

Reports from the Environmental Archaeology Unit, York 2000/23, 10 pp.

Evaluation of biological remains from an excavation at The Ryedale Building, 58-60 Piccadilly, York (site code: YORYM2000.252)

by

John Carrott, Allan Hall, Deborah Jaques, Harry Kenward and Stephen Rowland

Summary

An archaeological excavation was carried out at Ryedale Buildings, 58-60 Piccadilly, York. Two trenches were excavated, revealing levelling deposits and dumps of post-medieval and modern date associated with land reclamation. Three sediment samples and two boxes of hand-collected bone, recovered from these deposits, were submitted to the EAU for evaluation of their bioarchaeological potential.

The sediment samples from Context 1011 produced small quantities of plant macrofossils, mostly suggesting aquatic deposition, whilst the invertebrate fragments showed little potential for elucidating depositional conditions. However, it seems likely that, in view of the location of the deposit close to the River Foss and the nature of the bulk of the matrix, this deposit formed by dumping of refuse such as hearth rakeout and building debris into the water.

The bone assemblage included a discrete dump of what may have been tanner's waste, a few dog bones, with traces of skinning marks, may also derive from the processing of animal skins. Small amounts of kitchen/domestic refuse and primary butchery waste were also present. It is clear that waste from a range of craft and domestic activities was being brought to the site.

KEYWORDS: RYEDALE BUILDING; 58-60 PICCADILLY; YORK; PLANT REMAINS; INSECT REMAINS; ANIMAL BONE; FOOD WASTE; TANNERS WASTE

Authors' address:

Palaeoecology Research Services
Environmental Archaeology Unit
Department of Biology
University of York
P. O. Box 373
York YO10 5YW

Prepared for:

York Archaeological Trust
Cromwell House
11-13 Ogleforth
York YO1 7FG

Telephone: (01904) 433846/434475/434487
Fax: (01904) 433850

5 April 2000

Evaluation of biological remains from an excavation at The Ryedale Building, 58-60 Piccadilly, York (site code: YORYM2000.252)

Introduction

An archaeological excavation was carried out by York Archaeological Trust at Ryedale Buildings, 58-60 Piccadilly, York in early 2000. Two trenches were excavated revealing levelling deposits and dumps believed to be associated with reclaiming land from the River Foss.

Three sediment samples ('GBA' and 'BS' *sensu* Dobney *et al.* 1992), representing two contexts, and two boxes (each box approximately 20 litres) of hand-collected bone, recovered from deposits of post-medieval and modern date, were submitted to the EAU for evaluation of their bioarchaeological potential.

Methods

The sediment samples were inspected in the laboratory and descriptions of their lithologies were recorded using a standard *pro forma*. All the samples were processed following the procedures of Kenward *et al.* (1980; 1986). Table 1 shows a list of the submitted samples and notes on their treatment.

The flot and residues resulting from processing were examined for plant and invertebrate macrofossils. The residues were also examined for other biological and artefactual remains.

All of the bone, with the exception of the modern material from Context 1004, was recorded in detail. Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, semi-quantitative information was recorded concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

Where possible, fragments were identified to species or species group, using the reference collection at the EAU. Fragments not identifiable to species were, for the purposes of this evaluation, grouped into one general unidentifiable category. Total numbers of fragments by species were recorded, together with the numbers of 'A' bones, i.e. mandibular teeth and mandibles (for age at death analysis), and the number of unfused and juvenile fragments (Dobney *et al.* 1999). In addition to counts of fragments, total weights were recorded for all identified and unidentified categories.

Measurements were taken, where appropriate, in accordance with those detailed by von den Driesch (1976), with additional measurements following those outlined by Dobney *et al.* (1999).

Results

Sediment samples

Context information provided by the excavator is in square brackets.

Context 1011 [levelling deposit]

Sample 4 (2 kg subsample processed by paraffin flotation)

Just moist, dark grey to dark brown, firm to crumbly (working plastic), slightly humic (locally much more humic, perhaps with lumps of peat), slightly sandy, clay silt. Marine molluscs and flecks of mortar/plaster, brick/tile and traces of charcoal were present.

During examination in the laboratory this deposit appeared to contain lumps of peat-like material which on closer examination seemed to be dense ashy detritus.

There was a small flot containing a little poorly preserved plant and insect material. From this, and from the washover of a few cm³, and from the small residue of about 300 cm³ some identifiable plant remains were recovered, mostly suggesting aquatic deposition: seeds of water-plantain (*Alisma*) and duckweed (*Lemna*) and stonewort (Characeae) oogonia. There were also with traces of terrestrial taxa: elder (*Sambucus nigra* L.), stinging nettle (*Urtica dioica* L.). The bulk of the residue was sand and grit with brick/tile, coal, cinder and clinker/slag, with some bone.

