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**Evaluation of biological remains from
excavations at Pasture View, Sherburn-in-
Elmet, North Yorkshire (site code: SH2004)**

PRS **2004/14**

Evaluation of biological remains from excavations at Pasture View, Sherburn-in-Elmet, North Yorkshire (site code: SH2004)

by

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Summary

Eight sediment samples recovered from deposits revealed by the excavation of fourteen trenches at Pasture View, Sherburn-in-Elmet, North Yorkshire, were submitted for an evaluation of their bioarchaeological potential. Most of the deposits were ditch and pit fills, some thought to be prehistoric whilst others contained sherds of medieval (12th/13th century) pot.

Five of the samples were processed for the evaluation. Both plant and invertebrate remains were well-preserved and present in appreciable quantities in all but one of the samples, though some plant material in two of them seemed to be of recent origin. Such preservation is somewhat unusual in the area of Sherburn-in-Elmet or indeed almost anywhere along the Magnesian Limestone ridge through southern-most North Yorkshire and easternmost West Yorkshire. The assemblages were consistent with deposition in intermittently water-filled ditches in an agricultural landscape. There was little from the plant remains and nothing from the invertebrates to suggest human occupation.

This evaluation shows the potential for the preservation of biological remains within certain deposits in this area. The bioarchaeological remains from the existing samples are certainly worth recording more fully if reasonably close dating can be secured. The data would add to the growing corpus of information regarding the history of land-use and vegetation in lowland Yorkshire. Any further intervention which threatens the deposits should certainly be accompanied by a programme of sampling and post-excavation analysis of biological remains.

KEYWORDS: PASTURE VIEW, SHERBURN-IN-ELMET; NORTH YORKSHIRE; EVALUATION; PREHISTORIC; MEDIEVAL; 12TH/13TH CENTURY; PLANT REMAINS; CHARRED PLANT REMAINS; CHARRED GRAIN; INVERTEBRATE REMAINS

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15 March 2004

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Introduction

An archaeological evaluation excavation was carried out by MAP Archaeological Consultancy Ltd at Pasture View, Sherburn-in-Elmet, North Yorkshire (NGR SE 496 335), in 2003.

Fourteen evaluation trenches were excavated to investigate the nature of any archaeological deposits. Most of the features encountered were ditches, with some pits located within Trenches 7 and 10. Some of the ditches appeared to be of prehistoric date, whilst some other fills contained medieval (12th/13th century) pot.

Eight sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) were submitted to PRS for an evaluation of their bioarchaeological potential.

Methods

The sediment samples were inspected and five selected for evaluation. For these, their lithologies were 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. Plant remains (and the general nature of the residues, flots and—in one case—a washover) were recorded briefly by 'scanning', identifiable taxa and other components being listed directly onto 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 (e.g. aquatics, grain pests) or indicator groups (e.g. for stable manure, Kenward and Hall 1997) present. 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).

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 4009/4010 [build-up deposit immediately below the subsoil and sealing ditches 4014, 4021 and 4032]

Sample 4/T (3 kg sieved to 300 microns with washover; approximately 5 litres of unprocessed sediment remain)

Dry, light grey-brown to mid grey-brown, indurated to brittle, (working crumbly, rubs brown), ?slightly silty clay. Stones (2 to 6 mm) were common, and ?charcoal, land snails and modern rootlets were present.

There was a small residue (dry weight 0.24 kg) of sand and small stones (to 15 mm), with a little charcoal (<1 g, to 8 mm) and some snails. The latter were mostly

Discus rotundatus (Müller) (15 individuals), with *Trichia ?hispidula* (L.) (2), *Vallonia ?excentrica* Sterki (1), *?Aegopinella nitidula* (Draparnaud) (1), and two small succineids (probably *Succinea oblonga* Draparnaud).

