

Judd, Burke and Lefevre, G.
X-ray-induced dominant mutation
in D. melanogaster.

The frequency of all kinds of visible dominant mutations was determined after irradiation of Canton-S + males and females. In addition the change in inci-

dence of detected mutations after irradiation was followed by subculturing the experimental bottles at weekly intervals for a minimum of four weeks. Doses of 2500 r and 5000 r were applied in the male irradiations; 3000 r in the female. Dominant mutations are sufficiently numerous to provide quantitative data; over 2% dominants were found as a maximum. However, the number of detected mutants declines rapidly two or three weeks after exposure. In these experiments no leveling off of the mutation rate was observed in the late subcultures, but the incidence of detected mutation was invariably lowest in the last subculture. Moreover, after four weeks the same mutant incidence was observed in both the 2500-r and 5000-r experiments, even though it was much higher in the latter at the beginning. The mutation rate in the 3000-r female series was somewhat, but insignificantly, lower than that in the 2500-r male series. Even in the female irradiations a decline in the incidence of detected mutations was noted after 11 days. Apparently, germinal selection is operative in eliminating induced mutations from the germ line. It cannot be decided if this is the sole cause for the decline, or whether, in addition, an intrinsically lower dominant mutation rate exists in the gonial as compared with the mature germ cells. All the mutants tested were homozygous lethal.

Kikkawa, H. Effects of 3,4-dihydroxykynurenine on pigment formation.

The biochemical step from 3-hydroxykynurenine to brown pigment is quite unknown. But judging from Raper's works for the melanine formation, 3,4-

or 3,6-dihydroxykynurenine seems to be a next product of 3-hydroxykynurenine. The 3,4-dihydroxykynurenine has been synthesized by Drs. T. Sakan and S. Seno of Osaka City University. Tests of this substance to v bw and cn bw mutants of *Drosophila*, however, were negative.

Koske, Thea A new species hybrid in the obscura group.

For some time I tried to cross European species of the obscura group, but only with negative results. Later I also included some American species. Some time ago I learned by letter from Professor Buzzati-Traverso that he had succeeded only in crossing D. ambigua females with pseudoobscura and persimilis males of certain origin. (A report has been made recently by him at the Intern. Congress of Entomology at Amsterdam) Shortly afterwards I obtained a hybrid by crossing pseudoobscura females (Oaxaca) with ambigua males. The ambigua strain was of Swiss origin and highly inbred. The salivary chromosomes of the hybrid show a most complicated pattern. There are some inversions, overlapping inversions, and smaller rearrangements. Some parts lack in pairing. Nevertheless, extended sections of certain elements are exactly paired. An analysis will be carried out. Also the interaction of mutant alleles in the hybrid will be tested.

Lewis, E. B. Additions and corrections to the cytology of rearrangements.

The following salivary-gland-chromosome locations of break points in certain rearrangements supplement descriptions found in the work of Bridges and Brehme.