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**Evaluation of biological remains from
excavations undertaken in 2003 at Germany
Beck, Fulford, York (site code: 1996.352)**

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**Evaluation of biological remains from excavations undertaken in 2003 at
Germany Beck, Fulford, York (site code: 1996.352)**

by

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Summary

Three sediment samples from deposits encountered during the 2003 excavations at Germany Beck, Fulford, York, were submitted for an evaluation of their bioarchaeological potential. Recovered artefacts were of Roman or 18th century date, but, at least in some cases, perhaps not contemporaneous with deposit formation.

The plant remains from the samples were of no great value beyond offering a view of local landscape (information which is always of interest since we know so little of the environs of York in the past), and providing material via which radiocarbon dating of the deposits could be attempted. Two of the samples (from Contexts 10 and 19) gave invertebrate assemblages which, if they can be well dated and the integrity of the contexts is confirmed, could provide valuable information regarding local land use and conditions at the point of deposition. In each case the processing of additional subsamples would be required.

Any future excavation at this site should certainly be accompanied by further sampling and examination of plant and invertebrate macrofossils to explore the nature of the local environment.

KEYWORDS: GERMANY BECK; FULFORD; YORK; EVALUATION; ROMAN; 18TH CENTURY; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS

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Evaluation of biological remains from excavations undertaken in 2003 at Germany Beck, Fulford, York (site code: 1996.352)

Introduction

A further archaeological evaluation excavation was carried out by MAP Archaeological Consultancy Ltd at Germany Beck, Fulford, York (NGR SE 615 492), during 2003.

Seven trenches were excavated to investigate the nature of the archaeological deposits at the site. The trenches revealed cut features in the form of ditches and gullies; several land drains were also encountered. Two sherds of Roman pottery were recovered from Trench 3 and fragments of 18th century clay pipe were found in Trenches 3 and 5, though some of these artefacts could be intrusive.

Three sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), from Trenches 2 and 3, were submitted to PRS for an evaluation of their bioarchaeological potential.

Methods

The submitted sediment samples were inspected and their lithologies recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for the recovery of plant and invertebrate macrofossils.

The flots and washovers resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

Insect preservation was recorded using the scale of Kenward and Large (1998).

Results

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample number.

Context 10 [dump or flood deposit in Trench 2; no dating evidence was recovered]

Sample 1/T (3 kg sieved to 300 microns with paraffin flotation; approximately 5 litres of unprocessed sediment remain)

Moist, light grey-brown to mid to dark grey-brown (and shades between), crumbly to unconsolidated, silty sand. Twigs and modern rootlets were present.

This subsample yielded a large residue of about 875 cm³, of which about 700 cm³ was coarse woody debris (a mixture of bark, twig and wood fragments to 55 mm in maximum dimension and including alder, *Alnus glutinosa* (L.) Gaertner). The remainder was sand and gravel (to 45 mm). The wood was rather soft, but the bark fragments were very firm and quite fresh. Identifiable plant remains were moderately frequent and mostly quite well preserved, but the only taxon present in more than trace amounts was oak (*Quercus*, as buds/bud-scales). The assemblage comprised terrestrial and wetland plants, several of which would not be out of place in an alder swamp. An unusual species recorded was water purslane (*Lythrum (Peplis) portula* (L.) D.A. Webb), a species found at the edges of ponds, and represented here by a single seed; it is otherwise only known to the authors from waterlain deposits from a medieval moated site near Liverpool (at Fazakerley, Hall *et al.* 1996). Also present was a seed of fig-leaved goosefoot, *Chenopodium ficifolium* Sm., a species usually encountered in urban archaeological deposits with other species indicating nutrient enrichment. It is really the only species here which is not consistent with an entirely natural flora forming in the absence of human interference.

The small flot contained moderately large numbers of insect remains and ostracod valves. Preservation ranged from quite good to rather poor (E 2.5-4.5, mode 3.5 weak; F 1.5-3.5, mode 2.5 weak), with most remains having lost colour (trend to pale 1-3, mode 2 weak) and

some showing edge decay. Aquatics were important both in terms of numbers of species and of numbers of individuals, with *Ochthebius* (probably *O. minimus* (Fabricius)) the most common. Those which could be identified to species within the limits of assessment were generalists, no flowing-water taxa being noted. There were a few beetles from waterside plants and mud. Terrestrial forms mostly could have exploited an area of damp herbaceous vegetation, although there were some dung beetles (*Aphodius ?prodromus* (Brahm) and *Geotrupes* sp.). A larger subsample would provide sufficient remains from a useful reconstruction of local conditions, and probably a clearer view of local land use.

