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**Evaluation of biological remains from excavations at  
Elloughton, East Riding of Yorkshire  
(site code: OSA01WB33)**

by

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**Summary**

*Seven sediment samples (selected from 23 collected) recovered from excavations of deposits of late Iron Age/Romano-British date at Elloughton, East Riding of Yorkshire, were submitted to PRS for an evaluation of their bioarchaeological potential.*

*The two samples yielding plant remains gave evidence consistent with the archaeological interpretation of the contexts as being fills of a corn drier. Five of the samples gave assemblages of land snails. Overall, these were typical of an area of short-turfed, calcareous grassland, with variations in the level of vegetative cover. The snail assemblage from Context 1002 (Sample 1) reflected these conditions but also indicated an area with, at least temporary, standing water within the ditch. No eggs of intestinal parasitic nematodes were seen in the sample from the abdominal area of skeleton 1126. The vertebrate remains recovered from two of the samples were too few and too poorly preserved to be of interpretative value.*

*If the dating of the feature can be made more precise, there is a good case to be made for a more detailed analysis of the charred plant material from Context 1119 to establish more precisely which cereals are present and to consider further the question of the significance of the sprouting grain. Detailed recording of the snail assemblages would be of value in adding data to a synthetic study of the late Iron Age/Romano-British landscape of the Yorkshire Wolds, if the dating of the deposits could be refined, but is unlikely to add significantly to the interpretation of the site. No further investigation for the eggs of intestinal parasitic nematodes, or study of the recovered vertebrate remains, is warranted.*

*Any similar primary deposits not so far examined bioarchaeologically should certainly be investigated, as should any other similar deposits which may come to light as a result of further excavation at this site.*

**KEYWORDS:** ELLOUGHTON; EAST RIDING OF YORKSHIRE; EVALUATION; LATE IRON AGE/ROMANO-BRITISH; PLANT REMAINS; CHARRED PLANT REMAINS; CHARRED GRAIN; SNAILS; VERTEBRATE REMAINS

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## Evaluation of biological remains from excavations at Elloughton, East Riding of Yorkshire (site code: OSA01WB33)

### Introduction

An archaeological evaluation excavation was carried out by On-Site Archaeology, at Elloughton, East Riding of Yorkshire (NGR SE 95076 28293), between the 19<sup>th</sup> of March and the 17<sup>th</sup> of April 2002, as part of a series of interventions along the route of the Transco West Hull reinforcement gas pipeline.

The site was situated at the bottom of the southern scarp slope (spring line) of the Yorkshire Wolds within an extensive late Iron Age/Romano-British landscape.

Washovers and residues from six pre-processed bulk sediment samples from fills of cut features (two ditches, one pit, and one post hole) and a corn drier, and one subsample from a grave fill, selected from a total of 23 collected samples, were submitted for an evaluation of their bioarchaeological potential.

All of the encountered deposits were provisionally dated as late Iron Age/Romano-British.

### Methods

Bulk sediment samples ('BS' *sensu* Dobney *et al.* 1992) of varying size were processed to 1 mm (with a 300 micron sieve for the lighter washover fraction) by the excavator.

The washovers and residues resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils, bone, and other biological and artefactual remains.

Five of the samples gave snail assemblages. These were scanned and the remains were identified to species (main source, Kerney and Cameron 1979) where possible (within the

constraints of the project). The abundance of the snail taxa present was recorded either as a minimum number of individuals (where the shells were fairly intact), or semi-quantitatively on a three-point scale (for more fragmented remains): f – few (up to 3 individuals); s – some (4 to 15 individuals); m – many (more than 15 individuals).

One sample taken from the abdominal area of a skeleton within a grave fill (Context 1125, Sample 21) was examined for the eggs of intestinal parasitic nematodes using the 'squash' technique of Dainton (1992).

For the vertebrate remains recovered from the samples, records were made concerning 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.

### 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 numbers.

Summary information for the recovered snail assemblages is presented as Table 1. No insect remains were recorded from the samples.

The residues from processing of the bulk (BS) samples were mostly of chalk (to 140 mm) and chalk gravel, occasionally with some other stones present.

**Context 1002** [tertiary fill of curvi-linear ditch]

Sample 1/BS (8 litres processed to 1 mm with 300 micron washover; approximately 2 litres of unprocessed sediment remain)

Moist, light to mid grey-brown, crumbly to unconsolidated (working plastic), slightly silty clay.

The small washover was principally composed of a fairly diverse suite of snails (and there were some additional individuals of some of the larger taxa in the residue). Most of the taxa present were either characteristic of a dry, calcareous environment with little vegetative cover (e.g. *Vallonia* spp.; *Pupilla muscorum*), or catholic. There were also a few species indicative of rather damper conditions; these included the *Carychium* spp. and *Clausilia* ?*bidentata*. In addition, two individuals (and a further 6 in the residue) of the dwarf pond snail *Lymnaea truncatula* were present indicating standing, though probably non-permanent, water—this species resists drought by remaining inactive in mud. *L. truncatula* has some potential economic significance in that it is the intermediate host of the liver fluke *Fasciola hepatica* which is a parasite of cattle and sheep, and which will also infect humans.

