



**Figure 2. Diagrammatic Representation of the Results That Led H.J. Muller to Formulate the Hypothesis of Dosage Compensation**

The mutant allele ( $w^r$ ) of the X-linked white gene is a hypomorph and allows partial eye-pigment synthesis; its presence on the X chromosomes is indicated by the darker box. The level of pigmentation is directly proportional to the dosage of the  $w^r$  allele within each sex; yet, males with one dose and females with two doses have comparable amounts of pigment due to dosage compensation.