

Reports from the Environmental Archaeology Unit, York 94/41, 9pp.

**Assessment of biological remains from excavations
at RAF Catterick, North Yorkshire (sitecode: CAT94)**

by

John Carrott, Keith Dobney, Allan Hall, Michael Issitt, Harry Kenward and Frances Large

Summary

Thirty samples of sediment and five boxes of bones from Roman deposits from excavations at RAF Catterick, North Yorkshire, were submitted for an assessment of their bioarchaeological value.

Plant and invertebrate remains were very thinly distributed in the sampled deposits, material preserved by anoxic waterlogging usually being absent from the processed subsamples. A good proportion of the samples contained traces of charcoal, and a few gave very small numbers of charred cereal remains.

A small assemblage of poorly preserved and heavily fragmented animal bones was recovered; it is of little zooarchaeological significance.

Authors' address:

Environmental Archaeology Unit
University of York
Heslington
York YO1 5DD

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

Prepared for:

GeoQuest Associates
4 Mount Park Drive
Lanchester
County Durham
DH7 0PH

30th August 1994

Assessment of biological remains from excavations at RAF Catterick, North Yorkshire (sitecode: CAT94)

General introduction

During the period March 14th to May 25th 1994, excavations at RAF Catterick, North Yorkshire were carried out by GeoQuest Associates. Samples were taken to represent the deposits and there was a moderate quantity of hand-collected bone. In this report, the sediment samples are dealt with first, followed by analysis of the vertebrate remains.

Sediment samples

Introduction and methods

A series of thirty 'general biological analysis' samples (GBAs *sensu* Dobney *et al.* 1992) were selected by the excavator for assessment of their content of biological remains.

They were all described in the laboratory using a standard *pro forma* and prioritised on a scale of 1-3. The sixteen 1 kg 'test' samples selected (nine P2 and seven P1), were processed following methods outlined by Kenward *et al.* (1980; 1986). Since the organic content appeared to be generally very low, paraffin flotation was only undertaken on two samples. No material floated in either case. In the remaining samples, material of low density was isolated by means of a 'washover'. Residues were examined after drying. For some samples excess material was bulk-sieved by hand through a 1 mm sieve and oven-dried prior to examination. For each of two samples with a somewhat larger content of charred plant material than the rest, a further subsample of 3 kg was sieved to 500 µm to recover larger plant macrofossils

assemblages.

Analysis for eggs of parasitic nematodes was carried out using the 'squash' method of Dainton (1992). Other microfossils (e.g. phytoliths, diatoms, pollen and fungal spores) were also noted if present. Of the seven 'priority 1' samples, only one was thought worthy of examination and on the basis that the squash from this sample revealed nothing, examination of the remaining samples was deemed unnecessary.

A spot sample (28, context 169) was taken by the excavator for general identification purposes. It is described in the Appendix.

Results of analyses of sediment samples

The sediment descriptions and results of the analyses are given in a sample-by-sample account in the Appendix.

Bone

Introduction

A volume of animal bone equivalent to five boxes (44 cm x 25 cm x 17 cm) was recovered during excavation. Of a total of 48 contexts represented in this material, only 17 were recorded in detail (those containing >10 fragments being selected); the remainder were scanned. Provisional information from the excavator indicated that most of the material was of Roman date.

Discussion

Those contexts recorded in detail, (mostly from Open Area 2), produced over 2000 fragments (16.521 kg), of which only 290 (7.263 kg) could be identified to species (Table 1).

Preservation overall (including the scanned contexts) was extremely poor (i.e. the bones were friable and eroded), although the bones from four contexts (255, 258, 259, and 289) were recorded as 'fair'. Colour on the whole was variable, but most fragments were brown/fawn, with several contexts (289, 290) yielding dark brown specimens. Butchery was only noted in one instance, this low incidence probably being a result of the poor preservation of the bone rather than a real absence of butchery. Fresh breakage was extensive and was recorded at frequencies of >50% for a high proportion of the assemblage. Dog gnawing, although present, never reached frequencies of >10%, although again poor preservation may have masked its true frequency.

