

Radiocarbon Age of a "Logboat" Discovered near Tiszabecs

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Abstract: The age of a "logboat" possibly having been a part of a water-mill or used for transportation was determined by radiocarbon method. The age range in calendar years is 1404-1494 cal AD.

Introduction

A large "logboat" i.e. a boat made from a single oak tree trunk was discovered in 1990 near Tiszabecs in the riverbed of the Tisza. The length of the boat is 12 m with a breadth of 1,5 m. Its mass is approximately $3,5 \times 10^3$ kg. The boat was transported without conservation to the Józsa András Museum in Nyíregyháza.

Sample preparation, measurement

Tree rings from the outer parts were used for radiocarbon dating. First the wood was cleaned thoroughly with a brush to remove any visible contamination. It was then cut into small pieces which were placed into a hammer mill and the grain size was reduced to about 500 μm . This was then treated in the normal manner with dilute HCl then sodium hydroxide to remove any carbonate and humic or fulvic substances. The traces of sodium hydroxide were removed by diluted HCl. The purified wood was dried and combusted to CO_2 . The carbon content of CO_2 was converted to methane (CSONGOR—SZABÓ—HERTELENDI 1982.).

The activity measurement was carried out using proportional counters (HERTELENDI et al. 1989.).

The age (t) expressed in BP was calculated on the basis of the formula

$$t = - 8033 \ln (A_{SN}/A_{ON})$$

where A_{ON} is the NBS standard activity corrected for isotope fractionation while A_{SN} is the corrected sample activity. The conventional radiocarbon age was corrected according to the dendrochronological calibration table of STUIVER and PEARSON (1986) using the computer program of PLICHT and MOOK. (1989).

Results

The results obtained in this way are as follows

lab code	$\delta^{13}\text{C}_{\text{PDB}}[\text{‰}]$	conventional radiocarbon age BP (years)	calendar years cal AD (68% probability)
DEB-1712	-26,67	450 ± 60	1404-1494

References

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