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**Evaluation of plant and invertebrate remains from two ditch fills at
Gadbrook Park, near Northwich, Cheshire (site code GAD96)**

by John Carrott, Allan Hall and Harry Kenward

Summary

Two samples of ditch fill of unknown date from trial excavations at Gadbrook Park, near Northwich, Cheshire, were examined for their content of plant and invertebrate macrofossil remains. One of the deposits was found to be virtually barren of biological remains, but the other yielded a substantial biota consisting of a variety of plant and insect fragments. They offer a good prospects for reconstructing local environment and land-use if the deposit is primary and is dated and indicate that similar material may be preserved in other deep features at the site.

Keywords: GADBROOK PARK; CHESHIRE; ENGLAND (NW); DITCH FILLS; PLANT MACROFOSSILS;
INSECT REMAINS

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Introduction and methods

Two 'GBA' samples (*sensu* Dobney *et al.* 1992) from undated ditch fills from trial excavations close to a Roman Road at Gadbrook Park, near Northwich, Cheshire, were submitted for evaluation of their bioarchaeological potential.

On inspection in the laboratory, neither appeared likely to provide useful assemblages of plant or insect remains, although there were traces of charcoal. On this basis large 'test' subsamples were processed using techniques described by Kenward *et al.* (1980; 1986). For one sample, paraffin flotation was undertaken immediately; for the other a 'washover' was performed. In the latter case, the washover was found to be rich in insect remains and this fraction was subjected to paraffin flotation.

Results

Context 7, Sample 3

An 8 kg subsample was processed and the washover of about 200 cm³ examined. It was found to consist almost entirely of fine (<4 mm) woody and herbaceous detritus including tree leaf fragments, prickles of rose and blackberry, bud-scales of oak (*Quercus*) and fruits and seeds of a variety of plant taxa, especially blackberry (*Rubus fruticosus*) with rose (*Rosa*), hawthorn (*Crataegus monogyna*) and hazel (*Corylus*), together suggesting the presence of a hedge or scrub in the vicinity of the ditch, but with plants indicative of grassland (self-heal, *Prunella vulgaris*, and daisy, *Bellis perennis*), waterside or ditch margins (celery-leaved crowfoot, *Ranunculus sceleratus*, sweet-grass, *Glyceria*, water-plantain, *Alisma*, and bristle-scorpis, *Scirpus setaceus*) and perhaps disturbed ground (chickweed, *Stellaria media*, knotweed, *Polygonum aviculare*). There were no taxa which were, with certainty, cultivated. Most of the macrofossils were a little worn, consistent

with a degree of transport prior to deposition in water.

Insect remains were concentrated from the washover by paraffin flotation. They showed variable preservation, typically fresh or slightly pale, but in a few cases retaining their original colour but having localised areas of considerable or complete decay. The assemblage recovered was of sufficient size to permit reconstruction of the depositional environment and something of the surroundings if material was identified closely. Aquatics were fairly well represented, with a wide range of species. Quiet or very slowly flowing water with at least some vegetation was indicated. The surroundings of the ditch appear to have been somewhat disturbed so that crucifers and probably also grasses were able to establish and there were indications of at least some scrub, but no good evidence of synanthropic insects consistent with the presence of buildings nearby. Scarabaeid dung beetles were not noted; they would have been expected had the surroundings been grazing land. There is no reason to suppose that the variable preservation indicates origin by redeposition or the presence of modern contaminants. The absence of cladocerans (water-fleas) from what is clearly an aquatic deposit is notable, although there is no immediate explanation for the phenomenon.

The residue consisted of quartz sand with a little gravel.

Although the plant and insect remains show a remarkable consistency in interpretative terms, the value of this deposit for further analysis is currently limited by the lack of a dating framework (though remains from a fresh sample might be used for radiocarbon assay); in particular, it needs to be established that the insertion of the field drain within the layer above context 7, as shown on the excavator's section, did not compromise the integrity of context 7.

Context 25, Sample 4

A washover was taken from a 7 kg subsample; it consisted of no more than a few cm³ of herbaceous detritus, most of it rootlet fragments, perhaps of recent origin. There were minute traces of charcoal and wood <5 mm in maximum dimension and a single raspberry (*Rubus idaeus*) seed. The residue was of quartz sand.

Recommendations

On the basis of the bioarchaeological evidence from one of the two samples examined, it is recommended that every opportunity is taken to collect further samples from deep features of this kind on the site in order to provide evidence for landscape and land-use reconstruction, although the material will be of no use without adequate dating (which, as mentioned, could be established by radiocarbon assay). The processed material should be retained for further examination if appropriate.

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