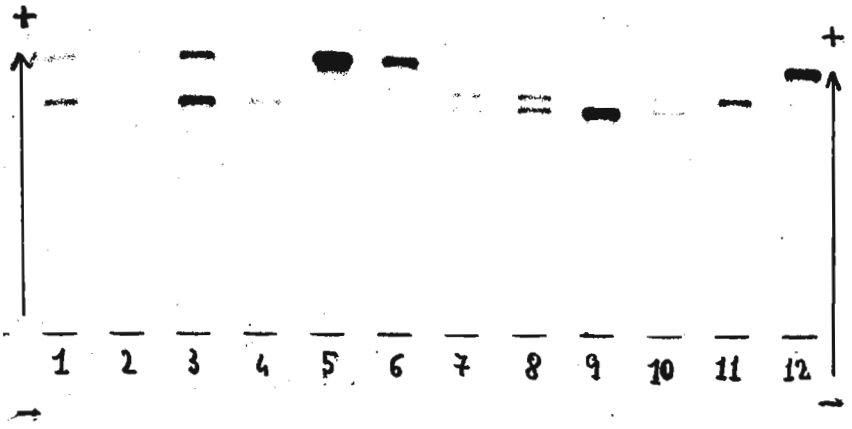


Figure 1. Vertical 5% polyacrylamide gel slab stained for Esterase (Tris, EDTA, borate buffer, pH 9.1)

Gel pockets	2, 5, 6, 12:	homozygotes	V/V
" "	4, 9	"	S/S
" "	7, 8, 10	heterozygotes	S/F
" "	1, 3	"	S/V
" "	11	homozygote	F/F

In this research note we want to report on another allelic form of Esterase 6 found in natural populations of D. melanogaster in North-East Italy. This new form has been called by us Est 6 V (V for Very fast), having a much greater electrophoretic mobility than Est 6 F (see Fig. 1).

In the course of our work we have made the assumption that the two esterase called by us S and F, are in fact homologous with those described by Wright.

The new allele was found in four populations, each founded with twelve females caught inseminated in the wild near Verona in the fall of 1969, and maintained in mass culture in our laboratory. The results obtained by sampling for Esterase 6 a total of 423 flies from the four cultures, are reported in Table I.

Table I. The expected values are calculated following the Hardy-Weinberg distribution.

Genotypes	S/S	F/F	V/V	S/F	S/V	F/V	Totals
Observed	287	13	1	94	27	1	423
Expected	285.5	8.5	0.5	99.4	24.6	4.3	423

Gene Frequencies (%): S 82.16; F 14.30; V 3.54

Controls were then made by crossing between flies of known genotype and screening the offspring for esterase 6 (Table II). Although the data obtained from any one cross are scanty the results follow closely the Mendelian rules of segregation confirming the expectations.

Table II. The expected data are reported in brackets.