The bulk of the identifiable bones, not surprisingly, were from domestic mammals and included cattle (178 fragments), caprine (62 fragments), pig (12 fragments) and horse (33 fragments). Context 169 produced part of a horn core which was identified as goat, whilst contexts 258 and 269 produced four red deer antler fragments, one of which was a cast burr from a large individual. Several small dog fragments were also recovered.

From the identified fraction only 19 fragments were measurable, most being cattle and caprine. Only 12 mandibles with teeth *in situ* were recovered, although isolated teeth were relatively frequent (38 cattle and 23 caprine), a common phenomenon in poorly preserved bone

assemblages.

Discussion and statement of potential

The few, and generally poorly preserved, plant and invertebrate remains offer almost no potential for recovery of information about site activity and function.

The animal bone assemblage from the site is limited in its potential research value by its small size, poor preservation and extremely fragmentary nature. These factors, combined with the limited numbers of fragments providing biometrical and age at death data, render the assemblage of low zooarchaeological priority.

Recommendations

No further analysis of biological remains is recommended. On the basis of the present sample, further excavations would probably provide little useful additional material. However, should further excavation take place in the area, deposits with organic preservation in any deep features should be recorded and sampled if feasible, and a careful watch should be kept for such deposits during any development.

Retention and disposal

There is no justification on bioarchaeological grounds to retain the sediment samples or bone.

Archive

All extracted fossils from the test subsamples, and the residues and flots, are 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 Dr Mark Noel and Robin Taylor-Wilson of GeoQuest Associates for providing the samples and archaeological information.

References

Dainton, M. (1992). A quick, semi-quantitative method for recording nematode gut parasite eggs from archaeological deposits. *Circaea* **9**, 58-63.

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. 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.

Appendix

The results of the investigations of sediment samples are grouped by feature type and presented within each group in context number order, with information from the excavator concerning context types in square brackets. Descriptions of the BS residues only record material of 'environmental' significance.

Pits

Context 169 [secondary fill of pit 170]
Sample 18 (assigned priority 3)

Mid brown, stiff to brittle (working crumbly), just moist, sandy clay with stones present in the range 20-60 mm and a trace of well-rotted bone.

No further analysis undertaken.

Context 169 [fill of pit 170]
Sample 25 (assigned priority 2)

Mid brown, brittle, indurated, working crumbly (to plastic and sticky when wet), sandy clay with traces of stones 2-60 mm and of mortar/plaster and charcoal. The residue was of sand and gravel to 40 mm.

GBA (1 kg tested)
The flot contained about 2 cm³ of modern rootlets and 1-2 cm³ of charcoal to 15 mm; in addition there was a modern grass fruit and a fragment of bone to 5 mm.

BS (3.7 kg)
A few fragments of charcoal, some pieces of well-rotted mammal bone and three earthworm capsules of indeterminate age were the only biological finds in the residue.

Context 169 [fill of pit 170]
Sample 28 (assigned priority 3)

Clay lumps of three main colours: mid to dark grey, light orange/brown and mid red/brown, with a sandy clay matrix.

No further analysis undertaken.

Context 176 [fill of pit 175]
Sample 17 (assigned priority 2)

Dry, mid grey/brown, brittle (plastic and sticky when wet), unconsolidated sandy clay with stones present in the range 2-20 mm.

GBA (1 kg tested)
There was 1-2 cm³ of both modern rootlets and charcoal to 15 mm in the washover; also present

were ?modern earthworm egg capsules and several modern grass fruits. The residue was of sand and gravel to 35 mm with a ?iron object and a little ?burnt soil.

A few poorly preserved insect fragments, of no interpretative significance, were recovered. They included aquatic and terrestrial species all comparable with those found in natural deposits but also occasionally found in artificial habitats.

Context 183 [basal fill of pit 184]
Sample 20 (assigned priority 2)

Moist, mid grey/brown, brittle, working crumbly, slightly sandy clay with reddish and blackish 1 mm scale mottles. Stones of the size 6-60 mm were common and some ?burnt soil was present.

