AAK Rpt # 231

Fish remains from 6-8 Pavement, York

Andrew K. G. Jones

Environmental Archaeology Unit,

University of York

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A few large fish bones were recovered from Anglo-Scandinavian deposits at 6-8 Pavement during the course of the excavation. These were submitted to Mr A. C. Wheeler of the British Museum (Natural History) who identified the bones as cod, Gadus morhua L. In addition, almost 500 identifiable fish bones were collected from the dried residues of soil samples examined for plant and insect macrofossils in the Environmental Archaeology Unit, University of York. Many of the bones were collected from 1 kg samples sieved to 300 microns, while a small number of larger samples were sieved to 1 mm in 1981 in order to recover small bones, artefacts etc. The fish bones are considered as a single assemblage of bones from layers dated from the late 9th to 11th century A. D.

Fifteen kinds of fish have been recognized from the 492 identified bones. Most of the bones were from small animals (less than 40 cm total length) and demonstrate the diversity of small fish exploited by the Viking Age inhabitants of York. Many of the species would have been available in the rivers and marshes from the York region, although a number of marine fish were also brought into the town.

The species represented by the largest number of bones was the herring, Clupea harengus L. Nearly three-quarters of all the identified fish bones from the site, mainly vertebral centra, were from herring. This species formerly occurred in enormous shoals in the North Sea and was traditionally caught using drift nets. Very large numbers of herring were preserved by pickling in brine or by smoking and were transported great distances. Unfortunately, no direct evidence is present on the bones to indicate if herring arrived in York preserved or as fresh fish.

Nets were probably used to catch some of the other species of marine fish e.g. whiting, Merlangius merlangus (L.), horse mackerel, Trachurus trachurus (L.) and mackerel, Scomber scombrus L. Remains of these species were not abundant.

Large marine fish, cod and ling, Molva cf. molva (L.), were represented by 10 head bones and a single lower jaw bone respectively. The size of the bones suggests that adult animals in the region of 1 metre total length were present. It is rather unusual to recover only head bones; vertebral centra are usually the most common fish bones recovered by hand on British medieval urban excavations. However, it would be unwise to suggest that the distribution of skeletal elements is significant with an assemblage of only 11 bones. Large marine gadids were traditionally caught using baited hook and line, a technique which may have also been used to catch the flatfish.

Freshwater species were represented by scales of grayling, Thymallus thymallus (L.), and perch, Perca fluviatilis L., and bones of pike, Esox lucius L., and at least two species of the carp family (Cyprinidae). The record of grayling is particularly interesting as this fish does not occur the river Ouse near York today. It is characteristic of clear swift running water and can be caught in the river Derwent at

Stamford Bridge, 5 miles from central York. The grayling scale may have been deposited by a fish-eating bird rather than by people discarding food refuse. The cyprinid fish included at least two species, roach, Rutilus rutilus (L.), and probably tench, cf. Tinca tinca (L.); both are present in the Ouse and Foss today. It is impossible to be sure which methods might have been employed to catch these freshwater species. Nets and traps set in the river are perhaps the most likely, but no direct evidence for fishing techniques was recovered in the excavations.

A third group of fish includes those species which can live in salt, brackish and fresh water. Eel, Anguilla anguilla (L.), is the dominant member of this group, it is a species which undertakes seasonal migrations when it can be caught in large numbers. As numbers of identified bones, eel is second only to herring and must be considered as a important food fish. Smelt, Osmerus eperlanus (L.), is a typical estuarine species and its presence is consistent with tidal nature of the Ouse at York during the Viking Age. The salmon or trout bones, Salmo salar L. and S. trutta L., have not been identifed to species, although it is likely that at least the large vertebral centrum is from salmon. The flatfish vertebrae may be from flounder, Platichthys flesus (L.), a species which lives in marine, estuarine and freshwater environments or they may be from plaice, Pleuronectes platessa L., a marine flatfish.

While only a small number of fish bones were recovered from the excavations at 6-8 Pavement it is clear that a large number of different species were consumed. Other kinds may also have been eaten but have not been recovered from the deposits. To extrapolate directly from an assemblage of identified archaeological bones to an detailed list showing species in order of their importance is unjustifiable given the processes involved in the accumulation and the recovery of urban archaeological bone

groups. Nevertheless, it is possible to estimate which fish played the most important roles in diet. It appears that herring and eel were much more common that most of the other species. Large marine fish, although represented by a small number of bones, also seem to have made a substantial contribution as food fish. The other kinds of fish probably did little more than add occasional variety to people's diet. The large number of closely dated assemblages of fish bones from the excavations at 16-22 Coppergate (Jones, forthcoming) should add considerable detail to the rather general picture of fish consumption gleaned from the 6-8 Pavement material.

