

Palaeoecology Research Services

**Evaluation of biological remains from
excavations at Holme Church Lane, Beverley,
East Riding of Yorkshire
(site code: OSA04EV01)**

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**Evaluation of biological remains from excavations at Holme Church Lane,
Beverley, East Riding of Yorkshire (site code: OSA04EV01)**

by

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Summary

Seven sediment samples recovered from medieval and late 19th-20th century deposits during an excavation at Holme Church Lane, Beverley, East Riding of Yorkshire, were submitted for an evaluation of their palaeoecological potential.

The samples processed represented two types of deposits; pit fills and channel fills. The pit fills contained a large proportion of imported peat; the biological remains recovered being mainly of peat ash and woody material derived from the peat. Although material from these deposits was sparse, it adds to the growing body of evidence for the use of peat within medieval Beverley.

The channel fills contained a greater volume of biological remains, including plant, insect and other invertebrate remains, which all displayed good preservation. The presence of the plant species, fullers' teasel and madder, along with fragments of puparia of sheep ked, suggest that wool cleaning, and possibly textile processing were being undertaken. Aquatic plants and invertebrates, including lesser water-plantain, tubular water-dropwort, water fleas and midge larvae identified from the samples all strongly suggested deposition in water.

The plant and invertebrate remains recovered offer a good opportunity to further elucidate the local environment, human activities and wider environment and economy of medieval Beverley. The vertebrate remains recovered from this site show great potential for the recovery of fish bone, and may add to the understanding of the exploitation of fish during the medieval period from which systematically recovered assemblages are rare.

Further investigation of the biological remains from these deposits is highly desirable, particularly if a closer dating structure can be determined.

KEYWORDS: HOLME CHURCH LANE; BEVERLEY; EAST RIDING OF YORKSHIRE; EVALUATION; MEDIEVAL; LATE 19TH-20TH CENTURY; PLANT REMAINS; CHARRED PLANT REMAINS; PEAT; INVERTEBRATE REMAINS; INSECTS; VERTEBRATE REMAINS; FISH BONE; WOOL CLEANING; TEXTILE PROCESSING

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Evaluation of biological remains from excavations at Holme Church Lane, Beverley, East Riding of Yorkshire (site code: OSA04EV01)

Introduction

Excavations were carried out at Holme Church Lane, Beverley, East Riding of Yorkshire, by On-Site Archaeology. Two trenches were excavated and deposits dating to the medieval period and the later 19th and 20th century were encountered.

Trench 1 was located close to the street frontage and revealed several irregular pits and evidence for at least one building of medieval date.

Trench 2 was located away from the street frontage, closer to the presumed line of the medieval branch of Walker Beck. The natural had apparently been sealed by two layers of clay dumping, the earliest of which contained medieval pottery. This clay was cut by a feature, which appeared to be a water channel, running approximately north west to south east. Some of the later features were possibly associated with the use of the site as a tannery in the early modern period.

Methods

Seven bulk sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) were submitted to Palaeoecology Research Services Limited (PRS), County Durham, for an evaluation of their bioarchaeological potential.

The sediment samples were inspected in the laboratory. Five were selected for the evaluation 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.

Plant remains (and the general nature of the wet residues, flots and washovers) were recorded briefly by 'scanning', identifiable plant taxa and other components being listed directly to a PC using *Paradox* software. Notes on the quantity and quality of preservation were made for each fraction.

Insects in the flots were recorded using 'assessment recording' *sensu* Kenward (1992), creating a list of the taxa observed during rapid inspection of the flot, with a semi-quantitative estimate of abundance, and a subjective record of the main ecological groups. A record of the preservational condition of the remains was made using scales given by Kenward and Large (1998). This scheme provides scales for chemical erosion and fragmentation (0.5-5.5, the higher figure representing the greatest degree of damage), and colour change (0-4), in each case giving a range and a value for the position and strength of the mode (Kenward and Large 1998, Tables 2, 3 and 5-7).

For the vertebrate remains, subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Other information, such as fragment size, dog gnawing, burning, butchery and fresh breaks, was noted, where applicable. Fragments were identified to species or species group using the PRS modern comparative reference collection. The bones which could not be identified to species level were described as the 'unidentified' fraction. Within this fraction, fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid) and totally unidentifiable.

When the residues were primarily mineral in nature they were dried, weighed and the components recorded.

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 1035 [primary fill of large, irregular medieval pit]

Sample 1/T (3 kg sieved to 300 microns with washover; approximately 15 litres of unprocessed sediment remain)

Moist, mid grey-brown to mid grey, sticky and crumbly (working soft), slightly clay silt. Some light brown patches of silty clay (to 20 mm), stones (2 to 60 mm) and ?rotted charcoal flecks were present.

