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The sedimentary organic matter from a Lake Ichkeul core (far northern Tunisia): Rock-Eval and biomarker approach

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Lake Ichkeul core, Recent sediments, Organic matter, Rock-Eval, Biomarkers, Tunisia.

ABSTRACT

The vertical distributions of bulk and molecular biomarker composition in samples from a ca. 156 cm sediment core from Lake Ichkeul were determined. Bulk analysis (Rock-Eval pyrolysis, carbonate, lipid extraction) and molecular analysis of saturated fractions were used to characterize the nature, preservation conditions and input of sedimentary organic matter (OM) to this sub-wet lake environment. The sediments are represented mainly by gray-black silty-clay facies where the carbonate ($CaCO_3$) content varies in a range of 10-30% dry sediment. Rock-Eval pyrolysis revealed a homogeneous total organic carbon (TOC) content of ca. 1% sediment, but with down core fluctuation, indicating different anoxic conditions at different depths and material source variation. The values show three periods of relative enrichment, exceeding ca. 1%, at 146-134 cm, 82 cm and 14-0 cm depth. The low Hydrogen