Are parasites capable of reducing the effects of pollutants in fish?

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Résumé

Aquatic ecosystems are particularly exposed to urban and agricultural pollution. Importantly, some intestinal parasites, acanthocephalans, have the remarkable ability to accumulate pollutants from their host. These parasites could prove beneficial to their fish host if the benefits associated with pollutant sequestration, and thus the mitigation of ecotoxicological effects, outweigh the costs of parasitic infection. However, environmental pollution could also affect host-parasite interactions by inducing deleterious effects on parasite life history traits. We are studying the effect of pollutants on acanthocephalans, on chubs (*Squalius cephalus*, a widespread river fish) whether parasitized or not, as well as on host-parasite relationships between these two organisms. An experimental study is being conducted in mesocosms, with adult chubs being exposed to different concentrations of pollutants (pesticides and pharmaceutical residues). This exposure will allow tracking of behavioral and physiological responses of chubs depending on their parasitic status, as well as tracking of effects on parasite fitness. These results should contribute to a better understanding of the impact of pollutants on organism interactions and on aquatic environments as a whole.

Mots-Clés: Behavior, Host, Parasites interactions, Pesticides, Pharmaceutical residues, Physiology

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