In vivo Genotoxicity of the Pyrethroid Pesticide -Cyfluthrin Using the Comet Assay in the Fish *Bryconamericus iheringii*

Daniel R. Marinowic^a, Michele Mergener^a, Tiago A. Pollo^a, Sharbel W. Maluf^b, and Luciano Basso da Silva^{c,*}

- ^a Health Sciences Institute, Universidade Feevale, Novo Hamburgo, Brazil
- ^b Clinical Hospital of Porto Alegre, Department of Medical Genetics, Cytogenetics Laboratory, Porto Alegre, Brazil
- ^c Graduate Program in Environmental Quality, Research Group in Indicators of Environmental Quality, Universidade Feevale, RS 239, 2755, CEP 93352-000, Novo Hamburgo, RS, Brazil. Fax: +55 51 35868836. E-mail: lucianosilva@feevale.br
- * Author for correspondence and reprint requests
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Environmental pollution by pesticide residues is a major environmental concern due to the extensive use of these substances in agriculture. The insecticide -cyfluthrin is a synthetic pyrethroid widely used in agricultural and other domestic activities. The aim of the present study was to assess the genotoxic effects of a sublethal exposure of the fish *Bryconamericus iheringii* (Characidae) to a commercial formulation of -cyfluthrin using the comet assay. Fish were exposed to sublethal concentrations (4.2 and 5.6 μ g/L) of -cyfluthrin under static conditions during 24- and 48-h exposure periods. Fish in tap water were used as negative controls. Results obtained by the comet assay revealed genotoxic effects of the pyrethroid in the higher concentration and at the longer exposure period. The mean DNA damage index of fish exposed to 5.6 μ g/L -cyfluthrin for 48 h was significantly higher (145.9 ∂ 51.8) than in the control group (69.3 ∂ 39.5). These findings indicate that native fish species might be at risk for genotoxic damage in waters contaminated with -cyfluthrin.

Key words: DNA Damage, Pesticides, -Cyfluthrin