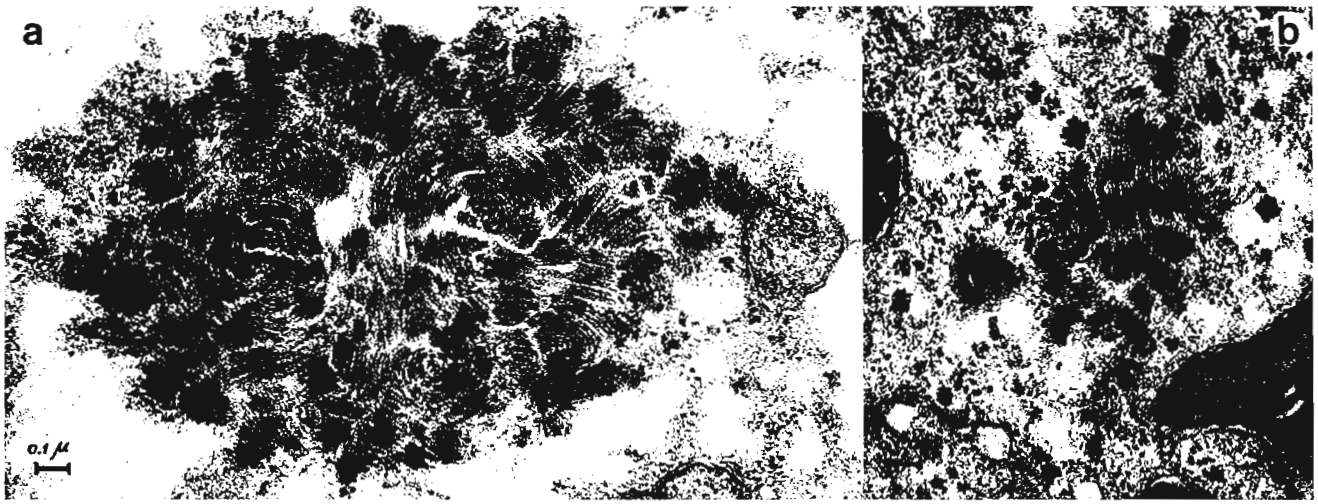
Parents genotype	S/S	F/F	V/V	S/F	S/V	F/V	Totals
F/F x S/V	-	-	-	7 (9)	-	11 (9)	18
S/S x S/V	18 (17)	-	-	-	16 (17)	-	34
S/V x S/V	9 (9.5)	-	7 (9.5)	-	22 (19)	-	38
F/V x F/V	-	2 (2.7)	3 (2.7)	-	-	6 (5.5)	11

During the summer of 1970 the new allele was detected also in other D. melanogaster populations of the Venetian region in N.E. Italy; these are being sampled for esterases. The gene frequency observed for Est 6 V is very low, being around 0.02 or 0.03. Work is also in progress to characterize the new esterase form with different substrates and inhibitors.

References: Wright, T.R.F, 1963 Genetics 48: 787; Wright, T.R.F. and R. MacIntyre, 1965 J.E. Mitchell Sci. Soc., 81: 1.

Van Breugel, F.M.A. and J. van Zuylen
Genetisch Laboratorium, Leiden, The Netherlands. Fibrillar spherulites in the Malpighian tubules of larvae of Drosophila hydei.

Electron microscopical observations on proximal cells after GDA and O_sO_4 fixation, of the anterior Malpighian tubules of late third instar larvae, revealed the presence of typical structures (Fig. a,b) resembling the fibrillar spherulites or 'stromacentre' of Avena chloroplasts (Gunning, 1965; Gunning et al. 1968; Steer et al. 1970). It has been suggested for the Avena structures that the fibrils have a proteinaceous nature and probably consist of linear aggregates of ribulose diphosphate carboxylase (Gunning et al. 1968). We found the spherulites in wildtype (Fig. 1a) as well as in



white (Fig. 1b) and white-mottled larvae. (Photographs were made with technical assistance of the division of Cell Biology).

References: Gunning, B.E.S., 1965 J. Cell Biol. 24: 79-91; Gunning, B.E.S., M.W. Steer and M.P. Cochrane, 1968 J. Cell Sci. 3: 445-456; Steer, M.W., J.H.W. Holden and B.E.S. Gunning, 1970 Canad. J. Gen. and Cy. 12: 21-27.

Ertha, D. and S.E. Moyer. Northeastern University, Boston, Massachusetts. A mosaic for two of three dominant markers in a male D. pseudoobscura.

A male was discovered with a spontaneous occurrance of Lobe and Delta on the right side but not on the left. Both wings were Blade but the phenotype for Bare was not clear. He was the result of a backcross mating of ♀♀ Ba/Δ;Bl/L x random ♂♂ having two of these markers, one for each of chromosomes II and III. He was able to sire progeny that indicated his genotype as $Ba/\Delta^{+};Bl/L$.

Hence, his somatic tissues expressed either ΔL or $\Delta^{+}L^{+}$, while the germinal tissue was $\Delta^{+}L$! We are puzzled for an explanation for this event. We would be grateful to hear from other Drosophila workers for interpretations and reports of similar mosaics.