

AN
[93/2]

**Evaluation of biological remains from
excavations at St Andrewgate, York
(YAT/Yorkshire Museum sitecode 1993.16)**

by

John Carrott, Keith Dobney, Allan Hall, Brian Irving,
Deborah Jaques and Harry Kenward

Summary

Two samples of sediment and an assemblage of hand-collected bone from a series of test pits at St Andrewgate, York, have been examined. One of the sediment samples (from a C15/16th floor) was found to contain small numbers of rather poorly preserved remains and is thought worthy of detailed examination. The other sample was barren of plant and insect remains. It is recommended that further work is carried out as soon as possible on this and any other floor layers with 'waterlogged' preservation. The deposits should be preserved *in situ* or, if threatened, be fully excavated and sampled.

The animal bone assemblage was too small to offer much useful interpretative information, though the presence of sheep metapodials from one trench suggests that tanning was carried out in the vicinity and the bulk-sieved samples gave moderate numbers of fish bones. Further excavation of the deposits from this site accompanied by a programme of sieving would probably provide some useful material.

Authors' address:

Environmental Archaeology Unit
University of York
Heslington
York YO1 5DD

Prepared for:

York Archaeological Trust
Piccadilly House
55 Piccadilly
York YO1 1PL

Telephone: (0904) 433843-51
Fax: (0904) 433850

21 December 1993

**Evaluation of biological remains from
excavations at St Andrewgate, York
(YAT/Yorkshire Museum sitecode: 1993.16)**

This report deals with analyses of two samples of raw sediment and an assemblage of hand-collected bone.

The samples were from trial pits 4 and 7, and represented contexts 4013 (sample 7) and 7019 (sample 5), respectively. Context 4103 was described as a 'clayey silt ?build-up' of C16/17-18th date, whilst context 7019 was a C15/16th probable floor deposit.

The lithology of both samples was described using a standard *pro forma* and 1 kg 'test' subsamples taken for analysis of insect and plant macrofossils. These subsamples were processed following methods described by Kenward *et al* (1980; 1986). Squashes for parasite eggs were also made. The remaining material from the samples was bulk-sieved to 1 mm after taking a 3 kg voucher.

The results were as follows (in context number order):

Context 4103, sample 7

Dark grey-brown, crumbly (working plastic), silty clay with traces of mortar/plaster, bird bone and land-snails (*Helix aspersa*). (This description was based on one tub of the three supplied; other tubs were found to contain traces of oyster shell, brick/tile, and large mammal bone and one contained a modern (live) earthworm and some ?modern roots.)

The residue consisted of moderate amounts of sand, brick/tile, and coal with a little mammal and bird bone, mortar/plaster and charcoal and iron-rich concretion (perhaps iron corrosion products). The only material in the tiny flot was coal and 'char' up to 8 mm in maximum dimension, some rootlets, and single modern specimens of stinging nettle (*Urtica dioica*) achene and a staphylinid beetle, *Gyrohypnus angustatus*, a species common in decaying matter. No worm eggs were recorded.

The bulk-sieved sample weighed 23 kg. The residue was rich in sand and gravel (including angular chalk and rounded sandstone to 40 mm) and coal, with moderate amounts of brick/tile, bone (see below) and traces of marine shellfish (including oyster, mussel and cockle) and a land-snail (*Helix aspersa*) shell.

Context 7019, sample 5

Dark grey-brown, brittle, layered (working crumbly), slightly humic, very slightly sandy silt with paler and darker layering, with traces of charcoal, mammal bone and marine mollusc. (This description was based on one of four tubs supplied; the other three variously gave more sandy material (perhaps rotted mortar) and brick/tile, traces of coal, and local concentrations of clay.)

The flot contained a small group of insects typical of urban occupation sites, including a human flea. Plant remains were rather sparse and not well preserved in the flot and residue, but a modest range of taxa was present, including hempseed (*Cannabis sativa*) and oats (*Avena*), with moderate numbers of *Sphagnum* (bog moss) leaves and a few scraps of holly (*Ilex aquifolium*) leaf epidermis. There was also some evidence for cornfield weeds which might have originated in straw or cereals. No worm eggs were recorded from the raw sediment and none was observed in a disaggregated fragment of calcareous concretion from the residue.

Although preservation was not very good, the deposit clearly has potential for interpretation of conditions within the structure and perhaps in determining its function. Floor deposits of this late date with preservation of insect remains are rare and it is important that the material is excavated and sampled if it is threatened by development.

A subsample of 37 kg was bulk-sieved. The residue was dominated by coal and sand/gravel (including angular limestone and rounded sandstone to 100 mm), with moderate amounts of brick/tile, iron-rich concretions, bone (see below), and traces of mortar, charcoal and shellfish (oyster and mussel).

