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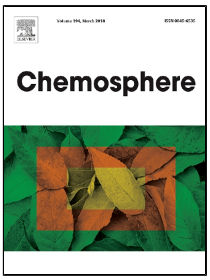

The Insects as an Assessment Tool of Ecotoxicology Associated with Metal Toxic Plants

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The Insects as an Assessment Tool of Ecotoxicology Associated with Metal Toxic Plants

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Abstract

In this article, the assessment of lethal effects of Copper (Cu) on *Luffa actangula* and *Spinacia oleracea* plants investigated in relation to the presence of insect species *Oxycarenus hyalinipennis*. The analysis of Cu-treated plants displays the information of rapid growth of *Oxycarenus hyalinipennis* species in triplicate. However, results showed that the impact of metal toxicity appeared as the reduced growth rate of plants, and dense growth of the insect species *Oxycarenus halinipennis* followed by the chewing/degradation of the toxic plant. The insect's inductees into polluted plants were justified by morphological and primary molecular level using plant stress hypothesis through analysis of the primary chemistry of leaves and roots. That includes various sugar contents which substantiated that these compounds act as the best feeding stimulant from oviposition to adult stage of the insects and accountable for the enactment of insects in the toxic plants. The relationship of these insects to the toxic plants linked with the higher contents of glucose, carbohydrates, and cellulose. The higher carbohydrate and cellulose content in both plants species under Cu accumulation exhibited more signs of insect mutilation over control plants and the lack of chemical resistances allowed the adult insects to spread, survive, reproduce and live long. The presence of insects developed relationships that assimilate all developmental, biological, and the interactive toxicity of Cu in both plant species which indicate the risk associated with these plants.

Keywords: Cu; Toxic Plants; Feeding; Insects

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