

Palaeoecology Research Services

Evaluation of biological remains from further excavations at Main Street, Long Riston, East Riding of Yorkshire (site code: MSR2001)

by

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Summary

Six sediment samples, a very small quantity of hand-collected shell, and three boxes of hand-collected bone were recovered from further excavations (Trench 3) at Main Street, Long Riston, East Riding of Yorkshire, during March and April 2002. Provisional stratigraphic and ceramic evidence suggested that the deposits were of early medieval to modern date. All of the material was submitted to PRS for an evaluation of its bioarchaeological potential.

*Each of the samples gave at least some plant macrofossils and two also gave some invertebrate remains. Most of the plant remains were of either charred cereals, or charred and uncharred weed seeds. Two *Camelina* seeds (Context 3015) were a rather unusual archaeological record. Both of the invertebrate assemblages indicated bodies of, not necessarily permanent, fairly clean, water, with some hints of emergent/waterside vegetation and human influence in the vicinity.*

The very few hand-collected shell remains were of no interpretative value.

Preservation of the vertebrate remains was generally quite good but few deposits produced more than 10 fragments. A limited suite of species was identified, primarily restricted to the major domestic mammals, i.e. cattle, caprovids, horse and pig. Many of the larger assemblages contained numerous freshly broken fragments of horse and cattle cranium. Knife marks were observed on several bones identified as horse. However, few fragments were recovered which could provide age-at-death and biometrical data.

*The plant and invertebrate remains from Context 3015 are worth recording in detail (and the closer identification of the *Camelina* material pursued). It may also be worth pursuing the identification of the charred cereal rachis from Context 3162, if the dating can be refined. No further work on the shell remains is warranted. Overall, detailed analysis of the current vertebrate assemblage would be of limited value and produce little further information.*

KEYWORDS: MAIN STREET; LONG RISTON; EAST RIDING OF YORKSHIRE; EVALUATION; EARLY MEDIEVAL TO MODERN; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; VERTEBRATE REMAINS

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Introduction

A further archaeological evaluation excavation (Trench 3) was carried out by Humber Field Archaeology at Main Street, Long Riston, East Riding of Yorkshire (NGR TA 1255 4260), during March and April 2002.

Six sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), representing five contexts, a very small quantity of hand-collected shell, and three boxes (each of approximately 20 litres) of hand-collected bone, were recovered from the deposits. All of the material was submitted to PRS for an evaluation of its bioarchaeological potential.

Provisional dating has assigned the deposits to five archaeological periods: early medieval; medieval; late medieval; post medieval; and modern.

Methods

All of the submitted sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), were inspected in the laboratory and four were selected for investigation. The lithologies of the selected samples 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, washovers, and residues resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

Insect preservation was recorded using the scale of Kenward and Large (1998).

Brief notes were made on the preservational condition of the hand-collected shell and the remains identified to species where possible.

For the hand-collected vertebrate remains that were recorded, data were entered directly into a series of tables using a purpose-built input system and *Paradox* software. 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 were described as the 'unidentified' fraction. Within this fraction fragments were grouped into four categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid), unidentified bird, and totally unidentifiable.

Results

Sediment samples

The results are presented in context number order by provisional date. 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 numbers.

*Early medieval***Context 3196** [pit fill in 3195]

Sample 5/T (2 kg sieved to 300 microns with washover; approximately 3 litres of sediment remains)

Moist, mid grey-brown to mid grey (mottled on a mm-scale), crumbly and slightly sticky (working soft and somewhat plastic), sandy clay silt (to silty clay), with small patches of slightly orange, light to mid brown clay. Stones (2 to 20 mm), ?pot, and charcoal were present.

There was a large residue of about 250 cm³ of sand and gravel (to 50 mm in maximum dimension) and some concreted sediment (to 20 mm), the concretion perhaps natural within what was presumably a waterlain deposit. The small washover consisted of a few cm³ of uncharred woody and herbaceous modern roots with traces of seeds of weeds, both charred and uncharred. There was also a single charred cereal grain which could not be identified more closely.

Five fragments of bone were recovered, of which one was burnt. A single fragment was identified as amphibian.

