



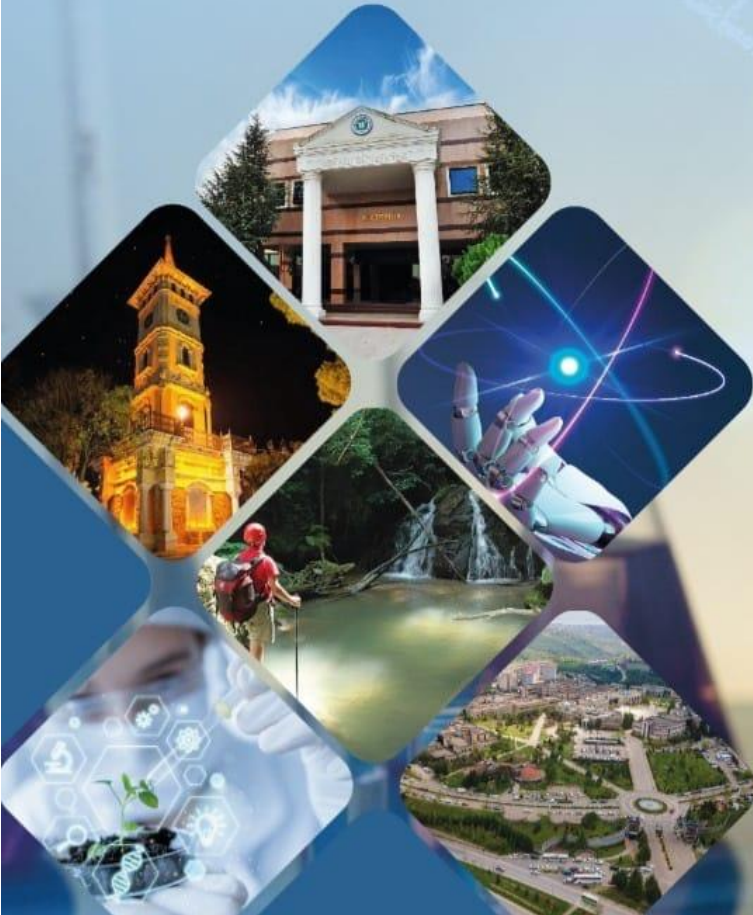
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FACULTY OF ARTS AND SCIENCES

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Subfossil Chironomids Reveal Past Hydrologic Shift in Lake Lala Mare, Eastern Carpathians

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Abstract

Lala Mare is a high-altitude glacial lake (1800 m a.s.l.) located in the Rodna Mountains of the Eastern Carpathians, Romania. In the present study, subfossil chironomids were analysed from a 20 cm sediment sequence to reconstruct past ecological and environmental conditions. A total of 1863 head capsules, representing 26 taxa, were identified, with overall low taxonomic richness. The assemblages were mainly dominated by *Tanytarsus lugens*-type and *Procladius* sp.

Hierarchical classification analysis revealed two distinct zones: The lower zone was characterized by high abundances of *Tanytarsus lugens*-type, whereas in the upper zone *Procladius* sp. became dominant, by a decline in overall diversity, suggesting enhanced productivity. Cold-adapted taxa associated with flowing water, including *Diamesa*, *Eukiefferiella*, *Tvetenia*, and *Pseudodiamesa branickii*-type, were frequent in the 1st Zone, reflecting a cold inflow. In contrast, rheophilic taxa disappeared in the second zone, reflecting a shift water inflow and hydrological changes.

Keywords: Chironomidae; Eastern Carpathians; Romania; Subfossil chironomids.

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