This subsample yielded a small washover of about 30 cm³ of modern roots, with some snails and soil nematode (*Heterodera*) cysts, as well as traces of small fragments of charcoal (to 5 mm), and elder (*Sambucus nigra* L.) seed fragments. The small snail assemblage included further *Discus rotundatus* (8 individuals), *Vallonia ?excentrica* (2), and *Cochlicopa ?lubrica* (Müller) (2), *Carychium ?tridentatum* (Risso) (~20) and also unidentified fragments of other land snails (including some of other taxa).

The snails most strongly reflect an environment of hedgerow/scrub (or possibly more substantial woodland) but with hints of both standing water/waterside vegetation and open short-turfed grassland. The plant material was perhaps mostly of recent origin and of no interpretative value.

Context 4026 [primary fill of North-South aligned ditch]

Sample 2/T (3 kg sieved to 300 microns with paraffin flotation; approximately 4 litres of unprocessed sediment remain)

Moist, light brown to mid grey-brown, plus some areas of buff and light to mid slightly orange brown, sticky and slightly stiff (working soft, rubs brown), clay silt to silty clay. Stones (2 to 6 mm) and fragments of rotted wood were present.

The small residue of about 225 cm³ was mostly woody debris (mainly wood, to 20 mm, and some twig fragments), with about 50 cm³ of sand and gravel. The wood fragments were pale but reasonably firm and well preserved. The presence of several fragments of conifer shoot (to 30 mm, probably a species of *Cupressus* or *Chamaecyparis*) suggests some contamination of the deposit or the sample with recent material, since these plants are post-medieval introductions to the British Isles and unlikely to be found in deposits at any distance from a garden or plantation. The presence of a very fresh-looking fragment of feather in the flot and some grass culm and leaf fragments in the residue seem unlikely to be other than recent in origin. The rest of the assemblage might well be ancient. The more frequent remains were fruits of fool's water-cress (*Apium nodiflorum* (L.) Lag.) and water-cress (*Nasturtium officinale* R. Br. in Aiton), both indicating a ditch with clean, perhaps flowing, water, and stinging nettle (*Urtica dioica* L.), probably growing on the banks. Other taxa were consistent with deposition in a wet

ditch in an area with some disturbance, areas of scrub or a hedge, and perhaps some grassland.

The flot was small, but quite rich in insect remains, whose chemical preservation was generally good, although many fossils were very fragmented and would be difficult to identify closely (E 2.0-3.0, mode 2.5 weak; F 2.0-5.0, mode 2.5 weak). All of the remains appeared to be ancient. Aquatics were fairly well represented, though by no means abundant. While all might have been transported during wet periods, an origin *in situ* seems likely. There were indications of fairly clean water from statoblasts (resting bodies) of the bryozoan *Lophopus*, and from *Hydraena testacea* Curtis. Much of the remaining fauna may have lived in the ditch, on its banks or immediately beyond. Some, such as *Lesteva* sp. and *Heterocerus* sp., would have exploited mud, and others, for example *Aphrodes flavostriatus* (Donovan), lush vegetation. *Apion* weevils were rather numerous, the types present suggesting clovers or vetches. There was little to indicate conditions in the wider landscape—a trace of dung beetles. There were no species strongly favoured by human occupation (synanthropes), although the whole fauna consisted of species tolerant of semi-natural or agricultural landscapes heavily modified by human activity.

Further analysis of this invertebrate material, preferably using a large subsample, would be desirable if dating was reasonably close; a more detailed record of the plant remains is desirable in support of this, though the presence of what appear to be recent contaminants needs to be borne in mind.

Context 7017 [fill of ditch]

Sample 7/T (3 kg sieved to 300 microns with paraffin flotation; approximately 5 litres of unprocessed sediment remain)

Moist, mid to dark grey-brown, brittle and layered in places to crumbly (working soft, rubs brown), humic, ?slightly sandy silt, plus fine, coarse and woody herbaceous detritus. Twigs and ?mortar/plaster were present.

