

ASSESSMENT REPORT ON THE MICROFAUNA FROM THREE CROSSRAIL SITES:

PLUMSTEAD PORTAL

Ostracod Assessment
by John E. Whittaker

Introduction

Two samples were received from Museum of London Archaeology (MoLA) on November 20th 2014 for microfaunal assessment. The material came from the Plumstead Portal site (XSW11) as part of the major Crossrail Project in London – Job name C263 LE Geoarchaeology PXA (CRL 12). The sample information, including height (m OD/m ATD), context, monolith number and weight processed in each case, is given below. The purpose of the assessment was to examine the potential of the microfauna, especially the ostracods (if present), for the purpose of palaeoenvironmental reconstruction.

Method

Site Code	Height (m OD)		Height (m ATD)		Sample Code	Context	Monolith/bulk Sample number	Comments
	Top	Base	Top	Base				
XSW11	0	-	100	-	O1	44	35	Tr2, 45g
XSW11	-0.8	-	99.2	-	O2	42	34	Tr2, 50g

Table 1 Ostracod assessment sub samples

The sediment of each sample was first broken up into very small pieces by hand and put in ceramic bowls and thoroughly dried in an oven. Then a small amount of sodium carbonate was added to each (to help remove the clay fraction) and hot water poured over them. They were left to soak. Good breakdown was achieved by washing through a 75 micron sieve with hand-hot water. Each residue was then decanted back into a bowl and returned to the oven to dry. Samples were stored in labelled plastic bags and analysed by placing each sample into a nest of sieves and examining each of the fractions on a tray under a binocular microscope. The faunas were noted and representative microfossils, when they occurred, picked out and put into 3"x1" slides for archive purposes. The results of the analysis are shown in Figures 1-3 which accompany this report.

Results

ORGANIC REMAINS		
Height (m OD/ m ATD)	0.00/100	-0.80/99.2
CONTEXT	44	42
MONOLITH/BULK SAMPLE NUMBER	35	34
SAMPLE	O1	O2
plant debris	x	x
charcoal	x	x
earthworm granules	x	
molluscs	f	
<i>Bithynia</i> opercula	x	
brackish ostracods	x	
Ecology	<i>Brackish mudflats</i>	<i>Freshwater alluvium</i>
BRACKISH OSTRACODS		

Height (m OD/ m ATD)	0.00/100	-0.80/99.2
CONTEXT	44	42
MONOLITH/BULK SAMPLE NUMBER	35	34
SAMPLE	O1	O2
<i>Cyprideis torosa</i>	x	
Organic remains are listed on a presence (x)/absence basis; f – fragments only		
Ostracods are listed: x - several specimens		

Table 2 ostracod assessment results

The two samples produced rather different results (Table 7). The upper one (O1) – a silty clay - contained plant debris, earthworm granules, *Bithynia* opercula, fragmentary molluscs and a few brackish ostracods. The ostracods were *Cyprideis torosa* which were weakly noded – this is an ostracod of brackish tidal flats which develops nodes when the salinity is low (below c. 5‰). The locality at this time would therefore have been brackish, a mudflat perhaps near the limit of tidal access with also freshwater and semi-terrestrial influences (the latter evidenced by the co-occurrence of freshwater molluscs and earthworm granules). Sample O2 – a silty sand - on the other hand, situated only 0.80m below O1 in the sedimentary sequence, appeared to be freshwater alluvium. The charcoal present in both these samples could have been the result of human activity or natural fire. A palynological analysis will, hopefully, elucidate the environmental of this site somewhat better.

Bibliography

Ashton, N., Lewis, S., Parfitt, S., Candy, I., Keen, D., Kemp, R., Penkman, K., Thomas, G., Whittaker, J. & White, M. 2005. Excavations at the Lower Palaeolithic site at Elveden, Suffolk, UK. *Proceedings of the Prehistoric Society*, 71: 1-61.

John E. Whittaker,
The Natural History Museum,
Cromwell Road,
London SW7 5BD

and

“Herbury”,
6A, Ramblers Way,
Burnham-on-Crouch,
Essex CM0 8LR

j.whittaker@nhm.ac.uk
JEWhittaker06@aol.com

1st December 2014