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Evaluation of biological remains from borehole samples taken at the site of the former Victoria House, Micklegate, York (site code: 2001.10749)

by

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Summary

A series of sediment samples from a single borehole and a very small quantity of bone from pile holes recovered from an archaeological survey, at the site of the former Victoria House, Micklegate, York, were submitted for an evaluation of their bioarchaeological potential.

All of the sampled deposits encountered by the borehole yielded plant and invertebrate remains preserved by anoxic waterlogging and in some cases there was very good preservation of a wide range of material.

Vertebrate remains were well preserved and, some fragments clearly represented debris from human occupation, including waste from food preparation and specialist craft activities.

Any future excavation at this or adjacent sites should certainly be accompanied by extensive and systematic sampling of the deposits for the recovery of biological remains.

KEYWORDS: VICTORIA HOUSE; MICKLEGATE; YORK; EVALUATION; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; DEER FLY (*LIPOPTENA CERVI* (L.)); VERTEBRATE REMAINS; WOOL CLEANING; DYEING; TEXTILE FINISHING

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Introduction

An archaeological borehole survey was carried out by York Archaeological Trust at the site of the former Victoria House, Micklegate, York, (NGR SE 6006 5165) on 9 August 2001.

A series of six sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) from a single core and a small quantity of bone collected from pile holes were recovered. No artefact dating information for the deposits was available.

All of this material was submitted to the EAU for an evaluation of its bioarchaeological potential.

Methods

The sediment samples were inspected in the laboratory and their lithologies were recorded using a standard *pro forma* prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The flots and residues were examined for plant remains. The flots were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context (or sample) subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, where more than ten fragments were present, semi-quantitative information was recorded

concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

Where possible, bone fragments were identified to species or species group, using the reference collection at the EAU. Fragments not identifiable to species were grouped into categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid), small mammal (rats, mice, voles etc), unidentified amphibian, unidentified fish, unidentified bird, and completely unidentifiable.

Results

Borehole samples

The results are presented in sequence beginning with the deepest (oldest) deposit.

3.5-4.0 m

Sample 6/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, very dark grey, soft (working more or less plastic), clay sand with stones (2 to 20 mm) and fragments of oyster (*Ostrea edulis* L.) shell present.

The large residue of about 450 cm³ consisted almost entirely of angular clasts of oolitic limestone, sand, and gravel with a little charcoal, decayed wood and bark and a few seeds, almost all of them probably from weeds growing in the vicinity. There were only traces of invertebrates in the flot. Approximately 50 fragments of bone were recovered from this sample. Most of the fragments were small (<30 mm in any dimension) and unidentified, however, mainly medium-sized mammals were represented.

3.0-3.5 m

Sample 5/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, dark brownish grey, crumbly (working more or less plastic), slightly humic sandy silt with stones

(2 to 6 mm), fragments of brick/tile and well-rotted organic matter present.

There was a moderate-sized residue of about 400 cm³ of which all but about 100 cm³ was sand and gravel with a moderate amount of bone (to 90 mm), the rest being granular organic material, mostly charcoal (to 15 mm), with some decayed bark and a little wood. There was a low concentration of 'seeds', the majority weeds of waste places and cultivated land, but with a few taxa from wetland or grassland habitats. Preservation was much less good than in the sample immediately overlying this deposit and the presence of moderate numbers of earthworm egg capsules probably indicates some decay in a deposit not fully waterlogged prior to sealing. There were rather few invertebrates in the flot, although those present were well preserved. The well preserved vertebrate remains from this sample amounted to 78 fragments, most of which were large and medium-sized mammal shaft, rib and vertebra fragments. Identifiable fragments included amphibian and eel (*Anguilla anguilla* (L.)) vertebrae, one of which showed characteristic damage associated with ingestion. The material had little potential for further work.

2.5-3.0 m

Sample 4/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, very dark grey, crumbly (working plastic), humic sandy silt. Stones (6 to 60 mm), wood fragments and occasional fragments of oyster shell were present in the sample.

This sample yielded a large residue of about 1 litre in volume of which barely 250 cm³ consisted of sand and gravel, the rest being woody detritus, including abundant chips (to 30 mm) and flakes. Preservation was mostly very good, especially in the case of the rather numerous buds and small twig fragments of bog myrtle (*Myrica gale* L.) present (this plant has many possible uses—in medicine, dyeing, and brewing, for example). There were again distinct elements which might well represent straw and hay, and perhaps the whole deposit was rich in stable manure. Many of the weeds were of the kind found in moist places with nutrient enrichment, such as a wet ditch near occupation. The large flot included more very well preserved seeds and some 'grassy' detritus including well preserved leaf epidermis fragments: Cyperaceae (perhaps saw-sedge, *Cladium mariscus* (L.) Pohl), holly (*Ilex aquifolium* L.) and *Allium* (perhaps leek, *A. porrum* L.). Invertebrates, principally beetles, were moderately common in the

flot, and their preservation good. The assemblage resembled many from Anglo-Scandinavian Coppergate (Kenward and Hall 1995), but had no distinctive character. There was one very notable record, however: a thorax of the deer fly *Lipoptena cervi* (L.). This appears to be the first record of the species from archaeological deposits, and certainly the first from York. It is principally associated with roe deer (*Capreolus capreolus* (L.)) and red deer (*Cervus elaphas* L.), but sometimes found on other deer, or as strays on various species including humans (Hutson 1984). A likely origin is with deer carcasses or skins. This sample produced a small assemblage of well preserved vertebrate remains, which included a number of very dark brown fragments. Several rounded and eroded fragments were noted. Most bones were unidentified, but a few small mammal and fish fragments (including a herring (*Clupea harengus* L.) vertebra) were identified.

