

Impact of drought on mayfly taxocoenoses

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Global climate change nowadays is a frequently discussed topic. In Central Europe it brings new phenomena, like more frequent floods and drying up of watercourses. The project "Drying up of streams during climate change" (acronym BIODROUGHT) is focused on drying up of brooks and small rivers (up to the 4th Strahler's order). One of the project's aims is to develop a method of retrospective biological indication of dry episodes based on the analysis of taxonomic and functional composition of benthic macroinvertebrate assemblages. Mayflies (Ephemeroptera) are known for their sensitivity to disturbances, therefore they are often used for bioindication. That is also why we first compared their taxocoenoses between permanent and intermittent brooks of the Czech Republic. The dataset used for the comparison consisted of data from (i) a former state monitoring of small watercourses in 1996–2010 (110 permanent sites and 50 sites with at least one known episode of drought) and (ii) an ongoing research within the BIODROUGHT project (2012–2013; 13 pairs of permanent + intermittent sites). In all cases a semiquantitative sample was taken in spring and autumn and all the sites were without an obvious pollution and/or hydromorphological impact. The preliminary results show an apparent impact of drought on mayfly taxocoenoses. The intermittent streams had lower mayfly abundance and taxa richness, as well as the representation of specific species-traits (for example semivoltinism). Moreover, it appeared that some sensitive taxa may be considered as permanency indicators (e.g. *Ephemera danica*, *Rhithrogena semicolorata*). This study was supported by the Technology Agency of the Czech Republic (No. TA02020395 and Project No. MUNI/A/0888/2013).

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