There was a moderate-sized residue of about 575 cm³ of plant detritus, unusually mostly fine twig fragments (to 15 mm), with a little sand and a trace of gravel (to 10 mm); the twig fragments, none of which were more than 5 mm in diameter, were all rather eroded. Other remains were largely from woody taxa typical of deposition in a ditch by a hedge or an area of scrub. There were, for example, some sloe (*Prunus spinosa* L.) fruitstones, most of which were flattened, others just fragments. The finer fractions included many blackberry (*Rubus fruticosus* agg.) seeds and further fine woody fragments. The identification of the rather

frequent very small nutlets of a labiate (of the size of marjoram, *Origanum*, or thyme, *Thymus*) should probably be checked. For the rest, the plant macrofossil assemblage included some indicators of damp conditions but the shade afforded by a hedge or scrub, if not woodland, is indicated by the presence of seeds of three-nerved sandwort (*Moehringia trinervia* (L.) Clairv.) and perhaps also ground-ivy (*Glechoma hederacea* L.), with some other taxa representing weedy vegetation, though no very strong indicators of disturbance. As in the sample from Context 4026 there was at least one modern grass spikelet which was clearly a contaminant.

A flot of modest size contained smallish numbers of invertebrate remains, mostly insects but also numerous earthworm egg capsules. Chemical preservation was rather good (E 1.5-3.0, mode 2.5 weak), but some remains rather fragmented, some to the point where identification would be very difficult (F 2.0-4.0, mode 3.5, weak). There were a few aquatic beetles, but not sufficient to indicate permanent water (a larger subsample might give evidence to contradict this, since there were tarsal segments of what appeared to be the large water beetle *Dytiscus*, most likely to be found in more permanent water). Terrestrial insect were well represented, and included species suggesting a range of vegetation, both herbaceous and woody (perhaps just scrub). Three species of click beetle (Elateridae) appeared to be types generally found in grassland, and the chafer *Phyllopertha horticola* (Linnaeus) suggested similar conditions. There were some dung beetles (at least three *Aphodius* species and a fragment of an *Onthophilus*) and it seems likely that the surroundings included pasture. There were no occupation-site synanthropes.

Further analysis of this material to give evidence of local landscape is desirable, providing dating is reasonably close.

Context 8026 [secondary ditch fill in western half of exploratory trench]

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

Moist, mottled (at a 1 to 10 mm-scale), light to mid brown to mid to dark grey, with some light grey-brown patches. Stiff to crumbly (working soft and somewhat plastic, rubs brown), humic, clay silt, with some fine and coarse herbaceous detritus. Stones (6 to 20 mm), twigs and ?modern straw fragments were present.

The small residue of about 250 cm³ was mainly organic debris, though with about 75 cm³ of sand and gravel, and including some iron-concreted fine-grained sediment and a little unidentified bone and cinder.

Preservation of plant remains was good, and the woody material included some wood chips (to 10 mm) which were quite pale but firm; the fruits and seeds present were mostly rather well preserved. Deposition in a wet ditch with scrub or a hedge nearby is again indicated, the more frequent remains being stinging nettle, fool's water-cress and watercress, as in the sample from Context 4026. Human activity in the vicinity—even if only some small-scale dumping of waste—is suggested by the cinder, but also by the presence of a single fragment of a seed capsule of flax, *Linum usitatissimum* L. and a single charred wheat (*Triticum*) grain.

The flot was fairly small, and contained numerous insect remains, generally very well preserved (E 1.5-2.0, mode 2.0 weak; F 1.5-3.0, mode 2.5 weak). There were just sufficient aquatics to suggest at least temporary water, but no evidence of permanence. Damp-ground vegetation was represented by the weevil *Notaris acridulus* (Linnaeus), but there were few obligate waterside species. Terrestrial vegetation may have been short and herbaceous, and included docks or knotgrasses (the hosts of *Gastrophysa viridula* (Degeer)), and probably clovers or vetches (typical hosts of the two *Sitona* species and two *Apion* species present). There were only traces of dung-feeders, and no occupation-site synanthropes.

