

Chovnick, A. University of Connecticut, Storrs, Connecticut. Generation of a series of Y chromosomes carrying the v^+ region of the X.

crossed to C(1)RM, y v bb (no free Y) females, and three (3) $y^+ v^+ bb^+ B^S$ females were recovered. These carried new marked Y chromosomes of the constitution $B^S Y^{LD} v^+ Y^{S.Y^L} y^+$. Although indistinguishable from tests conducted, they are maintained in stocks as $B^S v^+ Y y^+$ #1, 2, and 3.

By X-raying the $B^S v^+ Y y^+$ #1, two derivatives without the B^S marker have been produced, and these are maintained as $v^+ Y y^+$ #1 and 2.

All of the above Y chromosomes show the following characteristics: (1) In males, find a low frequency of intersexes, which appears to vary with culture conditions; (2) Lethal with Muller-5 in males; (3) All cover several lethal markers adjacent to, and on both sides of v, but do not cover ras or m.

Seegmiller, R. E. and G. D. Hanks. University of Utah, Salt Lake City, Utah. Mating success of vestigial males.

Following the method described by Brosseau et al (Genetics 46:339), and utilizing T (1; $B^S Y^L$) 9F #124, a series of v^+ marked Y chromosomes has been produced. X-rayed males of the genetic constitution $B^S Y^{LD}$, 1(9F-20D) $Y^{S.Y^L} y^+; y$, 1(1A-9F) $Y^{LP.Y^S}$ were

Two causes for lowering the mating success of vestigial (vg) males have been considered. Experiments using clipped-winged males have placed emphasis on the importance of wings in facilitating courting and successful mating. It is therefore

quite possible that the important element in reducing the mating success of vg males is their lack of functional wings. Another possible cause for lowering the mating success of vg males could be that their motivation or vigor is decreased.

In order to test the vg males' motivation or vigor, an experiment was performed using females that were made antennaless by removing their antennae with forceps. Since these females could not receive the courting stimulus of wing fluttering from wild-type (+) males (supposedly received via antennae), they would not discriminate against males with vestigial wings, i.e., males lacking the element of wing fluttering. The difference if any, in the two types of male success (+ vs. vg) with antennaless females would be due only to male vigor or motivation.

The experiment consisted of 25 pair matings of each type: (1) antennaless female X + male, and (2) antennaless female X vg male. As a control 25 pair matings of each of the following were used: (1) normal female X + male, and normal female X vg male. (Both normal and antennaless females were heterozygous.) All flies were etherized more than 24 hours before the experiment began. As soon as the males were admitted to the vials containing the females, they were observed and the number of copulations were recorded during a two-hour period. Those that did not mate were transferred to new vials after 24 hours, and the males were killed after 48 hours so that if mating did occur after the two-hour observation period, it could be detected by the progeny in the first or second vial, depending upon whether the mating took place before or after 24 hours.

Figure 1 depicts the cumulative percentage mating success over a 48-hour period with particular reference to + and vg males mated to either antennaless or normal females. It can be noted that when normal females were used, the + males far exceeded the vg males in successful copulations. For + males the majority of copulations occurred within two hours, whereas vg males were slow throughout the course of the experiment. As a comparison, when antennaless females were used there was no significant difference ($P > .50$) between the two males' success. In fact, the vg males were slightly more successful. It was expected that if vg males were equally motivated and just as vigorous as + males, the percentage success would be similar in the case where antennaless females were used, but if vg males were less vigorous, they would thus be less successful than + males under the same experimental conditions.

From the results shown in Figure 1, it can be assumed that the difference in male vigor is not significant and therefore would not account for the large variation in copulation success which was observed when both types of males were separately mated to normal females.