Only small quantities of invertebrate remains were present, and those mainly poorly preserved. There was little potential for elucidating depositional conditions.

Sample 5 (9.95 kg sieved to 300 µm and washover to 300 µm)

The small residue of about 1600 cm³ consisted mainly of sand, grit, cinders and brick/tile with some charcoal; most of the uncharred plant remains were in the small washover from the <1 mm fraction, together with some very rotted insect (beetles, fly puparia). The plant taxa recovered were essentially the same as for the test subsample (Sample 4). Several freshwater planorbid snail shell fragments (probably representing a single individual) and a single mussel (*Mytilus edulis* L.) valve were also noted.

Charred remains other than charcoal in the present samples were restricted to a single bread/club wheat (*Triticum*) grain (from Sample 4).

The small collection of vertebrate remains were mainly unidentified, but did include a large gadid (probably cod) vertebra and a duck (*Anas* sp.) tibiotarsus fragment. As with the hand-collected material, preservation of the remains was rather variable.

Context 2008 [levelling deposit, comprising a mixture of dumps]

Sample 3 (23.45kg sieved to 1 mm)

Moist, vari-coloured (from dark grey through dark grey-brown to mid brown), soft (working plastic and sticky, and rubs black), silty clay sand (locally more clay and more sand). Large (>60mm) stones were common; fragments of ?mortar (20-60mm) were present.

The large residue mostly consisted of stones (to 150 mm) and gravel, with small lumps of a white mortar like substance. Fragments of brick/tile were fairly numerous, whilst pieces of slag and coal, clay pipe stem fragments, glass and a metal artefact were also noted. Mammal bones and shellfish were scarce.

Hand-collected vertebrate remains

Eight deposits, dated to the post-medieval period, produced a small assemblage of vertebrate remains, amounting to 103 identifiable and 153 unidentifiable fragments (Table 2). Most of the material was recovered from a series of levelling deposits (Contexts 1010 and 1011 in particular) revealed in Trench 1 (Tables 3 and 4).

Overall, the bones were reasonably well-preserved, but although most fragments were recorded as having 'sharp' edges, several contexts contained a small component of bones, which had a rather battered appearance or had rounded edges. The colour of the bones showed a marked variation within contexts, ranging from dark brown to fawn. The assemblage was not particularly fragmented, most fragments being between 5 and 20 cm in size. Dog-gnawed bone was noted throughout the assemblage, although few bones in total were affected. Evidence of butchery was mainly noted on bones from Contexts 1010 and 1011. This included cattle metapodials, which had been chopped transversely, mostly removing the proximal articulations. The cattle and goat horncores (from Contexts 1010 and 1011) showed evidence of removal from the skull, most having been chopped at the base of the core. Evidence of skinning was noted on five of the six dog bones from Context 1011. These fragments appeared to represent at least four individuals.

The remains of caprovids and cattle were the most numerous, whilst small numbers of horse, pig, dog and chicken bones were also present.

A preliminary examination of body part representation showed that for cattle, metapodials were the most frequently encountered elements. Caprovid remains, on the other hand, were well represented by major meat-bearing bones, particularly those representing shoulder joints. Most of the cattle remains may indicate the presence of tanning or primary butchery waste, whilst it seems more likely that the caprovid bones are domestic or kitchen refuse.

This assemblage produced 53 measurable bones, an archive of which can be found in Table 5. Only ten mandibles with teeth *in situ* and 5 isolated teeth of use for providing age-at-death data were recovered.

Discussion and statement of potential

The remains recovered from Samples 4 and 5 (Context 1011) seem to have arrived through aquatic deposition. In view of the location of the deposit close to the River Foss and the nature of the bulk of the matrix (coal, cinders, brick/tile) it is suggested that it formed by dumping of refuse such as hearth rakeout and building debris into the water.

Most of the small assemblage of vertebrate material recovered from this site was reasonably well-preserved, but the slightly battered appearance of some of the fragments and the inclusion of a small number with very rounded edges suggests the presence of material from a number of different sources and activities.

The accumulation of cattle metapodials (recovered mainly from Context 1011) almost certainly represents waste associated with the tanning of hides, as skins were often delivered to the tanner with the lower limbs still attached. Small numbers of dog bones, with traces of skinning marks, may also derive from the processing of their skins. Additionally, the few horncores recovered may represent the activities of hornworkers or butchers in the area.

Caprovid remains, however, appear to be mainly domestic/kitchen refuse representing the remains of prime joints of meat, although a small component of butchery waste was identified.

