Poster #5

Amphibians as Sentinels for Assessing the Effects of Endocrine Disruptors in the Environment.

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Many of the man-made chemicals released into the environment are known to alter normal endocrine function in a wide range of animals including invertebrates, fish, reptiles, amphibians, birds, and mammals. Among these, amphibians are ideal models for examining the effects of endocrine-disrupting contaminants (EDC's) in freshwater environments because they are dependent on these aquatic habitats during all life stages, and EDC's are readily absorbed through their permeable and highly vascularized skin. While many studies of amphibians have examined the lethal concentrations of various environmental toxicants, relatively few have addressed the potential for sublethal concentrations of contaminants to alter endocrine function. This warrants investigation in light of apparent global declines in amphibian populations. In this study I review the chemicals known to function as EDC's in amphibians and the mechanisms by which they alter endocrine function, and the ecological significance of exposure to sublethal concentrations of EDC's.