

*Reports from the Environmental Archaeology Unit, York 99/40, 10pp.*

**Evaluation of vertebrate remains from North Street, Scarborough, North  
Yorkshire (site code B2266)**

by

Cluny Johnstone and Deborah Jaques

**Summary**

*A small hand-collected vertebrate assemblage was presented for evaluation. A total of 220 fragments was recovered, of which 120 were identified to species. Cattle remains were most numerous, particularly in Context 203, which contained many horncore and associated cranial fragments, indicating the presence of specialised waste. It is suggested that they represent the waste material from an industrial process such as tanning or hornworking.*

**KEYWORDS:** NORTH STREET; SCARBOROUGH; NORTH YORKSHIRE; VERTEBRATE REMAINS; POST-MEDIEVAL; EVALUATION; INDUSTRIAL WASTE

Authors' address:

Palaeoecology Research Services  
Environmental Archaeology Unit  
Dept. of Biology  
University of York  
PO Box 373  
York YO10 5YW

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

Prepared for:

Gifford and Partners  
20 Nicholas Street  
Chester

CH1 2NX

14th September 1999

## Evaluation of vertebrate remains from North Street, Scarborough, North Yorkshire (site code B2266)

### Introduction

Excavations were carried out at North Street, Scarborough, during August 1999, by Gifford and Partners for Jones Lang LaSelle on behalf of Scottish Widows' Fund and Life Assurance Society. Vertebrate remains were recovered from twenty contexts, amounting to 2 boxes (each box approximately 16 litres). Most contexts were dated to the 18th and 19th centuries, with exceptions being Contexts 203 (17th century), 206 (?medieval) and 428 (17th century).

### Methods

Data for the 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 ten fragments, 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 for each context concerning fragment size, dog gnawing, burning, butchery and fresh breaks.

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), bird, fish, small mammal and totally unidentifiable. As well as counts of

fragments, total weights were recorded for all identifiable and unidentifiable categories.

Measurements for mammals were taken, (where appropriate) according to the system of von den Driesch (1976), with additional measurements following those outlined by Dobney *et al.* (forthcoming).

### Results

Overall, preservation of the vertebrate remains was variable. Most contexts contained a large proportion of fragments whose condition was recorded as 'fair', together with a few described as good and/or poor. Bones from Context 417 were rather poorly preserved and were also described as crumbly.

Angularity (appearance of broken surfaces) was also noted as variable, most contexts containing both spiky and battered fragments. A few rounded fragments were also recorded. The overall colour of the bones was very uniform and was described as fawn.

A moderate degree of fragmentation was noted, more than 50% of the fragments being 5-20 cm in dimension. Butchery marks were noted on 20-50% and fresh breakage on 10-20% of the fragments from the whole assemblage. Burning was present on under 10% of the fragments in one context (203) and a possibly scorched bone was noted from Context 302. Evidence of dog gnawing was absent from the material.

In total, 220 fragments (weighing 5327 g) were recovered, of which 120 (4267 g) were identified to species. Table 1 gives the numbers of mandibles and teeth, subadult bones, total numbers of fragments and weights, by species. Table 2 gives the numbers of fragments for each species by date. Cattle bones were the most frequent, followed by caprovid, with the remaining species mostly represented by single fragments. Other vertebrate species included cat, pig, caprovid, fallow deer (*Dama dama* L.), goose (*Anser* sp.) and cod (*Gadus morhua* L.).

Context 203 yielded the largest quantity of material (85 fragments), of which 70 bones were from cattle. These consisted mostly of horncore and cranial fragments. Measurements were taken from seven horncores (Table 2).

One of the cattle cranium fragments (Context 203) displayed a fracture of the frontal bone just below the base of the horncore. The bone showed evidence of healing, indicating that the injury occurred some considerable time prior to death. The fragment represented a young individual (sutures unfused), suggesting the injury may have been the result of a blow to the head or horn whilst the individual was actively growing.

In addition to the vertebrate remains Context 423 contained a fragment of bone comb; Context 401 (19th century) contained a piece of cork; a common periwinkle (*Littorina littorea* L.) shell was recovered from Context 408 and a burnt fragment of a crab (Crustacea: Brachyura) claw was noted in Context 418.

An archive of the vertebrate material is given in Tables 4 and 5.