*Late Medieval***Context 3159** [secondary pond fill in 3259]

Sample 4/T (2 kg sieved to 300 microns with paraffin flotation and washover; approximately 5 litres of sediment remains)

Moist, mid to dark grey, crumbly (working sticky), slightly ashy, sandy clay silt, with some patches of light to mid grey-brown clay (to 50 mm), and some areas which were slightly orange (?burnt/heated). Stones (2 to 6 mm and 20 to 60 mm), charred grain, and some modern rootlets, were present.

The moderate-sized residue of about 200 cm³ was of sand and gravel (to 20 mm) with some concreted sediment and a few charred cereal grains; the small flot also contained a few charred cereal grains and some modern roots. The moderate-sized washover of about 50 cm³ consisted of modern roots and moderate numbers of charred cereals – mainly ‘bread/club’ wheat (*Triticum ‘aestivo-compactum’*) with traces of barley (*Hordeum*) and oats (*Avena*) and one or two pulses (pea, *Pisum* and field bean, *Vicia faba* L.), a typical medieval assemblage from a rural occupation deposit. Some of the grains were well preserved, but most were rather puffed and/or eroded. No invertebrate remains were seen in the flot or washover.

Nine tiny fragments of bone were recovered from this sample, including a bank vole (*Clethrionomys glareolus* (Schreber)) molar.

Context 3162 [secondary pond fill in 3039]

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

Moist, a jumbled mix of light to mid to dark grey and light to mid brown and shades of grey-brown from light to dark, crumbly and slightly sticky (working soft and sticky), slightly sandy clay silt. Stones (2 to 20 mm), charcoal, and some ?ancient rootlets, were present.

The moderate-sized residue of about 175 cm³ was mainly of coal (to 45 mm), charcoal (to 10 mm) and cinder-like material (to 15 mm), all rather strongly iron-stained. The small flot contained a few charred cereal grains (including bread/club wheat), and charred and uncharred weed seeds and a few insects. The large washover of about 60 cm³ comprised rather flaky woody debris with modest numbers of (mainly uncharred) weed seeds and some well-preserved charred cereal rachis fragments (some, at least, of which of which were of free-threshing wheat). The greatest number of weed seeds were henbane (*Hyoscyamus niger* L.) and stinging nettle (*Urtica dioica* L.) both indicating disturbed soils, the remainder being a mixture of weeds of cultivation and waste places, with a very few indicating moist ground or standing water (there was only rather limited evidence from the plant remains for vegetation in or by a pond).

The small flot contained rather small numbers of insect remains, and a few mites and Cladocera (water fleas). Preservation was fairly good (E 2.0-3.5, mode 2.5 weak; F 2.0-4.0, mode 3.0 weak). Aquatics predominated, suggesting fairly (but not necessarily completely) permanent water, not too polluted, with at least some emergent or waterside vegetation. There were proportionally more terrestrial insects than in Sample 2/T (see below), although absolute numbers were, as for that subsample, small. There was a hint of presence of artificial habitats in the vicinity from *Ptinus* sp., but this (and the remaining fauna) may have exploited natural or semi-natural habitats. Recovery of an interpretatively useful assemblage would probably be impracticable.

This sample produced 20 small (all less than 20mm in any dimension) unidentified fragments of bone.

*Post-medieval***Context 3015** [secondary pond fill in 3004]

Sample 2/T (2 kg sieved to 300 microns with paraffin flotation and washover; approximately 4 litres of sediment remains)

Moist, mid grey-brown (with mid to dark grey patches internally), brittle (working soft and slightly sticky), clay silt.

The tiny residue consisted of a few cm³ of gravel (to 10 mm) and sand whilst the very large flot was of uncharred plant detritus and insects. Though the assemblage of plant remains was small there were hints of the presence of straw and hay in this fill, presumably from occupation nearby. The small washover consisted of a few cm³ of further plant detritus with more of the same seeds as were recorded from the flot. Within the identifiable fraction was a single fragment of a hemp (*Cannabis sativa* L.) and two rather large *Camelina* seeds, perhaps both indicating crop plants. The closer identification of the latter should be pursued, as *Camelina* are rather rarely recorded from archaeological deposits in England (or, indeed, elsewhere in the British Isles), but one species, at least, *C. sativa* was formerly grown in some areas (perhaps mainly in the post-medieval period) as an oil-seed crop, though its history is very poorly known.