Acknowledgements

Mr A. C. Wheeler identified the cod bones in 1973. Allan Hall, Harry Kenward and Terry O'Connor read and made helpful comments on the text of this report.

Note

Nomenclature follows Wheeler (1969).

References

Jones, A. K. G. (forthcoming). Fish bones from excavations at 16-22 Coppergate, York. AY 15.

Wheeler, A. C. (1969). The fishes of the British Isles and north-west Europe. Macmillan: London.

Number of fish bones from all trenches in excavations at 6-8 Pavement, York

Version 3, 26/3/84

Taxon	Number of vertebral centra	Number of other remains	Total number of remains	%
Clupea harengus L. (herring)	333	25	358	74.0
Thymallus thymallus (L.) (grayling)	0	1	1	<1
Salmo sp?p. (salmon or trout)	2	0	2	<1
Osmerus eperlanus (L.) (smelt)	12	1	13	2.0
Esox lucius L. (pike)	9	1	10	2.0
Cyprinidae (carp family)	19	4 + scales	23	4.7
Anguilla anguilla (L.) (eel)	63	3	66	13.6
Merlangius merlangus (L.) (whiting)	1	0	1	<1
Gadus morhua L. (cod)*	0	10	10	2.0
Molva cf. molva (L.) (ling)	0	1	1	<1
Perca fluviatilis L. (perch)	0	3	3	<1
Trachurus trachurus (L.) (scad)	0	1	1	<1
Scomber scomber L. (mackerel)	1	0	1	<1
Pleuronectidae (flatfish)	2	0	2	<1
Totals	442	50	492	

* All cod bones collected by hand

Archive of fish identifications from excavations at 6-8 Pavement, York

Taxon	Context	Number and kind of bone
Clupea harengus L.	I 9	40 vc + 5 head bones
	F25	5 vc + 1 head bone
	28	11 vc
	29	46 vc + 1 head bone
	42	73 vc + 2 head bones
	II 8	26 vc + 1 head bone
	9	3 vc
	10	19 vc
	11	2 vc + 1 head bone
	12	6 vc
	13	10 vc + 1 head bone
	14	3 vc
	16	35 vc + 1 head bone
	17	10 vc + 2 head bones
	18	4 vc + 3 head bones
	21	3 vc + 1 head bone
	23	3 vc
	25	1 vc
	29	6 vc
	30	6 vc
	31	1 head bone
	33	1 vc + 2 head bones
	33A	2 vc
	III 7	2 head bones
	IV 4	6 vc
	7	12 vc + 1 head bone
Thymallus thymallus (L.)	II 21	1 scale
Salmo sp?p	I 28	1 vc (5.5)
	II 8	1 vc (9.0)
Osmerus eperlanus (L.)	II 8	4 vc
	10	1 vc
	11	1 vc
	12	1 dentary
	17	2 vc
	18	2 vc
	23	1 vc
	29	1 vc

Gadus morhua L. (identified by Mr A. C. Wheeler BM(NH) from bones collected by hand from the deposits)	I 9	2 dentaries + 2 frags ceratohyal
	12	1 cleithrum
	II 4	1 cleithrum
	10	1 operculum
	14	1 dentary
	III 7	1 ceratohyal
	13	1 cleithrum
Molva cf. *molva* (L.)	I 9	1 dentary
Perca fluviatilis L.	II 10	1 scale
	11	1 scale
	21	1 scale
Trachurus trachurus (L.)	I 9	1 scute
Scomber scombrus L.	II 14	1 vc
Pleuronectidae	II 8	1 vc (4.0)
	22	1 vc (2.5)

Note: vc = vertebral centrum/vertebral centra
Measurements of vertebral centra are given in millimetres within parentheses.

Esox lucius L.	I F25	1 vc (5.7)
	28	2 vc (6.0 & 5.8)
	II 8	1 vc (6.4)
	10	1 vc
	16	1 vc
	30	1 vc
	33	1 vc
	IV 4	1 vc
	7	1 tooth
Cyprinidae	I 9	1 vc
	29	2 vc
	42	scales
	II 8	1 pharyngeal tooth plate cf. Tinca tinca (L.)(tench)
	9	1 vc
	10	1 pharyngeal tooth plate Rutilus rutilus (L.)(roach)
	16	1 " " " " "
	17	3 vc
	21	scales
	30	1 vc
	III 7	3 vc + pharyngeal tooth plate
	IV 4	4 vc
	5	4 vc
Anguilla anguilla (L.)	I 9	9 vc + 1 head bone
	28	3 vc
	29	3 vc
	F42	2 vc
	II 8	24 vc + 1 head bone
	9	1 vc
	10	2 vc
	12	2 vc
	16	8 vc
	17	3 vc
	18	1 head bone
	23	1 vc
	30	1 vc
	36	1 vc
	III 7	1 vc
	IV 7	2 vc
Merlangius merlangus (L.)	II 13	1 vc