Altogether, the assemblage suggests that waste from a range of craft and domestic activities was being brought to the site. Whether the refuse was specifically intended as hardcore, or the area at the edge of the river was a convenient dumping ground for rubbish, is difficult to tell.

Recommendations

No further analysis of the samples submitted to the EAU is warranted but an attempt should be made to sample and investigate bioarchaeologically any deposits encountered during excavation in this area in pursuit of well-dated evidence for human activity since the prospects for preservation by waterlogging (at least in deeper-lying deposits) is good.

It is clear that the excavations at 58-60 Piccadilly produced a small, but interesting and well-preserved, post-medieval bone assemblage. Funding should be found to produce an archive of the vertebrate remains from all well-dated deposits.

At the time of writing no pottery spot dates were available. Assuming dumps can be dated reasonably closely, further excavations undertaken in this area would probably recover a moderately large and useful assemblage of bone, representing an often neglected period in the archaeology of the city of York.

Retention and disposal

The material from the evaluation excavation should be retained for the present.

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.

Acknowledgements

The authors are grateful to Kurt Hunter-Mann of York Archaeological Trust for providing the material and the archaeological information, and to English Heritage for allowing AH and HK to contribute to this report.

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.

Dobney, K., Jaques, D. and Johnstone, C. (1999). [Protocol for recording vertebrate remains from archaeological sites]. *Reports from the Environmental Archaeology Unit, York* **99/15**.

Kenward, H. K., Engleman, C., Robertson, A. and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* **3**, 163–172.

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.

von den Driesch, A. (1976). A guide to the measurement of animal bones from archaeological sites. *Peabody Museum Bulletin* 1. Cambridge Mass.: Harvard University.

Table 1. List of sediment samples evaluated from an excavation at The Ryedale Building, 58-60 Piccadilly, York, with notes on their treatment.

Context	Sample	Notes
1011	4	2 kg subsample processed by paraffin flotation (sieved to 300µm)
1011	5	9.95 kg sieved to 300 µm and washover to 300 µm
2008	3	23.45 kg sieved to 1 mm

Table 2. Hand-collected vertebrate remains from post-medieval deposits at The Ryedale Building, 58-60 Piccadilly, York. Key: Unfused – number of fragments with epiphyses unfused; Juv = number of bones representing juvenile individuals; Neo = number of bones representing neonatal individuals; Mands = number of mandibles with teeth in situ; Teeth; number of isolated teeth of use for providing age-at-death or sex determination information.

Species		Unfused	Juv	Neo	Mands	Teeth	Total
<i>Canis</i> f. domestic	dog	1	-	-	-	-	6
<i>Equus</i> f. domestic	horse	-	-	-	-	-	3
<i>Sus</i> f. domestic	pig	1	-	1	-	-	5
<i>Bos</i> f. domestic	cattle	2	3	-	1	3	42
Caprovid	sheep/goat	3	-	-	9	2	44
<i>Gallus</i> f. domestic	chicken	1	-	-	-	-	3
<i>Sub-total</i>		8	3	1	10	5	103
Unidentified		-	-	-	-	-	153
Total		8	3	1	10	5	256

Table 3. Hand-collected vertebrate remains from Trench 1, at The Ryedale Building, 58-60 Piccadilly, York.

Species		Total
<i>Canis</i> f. domestic	dog	6
<i>Equus</i> f. domestic	horse	3
<i>Sus</i> f. domestic	pig	3
<i>Bos</i> f. domestic	cattle	41
Caprovid	sheep/goat	42
<i>Gallus</i> f. domestic	chicken	1
<i>Sub-total</i>		96
Unidentified		125
Total		221

Table 4. Hand-collected vertebrate remains from Trench 2, at The Ryedale Building, 58-60 Piccadilly, York.

Species		Total
<i>Sus</i> f. domestic	pig	2
<i>Bos</i> f. domestic	cattle	1
Caprovid	sheep/goat	2
<i>Gallus</i> f. domestic	chicken	2
<i>Sub-total</i>		7
Unidentified		28
Total		35

Table 5. Measurement archive for vertebrate remains from an excavation at The Ryedale Building, 58-60 Piccadilly, York. Measurements follow those detailed by von den Driesch (1976), with additional measurements outlined by Dobney et al. (1999).

