

Evaluation of biological remains from Storking Lane, Wilberfoss, East Yorkshire (Site code: ERYMS 1999.8)

by

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Summary

Seven sediment samples from excavations at Storking Lane, Wilberfoss, East Yorkshire were submitted to the EAU for evaluation of their biological remains. The plant and invertebrate remains indicate that the local environment was rather open, dominated by alder carr and marshy vegetation. Further work is not recommended at the present, in view of the lack of dating evidence, but this material may prove useful as part of a wider synthesis and should therefore be retained.

KEYWORDS: STORKING LANE; WILBERFOSS; EAST YORKSHIRE; EVALUATION; STREAM; ALDER CARR; PLANT REMAINS; INVERTEBRATE REMAINS; INSECTS; LANDSCAPE RECONSTRUCTION

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Introduction

An archaeological excavation was carried out by York Archaeological Trust at Storking Lane, Wilberfoss, East Yorkshire, in September 1999. Seven general biological analysis samples ('GBA' *sensu* Dobney *et al.* 1992) were submitted to the EAU for an evaluation of their bioarchaeological potential. All of the samples were from a series of inter-cut fills of a natural feature described by the excavators as a possible silted-up stream bed.

Methods

The sediment samples were inspected in the laboratory and descriptions of their lithologies recorded using a standard *pro forma*. Subsamples of 3 kg were taken from three of the samples and 5 kg from a further sample; all were processed following the procedures of Kenward *et al.* (1980; 1986) for recovery of plant and invertebrate macrofossils. Table 1 presents a list of the samples with notes on their treatment.

All invertebrate macrofossils were recorded semi-quantitatively using the scale described by Kenward *et al.* (1986) and Kenward (1992). Records were made on a paper *pro forma* for later transferal to a computer database (using Paradox software) for analysis and long-term storage.

Results and Discussion

The sample results are presented in context number order. All of the samples were from

Trench 2. The excavators descriptions of the sediments are presented in square brackets. The chronological order of the deposits was roughly: Context 2024, Contexts 2015, 2022, 2025, Context 2005, Context 2020.

Sample 4 (Context 2025) yielded a moderately large assemblage of invertebrates, especially beetles. The remaining samples produced smaller groups which appeared to be random subsets of the fauna of sample 4, and are not considered separately.

Context 2005 Sample 3 [layer of principally mid grey sand with some white and brown sand laminations]

Laboratory description: Moist, fawn to light grey brown (in streaks), crumbly sand.

No further action undertaken.

Context 2015 Sample 2 [light to mid grey silty sand with patches of orange sand]

Laboratory description: Moist, mid grey/brown (locally more grey and more brown), firm to brittle (working crumbly) slightly humic, slightly silty sand with small fragments of wood and twigs.

The small flot (approximately 5 ml) was predominantly plant material with many seeds and a moderate-sized invertebrate assemblage.

There was a very large residue of about 1500 cm³ of bark fragments (to about 25 mm

maximum dimension) and quartz sand with wood and twig fragments, including 'rods' of alder (*Alnus glutinosa* (L.) Gaertner) up to about 100 mm by 25 mm diameter. There was much other woody and some herbaceous debris. Identifiable plant remains were rather sparse but usually well preserved, sometimes showing a little pyritization. There was a mixture of terrestrial, swamp and aquatic taxa, the most abundant being fruits of alder, sedges (*Carex*) and buttercups (*Ranunculus* Section *Ranunculus*). Alder was represented by buds, female cone axes, male catkin fragments as well as by fruits and wood, and it seems clear that alder carr was the main source of the remains recorded here, though with inwash of taxa from nearby drier land and remains from a few taxa growing by the stream or submerged in it.

Context 2020 Sample 7 [dark brown organic silty clay with a moderate number of decayed wood fragments and occasional charcoal flecks]

Laboratory description: Just moist, dark greyish brown, firm to brittle (working crumbly), moderately humic, slightly sandy silt and silty amorphous sediment with some pale sandy partings. Rootlets were also present.

The moderate-sized flot (approximately 25 ml) contained much plant detritus, many seeds and some rootlets. The invertebrates in this flot were slightly less well-preserved than those from the other samples.

The large to very large residue of about 1300 cm³ contained woody and herbaceous detritus and some sand with twig fragments; all the fractions were large. Woody plants and fen/swamp taxa predominated. The concentration of identifiable fruits and seeds

was rather low, though preservation was good. There were a few taxa which, at an occupation site, would be considered to be weeds, but in the context of a stream fill might be typical of shifting deposits associated with lateral movements of the stream and do not necessarily represent evidence for human occupation nearby (though it is also possible that they originated in an area of occupation and disturbance upstream).

Context 2022 Sample 6 [dark grey silty clay containing moderate amounts of charcoal and occasional fragments of decayed timber]

Laboratory description: Very similar to Sample 4 but with much less clay and apparently more sand. A moderately humic, slightly clay, sandy silt.

