



**RIVERINE 2021: HIGH-RESOLUTION MONITORING OF THE DANUBE:
DOMINANT GROUPS OF ORGANISMS, LONG-TERM MONITORING OF WATER
AND SEDIMENT QUALITY BY MAINTAINING AND DEVELOPING
INTERNATIONAL PROTOCOLS**

Riverine 2021: Duna nagyfelbontású monitorozása: meghatározó élőlény-
csoportok, a víz- és üledékminőség long-term monitoringja a nemzetközi
protokollok megtartásával, fejlesztésével

**Krisztina Buczkó^{1*}, Éva Ács¹, Béla Csányi¹, Mónika Duleba¹, Angéla Földi¹
Anita Kiss¹, Tihamér Kiss Keve¹, János Korponai¹, Enikő Magyar², Zoltán
Szabó², József Szekeres¹, Eszter Tombor², Zsuzsa Trábert¹ & Zsolt Végvári¹**

¹*Institute of Aquatic Ecology (IAE), Centre for Ecological Research;* ²*Department of
Environmental and Landscape Geography, Eötvös Lorand University;*

**E-mail: buczko.krisztina@ecolres.hu*

Monthly sampling was launched for monitoring of the River Danube at the Institute of Aquatic Ecology of the Ecological Research Institute with the support of Eötvös Loránd Research Network from April 2021. The studies are carried out at 13 points in the main branch, covering the entire Hungarian section of the river, and in 2 tributaries. Special attention is paid to urbanization; the assessment of water quality above and below Budapest, invasion processes and the quality of water entering and leaving the country. This study follows the protocol of the Joint Danube Survey JDS organized every six years by the International Commission for the Protection of the Danube (ICPDR), so that the latest data can be compared with long-term data sets. The main shortcoming of JDS is that 6-year sampling is too rare for statistically reliable databases to be built. The "Riverine project", launched in 2021, fills this gap. The program includes monitoring of phytoplankton, zooplankton, phytobenthos and aquatic invertebrates with water chemistry. Within the framework of the "Riverine project", phytoplankton DNA analysis is also carried out in parallel with morphological analysis for diatoms, with special attention to the ecological status assessment of the Danube. 124 morphotaxa were distinguished during the study of the 2 series collected in May and July. Based on the data of chlorophyll and the main algae groups, the differences of Ráckeve-Soroksár Danube (RSD) are striking compared to samples obtained from the main branch. Long-term studies are also underway at RSD: 6 short cores (up to 1.2 m) were obtained in 2021 in the tributary, extending beyond the period covered by instrumental measurements. The organic matter content (LOI Loss of Ignition), the SDPU (Sediment Degradated Pigment Unit) content and grain-size distribution determination have been completed. The SDPU is a good proxy for reconstruction of changes of algae content. The main details of the "riverine project" and the results are available on the <https://riverine.hu/> homepage, as well as on Instagram (<https://www.instagram.com/riverineprojekt/>) and on Facebook (<https://www.facebook.com/Riverine-Projekt-101071272205128>).