

## Distribution and recent status of *Dichostylis micheliana* (L.) Nees in the Bodrog river net in Slovakia

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*Dichostylis micheliana* (syn. *Cyperus michelianus*) is an Eurasian species distributed from western Europe into Asia up to the China. It is typical therophyte of periodical wet habitats in warm lowland areas. In central Europe its presence is concentrated to lowlands along large lowland rivers. In Slovakia its distribution has been recorded in lowland parts of the country, in Záhorská, Podunajská and Východoslovenská nížina lowlands. In Bodrog river net, in south-eastern Slovakia, *D. micheliana* colonizes exposed sandy-clay banks of Bodrog, Latorica and Laborec river sand on exposed muddy bottoms of the river oxbows arising because of low level of water during the summer. The northernmost location was recorded on the muddy banks of the Zemplínska Šírava water reservoir. Vegetation with *D. micheliana* develops in mid-summer on exposed river banks with high amount of sand. In this type of vegetation *D. micheliana* dominated, the total cover is high, but species richness is typically low. The vegetation is identical with the *Cyperetum micheliani* association (class *Isoëto-Nanojuncetea*). Typical accompanying species grows together are *Amaranthus blitum*, *Bidens frondosa*, *Cyperus fuscus*, *Chenopodium ficifolium*, *C. polyspermum* and *C. rubrum*, *Echinochloa crus-galli*, *Gnaphalium uliginosum*, and *Portula caoleracea*, not frequent also *Sagittaria sagittifolia* and *Echinocystis lobata*. The population in study area are often numerous and direct threat to humans has low impact. In Slovakia, the species is protected by law and in actual Red list of ferns and flowering plants of Slovakia is considered endangered (category EN).

## Diversity of water animals in Laborec river – preliminary data

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In the framework of the field education of pupils during the implementation of the EFFUSE project, we monitored, among other factors, the presence of invertebrates at selected sites along the Laborec river basine. The presentation shows the occurrence of invertebrates that we found during visits to the Laborec river near the town of Strážske. The visits were made on 13.4.2022, 22.6.2022, 21.3.2023. A net for catching plankton, observation of submerged objects (stones, wood), digging through the sediment on the bottom near the river bank was used for the capture and observation of invertebrates. On the selected stretch of the Laborec river, we recorded the occurrence of representatives of the groups Cnidaria - Hydrozoa, Platyhelminthes - Turbellaria, Annelida - Clitellata, Mollusca - Gastropoda, Bivalvia, Arthropoda - Isopoda, Amphipoda, Insecta.

Plankton was not detected in the river at the monitored sites, because it is flowing water where this group of aquatic fauna rarely occurs. The most common and most abundant group were arthropods and within them insect larvae. We found them on the underside of stones. Amphipoda were observed in larger numbers in some places. We often found representatives of molluscs on submerged objects, but their numbers were never high.

During the field observations, pupils developed psycho-motor skills in capturing living materials and also in the manipulation with living materials. Part of the work of the students was to make a photo documentation, which is, of course, a valuable supplementary material in the case of documenting the occurrence of organisms.