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Abstract preview

« Holocene paleoenvironmental evolution of the Aljezur alluvial plain (SW Portuguese coast) »

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The 36 km-long Aljezur stream outlets at the southern tip of the Amoreira beach in the SW coast of Portugal, 150km south of Lisbon. In its seaward 5km, the stream meanders across a wide (275-670m) sediment choked flat-flored valley from which one 25m-long core was obtained about 4km upstream of the coast. The core sampled Pleisto-Holocene sediments resting over Paleozoic basement. Sedimentological and paleoenvironmental (foraminifera) analyses have been performed in 55 sub-samples, allowing the establishment of five main lithostratigraphic units. Basal Unit I, deposited before 8220 BP, corresponds to a high energy fluvial deposit composed of azoic muddy sandy gravel containing clasts of schist, greywacke, quartzite and quartz. Unit II, deposited between 8220 and 7800 BP in fluvial/incipient estuarine conditions, essentially consists of mud with some intercalations of fine sand and low bioclastic content; foraminifera abundance is very low (<100 individuals/sample), *Ammonia tepida* and *Haynesina germanica* dominating the assemblage. Unit III represents an episode that lasted ~400 radiocarbon years and is made of organic mud with bioclasts; the species referred above are still dominant but the proportion of marine allocthonous species is higher (up to 25%), representing the maximum of marine influence found throughout the sequence. Unit IV (7400 – 6000 BP) consists essentially of medium to fine sand with bioclasts, the foraminifera abundance and diversity decreasing significantly in agreement with weakening of marine influence. Finally, the top Unit V, composed of azoic sandy to muddy sediments, represents accretion of the present-day alluvial plain environment, throughout the last 6000 years.

The evolution of this area during the Holocene, with a transgressive phase followed by a forced regression, fits quite well in the model established for other estuaries and lagoons located elsewhere along the SW Portuguese coast.

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