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THE SURROUNDINGS AND POSSIBLE ORIGIN OF THE ROMAN TURF RAMPART AT NORTH WALL, CHESTER, AS SHOWN BY POLLEN ANALYSIS.

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Summary

Pollen from the original Roman turf rampart around the City of Chester showed that the turves had been cut in an area of wood pasture, probably down along the banks of the River Dee.

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The surroundings and possible origin of the Roman turf rampart at North Wall, Chester, as shown by pollen analysis.

by James Greig (Contractor to English Heritage, environmental archaeology)

Introduction

Part of the North Wall around the City of Chester was excavated by T.J. Strickland in 1990 to investigate structural problems, exposing a Roman wall and turf rampart underneath. About 2 m depth of Roman turf rampart was exposed in section consisting of various kinds of soil, some sandier other with more clay, with darker bands of more organic-looking material (turf, charcoal, wood) (see photo).

Fieldwork

Pollen samples were taken in conjunction with soil sampling by Matthew Canti to investigate contained pollen (if any) to find out anything about the material(s) used to build the rampart, and the local environment.

Two sets of samples were taken:

depth measured in cm below level of top Kubiena box CW1. Equivalent soil samples given (CWx)

(1)

2.5 brown sandy soil CW1

4 darker " CW1 *

6 lighter " CW1

14 pale sandy soil CW2 *

25 like 6 CW3

40 chocolate brown soil CW4 *

(2)

5/1 brown CW6

5/2 darker "

5/3 brown "

5/4 darker " *

5/5 brown "

5/6 lighter brown "

Pollen analyses

Pollen preparations were made of some samples, marked *. All contained very large concentrations of pollen except sample 14 which had moderate amounts. This may be an indication that these layers had come from buried soil surfaces or the horizons beneath where the pollen had collected. Pollen preservation was generally good, showing that the sandy soil was acid. All pollen spectra are generally similar.

Interpretation of the pollen spectra

Forest, woodland and scrub

Alnus (alder) was by far the most abundant pollen type, which is a little surprising as it is usually associated with damp habitats, for which there are few other signs, apart from a small amount of *Salix* (willow). Then, in decreasing order of abundance of pollen, come *Corylus* (hazel), and *Quercus* (13-30% of the land pollen without *Alnus* or *Corylus*). Forest trees: *Tilia* (lime) and *Ulmus* (elm) present in most samples at around 1-2%. Trees of rather open land *Betula (birch), Fraxinus* (ash), *Ilex* (holly), are present in small amounts. They might represent wood pasture, an open woodland with glades. Occasional grains of *Fagus* (beech) were counted - this seems to suggest Iron Age or later. *Polypodium* spores, from a woodland fern, were also fairly abundant.

Heathlands

Ericales (heathers) pollen in small amounts in all samples shows some (but not much) heathland. Surprisingly there is no *Pinus* (pine) pollen at all.

Grasslands

There is abundant evidence of grassland, with 40-60% grass pollen in all samples. Two samples also contained large amounts of *Potentilla* (cinque-foil) pollen which one might associate with grass-land on rather sandy soils verging on heathland.

There were only occasional grains of other probable grassland plants such as *Plantago lanceolata* (plantain) in most samples, and *Trifolium repens* and *T. pratense* (white and red clover) pollen in sample 40. Dipsacaceae (scabious) pollen was present in most samples.

Crops and weeds

Sample 40 contained a single pollen grain of cereal and one of the weed *Artemisia* (mugwort), which is virtually the only sign of arable farming.

Interpretation

These pollen spectra seem to indicate mainly grassland and woodland habitats. The grassland seems to have been somewhat acid, although still supporting plants such as clover. There is not much difference between the turves, but 14 has rather less pollen.

The woodland seems to have been quite scrubby in nature, with light-demanding taxa such as birch and hazel. There is also holly, which is a little unusual, and may be a characteristic of wood pasture. The amount of forest tree pollen is not great, but more than one usually gets in Roman urban sites. There is a little sign of heathland in the general vicinity.

One can make an educated guess about the location of this woodland and grassland environment. The abundance of alder might suggest a place beside a river valley easily reached by pollen from the tall alders, but not by pollen from lower-growing wetland plants - these last are virtually absent from the pollen record. One would think that turves were cut from the grassland, so that the sandy soil would be held together by the fine mat of grass roots. The building of a turf rampart represents a large volume of material, which would logically have been cut from a place as near as possible to the settlement itself.

Other pollen work from Chester

Material from the backing of the Romano-British fortress rampart (AG75 475 2184) also analysed as far as it could be. The preservation of this pollen, which may have been affected by unsuitable storage after excavation, was very poor. The results were therefore obtained from quick scanning of the slide rather than a proper count Most of the pollen was of alder, grasses and oak, with some hazel and Compositae Liguliflorae (a large group including dandelions).

Further work

It would be worthwhile to prepare and count some more pollen samples to obtain a better picture of these pollen spectra.

Further considerations

It would be interesting to examine pollen from any buried soil surfaces in Chester to try to get more evidence about this environment, and to try to establish whether it represents the pre-occupation state of the immediate area round Chester itself. If there are Roman deposits with charred or waterlogged seeds etc. these may also help provide information on the plant materials used in Chester at the time, and where they may have been brought in from.

The soil section exposed in the Roman rampart beneath the medieval wall