

**Assessment of biological remains from excavations at Morton Lane,  
Beverley, East Riding of Yorkshire (site code: MLA01)**

by

Allan Hall, Harry Kenward and John Carrott

**Summary**

*Two of the recovered sediment samples (both from the same context) from excavations at Morton Lane, Beverley, East Riding of Yorkshire, were submitted for an assessment of their content of plant and invertebrate macrofossils. A pottery spot date of 14<sup>th</sup> or early 15<sup>th</sup> century was obtained from the context from which the samples derived.*

*The two subsamples examined were rich in well-preserved plant and invertebrate (mainly insect) remains indicating deposition in a body of water with no aquatic or waterside flora.*

*In view of the excellent preservation, close dating, and simple stratigraphy, and the complementary (and sometimes apparently contradictory) evidence from plant and invertebrate remains, it is highly desirable that more of this deposit is examined. Additionally, the plant and invertebrate macrofossil content of any deposits, encountered during this (or subsequent) excavation at the site, showing similar organic preservation should be assessed.*

**KEYWORDS:** MORTON LANE; BEVERLEY; EAST RIDING OF YORKSHIRE; ASSESSMENT; MEDIEVAL; 14<sup>TH</sup>/  
EARLY 15<sup>TH</sup> CENTURY; PLANT REMAINS; INVERTEBRATE REMAINS; INSECTS; MOLLUSCS

Authors' addresses:

Environmental Archaeology Unit  
Department of Biology  
University of York  
PO Box 373  
York YO10 5YW

Prepared for:

WAERC  
Department of Geography  
University of Hull  
Hull HU6 7RX

and

Palaeoecology Research Services  
Unit 8, Dabble Duck Industrial Estate  
Shildon  
County Durham DL4 2RA

21 March 2002

## Assessment of biological remains from excavations at Morton Lane, Beverley, East Riding of Yorkshire (site code: MLA01)

### Introduction

An archaeological excavation was carried out by Wetland Archaeology and Environments Research Centre (WAERC), The University of Hull, at Morton Lane, Beverley, East Riding of Yorkshire (NGR TA 033 398), between 17 September and 16 November 2001.

Two of the sediment samples (both from the same context) recovered from the deposits ('GBA'/'BS' *sensu* Dobney *et al.* 1992) were submitted for an assessment of their content of plant and invertebrate macrofossils. A pottery spot date of 14<sup>th</sup> or early 15<sup>th</sup> century was obtained from the context from which the samples derived.

### Methods

The sediment samples were inspected in the laboratory and descriptions of their lithologies were recorded using a standard *pro forma*. Subsamples were processed, following the procedures of Kenward *et al.* (1980; 1986).

The flots and residues resulting from processing were examined for plant and invertebrate macrofossils and the residues were sorted for bone, and other biological and artefactual remains.

### Results

The results of the investigations are presented in stratigraphic order (lowest first). Information supplied by WAERC is given in square brackets. Small amounts of vertebrate remains were recovered from both samples but these were returned to WAERC, to be examined in conjunction with the hand-collected material, and are not fully reported here.

**Context 5006** [secondary fill of pit feature 5008. Pottery spot date of 14<sup>th</sup> or early 15<sup>th</sup> century. Grey (5Y 5/1), soft, clayey silt containing lenses

of silty and organic material ranging in colour from white (5YR 8/1) to black (5YR 2.5/1) and also a distinctive olive (5Y 5/3)]

Sample 500602/T (from 50-60 cm from the top of Context 5006; 1 kg sieved to 300 microns with paraffin flotation)

*Laboratory description:* The sample was composed of fine and coarse herbaceous detritus in a matrix of moist to wet, mid to dark grey-brown, crumbly and slightly sticky (working soft), slightly sandy clay silt. Twigs were common and wood 'chips' were present.

This subsample yielded a large residue of about 475 cm<sup>3</sup>, mainly consisting of well-preserved coarse woody debris (various parts of a wide range of trees), including bark (to 75 mm in maximum dimension), wood fragments (to 35 mm) and wood chips (to 25 mm), and with rather small fine fractions. The mineral component was limited to a few cm<sup>3</sup> at most of sand and grit with traces of small (<5 mm) brick/tile and pot fragments and a little cinder and coal.

