

The data show that the Bar eye discs are already smaller than wild at 36 hours after hatching and that the growth rate of both Bar and wild type is the same throughout this period of development. These data are especially interesting in view of the fact that the temperature-effective period is included in this time interval.

Steinberg, Arthur G. The Lobe alleles and the  $v^+$  hormone.

Implantation of eye discs from larvae which are genotypically Lobe, Lobe<sup>2</sup>, Lobe<sup>4</sup> or Lobe<sup>7</sup> into vermilion hosts shows that such discs fail to develop wild type pigmentation. Their pigmentation is intermediate

between that of vermilion and wild type. This reaction is similar to that shown by the Bar "alleles".

Steinberg, Arthur G. Facet number of Bar<sup>4</sup>

The facet number of B<sup>4</sup>♂♂ and ♀♀ at 25° C has been determined. The ♂♂ have 560.0 facets and the ♀♀ 558.2.

Timofeeff-Ressovsky, N. W.  
Determination of the "radius of activity" of *Drosophila* flies.

For many theoretical considerations the knowledge of the real amount of panmixy or, vice-versa, of isolation within the species-populations is rather important. Without considering some finer mechanisms of physiological and ecological isolation, three

main factors are of importance in this connection: (1) the real distribution of individuals over larger areas within the different parts of the species-population, (2) the "radius of activity" of the individuals within one generation, and (3) the extension of "life-waves" (quantitative fluctuations in time and space) in populations, and of accidental, passive mechanisms of mixture between different parts of a larger population. The relation of the first two factors can show the amount of "active" panmixy, and the knowledge of the third factor can give an idea of the amount of "passive" panmixy. More or less systematical, extensive, and exact studies on the "radius of activity" were so far made only in birds; they showed tremendous dissipation of the brood in each generation in some species (e.g. *Nettion crocea* L.), and extraordinary territorial conservatism in others (e.g. *Sturnus vulgaris* L.). The following simple method can be used in studying the "radius of activity" in *Drosophila*: A ground of the size of about 2 - 5 hectares is divided into equal squares (on the map!) and in the center of each square (10 - 15 m apart) a bottle with food is placed; in the middle of the ground larger amounts of food are placed, and 2000 - 5000 *Drosophila* flies with different (not too deleterious!) mutations (better - combinations of 2 - 3 mutations) as "markers" are let out. During a period of 15 days the food bottles are inspected twice a day (9<sup>h</sup> and 18<sup>h</sup>), and the "marked" flies are counted, registered, and let out at the same place where they were caught (or collected and killed!). The end-result of a 15 days experiment will show the "dissipation-area", or "radius of activity" of the individuals of one generation of the species in question. Such tests have as far shown that the diameter of the area where "marked" flies are caught (after they were let out in the center of this area) is about 100 - 200 m, differing according to the species and mutations used, and also to the meteorological conditions. *D. funebris* shows, so far, a higher "dissipation" than *melanogaster*. The same type of experiment can be modified; instead of imago-flies, "marked" larvae and pupae can be placed (with a supply of food) in the center of the "experimental field".