The flot of approximately 20 ml consisted of much plant material and a modest-sized insect assemblage

The moderately large residue of about 600 cm³ consisted of wood and twig fragments with sand; there were large (up to 2 mm) fine fractions. Most of the identifiable remains (which were well preserved though in rather low concentrations) indicated woody debris from an area of alder carr. There were some herbaceous waterside plants but the flora was mostly terrestrial, with grassland, marsh/swamp and weed vegetation all represented by a few taxa.

Context 2024 Sample 5 [light grey silty sand containing moderate quantities of vertical decayed wood or roots]

Laboratory description: Moist, light to mid grey/brown (with more grey and more

brown 1 cm scale mottles), firm to brittle (working crumbly), slightly silty sand. Twigs (or ?roots) were also present.

No further action undertaken.

Context 2025 Sample 1 [dark greyish-brown organic silty sandy clay containing moderate quantities of decayed timber and occasional small pebbles]

Laboratory description: As for sample 4 but waterlogged, rather more disaggregated and more sandy.

No further action undertaken.

Context 2025 Sample 4 [as above]

Laboratory description: Moist, mid-dark greyish brown and somewhat olive, oxidising to dark grey, firm to soft (working plastic), moderately humic, slightly sandy clay silt with stones present in the size range 2-6 mm. Rootlets were also present.

The flot (approximately 15 ml) was about 50% plant material and 50% invertebrate remains.

There was a moderately large residue of about 550 cm³ of organic detritus (mostly wood fragments) and sand, the mineral component being about 20% by volume; there was also one large rounded stone (a flint?). Some of the wood gave the appearance of somewhat abraded chips, but none was definitively worked. The assemblage was unusual within this group for having modest numbers of bracken stalk fragments. Indeed, most of the plant remains were terrestrial in origin, the concentration of identifiable remains being

high, and preservation good (there was a little pyritization of seeds and herbaceous material). The plant assemblage again gave an impression of inwash of terrestrial material into a stream, with weeds representing habitats which may have been disturbed by natural processes (the shifting stream).

The invertebrate assemblages from all of the samples were essentially very similar in character with minor variations in the quantity of remains and preservational condition (which was generally rather good). Sample 4 produced the largest beetle assemblage and also contained rather more insect immatures, principally flies and beetles.

The fairly large terrestrial element of the fauna included dung beetles, carabids and a few elaterids, indicating that the surrounding countryside was fairly open, perhaps with some grazing animals but with no indication of adjacent grazing land proper. Several of the ground beetles (*Loricera pilicornis* (Fabricius), *Dyschirius* sp., *Elaphrus* sp.) and some of the weevils (*Notaris acridulus* (Linnaeus), *Bagous* sp., *Barynotus* sp.) occur near water or in damp mossy places and most of the aquatic and waterside component comprised species typically found in marshland and damp vegetation such as might occur beside the stream.

The relatively low concentrations of well-preserved insect remains (with a notable rarity of the smaller species) probably accumulated through inwash from the adjacent land and subsequent settling from fairly high-energy water flow. Sealing of the deposits was also probably rather rapid. This, together with the evidence from the plant remains and upon examination of the excavator's plans, indicates continued cutting and re-cutting by the stream, possibly

over a substantial period of time. The local environment appears to have been dominated by alder carr and marshland/swamp vegetation, with no substantial evidence for nearby human activity over the time period represented by these deposits.

Sample 7 (Context 2020) contained a single elytron (wing case) of the grain weevil *Sitophilus granarius* (Linnaeus); it is possible that this is a contaminant but it could also have entered the deposit through outflow from a source of human occupation upstream. It is also just conceivable that it originated from the dung of a horse drinking from the edge of the stream. If future work on these samples produced more individuals of this species then the case for human occupation in the vicinity would certainly be stronger.

Statement of potential

The plant and insect remains from the samples selected here are certainly interesting and could be used to reconstruct conditions along the stream, but further investigation would be pointless without dating. AMS dating of selected deposits would make interpretation more useful, giving information concerning land use and local vegetation. The results would also be valuable as part of a wider project on landscape reconstruction for this area.

Recommendations

Further work on this material cannot be justified *per se* but it could be useful (if dated) as part of a wider synthesis. Many remains were left in the residues and further work should take account of the need for repeated treatments with paraffin and

subsequent flotation. Any future excavation in this area should make provision for the recovery of, and appropriate post-excavation work on, a substantial number of samples.

Retention and disposal

All of the samples should be retained for the present and stored under conditions conducive to the survival of organic remains in a primarily mineral matrix.

Archive

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

It is recommended by the EH-funded staff of the EAU that long-term storage of bioarchaeological remains should be in the local receiving museum.

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References

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Table 1. List of the sediment samples from Storking Lane, Wilberfoss and notes on their treatment. NFA - no further action undertaken.

Context no.	Sample no.	Sample type	Notes
2005	3	GBA	NFA
2015	2	GBA	5 kg sieved to 300 µm with 2 paraffinations. Voucher remaining material.
2020	7	GBA	3 kg sieved to 300 µm with 2 paraffinations. Voucher remaining material.
2022	6	GBA	3 kg sieved to 300 µm with 2 paraffinations. Voucher remaining material.
2024	5	GBA	NFA
2025	1	GBA	NFA
2025	4	GBA	3 kg sieved to 300 µm with 2 paraffinations. Voucher remaining material.