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# Epibenthic macroinvertebrate diversity in relation to local ecology in groundwater-fed lava caves in North East Iceland.

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## Abstract

Factors governing the maintenance or shaping the biodiversity of invertebrates in freshwater ecosystems are often poorly known. In the vicinity of Lake Mývatn, numerous groundwater-fed lava caves are found. Within each cave there are small ponds inhabited by small Arctic charr (*Salvelinus alpinus*) and various invertebrates. Despite a small spatial scale among the caves, they show considerable variations in ecological factors (e.g., temperature, pH, conductivity...) and physical characteristics (size, number of openings, height...). The aim of the study was to assess the diversity of macroinvertebrates with a special focus on crustaceans and the potential influence of ecological factors for the assemblages of invertebrates. A second objective was to assess the crustacean assemblages along a transect into a cave. In the summer of 2014 the epibenthic invertebrate fauna was sampled in 18 caves using crustacean-traps, and ecological parameters (temperature, light intensity, pH, etc.) were measured. The same summer, we sampled along a transect, from the opening and inwards, in four caves. The preliminary results show differences in crustacean taxa composition and densities across the caves and considerable changes as we move further into the cave. Our results further increase our knowledge about factor shaping biological diversity and create a baseline for studies detecting environment alteration in this peculiar systems.

**Keywords:** Crustaceans, caves, community structure

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