Title:	Genotypic and phenotypc response to heat stress resistance in drosophila melanogaster
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Abstract:	Ecological factor such as temperature, relative humidity, light, radiation, etc. plays a crucial role in guiding natural selection. Temperature is one such important component. In this study, we attempt to study the mecha- nism of resistance to heat shock in Drosophila melanogaster, by looking at the up-regulation of the gene of several heat shock proteins (HSPs. I also at- tempted to study the molecular mechanism of cross-tolerance to environmen- tal stresses (temperature) in D. melanogaster by comparing the expression of heat shock proteins (HSP) and the frost gene in response to heat stress versus cold stress. This study gives compelling evidence to suggest the exis- tence of cross-tolerance to temperature stresses (heat stress and cold stress). Additionally, I made an attempt to study the effect of sex and mating sta- tus on their tolerance to environmental stresses (heat stress). Furthermore, I also analyzed the physiological changes (body size and body weight) that occur in D.. Melanogaster in response to heat stress. The study found that sex and mating status have no significant impact on their tolerance to heat stress. Furthermore, there is no significant impact of heat stress on body size and body weight of D. Melanogaster.
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