**Context 1011** [posthole fill]

Sample 2/BS (8 litres processed to 1 mm with 300 micron washover; approximately 2 litres of unprocessed sediment remain)

Moist, light to mid grey-brown, crumbly (working plastic), very slightly silty clay with some modern rootlets.

The washover was of a small land snail assemblage including a few individuals of *Vallonia* ?*excentrica* and *Trichia* ?*hispidia*, and some *Cecilioides acicula*. The residue gave further individuals of *T. hispidia* and a single *Cepaea/Arianta* sp.

This deposit also produced a very small assemblage of vertebrate remains. The bone was rather battered in appearance; several fragments were burnt and all were less than 25 mm in maximum dimension. Only one (an amphibian vertebra) of the 21 fragments could be identified.

**Context 1039** [fill of curvi-linear ditch]

Sample 4/BS (25 litres processed to 1 mm with 300 micron washover; approximately 5 litres of unprocessed sediment remain)

Moist, mid grey-brown, stiff (working plastic), clay with fragments of chalk (2 to 60 mm) and snails present.

The washover was of a small land snail assemblage dominated by *Discus rotundatus* (at least 44 individuals). There were also indicators of dry exposed places (e.g. *Vallonia* spp. and *Pupilla muscorum*) but the predominance of *D. rotundatus*, together with some other taxa preferring damper/more shaded habitats (*Clausilia bidentata*), suggests at least some denser cover or ground litter—perhaps from vegetation growing within the ditch, or from an adjacent hedge.

A very fragmented and rather poorly preserved assemblage of bone was recovered from this deposit. In many cases, the surface of the bone had completely eroded away or showed a very battered appearance. Many fragments were less than 25 mm in maximum dimension and extensive damage from fresh breakage was noted. The bulk of the identified remains were of dog, all representing the same individual. Fragments representing the head (mandibles and maxilla), limbs (scapula, tibia, metapodials, calcaneum, carpals/tarsals and phalanges) and body (vertebrae and ribs) were recorded. No knife or chop marks were observed. A number of caprovid fragments were also noted. These were mainly cranium fragments, several extremely eroded shaft and phalanx fragments and a scapula. None of the fragments recovered from this deposit were measurable.

**Context 1048** [fill of corn drier]

Sample 17/BS (15 litres processed to 1 mm with 300 micron washover; approximately 5 litres of unprocessed sediment remain)

Moist, light to mid yellow-brown, crumbly to unconsolidated (working soft and somewhat plastic) silty clay with abundant chalk fragments (2 to 60+ mm).

There was a small washover of about 20 cm<sup>3</sup> of charred cereal grain and snails, the latter mainly *Cecilioides acicula* (probably intrusive) with small numbers of a few other taxa (including *Vallonia* ?*excentrica*, *Cochlicopa* ?*lubrica*, and *Trichia* ?*hispidia*).

The grains appeared to consist mainly of hexaploid wheat with a little ?spelt (*Triticum* cf. *spelta* L.) chaff and two specimens where pairs of ?spelt grain were still associated in their compound spikelet. There were also a few grains of oats (*Avena*) and barley (*Hordeum*). Many grains were present as fragments and most of the charred material bore some mineral sediment on its outer surfaces. Some of the ?spelt grains gave evidence for germination, with coleoptiles emerging. There were a few uncharred weed seeds which seem likely to be of recent origin.

**Context 1060** [basal fill of pit]

Sample 8/BS (15 litres processed to 1 mm with 300 micron washover; approximately 5 litres of unprocessed sediment remain)

Moist, light to mid grey-brown, crumbly to unconsolidated (working soft and somewhat plastic) silty clay with abundant chalk fragments (2 to 60+ mm).

No washover was obtained from this sample.

**Context 1119** [primary fill of corn drier]

Sample 15/BS (40 litres processed to 1 mm with 300 micron washover; approximately 10 litres of unprocessed sediment remain)

Almost dry, mid to dark grey-brown, crumbly to unconsolidated, silty clay with some lumps of indurated light brown clay (to 30 mm). Chalk fragments (2 to 60+ mm) were abundant, and charcoal and charred grain were present, in the sample.

The washover consisted of about 275 cm<sup>3</sup> of charcoal (to 30 mm in maximum dimension) and charred grains, with abundant *Cecilioides acicula* and some other snails (including *Trichia ?hispidula*, *Aegopinella ?nitidula* and *Pupilla muscorum*). As in the sample from Context 1048, there were some spelt spikelets with both grains still associated, together with quantities of spelt glumes and spikelet forks – the material clearly represents partly-threshed grain (unless all of the glume-less grains had fallen from their hulls during processing). Again, most of the material was rather ‘silted’ and many of the grains were slightly damaged, though on the whole preservation was rather good. Amongst the abundant wheat grains were a few hulled grains of barley and both wheat and barley often gave evidence of germination with coleoptiles running to about one-third or one-half the length of the caryopsis (and some grains were shrivelled as might be expected where germination had begun prior to charring). The few charred weed seeds were all from the larger-seeded cornfield types, and there were again a few uncharred seeds which were probably modern.

