Thompson, J.N., Jr. University of Cambridge, England. A new suppressor of veinlet and comments on two other vein mutants.

In a veinlet selection line, a mutation occurred which tended to suppress the expression of ve by making the L2, L3, and usually the L4 veins complete. The mutation is located at about 3-28.5, and is named gravel (gra) after a pleiotropic roughened eye effect resulting from irregularly arranged and enlarged facets in the compound eyes. When the gra mutation was removed from the homozygous ve selection line, it was found that the wings (Figure 1) often have fragments of extra venation in the marginal, discal, and second and third posterior cells. This is interesting in view of the fact that plexus, characterised by an extensive network of extra veins, also suppresses ve, and the fact that Waddington (1940) reported that the

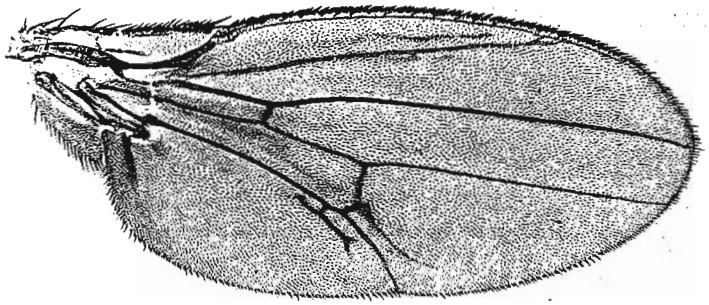

Figure 1

formation of both vein gaps and vein fragments appear, histologically, to be closely related phenomena. The suppression may be due simply to mutual compensation of mutant effects upon a single developmental process.

In another line, the expression of short vein (shv, 2-3.8) was enhanced by selecting for shorter veins. After several generations, many flies had terminal gaps in the L2, L3, L4, and L5 veins (Figure 2). Lindsley and

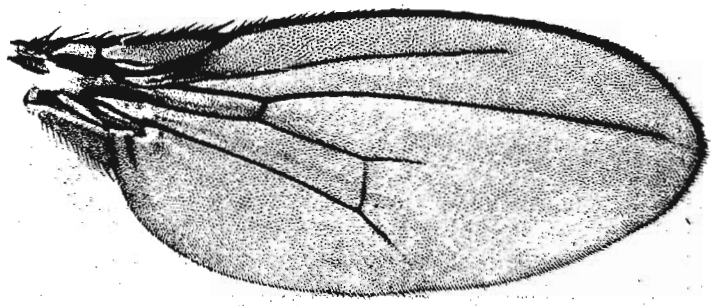

Figure 2

Grell (1967) described shv as producing gaps in only the L2 and L4 veins, but it now appears that shv is similar in effect to ve, though less extreme.

Carlson (1966, 1970) reported experiments using a new mutant with gaps in the L2 vein. Chromosome locations had been made using dominant markers and indicated that phenotypic effects were associated with both the second and third chromosomes. He has kindly provided me with cultures of this mutant, and I have repeated the chromosome location experiments using recessive chromosome markers. Although there is a modifier of rather large effect on the third chromosome in one of his selection lines, the primary mutant is located on chromosome II at about 0.0cM. An associated character, the post-scutellar bristles being erect, suggests that Carlson's mutant may be an allele of the lost telegraph (tg) mutant described by Bridges, and it is proposed to call the new mutant telegraph of Carlson (tg^C).

I am very grateful to Mr. Brian Curtis for the photography.

References: Carlson, J.H. 1966, Ohio J. Sci. 66:340-346; Carlson, J.H. 1970, Ohio J. Sci. 70:365-371; Lindsley, D.L. and E.H. Grell 1967, Carn. Inst. Pub. 627; Waddington, C. H. 1940, J. Genet. 41:75-139.