

Pesticides and pharmaceuticals in ponds. Risk assessment for the amphibians

Contact persons: *Nathalie Chèvre (nathalie.chevre@unil.ch)*. In collaboration with *Cécile Plagellat, DGE (Direction générale de l'environnement, Vaud,)*

Context

According to the International Union for Conservation of Nature (IUCN, 2019), 40% of amphibians' species are endangered, which made this group the more threatened taxon within the vertebrates. Although habitat loss is the first threat to amphibians, anthropogenic pollution plays a major role in the current massive decline amphibians are facing. In agricultural regions, ecosystems are under the pressure of several compounds such as pesticides or antibiotics. These compounds were proved to affect the survival and reproduction of amphibians. However, to date, very few to no data exist in Switzerland on the pollution of ponds. It is therefore crucial to characterise the exposure the amphibians are facing, to be able to assess the risk for their populations.

Objectives and Methods

In this master project, we aim in characterizing the exposure of amphibians to pesticides and antibiotics in ponds. In a first step, the student will have to determine potentially polluted and unpolluted sites based on GIS. Second, he/she will have to collect samples from these sites that will be analysed at the cantonal laboratory in Epalinges (in collaboration with the student). Finally, the student will have to estimate the risk for amphibians due to the exposure measured.

Literature



WEBSITES

<http://wp.unil.ch/ecotox>
<https://www.vd.ch/toutes-les-autorites/departements/departement-du-territoire-et-de-lenvironnement-dte/direction-generale-de-lenvironnement-dge/>