If this deposit can be fairly closely dated its fauna and flora deserve analysis to reconstruct local landscape, using as large a subsample as possible for the invertebrates.

Context 11006 [primary fill of ditch]

Sample 8/T (3 kg sieved to 300 microns with paraffin flotation; approximately 4 litres of unprocessed sediment remain)

Moist, mid grey to mid grey-brown, stiff to crumbly (working plastic, rubs brown), humic, slightly silty clay, with some fine herbaceous detritus. Some rusty brown organic patches, small ?twig fragments, and modern rootlets and leaves were present.

The very small residue of about 75 cm³ was about half sand with a trace of gravel (to 5 mm), half a tangle of roots, probably ancient, with some moderately well preserved seeds. There was a little charcoal (to 5 mm), some rather worn. None of the fruits and seeds was present in more than trace amounts and the assemblage was not interpretatively very diagnostic.

The flot was small and included very few insects. However, Cladocera were abundant: there were of the order of 100 *Daphnia* ephippia (resting eggs) and perhaps around 50 ephippia of a second type. In view of this, the rarity of insects (and of aquatic beetles) requires some explanation—perhaps the water was very

temporary or strongly shaded. The information to be gained by further analysis of this material is limited, but the fauna of a larger subsample might usefully be recorded (providing dating is acceptably close), as part of a study of the other fills.

Discussion and statement of potential

Both plant and invertebrate remains were well-preserved and present in appreciable quantities in all but one of the samples, though some plant material in two of them seemed to be of recent origin. The fragmentation of the insects cannot be placed in time: it may be ancient damage (though there is no obvious explanation if so—there is nothing to suggest trampling by cattle or comminution by fish, for example). Splitting as the deposit dried during summers is a possibility, but so is the effect of compression prior to or during excavation.

The assemblages are consistent with deposition in intermittently water-filled ditches in an agricultural landscape. There was little from the plant remains and nothing from the invertebrates to suggest human occupation.

A small group of snails was recovered from one of the samples (Sample 4, Context 4009/4010), which gave few other ancient biological remains. The overall character of this assemblage would suggest an area of some vegetative cover, possibly long grass (permanently damp at the base) with some scrub/hedgerow, or perhaps rather more substantial woodland and associated damp leaf litter. There were hints of other habitats—open short-turfed grassland from the *Vallonia* and of standing water and waterside vegetation from the succineids. This is entirely consistent with the ecological interpretation of the plant and invertebrate remains recovered from the other samples. However, the plant material from this deposit was perhaps mostly of recent origin, casting some doubt on the antiquity of the molluscan material.

As also noted in a recent report on the biological remains from an adjacent site (The

Spinney, Hall *et al.* 2003), well-preserved assemblages of plant and insect remains are extremely rare in the area of Sherburn-in-Elmet. Indeed such assemblages are rare almost anywhere along the Magnesian Limestone ridge through southern-most North Yorkshire and easternmost West Yorkshire, *pace* a few deposits encountered along the route of the A1-M1 extension, cf. reports in Roberts *et al.* (2001). As such, these deposits are of considerable bioarchaeological interest.

Recommendations

The bioarchaeological remains from the existing samples are certainly worth recording if dating is at all close (within 100 years or so, AMS dating perhaps being worthwhile). The data would add to the growing corpus of information regarding the history of land-use and vegetation in lowland Yorkshire.

Any further excavation at this site should be accompanied by rigorous sampling to provide further material for analysis, and the deposits should not be placed at threat without excavation. Intensive sampling of a series of ditches might provide a first opportunity to make a reconstruction of an area of agricultural landscape in this locale (and—if medieval—for a period for which there are surprisingly few investigations) using plant and invertebrate macrofossils.

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.

Yorkshire Archaeology Service on behalf of West Yorkshire Joint Services.

Acknowledgements

The authors are grateful to Anne Finney, Paula Ware, Kelly Hunter and Sophie Langford of MAP Archaeological Consultancy Ltd for providing the material and the archaeological information.

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