

Evaluation of biological remains from boreholes at Palmer Lane, York (YAT/Yorkshire Museum code 1992.3)

by

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[NB: This report was scanned and reformatted on 8th April 2008. The only changes made have been to preserve internal consistency, clarify structure, and to correct typographical errors. HK. The original was an archive report deposited at Environmental Archaeology Unit, Carlisle Archaeology Unit and Ancient Monuments Laboratory, and allocated *post hoc* as *Reports from the Environmental Archaeology Unit, York 92/5.*]

Introduction

Two samples from trial boreholes in Palmer Lane, York, were submitted by YAT for an evaluation of their biological remains.

Both were examined in the laboratory and a description of the sediment made. Subsamples of 1 kg were processed according to methods of paraffin flotation outlined by Kenward *et al.* (1980). Flots and residues were both examined and plant, invertebrate and vertebrate remains recorded briefly.

Context 5005 Sample 5 [suspected late medieval/early post-medieval dump in King's Fish Pool]

Very dark grey-brown to brown, plastic to crumbly to brittle; a mixture of amorphous organic material, and coarse and fine woody and herbaceous detritus, with wood fragments common (recorded moist).

The rather large flot contained a large number of leaves of the bog moss, *Sphagnum*, including many of *S. imbricatum*, a major peat-forming species. There were otherwise only a few weed taxa. Insect remains were abundant and some showed exceptionally good preservation. There were numerous decomposers indicating decaying matter ranging from fairly dry, mouldering to rather moist; amongst these *Trox scaber* was notable by being unusually abundant. This large beetle is typically found in birds' nests but appears to be able to exploit (usually dryish) animal remains of various kinds. There were modest numbers of grain beetles (*Sitophilus granarius* and *Oryzaephilus surinamensis*), together with a few other species typically associated with buildings. Several *Aphodius* dung beetles, apparently of species not generally noted in deposits in York, were observed but could not be identified within time constraints. There were a few resting eggs of water fleas (*Daphnia* sp.) and a single *Cyphon* sp., associated with marshy ground.

The large residue contained much very decayed leather (the largest fragments 5 cm in largest dimension) and wood (to 3 cm), with coal and cinder, charcoal, brick/tile, a little burnt and unburnt mammal bone and some eggshell. Plant remains included some weed species typical of nutrient-rich deposits in damp locations, as well as a single fig (*Ficus carica*) seed.

The overall impression given by this material is of an accumulation of highly organic material including leather waste and wood (and perhaps also some peat) forming in a wet environment - perhaps at the water's edge rather than in standing water. The *Trox* most probably lived amongst waste leather on the floor of a building from which the dumps were cleared.

Context 6007, Sample 8 [medieval (C12-14th) ?dump in King's Fish Pool]

Dark grey, plastic, slightly sandy silty clay, showing black internal colouration indicative of reduction, containing common stone fragments 2-20 mm, and some bone <2 cm (recorded moist).

The small flot contained a single small 'plum' (*Prunus domestica* ssp. *insititia*) fruitstone and a considerable number of remains of a range of cornfield weeds (notably corncockle, *Agrostemma githago*, corn marigold, *Chrysanthemum segetum*, and shepherd's needle, *Scandix pecten-veneris*), together with some more generally distributed weeds (stinging nettle, *Urtica dioica* and chickweed, *Stellaria media*), and leaves of *Sphagnum* (which, as in sample 5, included *Sphagnum imbricatum*). There were also rather commonly occurring fragments of flax (*Linum usitatissimum*) capsules. Although there were numerous plant remains, the greater part of the flot consisted of insect fragments. There were modest numbers of grain beetles and an assortment of species from rotting matter habitats, mostly fairly dry. A single human flea (*Pulex irritans*) and a dog flea (*Ctenocephalides canis*) were noted, together with a single fragment of a sheep ked (*Melophagus ovinus*) puparium. All these remains indicate an origin in a building, probably as floor sweepings. There were, however, several water flea resting eggs and two water beetles, and a small number of terrestrial beetles requiring open-air habitats.

The large residue consisted of about 50 organic and 50 inorganic material, the former including a few wood fragments (to 10 mm) and a little leather (to 30 mm), but was primarily charcoal and cinder. There was a little brick/tile, mortar, together with traces of eggshell, shellfish (including mussel, *Mytilus edulis*), mammal, bird and fish bone (including three vertebrae of herring, *Clupea harengus*) and two freshwater snails (probably the ubiquitous *Lymnaea peregra*). There were several flax seeds, together with more capsule fragments of this plant, but most of the identifiable plant macrofossils were weeds of cultivated soils or disturbed places. A single sclerenchyma spindle of cotton-grass, *Eriophorum vaginatum*, may have originated, like the *Sphagnum* moss, in raised-bog peat.

This deposit, too, appears to have accumulated in a water-marginal situation, as a build-up of material including domestic debris, with perhaps peat, and straw, and waste from flax/linseed processing.

Implications

Preservation of a wide range of biological materials was excellent and there were many species or groups of species with considerable implications for archaeological interpretation. If the material can be reasonably closely dated it would be important to study it in some detail, and particularly within the context of riverside deposits in this part of York. Deposits of late or post-medieval date have received scant attention from the point of view of environmental archaeology and it is highly desirable to make proper investigations of deposits of the kind represented by context 5005. Any destruction of these deposits by development would thus carry considerable cost implications for environmental archaeology.

Reference

Kenward, H. K., Hall, A. R. and Jones, A. K. G. (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. *Science and Archaeology* **22**, 3-15.

Note added 8th April 2008: The abundant *Trox scaber* recorded here seem as likely to have invaded stored skins as waste leather. See, for example, the following:

Hall, A. and Kenward, H. (2003). *Can we identify biological indicator groups for craft, industry and other activities?*, pp. 114-30 in Murphy, P. and Wiltshire, P. E. J. (eds.), *The environmental archaeology of industry. Symposia of the Association for Environmental Archaeology* **20**. Oxford: Oxbow.

Hall, A. and Kenward, H. (2003). Evidence for tanning from plant and insect remains, pp. 3230-1 in Mould, Q., Carlisle, I. and Cameron, E., *Craft, industry and everyday life: leather and leatherworking in Anglo-Scandinavian and medieval York. Archaeology of York* **17** (16). York: York Archaeological Trust and Council for British Archaeology.

and

Hall, A. R. and Kenward, H. K. (submitted). *Plant and insect indicators of leather production: from fresh skin to leather offcuts*. Chapter in volume to be published by the Archaeological Leather Group.