The abundant identifiable remains of woody taxa consisted mostly of the remains (primarily buds and bud-scales) of trees, especially buds of oak (*Quercus*) and hazel (*Corylus*), but also of poplar (*Populus*), willow (*Salix*) and alder (*Alnus*); there were also leaf fragments of holly (*Ilex*), nutshell of hazel, and fruits of ash (*Fraxinus*). This last taxon was also represented amongst the wood chips. Other coarser debris included stalk fragments of bracken (*Pteridium aquilinum* (L.) Kuhn) and bundles of tracheids (water-conducting vessels) which had become isolated from these stalk fragments. There were also some dicotyledonous stem fragments, some of which may well have been of flax (*Linum usitatissimum* L.), of which capsule fragments and seeds were rather common. Achenes of hemp (*Cannabis sativa* L.) were present in modest numbers, too. Most of the flax seeds had lost their central portion, whilst many of the hemp seeds were fragmentary, pale in colour and rather soft. These characteristics may indicate that these were not completely mature propagules

resulting from the harvesting of a crop for fibre rather than seed. Indeed, their presence in the body of water which filled this feature is consistent with the use of the pit or pond for retting, as part of the processing of flax and hemp stems for fibre extraction. The plant macrofossil evidence here supports the palynological evidence for high concentrations of Cannabiaceae pollen. Some other remains were consistent with evidence for textile working in the vicinity: rare seeds of weld or dyer's rocket (*Reseda luteola* L.) and at least two small fragments (<2 mm) of root of madder (*Rubia tinctorum* L.), both of which plants are recorded from other medieval sites in Beverley (e.g. Eastgate: McKenna 1992). The presence of at least one sheep ked (*Melophagus ovinus* (Linnaeus)) in this subsample is further evidence for textile working in the vicinity.

The flot contained numerous aquatic insects, some ostracods and a few *Daphnia* ephippia, a few snails (including fragments of freshwater planorbids and single representatives of the land snails *Vitrea crystallina* (Müller) and *Cochlicopa ?lubricella* (Müller)), as well traces of caddis cases and it seems that the deposit formed in water. The invertebrates gave no indication of aquatic or emergent vegetation, consistent with the lack of evidence for aquatic or marginal plants from the botanical remains. Although the insects appeared to be species tolerant of a little pollution, unless they were washed in by flowing water, conditions at the point of deposition seem not to have been actually foul. Terrestrial invertebrates gave little evidence of more than weedy waste ground in the surroundings, with no fauna from dense perennial vegetation or scrub, somewhat at variance with the evidence for woody plants. There was a single bark beetle, *Leperisinus ?varius* (Fabricius), normally found in ash trees. This may have flown some distance from the ash trees indicated by the plant remains, or have been deposited with wood chips. The various tree species indicated by the plant remains may well have been occasional specimens (rather than woodland as such) or growing at some distance from the site.

Other material in this deposit clearly arrived through disposal of rubbish: as well as the ceramic fragments (and other artefactual material, recorded elsewhere) there were small fragments (to 5 mm) of rootlet-rich fen peat

(frequently recorded in occupation deposits in Beverley), small bone fragments, including well preserved bone of fish and one extremely well preserved large otolith, a little eggshell and eggshell membrane and wood charcoal (to 15 mm). Some small (<2 mm) fragments of wheat/rye (*Triticum/Secale*) caryopsis may have arrived with food waste, or perhaps more likely with litter containing straw, the most likely origin of some of the cornfield weeds recorded (such as wild radish, *Raphanus raphanistrum* L., and shepherd's needle, *Scandix pecten-veneris* L.). Other taxa may have originated in hay-like litter: self-heal (*Prunella vulgaris* L.), and the composites *Leontodon* and *Hypochoeris*. The few moss fragments noted (including *Eurhynchium striatum* (Hedw.) Schimp., *Leucodon sciuroides* (Hedw.) Schwaegr., and *Ulotia* sp(p)), were probably all from taxa growing on trees. They may have arrived with bark fragments.

The insects included a few species typical of the kind of accumulations of decaying matter found on occupation sites, and there was a single *Oryzaephilus ?surinamensis* (Linnaeus), called the 'saw-toothed grain beetle' but able to exploit a range of stored products. There was no evidence from the invertebrates that large quantities of organic waste had been dumped.

Sample 500601/T (from 40-50 cm from the top of Context 5006; 1 kg sieved to 300 microns with paraffin flotation)

*Laboratory description:* The sample was composed of fine and coarse herbaceous detritus in a matrix of moist to wet, mid to dark grey-brown, brittle (working soft), slightly clay sandy silt. Twigs were again present but wood 'chips' were not noted at the time of the sediment description.

