

5th International Conference on Environmental Toxicology and Ecological Risk Assessment

September 12-13, 2016 Phoenix, USA

Deltamethrin induced changes in endocrine glands in *Heteropneustes fossilis*

Suresh Kumar

Chhaju Ram Memorial Jat College, India

The impact of deltamethrin on the freshwater fish *Heteropneustes fossilis* exposed to two sub lethal concentrations (0.09 mg/L and 0.18 mg/L) for 30 days on the activities of endocrine glands viz. prolactin gland, corpuscles of stannous and ultimobranchial gland. Changes in the structure of endocrine gland lead significant variation in inorganic ions concentration Na^+ , K^+ , Ca^{2+} and Mg^{2+} in brain, kidney, gills and intestine of *H. fossilis*. $\text{Ca}^{2+}/\text{Mg}^{2+}$ ATPase activities significantly decreased in all vital tissues viz., brain, gills, intestine and kidney at both the exposure for 30 days in *H. fossilis*. The ultimobranchial gland exhibited mild histological changes at lower concentration of deltamethrin. At higher concentration decrease in staining response of the cytoplasm, decrease in nuclear volume and degeneration in the cells were noticed. In corpuscle of stannous sever changes observed with increase in granulation, vacuolation and degeneration of cell membrane noticed at higher concentration of deltamethrin. In prolactin cells sever changes observed at both the concentration for 30 days exposure. Significant changes observed in ionic balance in vital tissues brain>gill>intestine>kidney of the fish exposed to higher concentration of deltamethrin. Significant changes noticed in the vital organs viz. Ionic levels in brain, gills, kidney and intestine. During exposure of deltamethrin endocrine glands, brain and intestine found to be most affected tissues of the fish.

Biography

Suresh Kumar completed PhD from Indian Institute of Toxicology Research-CSIR, Lucknow, India and worked as Commonwealth Consultant (CSAP-Expert) in Ministry of Environment, Port Louice. He is Head of Zoology Dept. in CRM Jat PG College a premier Institute of Kurukshetra University. He has published many research papers in national/international reputed journals and has been serving as an Editorial Board Member and fellow of repute.

suresh_sang@yahoo.com

Notes: