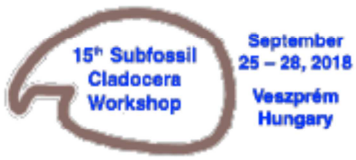

15th Subfossil Cladocera Workshop

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Abstract Book

Presentations:

Large perialpine lakes: a multiproxy paleolimnological laboratory for the advance of ecosystem science.

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The Perialpine lakes are important component of the Alpine landscape. Due to their piedmont location in the most densely populated and productive region of the Alps, they play a crucial socio-economic role as resource for drinking water, irrigation, industry, tourism, hydroelectric production, and biodiversity conservation. For the same reasons, they are exposed to multiple human pressure, and, as their catchment extend to the glacial Alpine range, they are particularly sensitive to the effects of the global warming.
Limnological surveys during the last few decades outlined coherent responses by large and small Perialpine lakes to the massive nutrient enrichment during the 1950s-1970s, while recent trajectories are rather heterogeneous in relation to local management policies, lake morphology, and superimposed effects of climate change. Recent paleolimnological studies confirmed the strong coherence of the lakes' evolution at a secular perspective, and could relate some individual evolutionary trends to the combination of lake morphology and hydrology, and to the consequently different lake sensitivity to climate variability.
The ongoing studies pinpoint how the investigation of different abiotic and biotic proxies preserved in sediments of Perialpine lakes can complement limnological surveys in reconstructing the past lake ecological evolution from several lines of evidence. In addition, the multiproxy paleoecological approach is crucial for predicting lake sensitivity to present, and especially future human impacts. This is particularly important when defining trophic and ecological reference conditions for setting management policies, since inappropriate conservation/restoration targets might prove unachievable within the current context of global change.
This presentation will show results of recent sediment investigations on large and small Perialpine lakes, moving from a local to a general Alpine perspective, and showing the potential of the multisite and multiproxy paleolimnological approach for the advance of aquatic science.