Again, there was a large residue (of about 500 cm<sup>3</sup>), essentially rather like that from Sample 5007, but with less of the coarser wood, bark and wood chip fragments, and a higher proportion of small twig fragments, and a little more (perhaps up to about 50 cm<sup>3</sup>) sand and grit. Most of the same components were again present, especially remains of flax and hemp, buds and bud-scales of oak and hazel, woodland mosses (a slightly broader range this time, but always only a few shoot fragments), and peat fragments, with traces

of very decayed leather (to 10 mm), bone (including fish) and a little charcoal and cinder.

Again, the invertebrates indicated aquatic deposition, with a range of species able to tolerate a little pollution. There was little evidence from them for local vegetation other than species which might be found in heavily disturbed areas, and this subsample, too, produced a single *Leperisinus ?varius* (see above). Subjectively, the component from artificial accumulations of decaying matter was a little larger, but only *Oryzaephilus surinamensis* is restricted to buildings and the remaining species may have exploited a range of decaying matter from dung or other rather foul waste through to quite dry plant debris. There was a single tentatively identified fragment of a puparium of *Melophagus ovinus*, and some very decayed leg fragments which may have been from a honey bee, *Apis mellifera* Linnaeus. A single fragment of snail (Succineidae species indeterminate) was also recovered.

Notable amongst the identifiable plant remains were a single pod fragment of gold-of-pleasure (*Camelina sativa* (L.) Crantz), formerly an oil-seed crop (although here perhaps a flax-crop weed), a single achene of pot marigold (*Calendula officinalis* L.) and a large Compositae/Asteraceae achene which appeared to be milk thistle, *Silybum marianum* (L.) Gaertner. The two latter plants, together with some nutlets which appeared to be a large form of common mallow, *Malva sylvestris* L., seem to form a group of plants cultivated for ornament or medicinal purposes and may indicate that a garden was nearby, or that garden waste was part of the infill of feature 5008.

### Discussion and statement of potential

The two subsamples examined were rich in well-preserved plant and invertebrate (mainly insect) remains indicating deposition in a body of water with no aquatic or waterside flora. This and the abundance of remains from trees and shrubs at first sight may point to a pit, pond or ditch surrounded by scrub or woodland, or perhaps a ditch running along a hedgeline. The invertebrates appear (albeit on negative evidence) to contradict this and to place trees at a greater distance. Certainly there was either too much

shade or too much disturbance (from deposition of occupation waste) for water plants to become established. A range of aquatic insects and other invertebrates were recorded, although they did not indicate the presence of water plants. Unless these had been washed into the deposit in some way, water quality cannot have been permanently poor.

An alternative explanation for the woody remains is that they were from litter of some kind, thrown in with other debris from occupation (as the wood 'chips' must surely have been). Amongst the material thrown in from human habitation were various kinds of litter, and there was evidence for probable textile working (including fibre production, dyeing and wool cleaning) and the probable use of the feature for retting hemp and flax. It is likely that a garden lay not far off, or that garden waste formed part of the fill. The insects did not give evidence for the dumping of large quantities of mixed organic waste, however.

### Recommendations

In view of the excellent preservation, close dating, and simple stratigraphy, and the complementary (and sometimes apparently contradictory) evidence from plant and invertebrate remains, it is highly desirable that more of this deposit is examined to amplify the tentative conclusions drawn here. This might be either through analysis of further (larger) subsamples from the existing sample, or through further samples from the deposit in the ground if it is threatened by development (in which case a series of samples through the fills of 5008 should be examined).

Additionally, the plant and invertebrate macrofossil content of any deposits, encountered during this (or subsequent) excavation at the site, showing similar organic preservation should be assessed.

### Retention and disposal

All the 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.

## Acknowledgements

The authors are grateful to Dr Ben Gearey of Wetland Archaeology and Environments Research Centre, The University of Hull, for providing the material, the archaeological information, and comments on the palynological evidence.

## References

- Dobney, K., Hall, A. R., Kenward, H. K. and Milles, A. (1992). A working classification of sample types for environmental archaeology. *Circaea, the Journal of the Association for Environmental Archaeology* **9** (for 1991), 24-6.
- Kenward, H. K., Hall, A. R. and Jones, A. K. G. (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. *Science and Archaeology* **22**, 3-15.
- Kenward, H. K., Engleman, C., Robertson, A. and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* **3**, 163-172.
- McKenna, W. J. B. (1992). *The environmental evidence*, pp. 227-233 in Evans, D. H. and Tomlinson, D. G. (eds.), Excavations at 33-5 Eastgate, Beverley, 1983-86. *Sheffield Excavation Reports* **3**.