Animal bone

The animal bones recovered from excavations at St Andrewgate represents a very small hand-collected assemblage from ten small trenches. The spot dating indicates a high proportion of relatively mixed and possibly re-deposited material incorporated into garden soils, dumps, or demolition deposits between 13th and 17th centuries. The bones themselves throw little light on the function of the structures, although the preponderance of sheep metapodials from Trench 6 (and to a lesser extent from Trench 9) suggests the possible presence of tanning activity somewhere in the vicinity. Pathological conditions noted on these bones fit well with similar material from medieval Tanner Row, York (O'Connor 1989) and tanning waste excavated more recently in Selby (Carrott *et al.* 1993).

Cervid remains, although few in number, were nonetheless present, as were rabbit and hare. Bird bones were present in small numbers and were mostly limited to goose and domestic chicken. However, a wider range of wild species was encountered from several contexts in Trench 4 (of post-medieval date).

Fish were present in very small numbers throughout the hand-collected assemblage. BS samples 5 from Trench 7 (occupation deposit 7019) and 7 from trench 4 (context 4013) produced a modest range of marine and freshwater fish remains, indicating their abundance in contexts where sieving was undertaken. The species present are ones typically common in medieval deposits from elsewhere in York. However, the two areas produced a strikingly different suite of species indicating some spatial variation, possibly associated with differential site usage or seasonality.

Details of the bone recorded are given in an appendix to this report.

Implications

Although surface deposits of late date are frequently encountered in urban excavations, preservation of the more delicate biological remains is, on the evidence available, rare. Thus the presence of poorly preserved but identifiable plant and insect remains in context 7019 is very significant. We have very little direct evidence for conditions within structures for the late- or post-medieval periods and the sixteenth century is a period when wider trading contacts may have led to the importation of alien plants and animals, on a scale larger than hitherto, and these should be sought in the archaeological record. Material of this date will also be important in providing comparanda and in developing a broad synthesis of the changing conditions within buildings and in towns in general.

It is recommended that, if dating can be confirmed and preferably tightened, 1 kg test subsamples from any other floor deposits from this site are examined and at least 3 kg subsamples (perhaps more) processed from any with preservation by 'waterlogging', including sample 5, context 7019. Material should be recorded as soon as possible after processing since fossils may degenerate in storage when they are already rather strongly decayed.

The broad dating of a number of contexts, the mixed nature of the assemblage, and the relatively low concentration of bone, limits the usefulness of the bone assemblage in terms of its zooarchaeological potential. The presence of possible tanning waste suggests an industrial activity on or around the site in later medieval times. In some areas, a relatively wide range of wild species may also suggest an area of high status.

Although more material could be systematically recovered, the secondary nature of most of the deposits renders the material of limited value. However any future excavations in the area of Trench 6 may further elucidate the presence of tanning and recover more caprovid metapodials with evidence of the enigmatic pathology previously mentioned. It would be extremely important to recover tightly-dated fish and bird assemblages (potentially present in Trenches 4 and 7), judging by the range of species present and the possible disparity between areas. Systematic sieving would be essential here.

Unless further material is recovered, and these recommendations addressed, the bone assemblage as it stands is of very low priority.

Archive

Residues and flots from test subsamples and all paper and electronic archives are currently stored at the Environmental Archaeology Unit, University of York; raw sediment, bulk-sieved residues and hand-collected bone are stored by York Archaeological Trust.

Retention/disposal

All material from these excavations should be retained for the present and selected material from the samples of raw sediment should be processed in the short term as the more delicate remains will decay in storage.

References

Carrott, J, Dobney, K., Hall, A., Jaques, D., Kenward, H., Large, F. and Milles, A. (1993). *An evaluation of biological remains from excavations on land to the rear of Gowthorpe, Finkle Street and Micklegate in Selby town centre (site code Selby 1993)*. Submitted to Malton Archaeological Projects, Archaeological Consultancy Ltd.

Kenward, H. K., Engleman, C., Robertson, A., and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* 3 (for 1985), 163-72.

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.

O'Connor, T. P. (1988). Bones from the General Accident site, Tanner Row. *The Archaeology of York* 15 (2), 61-136 + plates III-VII + Fiche 1. London: Council for British Archaeology.

Appendix: details of animal bone assemblage

Trench 1

Preservation - mostly fair

Colour - mostly brown

Angularity - mostly high

Cattle	37	Identifiable Weight	4206 g
Sheep/goat	52	Unidentifiable Weight	2453 g
Pig	14	Measurable	33
Horse	1	Mandibles with teeth	11
Bird	12	Isolated teeth	1
Cervid	1		
Rabbit	1		
Unidentifiable	152		

Notes: Butchery recorded throughout. Roe deer (*Dama dama*) distal tibia from context 1023. Bird all from domestic fowl and goose. Some bones from phase 1, 3 and 4 showing green copper staining. Two sheep horncores from phases 3 and 4 showing 'thumb-print' lesions

Trench 2

Preservation - fair

Colour - fawn

Angularity - high

Cattle	1	Identifiable weight	112 g
Sheep/goat	5	Unidentifiable weight	168 g
Pig	4	Measurable	2
Horse	1		
Bird	2		
Unidentifiable	35		

Notes: Context 2004 showed fresh breakage some dog gnawing. Context 2007 contained neonatal remains of pig metapodials, radius and phalanges.

