

# The effect of drying up on macroinvertebrate communities in small streams of Central Europe

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### Oral presentation

#### Abstract

Climate change has brought remarkable changes in hydrological regime over the last decades and lack of summer precipitation causes consequent periodical drying out of small streams also in Central Europe. Insufficient data from this region lead us to conduct the studies of intermittent stream in the Czech Republic, which were focused on drought-related ecological filters affecting aquatic macroinvertebrate communities.

The extent of community impairment is related to abiotic parameters (e.g. refugia availability, water quality, frequency and regularity of desiccation etc.), as well as to biotic factors, namely individual “species traits” (recolonization capacity, aestivation, drought-resistant stages etc.). Duration and extent of drought determine the range of changes in key assemblages (e.g. EPT taxa), and the degree of dissimilarity comparing to permanent stream assemblages can indicate the extent of dry period in the history of a watercourse. Different approaches focused e.g. to species richness, density, presence/absence of indicator taxa or representation of selected species traits within community can be used to assess the drought impact. The aim of our current research is to describe basic mechanisms enabling survival of drought-resistant species in regularly dried up streams and to evaluate the applicability of some of selected characteristics to drought indication.

**Keywords:** drought, macroinvertebrates, small streams, Czech Republic, species traits