Wagenberg, B. D. and A. B. Burdick. Adelphi University, Garden City, New York. Effect of K-pn on the pseudoalleles of the prune locus.

K-pn (3-104.5), or "prune killer" is a dominant autosomal gene which kills all prune (1-0.8) eye colored flies. It has no other detected effect on phenotype. In 1954 Sturtevant tested this gene against sources of pn, pn^2 and pn^3, the only alleles of the prune available at the time, and found it equally effective in killing each in males. He found that it would kill pn in homozygous attached X females. We marked K-pn with Mio (3-100.5) and thus have the stock Mio K-pn/Ins TM3, ri pP bx^{34c} Ser.

We set out to: (1.) test other alleles of prune against the K-pn gene, (2.) test homoallelic females, pn^i/pn^i, against the K-pn gene, and (3.) to set up transheterozygotes, pn^i/pn^j, and test them against K-pn. To transmit prunes through males in the presence of K-pn we have used Lindsley's modified Y, kz^+--spl^+ y^+ ac^+ KL•bb^+ KS.

All the alleles of prune tested were susceptible to the killer both in males and in homoallelic females.

All combinations of transheterozygotes, pn^i/pn^j, except one are susceptible to the killer. One transheterozygote, $pn^{27\text{-}9}+/+pn^{68b10}$ produced wild-type eye color and was not susceptible to the killer. (See Table 1.)

This means that the prune locus has two complons. We have been unable to separate the functions of eye color and susceptibility to the prune killer.

Table 1

Phenotype and Effect of K-pn on Various Homoallelic and Transheterozygous Prune Females

MALE PARENT \ FEMALE PARENT	pn^2	$pn^{27\text{-}9}$	pn	pn^3	pn^{68b10}
pn^2	+	+	+	+	+
$pn^{27\text{-}9}$		+	+	+	-
pn			+	+	+
pn^3				+	+
pn^{68b10}					+

+ Eye color prune; dies in presence of K-pn
- Eye color wild type; lives in presence of K-pn

Gooch, James L. Juniata College, Huntingdon, Pennsylvania. Rapid microevolutionary changes in sternopleural bristle count in Drosophila melanogaster.

The sternopleural bristles remain favorable material for the study of short term evolutionary changes. A hybrid stock of D. melanogaster was synthesized from a mass mating of Oregon-R, Seto and Samarkand strains. During the next four months random mating occurred, fractionating the genomes of the strains among individuals of the hybrid stock. The hybrid stock was then divided into three lines, each replicated three times in half-pint population bottles on cornmeal-molasses-agar medium. Line I replicates were founded by 200 females and 50 males each, and were carried 22 generations. Each generation was artificially truncated at the 18th day. Line II replicates were maintained in the same way, but were founded by only five females and five males each. Line III replicates were also initiated by five flies of each sex, but were decimated to the same level each generation.

Thus, Line I served as a large-population control, with an ample reservoir of genetic variability. Population levels averaged 450-650 flies after the first generation. Line II was founded according to the "founder principle". After the first generation populations also averaged 450-650 flies per replicate. Line III replicates were bottlenecked every generation to obtain random drift of gene frequencies and, hopefully, drift of bristle count. Population