

Dendroarchaeology of the prehistoric pile-dwellings in the Southwestern Balkans.

Projekt: Institute of Archaeological Sciences, Department of Prehistoric Archaeology, University of Bern, Mittelstrasse 43, 3012 Bern.

Dissertation: Andrej Maczkowski



Tree-rings Juniper.

The hinterland of the Southwestern Balkan peninsula is a region with a number of existing and extinct lakes, set in graben valleys between 600 and 900 m.a.s.l and surrounded by mountain ranges reaching well above 2000 m.a.s.l. These lakeside landscapes were settled by the first European agricultural communities from the Early Neolithic and remained an actively exploited area up until today. The focus of our investigation, part of the ERC Project EXPLO, are the prehistoric waterlogged settlements. The chemical and physical conditions of permanently wet environments allow for exceptional preservation of organic materials, one of them being wood. In the context of organised and sedentary communities, until the advent of concrete, and later oil, wood was undoubtedly the most important resource for humans throughout prehistoric and historical periods, employed for building, shelter, defence, for heating, cooking, for various technological activities, etc.

The annual growth rings of trees represent a chronological archive with an annual and sub-annual precision, documenting the human and environmental influence on trees. Thus, dendrochronology is an indispensable tool for understanding the human-environment interaction and the timing and duration of this relationship. For example, dendrochronological analysis of the wooden samples taken mainly from construction wood from Lake Ohrid, coupled with radiocarbon dating, have already furnished the most precise chronology for a Balkan wetland prehistoric site, with at least two chronological horizons, one in the mid-fifth millennium BC and another one for the Bronze age.

Apart from providing high-resolution chronological framework, further investigation on wooden samples from various sites in the region will also focus on investigating the woodland management and forest composition in prehistory, wood provenance, building

strategies and techniques, use of tree-rings as proxy for climate reconstruction and comparison with existing data in the Holocene. Building on this data, together with the information generated from the other disciplines involved in the archaeological wetland research within the EXPLO project will hopefully allow for a diachronic assessment of how this particular type of cultural niche construction (building and living in pile dwellings) influences the environment and how, on the other hand, environmental circumstances influenced cultural choices.

The dendrochronological analysis is undertaken both on-site and in the Dendrochronological Laboratory at the University of Bern, conducted by John Francuz, Matthias Bolliger and Andrej Maczkowski. The radiocarbon dating is done at the Laboratory for the Analysis of Radiocarbon with AMS (LARA) at the University of Bern, headed by Sönke Szidat. The principal supervisor of the project is Albert Hafner.

Kontakt: Andrej Maczkowski

Link: www.exploproject.eu; www.iaw.unibe.ch