## Discussion

The small assemblage of vertebrate remains from North Street, Scarborough was reasonably well preserved. The absence of dog gnawing suggests the material was incorporated into the deposits fairly rapidly. However, the presence of battered and rounded fragments indicates that there was some degree of reworking of the material at a later date. Quite a high proportion of the fragments showed evidence of butchery, in particular sawing marks. Sawing during butchery became more usual during the post-medieval period.

The presence of a number of horncores and associated cranial fragments in a single deposit (Context 203) suggests this may represent waste material from a specialised activity. Evidence from other sites (North Bridge, Doncaster (Carrott *et al.* 1997), St. Saviourgate, York (Carrott *et al.* 1998) and Walmgate, York (O'Connor 1984)), seems to suggest that certain craft/industrial processes producing noxious waste matter, such as tanning, hornworking and butchery, tended to be concentrated together in restricted areas. Therefore, it is not always straightforward to interpret assemblages of this type.

The heads and lower limbs of animals were often left attached to the hides taken for tanning, so that they became a waste product of this process. In addition, the horns were sometimes sold on to hornworkers. This may be the case at North Street, as there are very few associated lower limb bones present in the assemblage. This absence could, however, be the result of the bias towards larger bones that hand-collection generates.

The reasonable preservation suggests that if further excavation were to take place a

moderate-sized bone assemblage would be recovered. A larger assemblage would be of use in illuminating the activities being undertaken in this area of Scarborough in the post-medieval period, particularly in relation to industrial/craft processes.

## Retention and disposal

Vertebrate remains from this site should be retained, under suitable storage conditions, 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

We are grateful to Joanne Barnes of Gifford and Partners for supplying the material and archaeological information.

## References

Carrott, J., Dobney, K., Hall, A., Issitt, M., Jaques, D., Johnstone, C., Kenward, H., Large, F. and Skidmore, P. (1997). Technical Report: Environment, land use and activity at a medieval and post-medieval site at North Bridge, Doncaster, South Yorkshire. *Reports from the Environmental Archaeology Unit, York 97/16*, 64 pp. + 103 pp. appendix.

Carrott, J., Hall, A., Hughes, P., Jaques, D., Johnstone, C., Kenward, H. and Worthy, D. (1998). Assessment of biological remains from excavations at St Saviourgate, York (site code 1995.434). *Reports from the Environmental Archaeology Unit*,

*York 98/14*, 41 pp.

Dobney, K. M., Jaques, S. D. and Johnstone, C. J. (in preparation). [Protocol for recording vertebrate remains from archaeological sites].

O'Connor, T. P. (1984). Selected groups of bones from Skeldergate and Walmgate. *The Archaeology of York 15* (1), 1-60 + plates I-II. London: Council for British Archaeology.

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. The vertebrate remains from North Street, Scarborough, North Yorkshire. Key: No. unfused = number bones with unfused epiphyses; No. mandibles = number of mandibles with teeth yielding ageing or sexing information; No. teeth = number of isolated mandibular teeth yielding ageing or sexing information; Total no. frags = total number of fragments.

Species		No. unfused	No. juvenile	No. mandibles	No. teeth	Total no. frags	Weight (g)
<i>Felis f. domestic</i>	Cat	1	-	-	-	1	2.6
<i>Sus f. domestic</i>	Pig	1	-	-	-	2	48.3
<i>Dama dama</i> (L.)	Fallow deer	-	-	-	-	1	43.0
cf. <i>Dama dama</i> (L.)	?Fallow deer	-	-	-	-	1	50.5
<i>Bos f. domestic</i>	Cattle	1	2	-	5	99	3872.9
Caprovid	Sheep/goat	1	-	1	-	12	239.9
<i>Anser</i> sp.	Goose	-	-	-	-	1	3.3
<i>Gadus morhua</i> L.	Cod	-	-	-	-	2	5.3
Brachyura	Crab	-	-	-	-	1	1.6
<b>Subtotal</b>		<b>4</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>120</b>	<b>4267.4</b>
Bird		-	-	-	-	2	5.8
Medium-sized mammal		-	-	-	-	16	69.4
Large mammal		-	-	-	-	74	970.9
Unidentified		-	-	-	-	8	13.0
<b>Subtotal</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>1059.1</b>
<b>Total</b>		<b>4</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>220</b>	<b>5326.5</b>

Table 2. The vertebrate remains from North Street, Scarborough, North Yorkshire, by date.

