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**Evaluation of bioarchaeological remains from Coopers Farm, Long Riston,
East Riding of Yorkshire (site code: CFR99)**

by

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Summary

Excavations at Coopers Farm, Long Riston revealed deposits associated with a probable former medieval village. Two sediment samples and a small volume of hand-collected bone were examined for their bioarchaeological potential. Further work on the present material is not recommended, but if additional excavations were to occur, then provision should be made for recovery of, and work on, a substantial bone assemblage.

Keywords: EVALUATION; COOPERS FARM; LONG RISTON; MEDIEVAL; PLANTS; VERTEBRATES; BONE; INVERTEBRATES; INSECTS

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Introduction

Excavations were undertaken during 1998 by Humber Field Archaeology on land at Coopers Farm, Long Riston, East Riding of Yorkshire. The site revealed remains, and associated deposits, of a probable former medieval village. Twenty General Biological Analysis samples ('GBAs' *sensu* Dobney *et al.* 1992) and half a box (approximately 8 litres in volume) of hand-collected animal bone were submitted for an evaluation of their bioarchaeological potential. All of the material was dated to between the late 11th century to the early 13th century.

Methods

Sediment samples

All the material was initially inspected in the laboratory and described using a standard *pro forma*. Two subsamples were selected and processed for extraction of plant and invertebrate macrofossils following procedures of Kenward *et al.* (1980; 1986).

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.

Vertebrate remains

Data from the hand-collected vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For contexts containing more than five fragments subjective records were made of the state of preservation, colour of the fragments, and the

appearance of broken surfaces ('angularity'). In addition, semi-quantitative records were made of fragment size, and of burning, butchery, fresh breakage and dog gnawing.

Where possible, fragments were identified to species or species group, using the reference collection at the Environmental Archaeology Unit, University of York. Fragments not identifiable to species were grouped into categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid) and unidentified.

Measurements for mammals were taken (where appropriate), according to von den Driesch (1976), with additional measurements following those outlined by Dobney *et al.* (forthcoming). Weights of identified and unidentified fragments were also recorded.

Results

Sediment samples

Context information provided by the excavator is in square brackets.

Context 51, Sample 14/T [ditch fill] 2 kg processed

Laboratory description: moist, mid grey/brown, crumbly and granular (working plastic), slightly sandy, silty clay to clay silt. Locally the deposit was slightly orange and more grey, with occasional flecks of white and red ?burnt soil. Slight mottling, probably from intermittent wetting and drying, was noted. Modern rootlets were also present.

The tiny flot consisted of modern rootlets together with a few fragments of very eroded and fragmentary charred ?cereal grains, a few uncharred modern grass seeds, and two

earthworm capsules. The rather small residue of about 350 cm³ was of sand, gravel and small clasts of undisaggregated (perhaps somewhat concreted) sandy clay, with traces of charred material (to about 10 mm) which may have been burnt peat.

Context 72, Sample 19/T [ditch fill with burnt material and daub] 2 kg processed

Laboratory description: moist, light orange/brown to mid-dark grey/brown to black, locally crumbly, soft (working plastic), slightly sandy, clay silt with more clay locally and charcoal common. Modern rootlets were present.

The large flots of modern rootlets contained several well-preserved charred seeds, probably mainly from plants of fens and wet meadows, and some herbaceous detritus which might include stem and/or leaf fragments of sedges (*Carex*, or even *Cladium*). Very few invertebrates were present: two mites, a single *Daphnia* ephippium (water flea resting egg), one fly puparium and an individual of *Xylodromus concinnus* (Marsham).

The rather small residue of about 300 cm³ included one large lump of daub (to 70 mm), moderate amounts of sand and gravel, and some large and unusually well-preserved charred root/rhizome fragments from monocotyledonous plants (probably grasses or sedges), as well as some charred peat fragments. These and the plant remains seem most likely to have originated in the burning of peat.

Hand-collected vertebrate remains

Material was recorded from 21 contexts of which only twelve contained over five fragments; preservation was recorded for this material only.

Overall preservation of the bone assemblage was variable. However it was generally

consistent within contexts, being described as good or fair. Angularity (appearance of broken surfaces) was mostly recorded as 'spiky', although six of the twelve contexts contained a few fragments described as 'battered'. Colour was more variable both within and between contexts, and ranged from fawn, through ginger, to brown, with a few fragments showing darker mottling.

