FILE COPY

2418

Ancient Monuments Laboratory
Report 166/87

THE FISH BONES FROM CULVER STREET, COLCHESTER.

Alison Locker

Ancient Monuments Laboratory Report 166/87

THE FISH BONES FROM CULVER STREET, COLCHESTER.

Alison Locker

Summary

A total of 4,801 fish bones were recovered from a series of excavations at Culver Street. These were mainly of Roman and Medieval date. A wide variety of species were recovered, but few were present in large numbers. In the Roman deposits eel, herring and flatfishes were important, in the Medieval deposits eel and herring are still important, and there is an increase in the relative proportions of cod. It is suggested that the change in the Medieval period reflects a more intensive fishery.

Author's address :-

Cobblers
The Old Hill
Wherwell nr Andover
Hants.
SP11 7JB

0264 74278

Introduction.

A total of 4,801 fish bones were examined from excavations in Culver Street. The sites are denoted by letter (see Tables 1,2 and 3), but in this report they are discussed as a single group, as the division between sites has been artificially created by modern building.

The fish are largely Roman, Medieval and Post Medieval in date. Many of the deposits were sieved, which accounts for the most of the fish recovered. The fish recovered by handpicking on site (denoted by * in the tables) are notable both for their low numbers and relatively large size. This suggests that if no sieving had been carried out the range of species would have been greatly depleted.

The following species were identified; Elasmobranch indet., rays indet. (Rajidae), eel (Anguilla anguilla), herring (Clupea harengus), cf sprat (Sprattus sprattus), Salmonidae, smelt (Osmerus eperlanus), cod (Gadus morhua), haddock (Melanogrammus aeglefinus), whiting (Merlangius merlangus), stickleback (Gasterosteus aculeatus), cf gurnard (Triglidae), thin-lipped grey mullet (Liza ramada), thick-lipped grey mullet (Chelon labrosus), cf wrasse (Labridae), cf dragonet (Callionymidae), mackerel (Scomber scombrus), plaice (Pleuronectes platessa), flounder (Platichthys flesus), halibut/turbot (Hippoglossus hippoglossus/Scophthalmus maximus), cf dab (Limanda limanda), cf lemon sole (Microstomus kitt). The term large gadoid has been used when a bone is indeterminate to species, but is likely to belong to the cod family. Similarly flatfish indet. has been used when the species of flatfish cannot be more precisely determined.

The Roman Deposits.

The quantity of fish bones identified to species were too low to demonstrate any spacial or temporal changes within the Roman period. Table 1 indicates the number of bones for each species by context.

Considering the large quantities of soil that were sieved, e.g. 31 kg from site B and 25 kg from site C the density of fish compared with the volume of soil sieved is low. At site D the samples were taken in litres, here the density of fish bones per litre is approximately half that from the Medieval deposits. A total of 1207 bones were recovered from 54 litres of soil in Roman samples, whereas in the Medieval deposits 2203 bones were recovered from 24 litres of soil.

The handpicked fish bones totalled 45, or 2% of all Roman fish bones. The only cod bones identified from this period are from the handpicked deposits, none were found among the sieved samples. The most commonly occuring species were eel, herring, plaice and flounder. The frequency of stickleback is exaggerated by 15 skull fragments in L535, which together with a small crustacean claw from the same feature may represent the stomach contents of another fish.

Other species are represented by very few bones, a cod dentary from C97 was estimated to be from a fish of approximately 95cms

(Wheeler and Jones 1976), which would be of less than average size today when 120 cms is regarded as common (Wheeler 1978, 150). Most of the species recorded are inshore or shallow water species, that could have been caught locally in the Colne, its estuary and environs.

High proportions of unidentifiable bones were noted in some contexts. In particular at Site D, where a large number of fin ray fragments were present, these are unidentifiable to species. Other features containing a high proportion of unidentifiable material include F138 at site C, and the Roman military cess pit F900 at site E.

The Post Roman Deposits.

There were 10 contexts of post Roman date, all the fish bones were hand picked. The most common species was cod, it was not possible to suggest the size of these fish, but one precaudal vertebral centrum from 0825 showed evidence of two knifecuts, possibly evidence of filleting.

A single vertebral centrum from H178 was identified as halibut or turbot, this was broken and had been chopped. Given the distribution of these two species it is more likely that turbot is represented since halibut is not found in the southern North Sea at present.

The Medieval Deposits

As previously discussed the density of fish is greater in the sieved samples from the Medieval deposits than the sieved samples of Roman date.

The difference between the two periods appears to be that in the Medieval deposits eel, herring, and to a lesser extent cod are the most common species, the flatfishes are of less importance. Some species that were present in the Roman deposits, such as mackerel, still occur but in very low quantities. Others such as the mullets are not found in the Medieval deposits.

The increased importance of some species may reflect a more specialised Medieval fishing industry, in particular the development of the herring fleets in the 13th and 14th centuries, and offshore line fisheries for cod.