Trench 3

Preservation - fair-poor (one context good)

Colour - fawn, brown and variable

Angularity - mostly battered (but bone from one context very angular and from another, rounded)

Cattle	19	Identifiable weight	1679 g
Sheep/goat	28	Unidentifiable weight	1825 g
Pig	12	Measurable	18
Bird	25	Mandibles with teeth	2
Fish	2	Isolated teeth	2
Unidentifiable	101		

Notes: All bird bones were domestic fowl and fish identifications include a single pollack (*Pollachius pollachius*) fragment (context 3012) and a cyprinid vertebra. Butchery was not especially prevalent but a single cow-sized shaft fragment showed evidence of working ('trimming') all around one end of the shaft. A few fragments showed evidence of bronze-staining.

Trench 4

Preservation - fair
 Colour - mostly variable
 Angularity - high

Cattle	27	Identifiable weight	1474 g
Sheep/goat	47	Unidentifiable weight	1798 g
Pig	5	Measurable	15
Dog	1	Mandibles with teeth	2
Cat	3	Isolated teeth	2
Rabbit	2		
Bird	21		
Fish	2		
Unidentifiable	107		

Notes: Although the majority of birds were goose and fowl, other species included woodcock (*Scolopax rusticola*), possible redshank (?*Tringa totanus*) and a swan (*Cygnus* sp.) proximal humerus (context 4015). Cat remains were recovered from contexts 4013 and 4015 (a mandible, radius and pelvis probably from the same individual). Fish fragments from context 4015 were identified as sea bream (*Pagellus* sp.).

BS sample 7 (context 4013) produced a range of fish remains, including salmon (*Salmo salar*), eel (*Anguilla anguilla*), herring (*Clupea harengus*), sprat (*Sprattus sprattus*), as well as some pleuronectids, cyprinids and gadiformes.

Trench 5

Notes: A total of only 10 fragments were recovered from this trench, the only item of interest being a possible goat distal femur fragment.

Trench 6

Preservation - fair or good

Colour - fawn and brown

Angularity - mostly high, but bone from one context battered and from another, rounded

Cattle	5	Identifiable weight	848 g
Sheep/goat	51	Unidentifiable weight	619 g
Pig	3	Measurable	35
Dog	1	Mandibles with teeth	1
Cervid	1		
Bird	1		
Unidentifiable	50		

Notes: Some fresh breakage and dog gnawing was noted from phase 6 contexts. Butchery was present on a number of sheep/goat fragments. Contexts 6014, 6016 and 6019 produced 14 sheep metacarpals and 19 sheep metatarsals. Two proximal metatarsals showed evidence of periosteal new bone formation at the proximal end, similar to that described from late medieval Selby material (Carrott *et al.* 1993). Two metacarpals and a single metatarsal showed possible evidence of similar pathology midshaft. These almost certainly represent re-deposited tanners' waste. In addition, a fallow deer distal metatarsal fragment was recovered from context 6013 which showed evidence of butchery.

Trench 7

Only 29 fragments were recovered from eight contexts, of which only seven were identifiable. Of note was a single large gadid vertebral fragment from context 7018.

BS sample 5 (context 7019) produced numerous additional fish remains including conger eel (*Conger conger*), thornback ray (*Raja clavata*) and numerous gadid fragments, probably whiting (*Merlangius merlangus*). All are marine and thus were imported from the coast. The preservation of material from the sample was very good and the species range typical for York. Evidence of filleting was also noted.

Trench 8

Preservation - good-fair

Colour - fawn-brown (several contexts however variable)

Angularity - mostly high (bone from one context rounded and from another, variable)

Cattle	16	Identifiable weight	1090 g
Sheep/goat	24	Unidentifiable weight	747 g
Pig	5	Measurable	10
Horse	1		

Hare	1
Rabbit	4
Human	1
Bird	3
Unidentifiable	112

Notes: Some fresh breakage and dog gnawing was noted with small amounts of butchery. Context 8002 contained bone fragments which appeared very white. Of note was a single fallow deer distal tibia fragment from context 8011, and some duck fragments (*Anas* sp.) from context 8002. A human tooth fragment was also recovered from context 8002.

Trench 9

Preservation - good-fair

Colour - fawn (some black staining)

Angularity - high (bone from one context rounded and from another, variable)

Cattle	10	Identifiable weight	968 g
Sheep/goat	10	Unidentifiable weight	3588 g
Pig	4	Measurable	8
Cervid	1	Mandibles with teeth	1
Unidentifiable	38		

Notes: Some burnt fragments were noted from this small assemblage, as were numerous long-bone fragments which had been split along their shafts. Six caprovid metapodials were noted from contexts 9011 and 9013 and, also from the latter context, a large goat horncore and a roe deer (*Capreolus capreolus*) proximal radius fragment were noted.

Trench 10

Notes: A very small assemblage of only 20 fragments was recovered. Of note is the single human phalanx from context 10000.