GBA (1 kg tested)

No flot was obtained from the test subsample. The residue was of sand and gravel to 35 mm with a little brick/tile or burnt daub to 25 mm.

BS (2.8 kg)

No remains or artefacts were recovered.

Context 189 [primary fill of pit 170]
Sample 22 (assigned priority 3)

Mid brown, brittle, and dry clay sand with abundant rounded and angular stones in the 2-60 mm range.

BS (5.5 kg)

One very small piece of charcoal and some well-rotted fragments of mammal bone were present in the residue.

Context 275 [fill of oval pit]
Sample 2 (assigned priority 1)

Moist, mid to dark grey/brown, plastic, sandy clay with very many mid brown to black 1 mm scale mottles. Charcoal common.

GBA (1 kg tested)

The washover from the test subsample consisted of about 20 cm³ of charcoal to 10 mm. It was not identified further. The residue was sand and gravel to 35 mm with a trace of bone to 15 mm.

BS (2.5 kg)

Four fragments of iron, two pieces of slag and a few tiny fragments of charcoal were present in the residue.

Ditches

Context 66 [fill of ditch]
Sample 3 (assigned priority 1)

Mid grey-brown, crumbly (an 'earthy' crumb structure) (working plastic), slightly sandy clay with stones 2-60 mm common.

GBA (1 kg tested with a further 3 kg sieved to 500 µm)

The washover from the 1 kg test subsample comprised about 2 cm³ of modern rootlets and less than 1 cm³ of charcoal to 15 mm. There were two or three charred hulled barley (*Hordeum vulgare*) grains and a wheat (*Triticum* sp.) glume base. Some very 'puffed' charred fragments, probably from cereals, were also present, together with a few charred ?rhizome fragments to 20 mm. A modern grass fruit was recorded. The residue consisted of a little sand with much gravel to 35 mm.

A further 3 kg subsample gave a few more charred cereals of the same kinds observed in the 1 kg test subsample. There were also a few ?modern weed seeds. Some of the barley grains showed evidence of germination.

BS (5.3 kg)

The residue contained only a few fragments of charcoal and unidentifiable mammal bone.

Context 84 [fill of ditch]
Sample 5 (assigned priority 1)

Mid brown, brittle (plastic when moist), sandy clay with traces of stones 2-60 mm and of charcoal.

GBA (1 kg tested)

The washover consisted of about 1 cm³ of charcoal to 15 mm, which may have included some non-wood charred plant debris, including a ?rhizome fragment to 10 mm; a modern grass caryopsis was also present. The residue consisted of sand and gravel to 50 mm.

BS (2.6 kg)

A few very small pieces of charcoal, well-rotted

mammal bone and a single fragment of ?amphibian bone were present.

Context 97 [fill of ditch]

Sample 6 (assigned priority 3)

Mid, slightly yellow brown, stiff to brittle (working crumbly, and sticky when wet), sandy clay with stones 6-20 mm common.

Context 111 [fill of ditch]

Sample 10 (assigned priority 3)

Mid brown, brittle (working crumbly), slightly sandy clay with stones 6-60 mm common.

No further analysis undertaken.

Context 120 [ditch fill]

Sample 11 (assigned priority 2)

Mid/dark grey-brown, brittle to plastic (sticky when wet, working crumbly), sandy clay with stones 2-20 mm common and traces of mortar/plaster.

GBA (1 kg tested, with a further 4.3 kg sieved to 500 µm)

With about 5 cm³ of modern rootlets, a few ?modern earthworm egg capsules, and a modern grass fruit, the washover also contained less than 1 cm³ of charcoal to 10 mm, a charred grass fruit, a fragment of charred oat (*Avena* sp.) caryopsis, at least two hulled barley grains and a few very puffed fragments probably also from cereals. There was, in addition, a fragment of bone to 15 mm. The residue consisted of a large amount of sand with a little gravel to 30 mm.

