

favorable cases. Development of the wing is normal except for the absence of venation. Data so far obtained indicate that all mutant discs used develop autonomously without producing any phenotypic modification of the host. However, even in wild type control implants a number of bristles, especially the larger ones, are usually bent and otherwise distorted so that they resemble forked and singed. Since the implant develops in an inverted position, these abnormalities are in all probability due to compression of the bristles during development. This interferes with interpretation of results obtained on implantation of wild type and mutant discs in forked and singed hosts. At the present time, experiments on the implantation of wild type and mutant discs in mutant hosts are under way.

Howland, R. B. and J. W. Jailer. Microcautery of posterior pole-plasm and germ-cell determinants in *D. melanogaster*.

Timed eggs of *D. melanogaster* in which the cleavage nuclei have not yet reached the posterior pole-plasm were dechorionated and aligned on thin slabs of agar. The posterior region, sub-

jected to heat from the point of an electromicrocauter, was burned to an extent varying from 1/8th to 1/6th of the entire egg. The living portion of the eggs constricts off gradually from the burned mass. A blastoderm is laid around the entire living portion. No germ cells form at the posterior pole. The operated embryos undergo the typical proctodeal-amniotic invagination, but no pole cells are carried inward in this region. From a large number of embryos but one adult hatched. This fly, a male, was crossed to four virgin females. All these females laid sterile eggs. In section of the small mass of testicular tissue of the male no spermatogonial cells or sperms were seen. It is apparent that there is in the prelocalized posterior egg region, either in the pole-plasm or the granular inclusions or both, the essential materials for germ cell formation.

Howland, R. B., E. Glancy and B. Sonnenblick. Interspecific transplantation of wild type and vermilion eye discs in *Drosophila*.

Interspecific implantations of wild type and vermilion eye discs were made within and between four species of *Drosophila*. The stocks used were *D. melanogaster* (Woodbury Δ and v^2) from Washington Square College;

D. simulans (Δ and v) and *D. pseudo-obscura*, Texas Race A (Δ and y sn v) from Pasadena; and *D. virilis* (American Δ and v^3 mt³) from Cold Spring Harbor. The wild type eyes develop autonomously in all cases, the color of the *virilis* Δ eye being darker (more like garnet) than any of the other three species. The diffusible v^+ substance postulated by Ephrussi and Beadly acts upon and modifies to wild type implanted vermilion eye discs of every species except that of *D. virilis* (v^3 mt³). In this case, the eye color though

intermediate with respect to the virilis Δ implant, matches that of the Δ implants of the other species. In further experiments, darker allel-morphs of v^3 are being used.

Just G. and Steiniger,
F. Natural selection in
D. melanogaster (normal-
winged and vestigial)
on the isle Greifswalder
Oie.

In the spring of 1935 an investigation was entered on the isle cited to determine the value of selection under natural isle conditions in vestigial and normal-winged D. melanogaster, both put out experimentally on the isle. The investigation was continued in 1936 and will be also continued in 1937.

Lapedies, Daniel L. The effect of ci^D upon the facet number of Bar eye in D. melanogaster.

Isogenic Bar females were mated with bt^D/ci^D males at $25^\circ C$. In the F_1 the facet numbers of the males were counted with a net micrometer. The facet numbers of 48 F_1 B; ci^D males = 48.0 ± 1.4 , the facet number of 57 F_1 B;

bt^D/Δ males = 58.87 ± 1.8 . The size of the F_1 female eye made facet counts impractical. While the B/Δ ; bt^D/Δ female eye was similar to the heterozygote B/Δ female eye in shape and size, and B/Δ ; ci^D/Δ female eye, due to a loss of facets along the entire anterior edge of the eye, was smaller and exhibited a different shape that showed little variation.

Neuhaus, M. Sterility mutations in D. melanogaster.

In order to detect genes in the X-chromosome, nonhomologous to bobbed but homologous to the Y, the following experiment was undertaken: yellow males were X-rayed (dosage about 5000 r)

and crossed to $ClB/webb^1$. Bar females from F_1 were mated with $webb^1$ males. Mutations homologous to bobbed and those arising in the active part of the X were obtained in F_2 . Non-Bar females from F_2 were crossed to their brothers² and if recessive mutations, having homologous in the Y arose in the X, then in F_3 it would be possible to obtain females showing the same mutations. Among 1136 chromosomes examined the above mutations did not occur but at the same time it was found that in some bottles (10%) of F_2 all males carrying the irradiated X-chromosome were sterile. This fact being established those males' sisters were crossed to y. v f B males, all sons from F_3 having been tested on sterility. The following table shows a part of the results obtained: