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On The Black Sea Surozhian

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Abstract
Some Black Sea researchers still support the idea of no other connection to the Mediterranean Sea between LGM and Karangatian Stage (Riss – Wurm). We try to clarify the source of these disagreements.
C14 AMS age data (HERAS Project) made on undisturbed samples from a new Mamaia drilling hole where compared with the classical Black Sea stratigraphic schemes. A first transgressive event (Zone D) is found between 38.00 - 20.20 m depth. Zone D4 shows a fairly rapid rise of sea level, about 10 m below the present one indicating an inner shelf marine polyhaline environment. AMS age data show 14C ages between 53690 - 47359 y (MIS 1), corresponding to the “Surozhian Beds” of Popov.
The “beach rock” from Zone E marks the decrease of the sea level after the maximum reached in Zone D4. Zone E mollusc shells AMS data, indicate 14C ages of 48724 - 44604 y, suggesting a long-time reworked material from the previous D4 zone sediments, and represents the beginning of the “regressive Tarkankutian” sequence.The Last Glacial Maximum (LGM) led to the retreat of the sea level down to about 100 m below the current one (27-17 ky BP), followed by an retreat of the shoreline to the present position.
At the beginning of the Holocene - MIS 1 (8408-8132 cal. y BP), Black Sea brackish water level grew rapidly, up to -14 m below the present one (Zone F: 22, 57-20, 20 m). Zone F deposits could be correlated with the Bugazian strata. Then, a continuous rising of the Black Sea level is recorded up to a maximum of -2 m under the present one, about 6789 - 7063 cal. y BP, when a transgressive spurt ("Neolithic transgression") may have taken place. After that, given a weak Danubian sedimentary input, coastal erosion intensified. The coarse sandy sediments were reworked and pushed over the previous peat deposits, and suggest a classical “sedimentary regression”, not a sea-level decrease. During the last 1.5 ky, sea level has risen towards the current one.
Previous C14 dates from “Karangatian stratotypes”, show ages between 27390 - 42120 y BP. Our AMS C14 data on Surozhian mollusk indicate ages between 47359 - 53690 cal. y BP.
We argue that “Surozhian” is likely the classic "Karangatian" defined by Nevesskaia that does not correspond to the Riss-Wurm, but to the Middle Wurm instead. The generally accepted “Karangatian”, placed in the Riss-Wurm interval is much older. Similarly, the Surozhian (transgressive) cannot be Tarhankutian (regressive).

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