Ancient Monuments Laboratory
Report 22/86

FISH REMAINS FROM EXCAVATIONS AT CANVEY ISLAND, SITE 1, 1986.

Andrew K G Jones

Ancient Monuments Laboratory Report 22/86

FISH REMAINS FROM EXCAVATIONS AT CANVEY ISLAND, SITE 1, 1986.

Andrew K G Jones

Summary

Ten small samples of fish remains of medieval and Roman date are identified and briefly discussed. Similar material from an eroding coastal site is rare in Southern Britain. The concentration of remains is high, particularly in the medieval samples and almost certainly represents waste from a coastal fishery supplying the area. The roman sample is less easy to interpret. Further work on the deposits is recommended.

Author's address :

Environmental Archaeology Unit
University of York
Heslington
YORK YO1 5DD

0904 430000 x5531

Fish remains from excavations at Canvey Island, site 1, 1986

An assessment of their importance

Introduction

The fish remains discussed in this report comprise a group of bones collected from a site on the north shore of the Thames and sent to the author by Peter Murphy of the Centre for East Anglian Studies, University of East Anglia. Coastal sites giving large assemblages of fish bones are not common in southern Britain.

Coastal erosion has exposed sections through Roman and medieval deposits which contained abundant fish remains and molluscan shell. The bones were particularly well preserved and fragments of otoliths (ear stones used extensively in fisheries management) were present. Although the fish and mollusc assemblages are dominated by species commonly exploited as food, they also contain assemblages of molluscs more typical of natural shell assemblages in the area suggesting that food refuse and re-deposited natural sediment were used to raise the ground level for human occupation.

Samples were collected to examine their composition in detail and to assess if more intensive sampling would be necessary and informative.

The deposits were assigned to two phases; layer 5 is Roman, layer 3 probably medieval while layer 4 is not securely dated.

Results

Table 1 summarizes the finds of fish remains from the Canvey Island samples.

Taxon	3a	3b	3c	4a	4b	4c	5a	5b	5c
Thornback ray	-	+	+	-	-	-	-	-	-
?Shad	+	+	-	-	-	-	-	-	-
Herring/sprat	+	+	+	+	+	-	+	+	-
Eel	-	-	-	-	+	-	-	-	+
Conger eel	+	-	-	-	-	-	-	-	-
Whiting	+	+	-	-	-	+	-	-	-
Cod	-	+	-	-	-	-	-	-	-
Haddock	-	+	+	-	-	-	-	-	-
Horse mackerel	+	+	-	+	-	+	-	-	-
Stickleback	-	-	-	-	-	-	+	-	+
Flatfish	+	+	-	+	-	+	+	+	+

The lowest level, layer 5 of Roman date, produced rather small numbers of bones of young fish of the herring family (Clupeidae), a single eel (Anguilla anguilla) vertebra, stickleback (Gasterosteidae) spines and some flatfish

(Pleuronectidae) vertebrae. A small number of minute vertebrae remain to be identified. 11 identifiable bones from 10.2 kg sediment.

Layer 4 yielded a slightly more diverse assemblage of fishes which included small clupeids, herring (Clupea harengus), eel, whiting (Merlangius merlangus), horse mackerel (Trachurus trachurus) and flatfish vertebrae. 15 identifiable bones from 11.7 kg deposit.

The uppermost layer which produced fish bones, Layer 3, gave a the largest number of remains and the most diverse assemblage of fishes. A few bones were collected by hand from the exposure. This hand collected assemblage contained vertebrae of large cod (Gadus morhua), haddock (Melanogrammus aeglefinus), whiting, horse mackerel and flatfish. The sieved samples contained denticles of a ray, possibly thornback ray (Raja clavata), herring bones, possibly shad (Alosa sp), a conger eel vomer (Conger conger), medium sized cod, in addition to remains of the species recovered by hand. Fish remains were particularly rich in the deposits with one 2 kg sub-sample giving in excess 20 identifiable remains.

