Environmental endocrine compound concentrations and human and ecosystem health effects

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Pollutants of endocrine disrupting activity may generate health effects at very low concentrations. Some of these compounds are persistent and bioaccumulative and their environmental occurrence is hazardous for human health, organisms and ecosystems because it magnifies through the food chain. Others are labile to chemical degradation but in some cases their widespread use, namely in agriculture applications, involve a permanent baseline environmental occurrence which also translates toxic risks to organisms and humans. In the context of the current European Union debate between regulations based on hazards (compound properties) or risk assessment (environmental occurrence) of these exogenous substances with potential endocrine disruption more data are needed for assessment of their health impacts at the present environmental concentrations in agricultural areas, remote and pristine continental ecosystems. This information is needed to correlate environmental occurrences of specific compounds with effects such as thyroid dysfunctions, decreased fertility, decreased hatching success and deformities in birds and fish, metabolic disfunctions in birds, fish and mammals, abnormal behavioral patterns in birds, demasculinization and feminization of male fish, birds and mammals, defeminization and masculinization of female fish and birds, and others. Cohort results associating environmental exposures to human health effects are also welcome. We invite current researchers from the scientific community to contribute to this session presenting their current research work in this topic. Their information is needed for assessment of the regulation criteria to be implemented to protect the ecosystems and health of organisms and humans, either based on hazards or risk assessment considerations.