

Effects of Pharmaceutical Drugs on Fish (koi) Behaviour and Muscle Function

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Abstract : The effluents that are let down by the industries mix with the water bodies and drastically affect the aquatic life, which leads to pollution and bio magnifications. Effluents mostly contain chemicals, heavy metals etc., and cause toxicity to the environment. The pharmaceutical industries too contribute. The by-products and other unwanted waste are discharged without any treatment; these causes DNA damage and affect behavior of aquatic life. The study was conducted on koi carp (Cyprinus carpio) the ornamental variety of common carp. A two week long study was conducted on them using common anti-depressant drug (Diazepam) in various concentrations. These drugs are known to cause behavioral damage and organ malfunctions (muscle twitch). The histopathological study conducted showed permanent muscle twitching and lesions in the fish samples studied. The sociability was also affected in the span of 14 days. Higher concentrations of this drug showed severe damage in the muscle structures. Thus, this drug can cause adverse effects on marine ecosystem and eventually cause bio magnification of drug by running through the food chain.

Keywords : pollution, toxicity, bio-magnifications, koi carp, muscle twitch, diazepam, histopathology

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