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# ABSTRACT BOOK

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## Session 8.A - Ichnology, trace fossils and depositional environment

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*Biogenic sedimentary structures produced by organisms store important information for the interpretation of depositional settings because trace fossil producers sensitively respond on environmental conditions. In many instances trace fossils provide the only record of environmental changes.*

*It is the purpose of the session to show new developments in ichnologic research and to illustrate the use of trace fossils in environmental analysis by case studies. Contributions may focus on both investigations in the Recent and in the rock record and may address (paleo) biological, sedimentological and geochemical and applied aspects in addition.*

# Tortono-messinian paleoenvironments of bivalves (mollusks) from the northwestern of Algeria (M'sirda basin)

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Similar to the other Neogene basins of the north western of Algeria (Bas Chelif and Tafna), the basin of M'sirda reveals the presence of important Miocene sedimentary outcrops (Beider section), containing relatively diversified malacofauna of bivalves (Arcidae, Pectinidae Gryphaeidae, Veneridae, Ostreidae, Spondylidae, Solecurtidae, Lucinidae, Corbulidae).
The spatio-temporal distribution of the macrofauna included in the Tortonian and Messininan studied facies provides exhaustive information about the specific evolvement of the paleoenvironments in this area. Indeed, the regressive trend that marks the base of the section allows the exclusive establishment of the epibenthos, mainly represented by Pectinidae with fine shell, which characterize muddy and silty marl environments of circalittoral shelf. Furthermore, both bathymetric oscillations to the subtidal and alternative arrival of sandstone deposits permit the simultaneous appearance and dominance of endobenthic forms, especially the shallow burrowing (60%), that reflect tropical and subtropical climates whereas some taxa could even tolerate warm and cold temperate zones (Pelecyora brochii, Myrtea spinifera, Varicorbula gibba, Azorinus chamasolen).
Up, the transgressive regime is accompanied by the appearance of Ostreidae and Gryphaeidae, of the extended and relatively deep mudflats (upper circalittoral), with moderate hydrodynamic conditions. A decrease of bathymetry is marked by a peri-reef influence and the subtropical climate is felt towards the end of the section, including the presence of the Gryphaeidae Hyotissa squarrosa.