

Dresden, D. and Oppenorth, F. J. Selecting strains resistant to gamma-HCCh (hexachlorocyclohexane).

were 1 and 2 microgram respectively. During 6 selections the LD50's increased gradually to 6 micrograms in both strains. This value did not change during the next 10 selections. By means of a new injection method we will try to find out to what extent the increased LD50 is due to internal or external factors.

Edmondson, M. Interchange of eye and antennal tissue during development.

with eye facets of the normal red color. In the anterior edge of the eye on the same side of the head there was a nick, embedded in which and slightly protruding was the bulb of an antenna. It seems clear that there had been an exchange of eye and antennal tissue, each into the place of the other, during imaginal development.

Epling, Carl, and Mitchell Donald F. A previously unrecorded gene arrangement of D. pseudoobscura in southern California.

until the present year, although the populations at Keen Camp and Pinon Flat have been sampled repeatedly each year since 1939 by Dobzhansky and, more recently by ourselves. An approximate total of 14,000 chromosomes has been determined. This year one Pikes Peak chromosome was found in a late-season sample of six females from Pinon Flat. It was also found repeatedly at three other stations in the San Jacinto Mountains not previously sampled. One of these is about six miles from Keen Camp, the others are about four miles from Pinon Flats. Large samples made at these stations throughout the season 1951 indicate that Pikes Peak had a frequency in each population of about 1%. The combinations of Pikes Peak with other gene arrangements present are easily distinguished in salivary-gland smears; thus it is improbable that it has been overlooked in the past even though it is infrequent. The meaning of its appearance, especially at Pinon Flat, is obscure.

Faber, J. and Sobels, F. H. A new imaginal ring in the mid part of the hindgut.

possible for differentiation of part of the rectal region. In 1<sup>st</sup> pupae a delay occurs in the replacement of the posterior part of the larval hindgut by cells from the genital discs. Because of this delayed development it was possible to observe an imaginal structure situated in the mid region of the hindgut developing also independently of the anterior part of the hindgut, which is formed by the imaginal ring caudal to the entrance of the malpighian tubes. These imaginal cells probably give rise to that part of the posterior intestine which represents the rectal ampulla. The same imaginal structure could be observed in normal pupae. Transplantation experiments are under way to check these observations.

Starting selection experiments with two strains of D. melanogaster, Berliner Inzucht and a wild strain, an attempt was made to obtain resistance against gamma-HCCH (contact method in adults). The LD50

A *Drosophila* male was found which had one normal antenna while the other consisted of two joints that were fairly normal except that they lacked arista and were covered

The "Pikes Peak" gene arrangement of the third chromosome of D. pseudoobscura is common in the Rocky Mountains, Texas, New Mexico, and Arizona. It has been found in low concentration in central California. It has been unknown in southern California

A histological analysis of pupae of the mutant lethal nonevaginates (1<sup>st</sup>, 1-0.1%) revealed the existence of a hitherto unknown imaginal ring in the hindgut, which is res-