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Evaluation of toxicity and genotoxic effects of *Catheranthus roseus* (linn) extract on *Drosophila* melanogaster: Stress protein and wing contour bioassay

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Catheranthus roseus has historically been used to treat a wide variety of diseases. The present study aimed to demonstrate Ga dose dependant effect of C. roseus ethanol extract to Drosophila melanogaster and develop an ideal tool for evaluating genotoxicity assessment of several medicinal plant compounds of therapeutic use. The evaluation was made using stress protein profile analysis and wing contour bioassay. The treatments for the battery toxicity assays were 3mg/ml, 1.5 mg/ml and 0.1875 mg/ml ethanol extractable fraction from *Catheranthus roseus* dry powder. A control and ethanol control was also included in treatments. Three sets of experiments were run simultaneously, first and second for wing contour study and the third set for protein profile analysis. The battery toxicity bio assays helped to demonstrate the chemotaxic behavioral response of intoxicated larvae. The papal color was, brown with dark spots, dark brown, and dark brown respectively in 3, 1.5 and 0.1875 mg/ml doses. Whereas it was light brown and brown in control and ethanol control.

Stress protein studies helped to exemplify the sub cellular action of chemicals in test organism. The elicitation of different proteins with apparent molecular weights 109,45,36,28 and 11 KDa expressed during exposure and organism showed a dose depended effect. Wing contour bioassay results showed both dose and exposure time, governs the toxicity and genotoxicity effects in Drosophila larvae. Most of the vein intersection points showed slight tendency of dextral rotation. The present study results indicates higher dose of ethnopharmasueticals cause very strong impact on organisms and it is similar to that of any xenobiotics.

Biography

Soumya K is currently working as a research fellow in Indian Institute of Horticultural Research; Bangalore. She is presently engaged in research on biological control of horticultural crop pests.

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