Biology and Fishing Methods.

The biology of the species identified is important in reconstructing the type of fisheries likely to have been prosecuted along the local shoreline.

Colchester is approximately 10 miles from the open coastline and the Colne Estuary is within about 3 miles of the town centre. Therefore freshwater, brackish and marine resources are within a short distance of the town.

Exploitation of freshwater appears limited to two species both in Roman and Medieval times. Eels may have been trapped in the river

as they migrated seawards, in eel-bucks (Wheeler 1979,60), or alternatively could have been caught in the estuary. Salmonids (either salmon or trout) may have been caught on lines or possibly in traps as the fish ascended the river.

The bones of stickleback may be an incidental catch, or as previously suggested the contents of the stomach of another larger fish.

The greatest catches of smelt are made in the winter and early spring. They enter the river mouth in winter and move upstream to spawn in March to May (ibid 48). Fine nets would have been used to catch these small fish (up to 250mm in length) in the Colne Estuary.

Flatfishes such as plaice and flounder may have been caught in the estuary as well as along the shoreline on lines as well as in traps. Other flatfish such as dab and lemon sole were probably caught on lines along the coastline, either from the shore or from small boats. The turbot, a valuable food fish, is also found in shallow inshore waters from below the shoreline to about 80 metres (Wheeler 1978, 344) and would have been caught on lines.

Shallow water inshore species such as whiting would have been caught in nets, as would herring. The seasonal migration of the herring southwards from the Shetland Islands led to the development of a very important Medieval fishery. Smoked and pickled herring became a cheap staple food that was available all year, and would have been a particularly important source of protein during the winter months

Other seasonal shoaling fish include mackerel, identified in small numbers from both Roman and Medieval deposits. These form huge schools and are found inshore seasonally. Nets or lines could have been used for their capture. An oily fish, prior to the development of smoking, this species would probably have been consumed fresh.

Both thin-lipped and thick-lipped grey mullet were identified from Roman deposits. They could both have been caught locally in coastal waters. Thin-lipped grey mullet has also been identified from Roman and Medieval deposits at Canterbury (Locker unpublished). Both species also enter estuaries, and would have been caught on lines.

The remaining two important food species are cod and haddock, both would have been caught on lines. Cod was identified from both Roman and Medieval deposits but haddock was only identified from Roman levels in sieved deposits.

The remaining species occur in low numbers, the elasmobranchs such as rays and dogfishes have cartilaginous skeletons which do not usually survive, and if they do are often not diagnostic. Dermal denticles (spines embedded in the skin) and teeth are all that usually remains of these fish, so their importance may well be underepresented. In the Medieval deposits only two teeth were recovered, the rest being dermal denticles.

Other species such as dragonets, gurnards, and wrasses, may all have been eaten, especially the former, but they are not present in sufficient quantities to suggest they were anything other than

an incidental catch.

Since the sites are within easy reach of the coast and estuary it is likely that during much of the year fish was eaten fresh. Out of season salted and dried fish may have been consumed during the Roman period, as well as pickled and smoked fish during the Medieval period. A few cut marks on cod vertebral centra and cleithra are evidence of fish processing, such as heading and filleting.

Acknowledgements

I would like to thank Mr A Wheeler (British Museum, Natural History) for the use of reference material, and to Peter Murphy for extracting the fish remains.

References

Locker A 1987. Canterbury: The Fish Remains from Marlowe sites I-IV. Ancient Monuments Laboratory Report 118/87.

Wheeler A 1978. Key to the Fishes of Northern Europe. Warne.

Wheeler A 1979. The Tidal Thames. Routledge and Kegan Paul

Wheeler A & Jones A 1976. Fish Remains. In East Anglian Report No 2. Norfolk Arch. Unit. Excavations at Fuller's Hill, Great Yarmouth. Andrew Rogerson.pp 208-224.

Culver Street, Colchester.

Table 1: Roman Deposits Containing Fish Bones.