There was a small washover, of about 40 ml, of rather fine debris, a mixture of what seemed to be irregular clasts of charred and uncharred (very humified) peat (to 10 and 5 mm in maximum dimension, respectively) and some wood charcoal (to 5 mm). The very few identifiable uncharred plant remains may mostly have arrived in the peat, though a fragment of charred hazel (*Corylus avellana* L.) nutshell probably did not. This material gives the impression of a deposit containing some peat ash, most of which probably passed through the sieve during processing.

There was a small residue (dry weight 0.39 kg), which consisted mainly of sand and small stones. Brick/tile and burnt clay, pottery fragments (to 20 mm), animal bone and charcoal fragments were also present within the residue. Twenty-seven small (all <30 mm in maximum dimension) fragments of bone were recovered. Preservation was recorded as 'fair'. Fish remains accounted for 19 fragments, of which only one, a herring (*Clupea harengus* L.) vertebra, was identifiable to species. Some of the other remains were finrays and spines belonging to larger fish, possibly gadids (cod family). Fragments of mammal bone were present but unidentifiable.

Context 1038 [fill of irregular medieval pit, earliest in stratigraphic sequence – not from same pit as Context 1035]

Sample 5/T (3 kg sieved to 300 microns with washover; approximately 6 litres of unprocessed sediment remain) Waterlogged, light brown to light grey-brown, sticky to unconsolidated, slightly sandy, slightly silty clay. No obvious inclusions were present.

The very small washover (of only a few ml) comprised wood charcoal (to 5 mm) and some charred peat (to 10 mm), with a trace of uncharred peat (to 5 mm). The few uncharred seeds were probably ancient but of little interpretative value. Again, peat ash seems likely to have been a component of this deposit. A few land snails were recorded including single individuals of *Vallonia ?excentrica* Sterki and *Trichia ?hispidia* (L.).

There was a very small residue (dry weight 0.34 kg), which was mostly sand, with a few small stones. Pottery fragments, charcoal and land snails (mostly unidentified fragments, but including one apex fragment of *Discus rotundatus* (Müller)) were also found within the residue. In total this sample produced 13 fragments of reasonably well preserved bone. Single fragments of herring and eel (*Anguilla anguilla* (L.)) were identified.

Context 2035 [fill of channel, ?below 2034]

Sample 3/T (2.8 kg sieved to 300 microns with paraffin flotation of an initial washover; approximately 2.5 litres of unprocessed sediment remain)

Moist, light brown to mid grey-brown, (black internally – slight sulphide smell on breaking open lumps), brittle (and layered in places) to crumbly (working soft), silt. Twigs, ?wood and ?burnt bird bone were present.

There was a large flot, consisting of woody and fibrous plant debris, among which the moderately large numbers of invertebrate remains were often hard to discern. Preservation was mostly good (E 1.5-2.5, mode 2.0 weak; F 1.5-3.5, mode 2.5 weak). The most striking feature of the fauna was the very abundant (order of 10³) ostracods, which together with some *Daphnia* (water fleas) and a limited range of aquatic beetles and bugs indicated a waterlain sediment. The aquatic insects were not numerous, and there was nothing to indicate a rich aquatic or emergent flora (in contrast to the evidence from some of the plant macrofossils); all of these invertebrate remains may have been transported by flowing water (or even imported with water used for some purpose). Terrestrial beetles included a range of waterside and plant feeding forms, in very small numbers. Species associated with human occupation formed a significant component, including *Blaps* sp. and *Laemostenus* sp., perhaps brought with dumped material. Woodworm beetles (*Anobium punctatum* (Degeer)) were rather numerous. There were some fragments of puparia of the sheep ked, *Melophagus ovinus* (Linnaeus), and at least one louse, lacking

diagnostic characters but perhaps *Damalinia ovis* (Schrank), and these probably derived from wool cleaning (discussed by Kenward and Hall 1995). This fauna deserves detailed recording for both local reconstruction and town-wide synthesis.

