

Effect of Sublethal Treatments of Insecticides on the Activity and Locomotion of Chironomid Larvae in Semi-Natural Conditions

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Individual specimens of *Chironomus* larvae were continuously observed in an observation cage (6cm × 7cm × 2.5cm) for four days (2 days; before treatment, 2 days; after treatment) after sublethal treatments of insecticides such as carbofuran and diazinon. Activity and the tracks of the partial body movement were analyzed through an image processing system. The specimens overall activities and the tendency to stay near the edge of the cage appeared to be decreased in general after the treatment of insecticides. Diurnal difference in activity in the treated individuals became less clear. The various motions of the specimens were also observed and some movement patterns such as the action of "ventilation" appeared to be more frequent after the treatments of insecticides. The study on response behavior of chironomids suggested the possibility of detecting chemicals at low concentrations in environment as a bio-monitoring tool.