

# A developmental and biometrical analysis of larval photoresponse of drosophila

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Young *Drosophila* larvae (24-28 and 48-52-h old) show a preference for feeding in dark environments, while older larvae (72-76 h post-hatching) prefer more illuminated environments. Changes in the photoresponse during larval development are characteristic of *D. melanogaster*, *D. immigrans*, *D. hydei* and *D. virilis*. In contrast, larvae of *D. simulans*, *D. gaucha*, *D. pavani* and *D. funebris* show no change in their response to light during larval development, both dispersing and feeding in dark environments. A biometrical analysis of the development of larval photoresponse of *D. melanogaster* shows that the genetic structure involved in the expression of this behaviour depends on larval age. At 24-28 h of age, additive, dominant and epistatic components were found. At 48-52 h, dominant and epistatic interactions were significant. At 72-76 and 96-100 h of age only non-allelic interactions were important. Thus, epistasis tends to increase as larval development progresses. The concepts of genetic