There was a large wet residue (of about 750 ml) after paraffin flotation of the initial washover of woody and herbaceous detritus which included one large (to 110 mm) fragment of wood, much fibrous herbaceous detritus and a little sand. The large wood fragment, and much of the other wood, was characterised by being greatly holed by wood-boring insects, giving it a 'deckled' edge in outline. On closer inspection, this wood was found to be softwood (from a conifer) and many fragments also bore a characteristic 'rusty' red stain on what were presumably the exposed surfaces prior to fragmentation. Some other wood fragments were clearly from a worked object in some hardwood, perhaps a turned and polished bowl. Their surfaces were barely damaged, in contrast to the softwood. Much of the remaining material consisted of fen peat fragments and 'strawy' debris, with some fragments which were probably from cereal straw, as well as bracken stalk. Preservation was generally very good; the 'wormed' conifer wood must therefore have been very decayed before being deposited but has probably not decayed since. The rich assemblage of plants, represented by fruits and seeds, included a clear component of emergent aquatic vegetation, mainly lesser water-plantain (*Baldellia ranunculoides* (L.) Parl.) and tubular water-dropwort (*Oenanthe fistulosa* L.), but there were no strong indicators of deep standing or flowing water and much of the plant material must have originated in dumped rubbish. This rubbish included straw (and cornfield weeds) and perhaps hay, but most characteristic were the rather frequent remains of fullers' teasel (*Dipsacus sativus* (L.) Honckney): fruits, receptacular bracts and even some fragments of the capitulum (teasel head). These, and a trace of madder (*Rubia tinctorum* L.) root presumably represent waste from textile working in the vicinity, as may the seeds of weld, *Reseda luteola* L. Traces of flax (*Linum usitatissimum* L.) seeds and capsule fragments might also be related to aspects of textile working. Some other remains may have arrived with peat or separately from nearby peatland habitats, and one of these, saw-sedge (*Cladium mariscus* (L.) Pohl), present as charred leaf fragments, might represent material used for roofing or for fuel.

The small dried residue component from this sample (approximately 0.30 kg) consisted mainly of roughly equal proportions of sand and small stones. Pottery fragments, cinders, wood, charcoal fragments, hazel nutshell, uncharred seeds, animal bone and a few unidentified freshwater planorbis snails were also found within the residue. The vertebrate remains recovered from this sample were extremely well

preserved and dominated by the remains of fish (91 fragments). Identified fish included the remains of flatfish (Pleuronectidae), eel, herring and Gadidae, some of which were haddock (*Melanogrammus aeglefinus* (L.)) and ?cod (cf. *Gadus morhua* L.). Mammal and bird remains amounted to 22 fragments, most of which represented medium-sized mammal rib and cranium. Additionally, a goose tarsometatarsal (burnt) and a pig tooth were present.

Context 2037 [fill of channel, ?below 2035]

Sample 6/T (3 kg sieved to 300 microns with paraffin flotation; approximately 4 litres of unprocessed sediment remain)

Moist, mid grey-brown to mid to dark grey (to black internally, sulphide smell on breaking lumps), brittle to crumbly (working soft), slightly stony, slightly clay silt. Stones (6 to 60+ mm, limestone and ?chalk), ?rotted wood/twigs, freshwater molluscs and herbaceous detritus were present.

The flot was quite large, with abundant seeds and appreciable numbers of insect fragments amongst the herbaceous plant detritus. Insects were mostly well preserved, although some were considerably fragmented (E 1.5-2.5, mode 2.0 weak; F 2.0-3.5, mode 2.5 weak). There were quite large numbers of snails (see below), all or most apparently aquatic or waterside forms, and sufficient water fleas (*Daphnia* and at least one other genus) and midge larvae (Chironomidae: of the order of 500) to suggest deposition in water (or disposal of waste water). There were rather few aquatic beetles. Terrestrial fauna ranged from species most likely to have occurred in an area of open ground with some plants, to an appreciable component of beetles typical of intensive occupation sites. There were some sheep ked puparia, doubtless deposited by wool-cleaning. The small assemblage of freshwater snails present in the flot included *Bithynia tentaculata* (L.) (at least 6 individuals), planorbids (mostly fragmentary and unidentified but including four *Planorbis planorbis* (L.) and one *P. leucostoma* Millet), *Valvata piscinalis* (Müller) (6) and *Lymnaea ?truncatula* (Müller) (4). There was also a single succineid, indicative of waterside vegetation, probably *Succinea ?pfeifferi* Rossmässler. A detailed record should be made of this fauna, to reconstruct local environment, and for wider synthesis.

There was a moderately large residue of about 500 ml, mainly angular chalk gravel (to 55 mm), of which about 200 ml formed a washover of organics: largely woody and somewhat fibrous herbaceous detritus. The latter included abundant well-preserved fruits and receptacular bracts of fullers' teasel, again with some capitulum fragments. Clasts of fen peat and a little madder root were again noted. There was a modest

assemblage of other, mostly well-preserved, remains rather similar to those in the contexts above and below and including taxa from peatland (charred saw-sedge leaf was again present), weeds of cultivated land and waste places, and a few wetland taxa which may have been growing locally. The wood fragments were fewer and usually much smaller than in the sample from the context overlying this, however, and plant 'litter' (probably straw and hay) much more poorly represented.

