Table 2. Transmissibility of mutations and their relation to parental pattern

Pattern of parental eyes	Non-transmitted	Transmitted
both eyes full mutant	2	2
one eye full mutant, one eye normal	6	1
one eye full mutant, one eye sectored	2	0
both eyes sectored	5	1
one eye sectored, one eye normal	5	4
total	20	8

The induction of single strand lesions in sperm leads to mosaics which tend to remain separated by a left-right symmetry along the anterior-posterior axis. Only a few (8/40 = 0.20) of the mosaics represented mixed distributions of mutant and normal cells to each eye. Table 2 presents the transmitted mutations and their relation to the pattern of mosaicism in the initial mutant parent.

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Tsakas, S. and E. Diamantopoulou-Panopoulou. Agricultural College of Athens. Is the "hidden heat sensitive polymorphism" (crude extract) polymorphism of the structural examined locus in all cases? Experiments with D. subobscura.

132 isogenic lines for the O chromosome extracted from two natural Greek populations, Parnes (P) and Crete (C), were studied. In our samples composed of the crude extract of 12 flies we tested whether the observed heat-sensitive "alleles" were new hidden alleles of the tested loci, A.O, M.E and Xdh, located on the O chromosome.

The main conclusion from this experimental work is that in our tested cases the new hidden heat-sensitive polymorphism doesn't belong solely to the tested locus but is the result of interaction among the "enzymatic products of different loci". The evidence for this is: (a) non-repeatable heat-sensitive phenotypes within some tested strains; (b) the heat-sensitive phenotypes within F_1 crosses didn't give one pattern in most of the tested cases; (c) in single crosses by using null-strains and single fly analysis (new technique applied by us), we did not observe one locus Mendelian segregation within the offspring.

The report of this work has been submitted to the Biochemical Genetics magazine.

Wakimoto, B.T., R.A. Lewis and T.C. Kaufman. Indiana University, Bloomington, Indiana. Genetic analysis of the Antennapedia gene complex: mutant screen of proximal 3R, bands 84A-84B1.

In order to extend our knowledge of the genetic and functional relationships of the members of the Antennapedia gene complex (ANT-C), we have utilized a proximal 3R deficiency chromosome Df(3R)Scr in a mutant screen. This chromosome was generously provided for our use by Dr. D. Sinclair. It is deficient for bands 84A1 through 84B1. Like the previously described Df(3R)Antp^{Ns+R17} (Duncan and Kaufman; Kaufman), Df(3R)Scr is associated with a dominant reduced sex comb phenotype and fails to complement the recessive lethalities of the dominant homoeotics Msc, Antp and Antp^{Scx}. However, Df(3R)Scr extends more proximally than Df(3R)Antp^{Ns+R17} and exposes the proboscipedia (pb) locus. The recovery and characterization of mutants derived from the present screen would establish if the previous screen utilizing Df(3R)Antp^{Ns+R17} had saturated the 84B1,2 region of the ANT-C (see Lewis, R.A., this volume). Furthermore, we could extend the limit imposed by the Df(3R) Antp^{Ns+R17} chromosome to include more proximal regions including the pb locus.

EMS mutations were induced according to the method of Lewis and Bacher. Using a third chromosome marked with red and ebony,,a total of 2,832 chromosomes were screened for visible, lethal and semi-lethal mutations exposed by Df(3R)Scr. The mutants recovered were designated by the letters Ef followed by an identification symbol. Results of inter se complementations are summarized by Fig. 1.