crude extracts, are reported for other gene-enzyme systems, such as α-GPDH (Bewley and Lucchesi 1977) and alkaline phosphatase (Schneidermann 1967; Wallis and Fox 1968).

Experiments are in progress to detect post-translational modifiers, if any; as a preliminary test, we mixed crude extract of larvae or adults to pupal extracts in vitro: upon electrophoresis, the components migrated independently and formed bands of dissimilar mobility. No modifiers seemed to be present; however, these observations do not provide a definite answer, because we cannot be sure that our homogenization procedure simulates adequately the in vivo situation.

In any case, the determination of these isozymes throughout development seems to be very complex and the Mendelian models proposed for adult and embryo G6PD do not apply to our populations. These experiments emphasize how dangerous it is to generalize structural models to whole species on the basis of electrophoretic observations. G6PD gene enzyme system throughout development reveals a remarkable polymorphism of regulatory origin mainly (Steele et al. 1969; Komma 1968; Giesel 1976; Pieragostini 1978; Fadda et al. 1979); in our opinion, such systems deserve to be studied in further detail because they can draw more attention to the importance and the evolutionary significance of regulatory variation in respect to structural one.

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Fleuriet, A. University of Clermont-Ferrand II, France. Analysis of a polymorphism quite common in French natural populations of Drosophila melanogaster.

From a survey made since 1969, it has been established that French natural populations of Drosophila melanogaster are polymorphic for two features. First of all, 10 to 20% of the flies are infected by a Rhabdovirus called "sigma". It has been known for years that this virus is not contagious but transmitted from fly to fly only through gametes and is responsible for CO_2 sensitivity of infected flies. This situation is presently arousing more interest since the discovery that some pathogenous viruses of vertebrates are transmitted transovarially in their insect vectors. When experimental populations of flies are raised in cages, the sigma virus usually infects most of the individuals. Further experiments are now being performed to explain the discrepancy between natural and experimental populations.

A second feature, very constant at least in French populations, is a polymorphism for two alleles of a gene for resistance to the sigma virus: ref(2)P^o and ref(2)P^P. The respective frequencies of these two alleles are very similar among all the populations studied and they are quite the same in experimental populations, whether the sigma virus is present or not. The strong selective forces working on this equilibrium are now being analyzed.

From a few other observations, it seems that these two features may, at least, exist in populations of flies living in other countries.

References: Fleuriet, A. 1976, Evolution 30:735-739; Fleuriet, A. 1978, Genetics 88: 755-759.

Fontdevila, A.*, W.T. Starmer, W.B. Heed and J.S. Russell. *Universidad de Santiago, Santiago de Compostela, Spain, and University of Arizona, Tucson, Arizona. Differential mating activity in two coexisting species of Drosophila.

Ecologists have disclosed many cases of character displacement as a means to avoid species competition (see Margalef 1974 for a revision). This seems particularly true among closely related species occurring together and less so when species are genetically different. However, under certain conditions where convergence of non-related species is favored by natural selection, character displacement may be established. The present work provides a new example of