

Research Notes

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Reversal of dominance in  
the dumpy locus in *D.*  
*melanogaster*.

Larvae and pupae of heterozygous  
dumpy flies were subjected to  
36.5° C. for 12 hours. A large  
percentage of the flies exposed  
to the heat treatment beginning  
at 12-16 hours of pupal life  
showed truncated wings. These

varied from nearly normal through a simulation of the effect  
of the oblique allele of *dp* to an effect greater than that of  
homozygous *dp*. The treatment producing the greatest effect  
was that begun at 13-14 hours of pupal life. Females showed  
a less pronounced effect than males both as to number and  
degree of the truncates. The period of greatest effect was  
one to two hours earlier in females than in males. Vortex,  
part of the phenotypic manifestation of *dp*, showed an earlier  
temperature effect period, at 6-10 hours of pupal life. This  
reversal of dominance has been observed with respect to other  
genes, such as *cv*, *f*, *c*, *px*. The experiments are being con-  
tinued with the use of a dumpy stock and a wild stock which  
are isogenic to each other with the exception of the region  
of the *dp* locus.

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larval character in *D.*  
*melanogaster*.

In a study of the attached-X *yw*/~~+~~  
stock, it has been found that the  
mouth armature of homozygous yellow  
larvae is characterized by a  
lighter color than that of non-  
yellow. This can be diagnosed

with certainty in the living larva at all stages from hatching  
to pupation. The color is lightest in the first instar larvae,  
where the whole armature is very light brown, almost golden;  
wild type armature at this time is very dark brown. In the  
second instar, the armature is somewhat darker than in the  
first but all regions of the armature are distinguishable  
from wild type. In the third instar (about 70 hours until  
pupation at 25° C) the mouth hooks are as dark as those of the  
wild type; the middle region of the armature is somewhat  
lighter; the posterior part of the armature is light brown,  
in contrast to the very dark brown of the wild type. Separation  
of *y w* XXY females from wild type males and *y w* triple-X  
females was made by means of mouth armature color, and when  
checked against the colorless condition of the homozygous  
white Malpighian tubes, was found to be a perfectly accurate  
means of classification. That the mouth armature color is  
dependent upon the yellow gene and not the white was determined  
by examination of white and of yellow stocks. This character  
has been observed independently by N. Kaliss in another stock.