2.0-2.5 m

Sample 3/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, dark grey brown, crumbly (working plastic), sandy humic silt with abundant small stones (2 to 6 mm) and some fragments of wood present.

There was a large residue of about 550 cm³, of which about 350 cm³ was sand and gravel with some mortar fragments (to 15 mm), the rest being charcoal (to 20 mm) with some very decayed bark fragments, wood, and some clasts of undisaggregated peaty sediment which might represent soil from, for example, turves (in the broad sense). Some teasel receptacular bracts and fruits were again present, though in much smaller concentrations than in Sample 2. Preservation of plant remains was rather variable, suggesting that there was some mixing of materials and/or some decomposition before sealing. Again, the bulk of the other identifiable remains were weeds of plants likely to have arrived with hay or straw, as well as a small amount of food waste (there was, *inter alia*, a single charred pea (*Pisum sativum* L.) seed). There were few invertebrate remains in the flot, and their concentration in the deposits was obviously so low that even a very large subsample would be unlikely to produce a useful assemblage. Bones (51 fragments) recovered from this samples were all less than 30 mm in maximum dimension. Almost half of the fragments were fish and included herring and cod vertebrae and two possible cyprinid vertebrae. Cat and chicken bones were also identified, whilst the rest were mainly medium-sized mammal rib and shaft fragments.

1.5-2.0 m

Sample 2/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, very dark grey, soft and crumbly (working more or less plastic), very humic silt. Stones (2 to 6 mm and 20 to 60 mm), rotted mortar, wood, twigs and large mammal bone were present in the sample.

The large residue of about 600 cm³ included about 250 cm³ of sand and gravel, the rest being woody and herbaceous detritus with a distinctly 'strawy' appearance. On closer examination this latter material was found to comprise a mixture of grass/cereal culm (stem) fragments together with abundant remains of fullers' teasel (*Dipsacus sativus* (L.) Honckeny): fruits, receptacular bracts and even fragments of capitulum (the teasel 'head' used for cloth finishing). There was a wide range of other remains, all well preserved, including weeds of various kinds, and some wetland and grassland taxa. It seems quite likely that elements from both hay and straw were present, as well as the teasel remains, which may indicate cloth working in the vicinity, though the plant is likely to have grown on waste places in the town (as would dyer's rocket, seeds of which were again moderately frequent in this sample). Insect remains were well preserved and quite numerous, and there were a few other invertebrates. The assemblage was typical of urban occupation deposits, the presence of a single grain weevil probably placing the layer after the Norman Conquest. Adult and puparial sheep keds, *Melophagus ovinus* (L.), are most likely to have originated from wool-cleaning, according with the evidence for textile processing from the plants. The weevils *Hypera punctata* (Fabricius) and *Sitona* sp. may have arrived in hay, and these together with some characteristic decomposers perhaps indicate stable manure. This deposit contains remains of substantial archaeological significance.

1.1-1.5 m

Sample 1/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, very dark grey, crumbly (working more or less plastic), humic sandy silt. Stones (6 to 20 mm and 60+ mm) and wood chips were present and additional very decayed wood fragments were abundant in the sample.

There was a large residue of about 700 cm³, of which about half by volume was woody detritus (including

wood chips and twig fragments) to 80 mm in maximum dimension, the rest sand and gravel, with some stone. There was a modest assemblage of mostly quite well preserved plant remains including weeds, food plants—grape (*Vitis vinifera* L.) and apple (*Malus sylvestris* Mill.) and wheat/rye (*Triticum/Secale*) 'bran'—and some plants from wetland and grassland habitats. Only dyer's rocket (*Reseda luteola* L.) was present in more than trace amounts, however. As such, this is a very typical plant assemblage from a medieval urban occupation deposit. Invertebrate remains, mainly insects, were present in moderate quantities and well preserved. Most were typical of urban occupation deposits, but there were a few aquatic and waterside forms (not enough to indicate aquatic deposition, however). There was little to indicate the nature of the local environment or of any dumped materials. A notable record was of three grain weevils, *Sitophilus granarius* (L.) which, it may be argued, place the deposit as either Roman (unlikely in view of the nature of lower deposits) or post-Conquest. Deposits at this level clearly have the potential to preserve significant assemblages of biological remains.

Vertebrate remains from pile holes

Nine fragments were hand-collected from pile holes. Preservation of these remains was very good and most fragments were dark brown in colour. Most bones represented large mammal shaft and rib fragments, the ribs showing extensive butchery. A single red deer antler tine fragment was recovered from pile hole 14. The base of the tine had been sawn and a series of shallow chop and knife marks could be seen down one side. Pile hole 15 produced a dog mandible representing a medium-sized individual.

Discussion and statement of potential

All of the sampled deposits encountered by the borehole yielded plant and invertebrate remains preserved by anoxic waterlogging and in some cases there was very good preservation of a wide range of material. Vertebrate remains were well preserved and, some fragments clearly represented debris from human occupation, including waste from food preparation and specialist craft activities.

The deposits undoubtedly have a significant potential to yield information about the area should they ever be excavated so that their proper context can be established.

Recommendations

In the absence of good archaeological information about the relationships of the layers it seems pointless to do more than make this record of the nature of the assemblages and note significant taxa. Closer dating of the record of the deer fly is desirable for future synthesis, however.

Any future excavation at this or adjacent sites should certainly be accompanied by extensive and systematic sampling of the deposits for the recovery of biological remains.

Retention and disposal

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

Archive

All material is currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

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