Discussion

The remains from the Roman layers are enigmatic. It is possible that they simply represent the traces of fishes which lived in the area and whose bones have become incorporated into the deposits at a site of considerable sedimentary activity. Alternatively some or all may be the remains of fishes exploited

by the Romano-British population of the area. Small fishes were often caught and imported into towns, possibly for the manufacture of fish sauces. In both York (Jones, 1985) and London (Bateman and Locker, 1982) substantial deposits of young fish of the herring family have been found in Roman or Dark Age layers. The London site is securely dated to the Roman period, that in York is less securely dated. More work, comparing the Roman horizon with similar sediment devoid of archaeological traces will indicated if the small bones were part of an assemblage deposited by man.

The material from layer 4 appears to contain a mixture of species, some similar to the Roman layer and some similar to the medieval layer. Further work should establish if this is simply a mixing of sediments and their bones or if the assemblage represent a true transitional zone.

There can be little doubt that the remains recovered from the medieval layer (3), dominated by medium to large food fish, represents the remains of a fishery exploiting the Thames estuary. It is most important that larger samples of this material are excavated in order to determine the nature of the fishery and investigate whether the site is a fish processing area. (The kinds of skeletal elements present in asssemblages of fish at consumption sites are usually different from fish processing sites.)

There is considerable variation between the sub-samples, particularly within Layer 3. One 3 kg sub-sample was dominated by whiting and pleuronectid remains, a 2 kg sub-sample was

dominated by herring bones while the third (3.4 kg) sub-sample was dominated by gadid and pleuronectid remains.

From the data available it is not possible to determine which species is dominant, although whiting and pleuronectid bones occurred in many of the samples.

It is clear that the medieval assemblage is almost exclusively composed of species which were (and are) exploited as human food. It is possible that the lower samples do contain bones of fishes which were not caught by man but which happen to have become incorporated into archaeological deposits.

Work in urban centres, particularly London, has often hinted at the importance of the Thames estuary as a fishery for the City (e.g. Jones, 1976 and 1978). At Canvey there is the distinct possibility that a fish processing site has been located (at least for the medieval period). Coastal erosion means that the material is gradually being lost and it is timely that the site be investigated in greater detail.

These assemblages are of considerable interest for they almost certainly represent the traces of past fishing activity within the Thames estuary. It is clear that the upper layer contains very large numbers of fish bones and it seems reasonable to compare these deposits with the well known fish and shell

middens of Scotland. I know of no coastal sites in southern Britain which produce a sequence of fish remain-bearing deposits dating from the Roman to medieval period. The potential for examining changes in fish exploitation are self-evident.

Suggested further work

It is suggested that on-site sieving equipment be installed at the site or close to it and that a modest-sized open area excavation take place. Large samples (at least 100 kg, preferably more) of excavated soil should be processed through fine meshed sieves (1 mm is suggested) and fish remains examined in more detail in a post-excavation phase. Further small samples should be collected for detailed laboratory analysis of very small bones and other remains as necessary.

In addition substantial quantities of sediment devoid of obvious archaeological materials from the site should also be processed in order to establish the kinds of fish, molluscan and other biological materials naturally present in the deposits.

References

Bateman, N. and Locker, A. (1982). The sauce of the Thames. London Archaeologist 4/8, 204-207.

Jones, A. K. G. (1976). The fish remains. pp. 170-6. In Black, G., 'Excavations in the sub-vault of the Misericorde of Westminster Abbey.' Transactions of the London and Middlesex Archaeological Society 27, 135-78.

Jones, A. K. G. (1978). passim, pp. 171-2, 220, 414-8, 466-7, 601. In Bird, J., Graham, A. J., Sheldon, H. and Townend, P. (eds.) 'Southwark excavations 1972-74. Parts I and II.' Southwark and Lambeth Archaeological Excavation Committee. Joint publication No. 1. London and Middlesex Archaeological Society and Surrey Archaeological Survey.

Jones, A. K. G. (1985). Fish bones from excavations in the cemetery of St. Mary Bishophill Junior, York. Ancient Monuments Laboratory Report No. 4601.