

Effect of *Mucuna pruriens* and *Glycyrrhiza glabra* on locomotor behavior of *Drosophila melanogaster* (Oregon K strain) and vestigial wing mutant flies

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The circadian rhythms are ubiquitous and confer an adaptive advantage to an individual/population by synchronising its daily activity to its surroundings. Circadian rhythms are controlled by self-sustained oscillator and they continue to oscillate in constant condition. Locomotor activity is one such robust self sustained oscillation. It is essential/crucial for an organism's survival such as feeding, mate choice, escape from the predator, etc. The present investigations were made to understand the effect of *Mucuna pruriens* and *Glycyrrhiza glabra* on locomotor behaviour of the *Drosophila melanogaster* (Oregon K strain) and vestigial wing mutant flies. Locomotor activity rhythms were assayed in *D. melanogaster* and vestigial wing mutant flies using *Drosophila* activity monitor and the amount of activity was measured. The results revealed that the *Mucuna pruriens* and *Glycyrrhiza glabra* treated flies showed increased activity when compared to control flies, between treated groups, higher concentration treated flies showed maximum activity than lower concentration treated flies. Statistical analysis showed that there is a significant difference in the locomotor activity among control and treated groups of *D. melanogaster* and vestigial wing mutant of *Mucuna pruriens* seed and *Glycyrrhiza glabra* root extract.

Keywords: Circadian, Oscillation, Self-sustained, Synchronising, Ubiquitous