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The single-cell gel electrophoresis assay to determine apoptosis induced by blood cells in *Rutilus rutilus caspicus*

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The present study aimed to determine the biomarkers of malathion in *Rutilus rutilus caspicus* by studying genotoxicity and ecophysiological reactions. To achieve this goal, the lethal concentration (Lc50) of malathion in *Rutilus rutilus caspicus* was examined. The effect of different 0.1%, 0.05% and 0.01% ppm concentrations on DNA of red blood cells of this species was observed, following the sampling which was done in the 3rd, 13th and 23th days of malathion exposure and 30 days after the exposure. Although the study did not show any significant deviation regarding the number of apoptotic cells in some types of exposed specimens to malathion ($P > 0.05$), a significant difference was observed between the control group and the treatments in all days of sampling ($P < 0.05$). It has also been indicated that *Rutilus rutilus caspicus* were sensitive to malathion and the induced apoptosis was dose dependent and increased by extending the periods of exposure.

Biography

Farzaneh Farokhi has completed her PhD from Science and Research Branch, Islamic Azad University, Tehran, Iran. She completed her Graduation in Marine Biology in 2013. Currently, she is an Assistant Professor at Azad University of Sari, Iran. She has published more than 10 papers in reputed journals.

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