Context 15 [dump or flood deposit in sondage 16, Trench 3; no dating evidence was recovered]
Sample 2/T (3 kg sieved to 300 microns with paraffin flotation and washover; approximately 15 litres of unprocessed sediment remain)

Moist, light to mid grey to light to mid orange-brown (mottled on a mm-scale), brittle to crumbly (working soft), sandy clay silt. There were no obvious inclusions.

The very small residue (dry weight 120 g) was sand with a trace of fine charcoal (only one or two tiny fragments, to 3 mm).

The tiny washover from this subsample consisted of a few cm³ of organic debris, mainly extremely decayed wood and bark (to 10 mm), with some seeds, all rather eroded. The limited assemblage might have accumulated in the same kind of fen carr suggested by the richer material from the other two samples in this group.

The flot was small and contained very few invertebrates other than numerous *Daphnia* ephippia (water flea resting eggs). The remains were very pale, and it appeared likely that other fossils had completely decayed (E 4.0-5.5; trend to pale 3; full preservation record impractical). These remains have no significant interpretative potential beyond establishing deposition in aquatic conditions.

Context 19 [dump or flood deposit in Trench 3; Roman and calcite gritted ware were present]
Sample 3/T (3 kg sieved to 300 microns with paraffin flotation; approximately 5 litres of unprocessed sediment remain)

Moist, light to mid grey-brown to light to mid yellow-grey-brown, crumbly to unconsolidated, slightly silty sand, with some patches of mid to dark grey to mid to dark grey-brown, clay sand. Some twig fragments were present.

The small residue of about 150 cm³ comprised woody debris and sand, the latter making up about 100 cm³; the wood and bark (in fragments to 15 mm) were rather decayed, especially the wood (which was perhaps mainly from twig-sized fragments). The rather abundant seeds were mostly moderately well or well-preserved, especially those of water-dropworts (*Oenanthe*, probably all *Oe. aquatica* (L.) Poiret in Lam.). The more abundant taxa probably all originated in alder carr, though with a component perhaps representing some disturbance (although only one of these 'weedy' taxa, corn marigold, *Chrysanthemum segetum* L., is a good indicator that the interference might have been through human agency—in this case, presumably, cultivation. One other species is quite inconsistent with the general nature of the plant remains: a single very eroded shoot fragment of heather (*Calluna vulgaris* (L.) Hull) must also surely have arrived through human activity or perhaps carried with the stream that deposited the sediment. In either case, areas of heather-dominated vegetation were perhaps not too far from this site (e.g. at Heslington Tilmire).

The flot was of modest size and contained a range of invertebrates including beetles (predominantly aquatics), caddis fly larval cases, mites, numerous *Daphnia* ephippia and a single statoblast of the bryozoan *Lophopus crystallinus* (Pallas). Waterside and terrestrial species were present but in small numbers. Preservation varied but was generally quite good (E 2.0-4.0, mode 2.5 weak; F 1.5-4.0, mode 2.5 weak), although some remains showed loss of colour (trend to pale 0-2, mode 1 weak). A larger subsample would probably give an interpretatively useful group of remains, although some fossils were very fragmented and would be time-consuming to identify.

Discussion and statement of potential

The plant remains from these samples are of no great value beyond (providing dating is eventually secured) offering a view of local landscape, information which is always of interest since we know so little of the environs of York in the past. If well dated and not likely to include redeposited material, the invertebrates from samples from Contexts 10 and 19 deserve to be recorded using larger subsamples, in order to reconstruct conditions at the point of deposition and to glean information concerning local land use.

Twig fragments in any of the three samples examined would provide a date by radiocarbon assay, perhaps even using a

standard radiometric date rather than AMS. The question of reworking in what appear to be high-energy deposits (sands rather than silts or clays) must, however, be taken into consideration.

Recommendations

Provided that the integrity and dating (perhaps via radiocarbon) of the deposits can be determined, the insects from Contexts 10 and 19 (including fossils from additional subsamples of, say, 5 kg) should be fully recorded.

Any future excavation at this site should certainly be accompanied by further sampling and examination of plant and invertebrate macrofossils to explore the nature of the local environment.

Retention and disposal

All of the current material should be retained for the present.

Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and

electronic records pertaining to the work described here.

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