The further 3 kg subsample gave several hulled barley grains (some showing evidence of germination), some wheat glume bases and a few ?wheat grains. There was a charred wild radish (*Raphanus raphanistrum*) pod segment and single charred specimens of a dock/sorrel (*Rumex* sp.) fruit and a vetch (*Vicia* sp.) seed. In addition, there was a single charred specimen (maximum dimension 10 mm) which was identified by Mrs J. P. Huntley as a 'tuber' from an onion couch (*Arrhenatherum elatius* ssp. *bulbosum*), a form of false oat-grass, indicative merely of grassland.

BS (7.7 kg)

Three earthworm capsules and a few fragments of charcoal were the only biological finds present.

Context 125 [(ditch) fill of 126]

Sample 14 (assigned priority 2)

Mid brown, brittle (to plastic, sticky when wet, working crumbly), sandy clay, with traces of stones 6-20 mm).

GBA (1 kg tested)

Only 2 cm³ of modern rootlets and less than 1 cm³ charcoal to 5 mm were recovered in the washover from this subsample. The residue was of sand with a little gravel to 25 mm.

Context 128 [fill of ditch 129]

Sample 15 (assigned priority 1)

Mid/dark brown, brittle to slightly sticky (plastic when moistened), sandy clay with stones 20-60 mm common and stones 2-20 mm abundant.

GBA (1 kg tested)

The washover consisted of about 2 cm³ of modern rootlets and less than 1 cm³ of charcoal to 5 mm. A modern millipede fragment was recorded along with some ?arthropod cuticle and a fragment of a charred ?wheat/barley grain. The residue consisted of sand and abundant gravel to 40 mm.

BS (4.2 kg)

One tiny fragment of charcoal was present in the residue.

Context 259 [ditch fill]

Sample 30 (assigned priority 3)

Mid/dark grey-brown, brittle (working crumbly), slightly sandy clay with traces of stones 6-60 mm.

No further analysis undertaken.

Context 261 [fill of ditch]

Sample 1 (assigned priority 1)

Mid/dark grey-brown, crumbly (working plastic), sandy clay with stones 2-60 mm common and a trace of bone.

GBA (1 kg tested)

The washover consisted of less than 1 cm³ of charcoal to 10 mm, mostly <2 mm; there were a few modern rootlet fragments. The residue was of sand with abundant gravel to 50 mm.

Context 293 [fill of ditch]

Sample 7 (assigned priority 2)

Mid brown, crumbly to plastic (sticky when wet), sandy clay with stones 2-6 mm common and 6-20 mm abundant.

GBA (1 kg tested)

There was less than 1 cm³ of modern rootlets and less than 1 cm³ of charcoal to 10 mm in the washover, with only traces of insects and the underside of what was probably a modern specimen of *Amara* sp. The residue comprised sand with abundant gravel to 30 mm.

BS (3.65 kg)

Only two pieces of unidentifiable mammal bone were found in the residue.

Layers

Context 178 [layer]

Sample 19 (assigned priority 1)

Mid/dark grey-brown, brittle to plastic and sticky (when wet), working crumbly, sandy clay with traces of stones 2-20 mm and abundant stones 20-60 mm; a trace of charcoal also present.

GBA (1 kg tested)

The washover contained 1-2 cm³ of modern rootlets and 5 cm³ of charcoal to 10 mm; a modern grass fruit was also present. The residue was of sand with abundant gravel to 35 mm.

BS (3.9 kg)

A few pieces of charcoal were present in the residue.

Context 265 [layer]

Sample 29 (assigned priority 3)

Mid brown, brittle and indurated (to plastic and sticky when wet), working crumbly under pressure,

sandy clay with stones 2-60 mm common.

BS (5.6 kg)

The only biological remains in the residue were a few fragments of unidentifiable bone.

Context 289 [occupation layer?]

Sample 4 (assigned priority 1)

Mid/dark grey-brown, crumbly (working plastic), sandy clay with traces of stones 2-60 mm and unidentified white and yellow flecks.

