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Deltamethrin induced changes in endocrine glands & ionic balance in *Heteropneustes fossilis*

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Deltamethrin, a synthetic pyrethroid contaminating aquatic ecosystems as a potential toxic pollutant, is investigated in the present study. The impact of exposure of the freshwater fish *Heteropneustes fossilis* to two sub lethal concentrations (0.07mg/L and 0.14 mg/L) of deltamethrin for 30 days on the physiological activities of endocrine glands Ultimobranchial gland, Corpuscles of Stannius, Prolactin cells, Na⁺/K⁺ ATPase, Ca²⁺ and Mg²⁺ ATPase and inorganic ions Na⁺, K⁺, Ca²⁺ and Mg²⁺ in brain, kidney, gills, muscle and intestine was assessed. Significant (p<0.01) decrease was found in Na⁺/K⁺ ATPase, Ca²⁺ and Mg²⁺ ATPase activities in fish exposed to higher concentration. Ionic levels in vitals tissues were significantly decreased after exposure to the two sub lethal concentrations. Endocrine gland viz. ultimobranchial gland, corpuscles of stannius, prolactin cells, Brain and intestine were the most affected tissues.

Biography

Suresh Kumar completed Ph.D in Toxicology from Industrial Toxicology Research Centre (CSIR-ITRC), Lucknow, He was awarded JRF-CSIR fellowship and awarded Gold Medal for contribution in environmental biology by the Academy of environmental Biology in 2016. He has published many research papers in International/ National reputed Journals and authors of four books and visited abroad like USA, UK and Port Louis to attend International Conferences to present research papers and invited talks. He has 20 years research & teaching experience in Environmental and Occupational Health field and to develop an educational program. At present he is working in Zoology dept., to teach & guide undergraduate and post graduate students. At the same time he is also engaged in research activities to complete many major and minor research projects funding from various agencies related to EIA & Toxicology. During 2004 he has worked as Commonwealth Service Abroad Programme, London as an expert in Port Louis, to carry out an assignment on EIA. He is an expert in analysis of health hazards and toxicology effect on living being & Trained in modern molecular techniques, histopathology, biochemical and molecular in aquatic animals.

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Prem Bugasara is working as an associate professor, department of zoology, Shri Baldev Ram Mirdha Government College, Nagaur, Rajasthan. He has been associated with profession for 16 years. He was awarded Ph.D degree from Maharaja Ganga Singh University, Bikaner for research work on blackbucks. He is passionately engaged in biodiversity conservation and has conducted several seminars and awareness programs to encourage people to protect native flora and fauna. He always tries to improve society and youth by discussing various social issues. He has completed a research project on wildlife conservation and assessment of biodiversity in Rotu Conservation Reserve, Nagaur (Rajasthan) in year 2016-17 and is continuing with another wildlife research project. He has published research papers on various topics in national and international journal.

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