Context	Eel	Her	Sal	Sme	Cod	Had	Whi	LGd	Sti	Gur	TnM	TkM	Dra	Mac	Pla	Flo	Fla	Uni	Total	
Site B F508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
F580	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	24	25	
F265/L683	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	33	36	
L437	1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	39	43	
Site C F138	5	2	-	-	-	-	-	-	-	-	1	5	-	2	-	-	-	195	210	
* 97 L8	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	1	6	
*162 L11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	
*242 L19	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	
*270 L30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	
Site D F854	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	30	32	
F858	1	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	10	14	
L535	2	2	1	3	-	-	-	-	15	-	-	-	-	-	2	1	10	147	183	
Site E F900	15	6	-	-	-	-	-	-	3	-	-	-	-	10	1	-	1	160	196	Fla = cf lemon sole
Site G L225	1	-	-	-	-	-	5	-	-	-	-	-	1	1	1	-	5	117	131	
F628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	
L703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	
L894	2	-	-	-	-	-	3	4	-	1	-	-	-	-	4	1	2	234	251	
F360	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	-	2	52	57	
L1932	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	29	30	
L1959	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7	8	
F1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
F1545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	
L1307	12	7	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	155	176	
L1555	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	21	23	
L914	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	32	33	
L1959	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	3	
L1745	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	7	9	
F2218	-	6	-	-	-	-	-	-	-	1	-	-	-	-	4	-	-	48	58	
F79	8	3	-	-	-	1	-	-	-	-	-	-	-	-	11	-	2	122	147	
F2362	1	3	-	-	-	-	-	-	1	-	-	-	-	-	2	-	-	31	38	
L2320	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	10	
L2594	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	9	
F2363	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	4	
F2695	1	-	-	-	-	1	-	1	-	-	1	-	-	-	4	-	4	29	40	Fla 1 is cf dab
F3064	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	16	19	
L3229	1	5	-	-	-	-	-	-	-	-	-	-	-	1	3	-	-	23	33	
L3297	3	1	-	-	-	1	-	-	-	-	-	-	-	-	-	3	2	71	81	
* G603 L513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	28	
* G400 L279	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
*G2614L2612	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	
Site H L477	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	63	72	
L522	-	16	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	87	106	
* H444 F443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	
* H266 L78	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
* H367 F335	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Total	58	57	2	3	6	5	10	8	19	1	3	5	1	20	43	6	39	1856	2142	

Culver Street, Colchester.

Table 2: Post Roman Deposits Containing Fish Bone.

Context	Cod	LGd	H/T	Uni	Total
* A46	3	–	–	–	3
* G377	1	–	–	–	1
* G378	3	2	–	3	8
* G803	1	–	–	–	1
* G814	1	–	–	–	1
* G825	1	–	–	–	1
* G2981	2	–	–	1	3
* H101	1	–	–	2	3
* H178	–	–	1	2	3
* H221	2	1	–	–	3
Total	15	3	1	8	27

Culver Street, Colchester.

Table 3.5 Medieval and later Deposits Containing Fish Bones

Context	Ela	Ray	Eel	Her	Clu	Sme	Cod	Whi	LCd	Sti	Wra	Mac	Pis	F/F	Sol	Fla	Uni	Total
Site E *324 F166	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1
Site A *58 F27	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	28	29
*63 F30	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	3
*142 F57	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Site E *15 F14	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	3
*205 F164	–	–	–	–	–	–	7	–	1	–	–	–	–	–	–	–	–	8
*353 F133	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Site G F185	1	–	1	4	–	–	–	–	–	–	–	–	1	–	–	–	38	45
F195	1	–	100	101	95	7	–	3	1	1	1	1	–	–	–	1	458	770
F14	–	–	–	1	–	1	–	–	–	–	–	–	–	7	–	–	81	90
F293	–	–	–	1	–	–	–	1	–	–	–	–	–	1	–	–	28	31
F557	1	2	139	299	5	6	–	4	2	–	–	1	–	–	–	3	358	820
F661	1	–	2	6	1	–	–	2	–	–	–	–	–	–	–	–	86	78
F376	–	1	8	18	2	–	–	3	1	–	–	–	2	–	–	–	71	105
F478	–	–	20	30	15	–	–	1	–	–	–	–	3	1	–	–	103	173
F163	1	–	4	11	8	–	–	2	1	–	1	1	–	–	–	3	40	71
Site K *75 F74	–	–	–	–	–	–	71	–	6	–	1	–	–	–	–	–	–	77
Site M *85 F31	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
*86 L28	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1
*123 F121	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	30	33
*198	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Total	5	3	274	471	126	14	86	16	15	1	1	3	5	9	3	8	1322	2632

Key to Tables

Table 1

* = handpicked, all the rest are sieved samples.
In Site G the contexts are ordered in sample number

Eel = Eel	Her = Herring	Sal = Salmonid
Sme = Smelt	Cod = Cod	Had = Haddock
Whi = Whiting	LGd = Large Gadoid	Sti = Stickleback
Gur = Gurnard	TnM = Thin lipped grey mullet	
ThM = Thick lipped grey mullet		Dra = cf Dragonet
Mac = Mackerel	Pla = Plaice	Flo = Flounder
Fla = Flatfish	Uni = Unidentifiable	

Table 2

All handpicked

Cod = Cod	LGd = Large Gadoid	H/T = Halibut/Turbot
Uni = Unidentifiable		

Table 3

* = Handpicked, all other are sieved samples.
In Site G the contexts are ordered in sample number.

Ela = Elasmobranch	Ray = Ray	Eel = Eel
Her = Herring	Clu = Clupeid	Sme = Smelt
Cod = Cod	Whi = Whiting	LGd = Large Gadoid
Sti = Stickleback	Wra = cf Wrasse	Mac = Mackerel
Pla = Plaice	P/F = Plaice/Flounder	
Sol = Sole	Fla = Flatfish	Uni = Unidentifiable