Species		?medieval	17th C	18th C	19th C	19th/20th C	Total no. frags
<i>Felis f. domestic</i>	Cat	-	-	-	-	1	1
<i>Sus f. domestic</i>	Pig	-	-	2	-	-	2
<i>Dama dama</i> (L.)	Fallow deer	-	1	-	-	-	1
cf. <i>Dama dama</i> (L.)	?Fallow deer	-	1	-	-	-	1
<i>Bos f. domestic</i>	Cattle	-	75	17	7	-	99
Caprovid	Sheep/goat	-	1	6	2	3	12
<i>Anser</i> sp.	Goose	-	1	-	-	-	1
<i>Gadus morhua</i> L.	Cod	-	-	2	-	-	2
Brachyura	Crab	-	-	1	-	-	1
<b>Subtotal</b>		-	<b>79</b>	<b>28</b>	<b>9</b>	<b>4</b>	<b>120</b>
Bird		-	2	-	-	-	2
Medium-sized mammal		1	6	6	3	-	16
Large mammal		3	5	54	8	4	74
Unidentified		-	-	8	-	-	8
<b>Subtotal</b>		<b>4</b>	<b>13</b>	<b>68</b>	<b>11</b>	<b>4</b>	<b>100</b>
<b>Total</b>		<b>4</b>	<b>92</b>	<b>96</b>	<b>20</b>	<b>8</b>	<b>220</b>

Table 3. Measurements of bones from North Street, Scarborough, North Yorkshire.

Context	Species	Element	Side	Measurements
203	Fallow deer	Radius	R	GL=185.99 SD=19.98 BFd=27.44
203	?Fallow deer	Humerus	R	Dp=57.63
203	Goose	Carpometacarpus	L	GL=97.19 Bp=22.61 Did=12.37
203	Cattle	Horncore	L	45=55.24 46=42.05 47=>220 BC=158
203	Cattle	Horncore	L	45=64.73 46=50.22 47=>250 BC=191
203	Cattle	Horncore	L	45=54.6 46=44.33 BC=163
203	Cattle	Horncore	L	45=50.15 46=41.71 BC=152
203	Cattle	Horncore	R	46=50.30
203	Cattle	Horncore	R	45=78.57 46=70.14 BC=243
203	Cattle	Horncore	R	45=63.28 46=48.91 BC=185

Table 4. Archive of vertebrate remains from North Street, Scarborough, North Yorkshire. Key: Linkcode = unique record number which links records in different tables in the electronic database; No. measurable = number of measurable bones; No. unfused = number bones with unfused epiphyses; No. mandibles = number of mandibles with teeth yielding ageing or sexing information; No. teeth = number of isolated mandibular teeth yielding ageing or sexing information; Total no. frags = total number of fragments.

Linkcode	Context	Species	No. measurable	No. unfused	No. juvenile	No. mandibles	No. teeth	Total no. frags	Notes
9	401	Medium mammal	-	-	-	-	-	1	shaft
10	408	Large mammal	-	-	-	-	-	3	1 rib sawn, 2 shaft
11	408	Medium mammal	-	-	-	-	-	2	1 rib, 1 shaft
12	423	Large mammal	-	-	-	-	-	5	3 shaft, 1 cranium, 1 ?mandible
13	425	Cattle	-	-	-	-	-	1	incisor
14	425	Sheep/goat	-	1	-	-	-	2	
15	427	Cattle	-	-	-	-	-	2	ulna chopped
16	427	Large mammal	-	-	-	-	-	2	split vertebra and shaft
17	428	Cattle	-	-	-	-	-	2	
18	428	Large mammal	-	-	-	-	-	2	1 ?mandible, 1 ?shaft
19	429	Cattle	-	-	-	-	1	3	
20	430	Cattle	-	-	-	-	-	3	
21	417	Cod	-	-	-	-	-	1	large articular
22	417	Cattle	-	-	-	-	-	1	incisor
23	417	Large mammal	-	-	-	-	-	2	?pelvis
24	418	Cod	-	-	-	-	-	1	vertebra
25	418	Crab	-	-	-	-	-	1	burnt claw fragment
26	418	Large mammal	-	-	-	-	-	2	1 mandible, 1 shaft
28	416	Cattle	-	-	-	-	4	9	very large bones, radius/ulna has possible mortar concretions on it.
29	416	Sheep/goat	-	-	-	-	-	3	pelvis sawn

