

Liebach, W. Gene manifestation.

of the manifestation were divided into qualitatively distinguishable classes. Further investigations concern the influence of alcohol upon *D. melanogaster*.

Since 1936 the manifestations of a variable wing-gene (*vli*) shortening the longitudinal veins has been under examination. In the first place the different forms

Morgan, L. V. A compound duplication of the X-chromosome of *D. melanogaster*.

section ( $X^D$ ) from *fu* to the spindle fiber attachment. In one line (1,1) the fragment is attached to one X at spindle attachment and in the other line (1,f) the fragment is free on its own spindle attachment.

Crossing-over and disjunction have been studied in two lines of a duplication (Dp-100) in which the extra fragment is a deficient X-chromosome containing a distal section ( $X^d$ ) from the y end to *prune* inclusive and a proximal

Crossing-over between the two entire X's was less frequent than in the diploid control, as in other duplications. In the region homologous to  $X^D$  the reduction in crossing-over is proportional to the length of  $X^D$  when compared with the proximal Dp-138 and other duplications studied by Dobzhansky (Studies III '34). The reduction in this region is the same in both lines of Dp-100. In the region homologous to  $X^d$  the reduction is very slight and is much less than in distal duplications (carrying some of the inert region) of comparable length. In the 3rd region, *cv-ct* (not homologous to the fragment), crossing-over is as frequent as in the control in the (1,1) line and is still more frequent in the (1,f) line. In the (1,1) line when a Y-chromosome is present, crossing-over is still more reduced especially in the most proximal region. Crossing-over of the proximal fragment ( $X^D$ ) is only 0.3 times as frequent as crossing-over between the X's in the homologous region in line (1,f) and only about .08 times as frequent in line (1,1). Crossing-over within the distal fragment ( $X^d$ ) rarely takes place.

Non-disjunction of X's occurs in about 3.5% of gametes in the (1,f) line. The X's of XXY females are usually non-crossovers, but a small percentage in one experiment were crossovers for a distal region. It is computed that non-disjunction of X's occurs in about 31% of no-exchange tetrads. Non-disjunction of X's in line (1,1) was infrequent being about the same as in XX controls. When a Y was present in the (1,1) line there was about 19% of non-disjunction which is 56% of estimated no-exchange tetrads.

Moriwaki, D. *Drosophila repleta* found in Tokyo.

In Tokyo, where *D. repleta* had never been found, the flies were first collected last year, 1936. Mr. S. Uchida, a student of Tokyo Imperial University, collected a few of them on November 13, 1936 at Shibuya-district in

Tokyo, after that we caught them occasionally even in winter, for example on Dec. 29, 1936; and all of them were cultured by corn-meal-agar method. That they were certainly *D. repleta* was secured by mating them with *D. repleta* in America which was sent to me by Dr. Kikkawa in Kyoto. On Dec. 12, 1936, one female and six males of scarlet eyes appeared in my culture, and it was a mutant character caused by an autosomal recessive gene, which I named as scarlet. This summer, however, the stocks of wild and scarlet were at the point of death, but fortunately we could capture again the flies in nature in Tokyo on August 25, 1937. Then the culturing of wild and scarlet stocks of *D. repleta* obtained in Tokyo is now continued.

Neuhaus, M. Crossing-over in the bobbed region.

In order to study the frequency of crossing-over in the bobbed region the following crosses were undertaken. Females pos-

sessing  $y\ sc^4$  ( $y\ sc^4$  - a long inversion, the right break occurring in the inert region to left of bobbed) and  $y^2\ wa$   $f\ bb\ Y^L$  were mated to  $f\ Y^S\ Y^L$  males.  $F_1\ y\ sc^4$  males were tested for fertility. In general those males are sterile, but if an ordinary crossing-over to the right of the inversion takes place then a fertile  $y\ sc^4$  male arises. And if the X-chromosome of that male contains  $bb$  then this indicates that the cross over has taken place to the right of the bobbed locus. 1500  $y\ sc^4$  males were tested for fertility and among them one fertile male was observed. A genetical investigation of the X-chromosome of this male showed that the X-chromosome contain  $bb$  and the long arm of the Y attached. Similar experiments were carried out with one  $sc^8$  inversion and a testing over 5000  $sc^8$  males for fertility, but only sterile males were obtained.

Serebrovsky, A. S. On some newly appearing bristles.

A detailed study of  $s^9L-Ry^4$  flies has revealed in the latter the appearance of some new bristles, designated by the author as

*praecoxales* and *occipitales*. The former (*prex*) arise on the lower surface of the thorax anteriorly to the anterior coxae, one on each side, often asymmetrically and for the most part in homozygous females. Those bristles are fine and more slender and shorter than macrochaetes, being usually directed outwards. The latter (*ocp*) develop on the posterior surface of the head, one on each side, between the edge of the eye and the dark "trapeze". Those short bristles are directed upwards. Apart from the above said, there takes place a doubling of bristles, to which the term of *genales* (*g*) is given by the author. When examining the head from beneath, those bristles seem to be directed backwards. The occurrence of the above bristles is apparently caused by the duplication of loci  $act^+$  and  $sc$  in the chromosome of that structure. It is of interest,