

Eichler, V. B. and W. M. Luce. University of Illinois. Cytological observations of the Infrabar-Bar mutant of Drosophila melanogaster.

This report describes the salivary gland chromosome cytology of the Infrabar-Bar double type mutant in Drosophila melanogaster. The stock used was a long inbred forked Infrabar-Bar line established by Luce (1935) from an 18-facet female arising

from a mating between inbred forked Infrabar strain and an inbred strain of forked Bar. The Infrabar-Bar line has repeatedly given rise to Infrabar and to Bar.

Hager (1941), in the only report extant on the salivary chromosomes of this particular double type mutant, could find no more than a duplication of the 16A segment accompanied by a swelling or bulging of this region over that found in Bar or Infrabar. Hager's interpretation thus departs from the triplication hypothesis found by others in favorable preparations of the other double type mutants at the Bar locus. In the present study the best preparations suggest an interpretation which reconciles the duplication with the bulging hypothesis of Hager (1941) with the triplication hypothesis of Bridges (1936) and Sutton (1943).

Figure 1 is a photograph of the bulge which is characteristic of the 16A region in salivary gland chromosome preparations. Two sets of bands are immediately apparent by locating the thick bands which represent 16A_{1,2}. Examination under phase contrast



clearly suggests the interpretation indicated in Figure 2. There is a triplication, designated in the figure by the superscripts (1), (2), and (3) of the 16A segment but not in linear order. The second and third segments are somewhat end to end across the chromosome with some overlapping.

This interpretation would explain the apparent increase in the width of the bulge shown here and noted by Hager and also would support the triplication hypothesis of Bridges and Sutton.