Context	Species	Element	GL	SD	Bp	Dp	Bd	Dd	Dem	Dvm	Dim
1004	sheep	metacarpal	116.2	12.37	21.31	16.01	23.83	15.26	9.76	15.28	13.13
1011	cow	metacarpal	176.42	29.75	49.39	28.58	51.89	26.78	20.5	-	23.49
1011	cow	metacarpal	-	25.44	-	-	51.41	28.18	21.83	28.32	21.6
1011	cow	metacarpal	-	26.05	-	-	50.87	27.42	21.86	27.97	25.55
1011	cow	metacarpal	-	30.13	-	-	55.53	-	22.76	-	27.35
1011	cow	metacarpal	-	29.81	-	-	54.13	31.38	22.79	31.36	28.3
1011	cow	metacarpal	-	27.65	-	-	54.62	28.85	20.48	28.27	25.44
1011	cow	metacarpal	-	-	-	-	59.12	30.87	22.65	29.9	27.94
1011	cow	metacarpal	-	-	63.19	-	-	-	-	-	-
Context	Species	Element	GL	SD	Bp	Dp	Bd	Dd	Dem	Dvm	Dim
1010	sheep	metatarsal	-	-	-	-	24.14	15.13	8.82	13.96	12.46
1010	sheep	metatarsal	-	-	-	-	21.98	-	-	-	-
1011	sheep	metatarsal	130.53	10.48	18.74	20.13	23.16	15.45	9.72	15.28	12.74
1011	sheep	metatarsal	-	--	19.39	18.85	-	-	-	-	-
1011	sheep	metatarsal	-	9.96	18.19	19.19	-	-	-	-	-
1011	cow	metatarsal	-	26.29	-	-	52.54	30.04	22.48	29.75	26.76
1011	cow	metatarsal	-	25.01	-	-	51.23	31.84	23.6	31.9	28.3
1011	cow	metatarsal	-	27.75	-	-	55.35	31.8	24.57	32.04	28.33
1011	cow	metatarsal	-	21.13	-	-	49.02	28.18	22.16	-	25.96
1011	cow	metatarsal	-	24.07	-	-	49.82	28.56	20.69	28.56	24.64
1011	cow	metatarsal	-	23.33	-	-	52.17	28.66	21.34	28.74	25.27
1011	cow	metatarsal	-	24.78	-	-	50.31	28.16	20.89	28	24.77
1011	cow	metatarsal	-	29.72	-	-	57	31.13	22.57	-	27.32
1011	cow	metatarsal	-	-	-	-	52.77	30.28	21.69	30.35	27
1011	cow	metatarsal	-	-	-	-	53.89	31.06	22.5	31.44	27.02
2012	cow	metatarsal	-	-	-	-	53.03	30.68	22.45	30.87	27.17
Context	Species	Element	41	42	43	BC					
1010	goat	horncore	34.48	24.92	-	94					
1011	cow	horncore	68.67	57.33	332	201					
1011	cow	horncore	55.36	45.23	-	160					
Context	Species	Element	GLP	SLC							
1010	caprovid	scapula	35.79	20.95							
1011	caprovid	scapula	33.73	20.96							
1011	cow	scapula	59.97	44.07							
Context	Species	Element	BT	HT	HTC	SD	GLC				
1010	sheep	humerus	29.2	18.82	14.2	14.82	-				
1010	sheep	humerus	26.95	18.97	14.17	14.36	-				
1011	sheep	humerus	28.83	18.6	15.09	14.99	-				
1011	sheep	humerus	27.66	16.97	14.11	13.48	-				
1011	sheep	humerus	27.83	18.04	14.69	-	-				
1011	sheep	humerus	28.42	18.13	13.77	14.79	-				
1011	sheep	humerus	29.75	19.78	15.57	15.46	-				
1011	dog	humerus	26.55	-	-	10.13	126.53				

Context	Species	Element	Bp	BFp	GL	SD	Bd	BFd
1010	sheep	radius	33.57	31.03	148.6	16.56	27.59	-
1011	caprovid	radius	27.06	24.51	121.19	14.79	26.07	23.74
1011	caprovid	radius	30.37	28.03	-	17.54	-	-
2008	caprovid	radius	35.77	32.05	-	-	-	-
2008	caprovid	radius	31.43	30.04	-	-	-	-
2008	pig	radius	25.16	-	-	-	-	-

Context	Species	Element	SD	Bd	Dd
1004	sheep	tibia	11.99	28.13	-
1010	sheep	tibia	10.83	23.26	18.57
1011	sheep	tibia	12	26.69	20.26

Context	Species	Element	Bd	DI	GLI
1009	cow	astragalus	41.43	33.61	62.54

Context	Species	Element	C	C+D	DS	GL
1009	cow	calcaneum	21.39	40.97	31.56	115.01

Context	Species	Element	GL	SC	Bd	Dd	Bp	Dp	Lm
1011	chicken	femur	71.7	6.15	14.46	14.52	14.1	10.08	67.4

Context	Species	Element	Dip
2008	chicken	tibiotarsus	19.76