Context 2039 [primary fill of channel]

Sample 7/T (3 kg sieved to 300 microns with washover; approximately 6 litres of unprocessed sediment remains)

Moist, mid to dark grey-brown to black (internally, has a strong sulphide smell), brittle to crumbly (working soft and sticky), humic, slightly clay silt. Stones (2 to 6 mm), ?twigs or woody root, and herbaceous detritus were all present.

The large flot, consisted of plant debris among which there were moderate numbers of insect remains and a limited range of other invertebrates. These fossils were fairly well preserved, though in some cases considerably fragmented (E 1.5-2.0, mode 2.0 weak; F 2.0-3.5, mode 2.5 weak). Ostracods and chironomid larvae were numerous, and there were a few water beetles and bugs, so this was an aquatic deposit. The terrestrial fauna was a mixture of species likely to have lived in rather disturbed ground, and others typical of intensive occupation. There were several *Melophagus ovinus* (Linnaeus) puparia and a few fragments of adults; these sheep keds were probably deposited by wool cleaning. This fauna should be recorded in detail, paying special attention to taxa relevant to textile processing. An additional subsample would be useful in this case to permit larger numbers of insects to be recovered.

The rather small residue, of about 270 ml, was all herbaceous plant detritus (with only a trace of small, <5 mm, wood fragments and a few twig fragments to 30 mm). The assemblage was marked by the presence of frequent fullers' teasel receptacular bracts (with some fruits and capitulum fragments), and some madder root (a higher concentration than in the other two channel fills) and moderate numbers of weld seeds. Plant litter was again present, with material probably originating from straw and hay and a little charred saw-sedge (leaf and culm fragments). Fen peat was also present again.

To address the excavator's explicit question, there does not seem to be much evidence for natural deposition here; dumping into water seems much more likely to explain the remains observed. Indeed, one component must have been food waste or perhaps even faeces, as

wheat/rye (*Triticum/Secale*) 'bran' and some apple (*Malus sylvestris* Miller) endocarp ('core') were noted in the sample and the rather frequent fragments of corncockle (*Agrostemma githago* L.) seed may also have arrived in this way.

Discussion and statement of potential

Biological remains from the two medieval pits in Trench 1 were apparently limited to material from imported peat, these two pit fills perhaps largely containing peat ash or at least an admixture of ash with soil. They add to the growing body of evidence for the use of peat within medieval Beverley.

Plant and invertebrate remains in the channel fills were well preserved and abundant and offer a good opportunity to explore further the local environment and human activity (notably with regard to textile working) as well as contributing to a wider synthesis of the medieval environment and economy of Beverley. Particular questions to address through further examination of these deposits include the following: were occupation site insects of immediate origin or brought in waste material? Was aquatic fauna and flora that of the 'channel' or brought in waste water from some process, or even with rubbish from occupation which also included the keds and teasel remains? Was there a local aquatic flora and fauna or was it all transported by flowing water or in waste water, for example from textile processing? Were the dry land plants, plant feeding insects and open ground species local or background biota, or imported in waste?

The vertebrate remains recovered from the samples were mostly well preserved and those which could be identified were mainly fish. The largest accumulation of material was recovered from Context 2035 (Trench 2), one of the channel fills. The identified fish bones included the remains of Gadidae (including haddock and ?cod), herring and flatfish, together with a single fragment of eel. Vertebrate remains, such as those recovered here, are likely to represent waste from the

preparation and consumption of food. These taxa are typically recovered from medieval urban deposits and have been identified from other sites in Beverley, such as Lurk Lane and Eastgate (Scott 1991; 1992, respectively).

Recommendations

It is recommended that detailed analyses are made of plant and invertebrate macrofossils from the samples from the ?channel fills, using the existing and (for the insects), if possible, additional subsamples. Processing of additional sediment would probably result in the recovery of sufficient vertebrate remains (notably fish) to be worthy of at least the preparation of a basic archive. Furthermore, it is clear that deposits at this site have great potential for the recovery of fish bone and any future excavation at this site should consider this. Systematically recovered fish assemblages of medieval date are rare and there is a lack of understanding of the exploitation of past fish stocks and the trade/supply relationships between the coastal fisheries and the urban settlements. Closer dating is highly desirable.

Overall, this evaluation shows the potential for the preservation of biological remains within the excavated area, and the deposits should, therefore, be protected, or studied if threatened.

Retention and disposal

All samples from this excavation and the fossils extracted from them 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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