The flot was rather large and contained a modest quantity of insect remains, and large numbers of water fleas. Preservation was rather good (E 1.5-3.0, mode 2.0 weak; F 2.0-4.0, mode 2.5 weak using the scales of Kenward and Large 1998). In addition to the cladocerans, represented by some hundreds of *Daphnia* and considerable numbers of a second type, evidence for aquatic deposition came from ostracods and from the predominance of aquatics among the beetles. The deposit appears to have formed where there was fairly (but not necessarily completely) permanent water, not too polluted, with at least some emergent or waterside vegetation (i.e. entirely consistent with a pond). Terrestrial insects were rare, but some of those few which were present suggested a human influence: *Monotoma* sp., *Gyrohypnus fracticornis* (Müller), and *G. angustatus* Stephens, seem most likely to have occurred together in an accumulation of somewhat foul, perhaps mouldering, organic waste. An impracticably large additional subsample would probably be required to improve the representation of terrestrial forms.

Hand-collected shell

Very small quantities of hand-collected shell were recovered from two contexts (3075 – post-medieval, and 3135 – late medieval). Context 3075 gave remains of three individuals of *Helix* sp. land snails (probably

modern), and Context 3135 a single heavily eroded fragment of oyster (*Ostrea edulis* L.) shell.

Hand-collected vertebrate remains

Three boxes (each of approximately 20 litres) of hand-collected bone were recovered from the further excavation at Main Street, Long Riston. Material recovered from two deposits of modern date and one deposit described as unstratified has been excluded from this report. In total, 462 fragments were recorded, representing 40 deposits, of medieval and post-medieval date (Table 1). Fragments from the later post-medieval deposits formed 80% of the recovered assemblage.

Much of the material was reasonably well-preserved, although several deposits produced fragments that were battered in appearance. Only material from Context 3173 showed some variations [between fragments] in both preservation and colour. A high degree of fragmentation was noted overall, which was mostly the result of fresh breakage damage. Much of the unidentified fraction was composed of fragments of large mammal cranium which had been broken during excavation and post-excavation processes. Evidence of dog gnawing was minimal, with only material from Context 3101 showing any degree of such damage. Butchered fragments were fairly frequently observed within the post-medieval assemblage. Evidence of butchery took the form of heavily chopped cattle pelves (Context 3075) and split cattle shaft fragments. Knife marks were noted on several fragments identified as horse bone; these included a fragment of horse cranium (Context 3227) and a metacarpal (Context 3103) with a series of knife marks around the proximal end of the shaft. These are likely to be evidence of skinning rather than the processing of a carcass for consumption. Context 3207 produced a horse mandible fragment with two holes made through the ramus. These had obviously been made deliberately but their function was not apparent.

Mammal species present (Table 2) included the major domesticates (cattle, caprovid horse and pig), with a small number of goose remains. A single cat bone was also identified from Context 3090. One of the horses represented by the remains recovered from Context 3207 suggested an individual of approximately 7 years of age when it died. Greatest length measurements taken from a horse metacarpal from Context 3103 gave an estimated withers height of 15-2 hands high (where a 'hand' = 4 inches).

Preliminary examination of the composition of the assemblage suggested that a mixture of waste was represented. Fragments such as mandibles, cranium, metapodials and other non-meat-bearing elements were

fairly common amongst the cattle and caprovid remains, although, meat-bearing elements, e.g. radii and pelvises, were also present. Many of the horse remains were skull (Contexts 3075, 3103, 3119, 3207 and 3227), and mandible, fragments, and metapodials. It is possible that other parts of the body were sent elsewhere, perhaps to provide food for dogs. It is unlikely that horse meat was for human consumption. The skinning marks may suggest that hides were removed deliberately for tanning and eventual use as leather.

Discussion and statement of potential

Each of the samples gave at least some plant macrofossils and two (from Contexts 3015 and 3162) also gave some invertebrate remains. Most of the plant remains were of either charred cereals, or charred and uncharred weed seeds, of no great interpretative value. The two *Camelina* seeds (Context 3015) were a rather unusual archaeological record, however. Both of the invertebrate assemblages indicated bodies of, not necessarily permanent, fairly clean water, with some hints of emergent/waterside vegetation and human influence in the vicinity.

The trace quantities of hand-collected shell were of no interpretative value.