GBA (1 kg tested)

There was less than 1 cm³ of charcoal to 5 mm in the washover, together with traces of invertebrate cuticle, fragments of a snail (probably the burrowing species *Cecilioides acicula*), some modern rootlets and modern grass fruits. A single charred henbane (*Hyoscyamus niger*) seed may have been ancient. The residue was of sand and gravel to 35 mm with a single sheep/goat upper right molar.

Cut and post features

Context 122 [fill of cut feature 123]

Sample 12 (assigned priority 2)

Mid brown, brittle (to plastic when moist), working crumbly, sandy clay with traces of stones 2-60 mm.

GBA (1 kg tested)

The washover consisted of approximately 5 cm³ of modern rootlets with about 1 cm³ of charcoal to 5 mm and at least one modern grass fruit. The residue was of sand and gravel to 40 mm.

BS (3.8 kg)

The residue contained only a few pieces of charcoal.

Context 191 [fill of post pipe 192]

Sample 21 (assigned priority 3)

Mid brown, crumbly (working slightly plastic when wet), sandy silt with stones 2-60 mm common and a trace of bone present.

No further analysis undertaken.

Context 194 [fill of post trench]

Sample 23 (assigned priority 3)

Mid grey-brown, unconsolidated silty sand with abundant stones 2-60 mm and a trace of bone.

No further analysis undertaken.

Context 197 [fill of post hole]
Sample 24 (assigned priority 3)

Mid grey-brown, crumbly (working plastic), very stony sandy clay silt with abundant stones 2-60 mm.

No further analysis undertaken.

Context 205 [fill of post trench]
Sample 26 (assigned priority 3)

Mid grey-brown, brittle (to plastic and sticky when wet), working crumbly, sandy clay with stones 2-60 mm common and charcoal present.

No further analysis undertaken.

Context 210 [fill of post hole]
Sample 27 (assigned priority 3)

Mid brown, plastic, sandy clay with traces of stones 2-20 mm and of charcoal.

BS (5.6 kg)
Several fragments of unidentifiable mammal bone were present in the residue.

Context 255 [fill of shallow cut]
Sample 31 (assigned priority 2)

Mid olive-brown, crumbly to stiff, slightly sandy clay with traces of stones 6-20 mm and of charcoal, and with 1 mm scale reddish, black and pale brown inclusions with the appearance of localised patches of burnt soil.

GBA (1 kg tested)
No material could be extracted by paraffin flotation. The residue was of sand with moderate amounts of gravel to 40 mm, with a little charcoal to 10 mm and of burnt daub/soil to 25 mm.

BS (1.8 kg)
A small piece of brick/tile and five pieces of charcoal were the only notable components of the

residue.

Context 305 [primary fill of post hole cut]
Sample 33 (assigned priority 3)

Mid brown sandy clay, with a distinct crumb structure and gritty texture, with abundant stones 2-6 mm and stones 6-60 mm common.

No further analysis undertaken.

Context 304 [upper fill of post hole 306]
Sample 34 (assigned priority 2)

Mid/dark grey-brown, crumbly to plastic and sticky (when wet), sandy clay with stones 2-60 mm present and traces of charcoal.

GBA (1 kg tested)
The large washover consisted of about 10 cm³ of charcoal to 25 mm, with a trace of modern rootlets, a modern fool's parsley (*Aethusa cynapium*) fruit and a few fragments of bone to 10 mm. There was a further trace of bone to 10 mm in the residue which consisted of sand and abundant gravel to 35 mm.

BS (3.6 kg)
The residue contained a small amount of charcoal and some small pieces of well-rotted mammal bone.

Table 1. Hand collected bone from recorded contexts.

Species	Total fragments	Total weight	Total measurable	Mandibles with teeth	Isolated teeth
Cattle	178		8	4	38
Caprine	62		8	4	23
Pig	12		1	3	-
Horse	33		2	1	-
Sub total	285	7623	19	12	61
Unidentified	1500+	9258	-	-	-
Total	1785+	16881	19	12	61