



Middle Tagus alluvial plain evolution since the last glacial (Portugal)

C. Ramos (1), A. Pereira (1), T. Azevêdo (2), E. Nunes (2), C. Freitas (2), C. Andrade (2), P. Mozzi (3), S. Favaretto (4)

(1) Geographical Research Centre, University of Lisbon, (2) Geology Centre, University of Lisbon, (3) Department of Geography, Padova University, (4) Department of Biology, Padova University

(cramos@fl.ul.pt / Fax: 00351 217938690 / 00351 217940218)

The Geotarif¹ research team presents the results of the analysis of the SEV core, retrieved from the Tagus alluvial plain (8.60 m above msl), North of Santarém (Portugal), using Shelby samplers driven by hydraulic pressure down to 19.4 m below the surface. The core was sub-sampled in 10 cm intervals in order to evaluate paleoenvironment conditions, using grain-size variation, organic matter and CaCO₃ content as well as geochemistry; twenty-two samples were treated for palinological purposes and seven ¹⁴C dates of organic matter provide time boundaries.

The main conclusions are: (i) A deepest valley, with a high gradient incised channel and an energetic fluvial environment, during last glacial and circa 9200 cal BP. (ii) The genesis of the alluvial plain between circa 9200 cal BP and circa 1800 cal BP. This episode shows a low energy environment of freshwater with occasional marine incursions till circa 4200 cal BP, with higher Br and U, emphasized by the presence of foraminifera till 10 m deep, in a Mediterranean domain, with the presence of pollen of *Quercus ilex*, *Vitis vinifera* and *Olea europea*. After circa 4200 cal BP, the Br decreases and the foraminifera are absent. (iii) A developed alluvial plain between circa 1800 cal BP and the present-day. It represents an environment of high fluvial energy, with avulsion episodes and natural levees and the change from an anastomosed river to a single channel one due to human intervention.

¹Project Geotarif – Geology and Geoarcheology of the Tagus Floods over the Time (POCTI/CTA/39427/2001)