



**Figure 1.** Diagrammatic representation of the results that led H.J. Muller to formulate the hypothesis of dosage compensation. The mutant allele of the X-linked *white* gene ( $w^m$ ) is a hypomorph and allows partial eye-pigment synthesis; its presence on the X chromosomes is indicated. The level of pigmentation is directly proportional to the dosage of the  $w^m$  allele within each sex; yet, males with one dose and females with two doses have comparable amounts of pigment because of dosage compensation.