Linkcode	Context	Species	No. measurable	No. unfused	No. juvenile	No. mandibles	No. teeth	Total no. frags	Notes
30	416	Large mammal	-	-	-	-	-	20	1 rib (sawn), 1 pelvis, 1 maxilla, 17 shaft
31	420	Pig	-	1	-	-	-	2	very large
32	420	Sheep/goat	-	-	-	-	-	3	1 scapula chopped
33	420	Cattle	-	-	1	-	-	6	chopped calcaneum, very large. Juvenile tibia also chopped
34	420	Medium mammal	-	-	-	-	-	6	2 scapula (1 chopped), 3 rib (2 chopped), 1 ?mandible
35	420	Large mammal	-	-	-	-	-	22	1 mandible, 4 vertebrae (1 chopped, 1 sawn, 1 juvenile), 1 pelvis, 4 cranium, 5 shaft, 7 ribs (3 sawn)
36	420	Unidentifiable	-	-	-	-	-	8	
37	300	Cat	-	1	-	-	-	1	
39	301	Cattle	-	-	-	-	-	1	incisor
40	301	Large mammal	-	-	-	-	-	3	2 shaft, 1 mandible
41	302	Large mammal	-	-	-	-	-	1	cranium
42	305	Sheep/goat	-	-	-	1	-	3	scapula with knife marks on glenoid region and hook damage to blade, pelvis chopped
43	305	Large mammal	-	-	-	-	-	4	split vertebra, juvenile vertebra, shaft and cranium
44	307	Cattle	-	-	-	-	-	1	
45	309	Large mammal	-	-	-	-	-	2	1 large rib, 1 ?cranium
46	206	Large mammal	-	-	-	-	-	3	2 shaft, 1 ulna
47	206	Medium mammal	-	-	-	-	-	1	shaft
48	203	Fallow deer	1	-	-	-	-	1	
49	203	?Fallow deer	1	-	-	-	-	1	bone is incomplete and although it is the same size as reference specimen, the morphological characteristics look a bit like red deer.
50	203	Goose	1	-	-	-	-	1	large greylag size
51	203	Bird	-	-	-	-	-	2	shaft
52	203	Cattle	-	1	1	-	-	70	many small fragments of horncore and cranium but also larger bits

Linkcode	Context	Species	No. measurable	No. unfused	No. juvenile	No. mandibles	No. teeth	Total no. frags	Notes
53	203	Large mammal	-	-	-	-	-	3	2 scapula, one sawn into a square piece, 1 rib
54	203	Medium mammal	-	-	-	-	-	6	1 humerus, 1 femur, 3 shaft, 1 pelvis, 1 rib
55	203	Sheep/goat	-	-	-	-	-	1	horncore chopped off

Table 5. Archive of skeletal elements present for North Street, Scarborough, North Yorkshire. Key: Linkcode = unique record number which links records in different tables in the electronic database; HC=horncore; Cran=cranium; Max=maxilla; Mand=mandible; Teeth=isolated teeth; Scap=scapula; Hum=humerus; Rad=radius; M/C=metacarpal; Pel=pelvis; Tib=tibia; M/T=metatarsal; M/P=metapodial; Carp/Tars=carpals/tarsals; CMC=carpometacarpus.

Linkcode	Context	Species	HC	Cran	Max	Mand	Teeth	Scap	Hum	Rad	Ulna	M/C	Pel	Tib	Calc	M/T	M/P	Carp/Tars	CMC
13	425	Cattle	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
14	425	Sheep/goat	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
15	427	Cattle	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-
17	428	Cattle	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
19	429	Cattle	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-
20	430	Cattle	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
22	417	Cattle	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
28	416	Cattle	-	-	-	-	6	-	-	1	-	-	-	-	-	-	-	2	-
29	416	Sheep/goat	-	-	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-
31	420	Pig	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
32	420	Sheep/goat	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-
33	420	Cattle	-	-	-	-	4	-	-	-	-	-	-	1	1	-	-	-	-
37	300	Cat	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
39	301	Cattle	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
42	305	Sheep/goat	-	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-
44	307	Cattle	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

48	203	Fallow deer	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
49	203	?Fallow deer	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
50	203	Goose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
52	203	Cattle	32	36	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-
55	203	Sheep/goat	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-