

Radiocarbon dated late-glacial Scots pine (*Pinus sylvestris* L.) chronology from Central Poland

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Dendrochronologically dated wood of subfossil trunks of trees presents the basic material used at construction of the calibration curve. In the last years numerous studies have been aimed at construction of chronologies covering the late-glacial period (Kaiser et al. 2012).

At present, Koźmin (Dzieduszyńska et al. 2014) and Kwiatków (Kolska Basin, Central Poland) proved to be very perspective sites, in which wood from the end of Allerød and Younger Dryas was recognized. A level of organic deposits with so-called ‘fossil forest’ was encountered within the late-Vistulian terrace of the low valley of the Warta river.

In Kwiatków over 300 pieces of wood were documented. Abundant trunks and short stumps of trees have been very well preserved in a series of organic sediments, up to 0.5 m in thickness. Felled trunks are up to 4 m in length and up to 20 cm in diameter. In straight majority the pieces analysed represented narrow-ringed wood. At most of the samples examined the average increment width was below 1 mm. Only about 20% samples exhibited somewhat wider growth rings (above 1 mm in average), and in a few cases values of the average growths amounted to 2 mm or more. Most probably these last pieces came from redeposited trunks, which had grown in more favourable conditions. Dendrochronological analysis of over 250 samples complying to the requirements of the method allowed, at the present stage of the research, to construct a chronology spanning almost 300 years. It was absolutely dated with the wiggle-matching technique, on the basis of 6 samples of selected annual growth rings, dated relatively with the dendrochronological method. The chronology covers the period 11800-11500 (± 45) cal BC.

Before the measurements of radiocarbon ages for whole sequence, the authors investigated several methods of chemical pretreatment. The different methods of production of holocellulose and alpha-cellulose were tested in three laboratories in order to find the most stable, repeatable and reliable one (Nemec et al., 2010). The prepared samples were analysed using chromatography and measurements of delta 13C were done for them. Moreover selected samples were checked using measurements of radiocarbon by the high precision AMS technique.

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