

An Environmental Pollution's Evaluation through Biochemical Analysis in the *Chironomus flaviplumus*

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The assessment of the contamination level consists of comparing the biochemical substances in the macroinvertebrates. Many chemical materials induce an adverse effects on aquatic ecosystems. Alkylphenols selected among the chemical materials in this investigation, and Alkylphenols have been used for a variety of household and industrial applications, but have the potential to disrupt the endocrine system. Therefore we evaluated the concentrations of alkylphenols in water and sediment of the urban creek. In the last decade, much attention has focused on chronic end points using chironomidae larvae. Among the alkylphenols, bisphenol-A and nonylphenols were detected in these samples. Environmental samples were analysed by GC-MS method. Also biochemical marker investigate by the 2-D electrophoresis and MALDI-TOF mass spectrometric analysis. Our studies showed that up-streams as well as downstreams in the creek have been contaminated by alkylphenols. The distribution of tolerable species to pollution such as Diptera, were in accordance with the higher concentrations of alkylphenols. In the laboratory, we examined an acute toxicity and LC₅₀. The objective of this study was to determine the change level of proteins as biomarker in the acute toxicity of 4-Nonylphenols to the midge *C. flaviplumus*.