**Context 1125** [grave fill containing skeleton 1126]

Sample 21/P (microfossil ‘squash’ only; approximately 10 litres of unprocessed sediment remain)

Dry, light to mid grey-brown, crumbly to unconsolidated, slightly silty clay with abundant chalk fragments (2 to 60 mm).

The microfossil ‘squash’ was wholly inorganic; in particular, no eggs of intestinal parasitic nematodes were seen.

## Discussion and statement of potential

The two samples yielding plant remains gave evidence consistent with the archaeological interpretation of the contexts as being fills of a corn drier. The presence of spelt wheat at this period is not surprising, though the possibility that another kind of hulled wheat (emmer, *T. dicoccon* Schrank) was present should not be discounted without undertaking some measurement of the chaff (the material from Context 1119 is eminently suitable for this).

Overall, the snail assemblages were typical of an area of short-turfed, calcareous grassland, with variations in the level of cover—from generally very exposed through to moderately well-shaded and damp in, and/or near to, the ditches—and very similar to those recorded from other nearby sites (e.g. Melton, Carrott *et al.* 1999; Carrott 2002). The assemblage from Context 1002 (Sample 1) reflected these conditions but also indicated an area with, at least temporary, standing water within the ditch.

The remains of the burrowing snail *Cecilioides acicula* were almost certainly intrusive to the deposits and of no interpretative value.

No eggs of intestinal parasitic nematodes (or other microfossils) were seen in the ‘squash’ subsample from the abdominal area of skeleton 1126.

The vertebrate remains were too few and too poorly preserved to be of interpretative value.

## Recommendations

If the dating of the feature can be made more precise (and AMS dating of some of the grain would no doubt assist here), there is a good case to be made for a more detailed analysis of the charred plant material from Context 1119 to establish more precisely which cereals are

present and to consider further the question of the significance of the sprouting grain (which might simply represent grain sprouting 'on the ear' rather than grain being sprouted for the purposes of malting. Any similar primary deposits not so far examined bioarchaeologically should certainly be investigated, as should any other similar deposits which may come to light as a result of further excavation at this site. The data will provide useful comparanda for the material from a 2<sup>nd</sup> century AD T-shaped corn drier from Welton Wold near Brough, where the abundant spelt (and some spelt/emmer) remains were accompanied by large quantities of cereal chaff reduced to silica (Robinson and Straker 1991), as well as the modest numbers of assemblages of this type known nationally.

Further study and quantitative recording of the snail assemblages would be of some academic value, but is unlikely to add significantly to the interpretative information for the site given in this report. Detailed recording of these snail assemblages would be of value in adding data to a synthetic study of the late Iron Age/Romano-British landscape of the Yorkshire Wolds, if the dating of the deposits could be refined.

No further investigation for the eggs of intestinal parasitic nematodes is warranted.

No further study of the recovered vertebrate remains is recommended.

## 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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Table 1. Land snails recovered from sediment samples from Elloughton, East Riding of Yorkshire. Key: f – few (1-3); s – some (4-15); m – many (>15).

Context	1002	1011	1039	1048	1119
Sample number	1	2	4	17	15
Context type	Ditch fill	Post hole fill	Ditch fill	Corn drier fill	Primary corn drier fill
litres of sediment processed	8	8	25	15	40
Litres of sediment remaining	8	8	5	5	10
<b>Snail taxa</b>					
<i>Lymnaea truncatula</i> (Müller)	8	-	-	-	-
<i>Carychium minimum</i> Müller	f	-	-	-	-
<i>Carychium tridentatum</i> (Risso)	f	-	-	-	-
?Succineidae sp. indet.	-	-	1	-	-
<i>Cochlicopa ?lubrica</i> (Müller)	s	-	5	f	-
<i>Vertigo ?pygmaea</i> (Draparnaud)	2	-	-	-	-
<i>Pupilla muscorum</i> (L.)	10	-	3	?1	f
<i>Vallonia ?costata</i> (Müller)	7	-	6	-	-
<i>Vallonia ?excentrica</i> Sterki	10	3	7	s	-
? <i>Ena obscura</i> (Müller)	1	-	-	-	-
<i>Discus rotundatus</i> (Müller)	-	-	50+	-	-
<i>Aegopinella nitidula</i> (Draparnaud)	s	-	s	-	f
<i>Oxychilus ?cellarius</i> (Müller)	1	-	-	-	-
<i>Ceciloides acicula</i> (Müller)	s	s	-	m	m
<i>Clausilia ?bidentata</i> (Ström)	f	-	5	-	-
<i>Trichia ?hispida</i> (L.)	m	s	m	f	f
<i>Cepaea/Arianta</i> sp.	5	1	s	-	-
Unidentified snail fragments	m	m	m	m	m