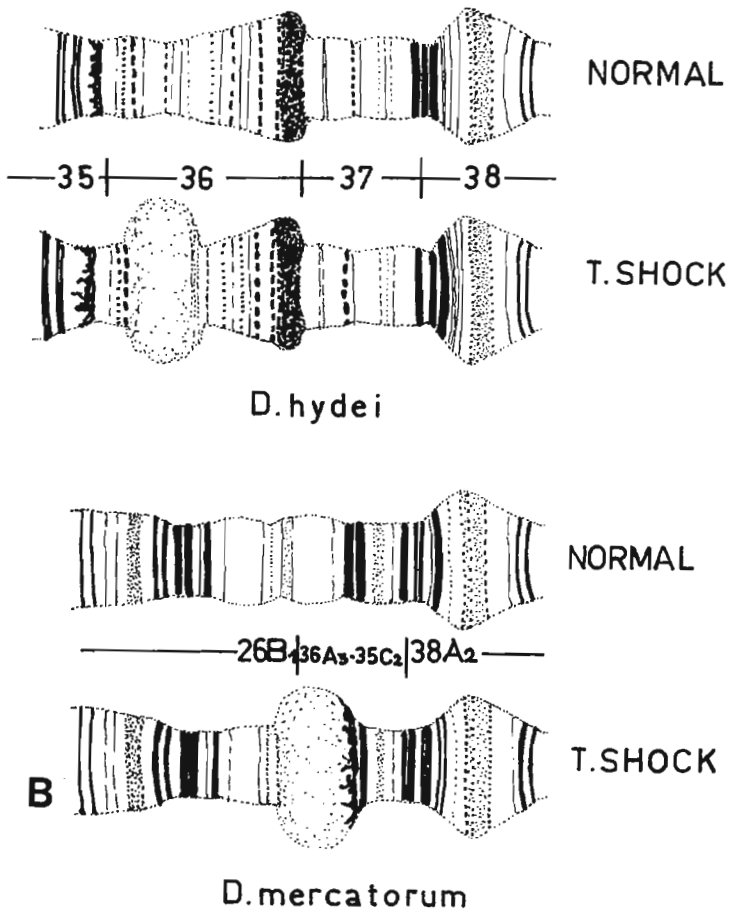

in the occurrence of two paracentric inversions in the second chromosome is shown. These inversions give rise to the banding sequence as observed in D. mercatorum when we assume that the banding sequence of D. hydei is the most primitive sequence. In addition to these two inversions there have occurred a large number of other rearrangements in this chromosome during evolution to the mercatorum sequence (Berendes, 1965). The reaction of region II 36A after a temperature shock is shown in Fig. 1B. The puffing pattern of the treated larvae of the two species can be compared with the normal state of activity in this region of the chromosome.

From the results it may be evident that the regions affected by temperature shocks are highly specific, which indicates that this treatment influences in some way a definite metabolic pathway. Moreover, the observed specificity might allow in favorable cases to conclude the homology of genes and their location in related species.

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Duyvestyn, C. G. University of Melbourne, Australia. Wing mutant in D. robusta.

Several D. robusta lines were set up in June 1963 from pair matings taken from a single stock which had its origins in a female collected by Dr. M. Levitan at Blacksberg, Virginia in August 1962. A wing mutant was first noted in one line in October 1964 and in three other lines soon afterwards. Seven other lines as well as the parent stock have not developed the mutant.

In external phenotype, the mutant appears to be similar to the "dumpy-like" mutant reported by Levitan (DIS 26). He found the mutant character to be determined by a recessive gene and that both sexes were sterile.

The same locus was found to be involved in the mutants produced by three of the lines. The mutant from the fourth line was lost before adequate tests could be performed. The gene responsible for the abnormal wing was also found to be recessive. Mutant individuals survive for a limited time after emergence from the pupal case. Most die within a week at 25°C before reproductive activity is possible. There does not appear to be any difference in survival time at 20°C or 25°C.

Mutant females have degenerate ovaries but mutant males possess normal testes and are able to produce motile sperm if they reach sexual maturity. It is not clear whether or not they are fully fertile as copulation between mutant males and normal females was not observed nor were progeny obtained from such crosses.