A moderate degree of fragmentation was noted, with more than 50% of the fragments between 5 and 20 cm in any dimension. Two contexts (55 and 68) contained a higher proportion of smaller fragments. Burnt fragments were noted in two contexts (6 and 70), with 20-50 % of the fragments affected. Dog gnawing was present in five contexts and varied from 10% to greater than 50 % of all the fragments. Evidence for butchery and fresh breakage was noted throughout, but was not extensive.

Table 1 shows the numbers of fragments recorded by species, together with the numbers of subadult bones, mandibles and teeth giving ageing or sexing information, and weights. A total of 71 fragments were recovered (weighing 2253.6 g), of which 26 (weighing 1766.8 g) were identified to species.

Mammalian species represented included cow (15 fragments), caprovid (6 fragments including 2 identified as sheep), horse (1) and dog (2). Birds were represented by single fragments of chicken and raven (*Corvus corax* L.). Of the 45 unidentified fragments, 32 were from large mammal bones and 13 from medium-sized mammal bones. Ten of the 26 identifiable bones were measured (Table 2).

Discussion and statement of potential

The very small size of the vertebrate assemblage renders it of little interpretative or zooarchaeological value as it stands. However, the reasonably good preservation of the vertebrate remains suggests that, if further excavation were to take place, a substantial

assemblage may be recovered. The tight dating of the material and the high proportion of measurable fragments suggests that a larger assemblage would be of use in site interpretation and for providing zooarchaeological information for this period.

If there are pressing archaeological reasons it may be worth processing large amounts of the material from Context 72 to obtain further vegetative material for an attempt at closer identification of the charred rhizome/root fragments and to make a more extensive species list.

Recommendations

Additional work on the present material is not recommended but if further excavations were to take place at this site provision should be made for the recovery of, and appropriate post-excavation work on, a substantial bone assemblage.

Storage requirements

The remaining sediment, residues, flots and extracted invertebrate remains and bone should all be preserved to permit further study.

Archive

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

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Table 1. The vertebrate remains from Coopers Farm, Long Riston, East Riding of Yorkshire. Key: No. unfused = number of unfused (i.e. not adult) fragments; No. mandibles = number of mandibles with teeth in situ; No. teeth = number of isolated teeth of use for providing age-at-death; No. fragments = total number of fragments.

Species		No. unfused	No. mandibles	No.teeth	No. fragments	Weight (g)
Dog	<i>Canis f. domestic</i>	-	1	-	2	34.8
Horse	<i>Equus f. domestic</i>	-	1	-	1	423.7
Cow	<i>Bos f. domestic</i>	-	-	1	15	1183.0
Sheep/goat	Caprovid	1	1	-	4	95.6
Sheep	<i>Ovis f. domestic</i>	-	-	-	2	25.8
Chicken	<i>Gallus f. domestic</i>	-	-	-	1	2.3
Raven	<i>Corvus corax L.</i>	-	-	-	1	1.6
Subtotal		1	3	1	26	1766.8
Medium sized mammal 1		-	-	-	13	67.3
Large mammal		-	-	-	32	419.5
Subtotal		-	-	-	45	486.8
Total		1	3	1	71	2,253.6

Table 2. Measurements of bones from Coopers Farm, Long Riston, East Riding of Yorkshire.

Context	Species	Element	Side	measurements
6	Horse	Femur	l	Bd=90.09
6	Chicken	Tibiotarsus	l	Bd=11.57 Dd=11.44 SC=5.75
41	Dog	Tibia	l	Bd=14.12 Dd=9.67 SD=6.76
41	Sheep	Tibia	l	Bd=24.65 Dd=18.85 SD=11.31
41	Cow	Horncore	r	41=62.14 42=44.42 BC=175
44	Sheep	Metatarsal	r	Bd=22.99 Dd=15.02 Dem=9.57 Dvm=15.02 Dim=12.28
45	Cow	Metatarsal	r	Bp=47.32 Dp=48.47 SD=26.40
70	Sheep/goat	Metacarpal	l	Bp=19.0 Dp=14.09 SD=11.77 GL=103.82 Dem=9.08 Dvm=13.27 Dim=10.99
74	Cow	Horncore	l	41=41.78 42=31.97
76	Cow	Humerus	r	HT=39.58 HTC=28.14 SD=29.78