Deposits from excavations at this site have produced a small assemblage of bone representing butchery waste and some domestic refuse. Although well preserved, the vertebrate assemblage is quite small and rather broadly dated. A high degree of fragmentation was observed, which has reduced the number of fragments of use for providing biometrical data. Additionally, not many mandibles with teeth *in situ* (i.e. able to provide age-at-death data) were recovered. Few deposits gave more than ten fragments and the larger assemblages (those that did have more than ten fragments) mostly comprised numerous fragments of freshly broken horse and cattle cranium.

Recommendations

The remains from Context 3015 are worth recording in detail (and the closer identification of the *Camelina* material pursued), especially if dating can be refined, as a rare example of rural material of this late date, and to explore further the insects (though with the *caveat* that an impracticably large additional subsample might be needed to provide sufficient terrestrial taxa, including synanthropes indicative of the nature and proximity of human occupation). It may also be worth pursuing the identification of the charred cereal rachis from Context 3162 if the dating can be refined.

No further work is recommended on the hand-collected shell.

The deposits have good potential for the survival of bone, and it must be borne in mind that any further excavation in the vicinity could recover a large vertebrate assemblage. The lack of fragments available for age-at-death and biometrical analysis and the small size of the current assemblage limits its usefulness and further investigation of this material is not warranted.

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.

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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. and Large, F. (1998). Recording the preservational condition of archaeological insect fossils. *Environmental Archaeology* **2**, 49-60.

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.

Table 1. Main Street, Long Riston (further excavation): contexts from which hand-collected vertebrate remains were recovered. Key: EMED = early medieval; MED = medieval; LMED = late medieval; PMED = post-medieval; nd = not dated.

Context	Context type	Date	No. of fragments
3008	9 th fill of pond	PMED	3
3015	Secondary pond fill	PMED	1
3038	Tertiary pond fill	PMED	1
3040	Tertiary pond fill	LMED	3
3050	Ditch fill = 3234	PMED	6
3054	Ditch fill = 3125 = 3153	EMED	5
3056	Secondary ditch / gully fill	EMED	2
3065	Post-hole fill	MED	1
3069	Secondary ditch / slot fill	EMED	6
3075	Ditch fill	PMED	94
3090	Ditch fill = 3121	EMED	24
3098	Pit fill	LMED	3
3101	Pit fill	PMED	23
3103	Ditch fill = 3173	PMED	68
3107	Ditch fill	MED	4
3113	Pit fill	EMED	3
3119	Ditch fill = 3092	EMED	15
3125	Ditch fill = 3054 = 3153	EMED	2
3129	Post-hole fill	EMED	4
3132	Ditch fill = 3057	EMED	2
3135	Secondary ditch fill	LMED	1
3143	Secondary ditch fill	LMED	2
3153	Gully fill = 3125 = 3055	EMED	1
3159	Secondary pond fill	LMED	4
3171	Pit fill	PMED	2
3173	Ditch fill = 3103	PMED	17
3174	Pit fill	PMED	4
3182	Ditch fill	PMED	2
3190	Pit fill	LMED	1
3196	Pit fill	EMED	3
3199	Pit fill	EMED	1
3207	Tertiary slot fill	PMED	105
3210	Quaternary pit fill	PMED	1
3211	Tertiary pit fill	PMED	1
3212	Secondary pit fill	PMED	7
3220	Gully fill = 3247	LMED	1
3227	Secondary slot fill	PMED	28
3234	Ditch fill = 3050	PMED	3
3238	Ditch fill	nd	4
3247	Gully / slot fill = 3220	LMED	8

Table 2. Main Street, Long Riston (further excavation): number of bone fragments by species and period. Key: EMED = early medieval; MED = medieval; LMED = late medieval; PMED = post-medieval.

Species		EMED	MED	LMED	PMED	Total
<i>Felis f. domestic</i>	cat	1	-	-	-	1
<i>Equus f. domestic</i>	horse	1	-	1	19	21
<i>Sus f. domestic</i>	pig	2	-	1	2	5
<i>Bos f. domestic</i>	cow	2	2	2	32	38
Caprovid	sheep/goat	11	-	6	16	33
<i>Anser sp.</i>	goose	2	-	-	4	6
Unidentified bird		1	-	-	1	2
Unidentified		48	3	13	292	356
Total		68	5	23	366	462