Bioaccumulation of Glyphosate and its degradation products in aquatic snails - Effects on growth, survival, activity and metabolism
* Experimental flume approach *

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Background
A large number of currently legal herbicides and their metabolites can be detected in rivers and streams. However, studies on the potential effects of these contaminants on freshwater integrity and their food webs, as well as quality standards for a high number of herbicides and their metabolites are missing. Especially the impact of herbicide-derived metabolites is often neglected. Therefore, research is needed to assess and evaluate the impacts on non-target organism groups (e.g. periphyton, macroinvertebrates), as well as the consequences for food web interactions and the ecological functioning of riverine ecosystems.

Main aim
In the frame of an experimental study, we aim to assess the uptake and bioaccumulation of Glyphosate and its metabolites in benthic organisms, as well as resulting effects. We will use aquatic snails (possibly *Lymnaea stagnalis*) as model organisms. In a preliminary step we will measure the accumulated concentration of those substances in selected algae (not part of this thesis). The snails will then be fed with algal food containing the same concentrations. Over a period of approx. two months we will measure growth, survival, activity, bioaccumulation and effects on the organisms metabolism (analysing metabolomics).

Requirements:
Interest for benthic ecology and limnochemistry
Interdisciplinary working skills
Communication skills

Start: Summer/Fall 2018
Location: Vienna/Lunz (to be discussed)
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