

## The role of Oligochaeta in the bioindication of stream intermittency - results of the BIODROUGHT project

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The manifestations of climate change together with human alterations have been affecting hydrological regime of streams progressively during the last decades. The increase of stream intermittency brings new demands on water management which is missing effective tools for the indication of drying up (i.e. abruptness of continual flow on a streambed surface) especially at small streams up to 4th Strahler order. The developed method for the retrospective bioindication of drought episodes in recent stream history provides a good chance to transfer the results of scientific research into practice.

The ability of permanent fauna to reflect the "footprint of drought" depends on local conditions of each site such as the availability of refugia (permeability of hyporheic zone, duration of residual pools) and also on the recolonisation ability and resistant stages of each macroinvertebrate taxa. Contrarily to many drought sensitive groups (e.g. aquatic insects such as EPT taxa), the Oligochaeta are not so dramatically depleted by drying up of a stream in terms of their abundance, but rather their representation in the macroinvertebrate community is usually higher immediately after re-flooding of the channel. On the other hand, the Oligochaeta show remarkable turnover from typically aquatic specialists to semiterrestrial taxa such as Enchytraeidae or Lumbricids (e.g. *Eiseniella tetraedra*) in the after-drought period and this lasting switch in the assemblage composition increases the detectability of drought. The duration of dry episode (from days to months) and the extent of dried stretch (from metres to kilometres, with or without residuals pools) determine the magnitude of assemblage change and enable to identify the degree of drought impact which plays an important role in the complex assessment of stream vulnerability to drought.

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