

Sharma, R.P. Indian Agricultural
Research Institute, New Delhi, India.
wingless - a new mutant in *D. melanogaster*.

some and were subjected to genetic analysis.
condition (see Figure) was governed by a single

recessive gene, designated wingless (*wgl*), and mapped on the left arm of the second chromosome at approximately 30 map units distance. Further, the wingless phenotype was not completely stable. The progeny of wingless parents were comprised of flies with no wings, one wing and two wings in approximately 2:2:1 ratio. The segregation pattern was consistent. Progeny raised by crossing one-winged x one-winged and two-winged x two-winged (isolated from the progeny of wingless flies) also segregated into the three phenotypes. The ratio of the three classes, too, was similar to that obtained in the cross of wingless flies. This segregation pattern suggests that individuals with the three phenotypes are genotypically similar and that changed phenotypic expression is the result of incomplete penetrance.



Besides affecting the wing, the *wgl* mutation has an associated effect on haltere development. In the wingless stock, flies with none, one or both of the halteres occurred. The suppression of wing and haltere development was, however, independent since flies with all combination of wing and haltere number were produced in the progeny of wingless parents. This points to the fact that there is complete autonomy in wing and haltere development but suggests that the critical stages during wing and haltere differentiation are controlled by similar steps.