Title:	Adaptation to cold stress tolerance : Investigating genotypic and phenotypic changes in drophila melanogaster
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Abstract:	Temperature is one of the most important physiological factors which plays an important role in survival of organisms especially ectotherms. It can alter the various chemical and molecular mechanism which may result in phenotypic and genotypic changes in an organism . In this study we are in- vestigating the various changes occurs in Drosophila melanogater when sub- jected to cold stress. Cold stress tolerance stress were studied in Drosophila melanogater by exposing it to different sub zero temperature. We also anal- ysed the physiological changes such as body mass and body size post cold shock keeping in account sex and mating status. For noting down the al- teration in genotypic expression we looked at the Heat shock proteins[HSPs] expression post cold shock. Additionally we compared the genotypic expres- sion post cold shock with genotypic expression post heat shock to analyse the cross tolerance in diverse environmental stresses. The result from this study points out that sex and mating status have no significant difference on survivorship post cold shock. Body mass and body size have no significant difference post cold shock. Expression of HSPs upregulated post cold shock and post heat shock suggests cross tolerance between different environmental stresses.
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