

Mutation Notes



EMS screen of *D. persimilis* for visible mutations.

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Few visible markers are available in *D. persimilis*. We performed an EMS screen to generate new visible mutations. Male individuals (Stock Number 14011-0111.51), age 5-6 days old, were selected for this experiment and treated as described by Lewis and Bacher (1968), with the following exceptions. The dehydration period was three hours and the EMS exposure time was eight hours. Vials were set up with a ratio of 3-4 WT females: 1 EMS-treated male. The flies were kept at 18°C and adults were transferred about every three days. F₂ progeny were screened for all possible visible mutations.

About 35 of the original 50 set ups were productive crosses. From our successes we obtained several mutations. The first of which was *yellow* (*Dper*\y[1]), a fly with yellow body coloration, a sex-linked mutation. Another mutant found was *Dper*\se[1]. This mutation was named *sepia*, due to the characteristic dark opaque eye color found. This is also a sex-linked mutation. It has a yellow coloration of the testis. *Dper*\y[1] and *Dper*\se[1] were mated to *Dpse*\y[1] and *Dpse*\se[1], respectively; both mutations failed to complement. Another body coloration mutant was found with a slightly more pigmented body than the *yellow* mutants above. Therefore, we named this mutant *taupe* (*Dper*\t[1]). It has wing bristles that are more close to wild-type pigmentation. One complementation cross (*Dper*\y[1] × *Dper*\t[1]) was done with this sex-linked allele, and the progeny all had the phenotype of the *taupe* mutants. Another sex-linked mutation was found, which we are calling *sparkle* (*Dper*\spa[1]) because of its sparkled-eye appearance. When crossed to *Dpse*\spa[1], there is some complementation, but it is not complete. All four of these alleles are homozygous viable.

Finally, we found a dominant eye mutation (*Dper*\L[1]) that appears similar to the *Lobe* mutants of *D. prosaltans* and *D. melanogaster*. This mutation must be selected for, most likely because it is homozygous lethal. Recessive lethality is also a manifestation of the mutant allele *Dpro*\L[1].

All but *Dper*\L[1] have been donated to the *Drosophila* Species Stock Center.

References: Lewis, E.B., and F. Bacher 1968, Method of feeding ethyl methane sulfonate (EMS) to *Drosophila* males. Dros. Inf. Serv. 43: 193.

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