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Implications of Late Quaternary Sea Level Changes on the Mediterranean and Black Sea Coasts

abstract book



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Keynote speakers for International workshop in the framework of Turkish-German Science Year 2013-2014 - MEDBLACKS2014:

Helmut Brückner (Germany), İlhan Kayan (Turkey), Giuseppe Mastronuzzi (Italy) and Mariana Filipova-Marinova (Bulgaria)

Marine terraces of the Çanakkale Strait in the light of corrected OSL ages and paleontological data

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Abstract

Çanakkale Strait (ÇS) constitutes an important seaway connection between Mediterranean and Black seas. Marine terrace (MT) deposits located at different heights and locations of the both shores of this seaway provide key evidence for understanding periods of recurred connections between these seas with different oceanographic characteristics. In this study, updated optical stimulated luminescence (OSL) ages and paleontological data obtained from six marine terraces resting upon the Late Miocene-Early Pliocene lacustrine-shallow marine clastic and carbonate rocks are presented.

Having widespread distribution on both sides of the ÇS in the north of Cape Nara, these deposits are marked by abundance of thick fossiliferous beds as well as different facies characteristics. With the exception of one site located on the west coast of the ÇS (i.e. İyisu MT on Gelibolu Peninsula coast) with a thickness of 7.5 m, these deposits are found on the eastern side of ÇS, namely, from south to north, Çayırdere MT (~8m), İkizlerçeşme MT (~8,60m), Saltık MT (varied thicknesses at different part), Kaplantepe MT(~8,60m) and Çardak MT(~5,70m). Total of 24 samples were collected from the quartz-rich levels for OSL dating. Paleotological studies showed the presence of *Ostrea (Ostrea) edulis* Linnaeus, *Paphia (Polititapes) senescens* Coc., *Cerithium vulgatum* Bruguiere, *Gibbula albida* Gmelin and *Donacilla (Donacilla) cornea* Poli fossils. OSL ages range from 72,4±8.0 ka to 392,5±44,9 ka. The paleoecological conditions were dominated by shallow and brackish waters during deposition of fossil-laden beds and polygenic conglomerates at interglacial periods MIS 11 and MIS 5.

Keywords: Çanakkale Strait, Marine terrace, Quaternary, OSL dating

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