

# MICROBIOLOGICAL AND ENZYMOLOGICAL CHARACTERIZATION OF WATER AND SAPROPELIC MUDS IN THE LAKES OF OCNA SIBIU

— short presentation PHD thesis —

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**Abstract:** this paper present the results obtained in the research of Ph.D. thesis, with the main objective to characterize and evaluate the physico-chemical, microbiological and enzymatical parameters of the water and sapropelic muds in thirteen Ocna Sibiu salty lakes, the majority in the balnear perimeter. Three of these lakes (lakes Closca, Crisan and Horia) have a low mineralization degree, low concentration of chlorides and calcium and a reduced amount of organic matter, whereas the Lake Negru is characterized by a high mineralization degree, maximum amount of chlorides and organic matter, a reduced concentration of dissolved oxygen, minimum pH. Lake Brâncoveanu is characterized by high mineralization of water, high concentration of chlorides and calcium, high hardness and dissolved oxygen. Lakes Ocnîța, Fără Fund, Gura Minei, Swallow, cu Insulă and cu Nămol present moderate degree of mineralisation, moderate concentration of chlorides and calcium. As an absolutely new determination in România for salty lakes is the *chlorophyll a* quantification analysis as an important quality indicator used to appreciate the eutrophication degree of the lakes. The conclusion is that the vast majority of the salty lakes in Ocna Sibiu are eutrophic lakes and hypertrophic. The seasonal enzymologic analysis of the sapropelic muds from the Ocna Sibiu salty lakes (dehydrogenasic, phosphatasic and catalasic activity) distinguish the existence of variations to the enzymatical activity intensities according to seasonal modification.

**Key words:** water, microbiological analysis, chemical analysis, hypersaline lake, Ocna Sibiului, enzymatic activity

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