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**An evaluation of biological remains from
boreholes in North Street, York
(YAT site code 1992.1)**

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Methods

Seven sample from boreholes in North Street were submitted for analysis. The sediments were inspected and described in the laboratory, 1 kg subsamples being taken and submitted to disaggregation and paraffin flotation following methods described by Kenward *et al.* (1980). The resulting flots were examined for plant and invertebrate remains and washovers were obtained from the residues to provide further assemblages of plant remains. The residues were also examined for their content of other components.

Results

The samples are considered in borehole and context number order, with relevant archaeological information or excavator's queries in brackets.

Borehole 4

Context 417, sample 01 [thick organic layer, medieval; ?riverside dump]: dark brown (with greyish patches of less richly organic sediment), crumbly to brittle to slightly compressed humic, very slightly sandy silt with traces of limestone fragments, bone >2 cm and nutshell.

The 1 kg subsample examined gave a very small flot consisting of tiny granular fragments of woody and herbaceous detritus, a single stinging nettle (*Urtica dioica*) achene and some fragments that may have been from modern straw or grass stems. There were a few insects and mites, the beetles being of taxa frequent in urban deposits. Single individuals of three species of *Aphodius* dung beetles were noted. Preservation was poor. The residue was large and rich in organic material, most of it degraded wood fragments, none larger than about 1 cm. There was an angular lump of oolitic limestone to 10 cm maximum dimension, a sherd of pottery (returned to YAT), a little gravel, brick/tile, fish bone, and charcoal. The few identifiable biological remains comprised a degraded fragment of corncockle (*Agrostemma githago*) seed, pod fragments of wild radish (*Raphanus raphanistrum*), a ?birch (cf. *Betula* sp.) bud and some earthworm egg capsules.

This appears to have been a terrestrial deposit.

Borehole 8

Context 806, sample 02 [alluvium, redeposited natural, dump? C11-13th]: light to mid grey-brown (with 'black' internal reduced areas) plastic to slightly crumbly silty clay sand with traces of bone fragments >2 cm.

A tiny flot was obtained from the test subsample; it consisted of a few sand grains and some

charcoal fragments < 1 mm. The very small residue mostly comprised sand and gravel up to 15 mm, with a clast of brick/tile to 20 mm and a few bone fragments, including fish, and some charcoal. There was a single horn-core from an elderly female sheep (det. K. Dobney). In the 1–2 mm fraction there was a trace of eggshell and a little charcoal and a single shoot fragment of the moss *Calliergon cuspidatum*.

Perhaps surprising, in view of the nature of the sediment, there was no biological evidence for aquatic deposition.

Borehole 9

Context 910, sample 03 [thick organic dump or build-up; C11-13th]: very dark grey-brown, plastic, very humic, very slightly sandy silty clay with traces of bone fragments > 2 cm, of herbaceous detritus, and of brick/tile, and flecks of light brown clay or ash.

A very small flot was obtained for this sample, most of it fine herbaceous detritus, but including four identifiable plant taxa present as 'seeds': stinging nettle, water-plantain (*Alisma* sp.), fig-leaved goosefoot (*Chenopodium ficifolium*) and blackberry (*Rubus fruticosus* agg.). Insects were rare and poorly preserved; those present were assignable to taxa common in urban archaeological deposits. The modest-sized residue, rich in sand, contained some fragmentary bone (to 15 cm), stone (angular oolitic limestone to 10 cm), a small amount of brick/tile, gravel, fragments of degraded wood and some charcoal. Two further plant taxa were identified: buttercup (*Ranunculus* Section *Ranunculus*) and sedge (*Carex* sp.), and there were some slug 'granules'.

This deposit appears to be terrestrial in origin.

Borehole 12

Context 1208, sample 04 [alluvium, redeposited natural, dump?; no pottery date]: light to mid brownish-grey, plastic, sandy silty clay, more sandy in places and occasionally with a slight humic content; trace of brick/tile.

The tiny flot included a small amount of plant detritus and charcoal, with poorly preserved specimens of weld (*Reseda luteola*) and a rush (*Juncus* sp.). There were a few insect remains, showing signs of chemical erosion; they had no special ecological characteristics. The residue for this sample was very small and comprised a little sand, gravel (with stones to 25 mm), brick/tile, charcoal and a fragment of cow scapula to 10 cm maximum dimension (det. K. Dobney). Some of the smaller clasts consisted of much finer mineral sediment held together by chemical concretion, some of it, at least, calcareous.

It is possible that this deposit was water-lain but there is no good biological evidence for such a mode of formation.

Borehole 13

Context 1308, sample 05 [thick organic layer; ?dumped in water or on land? C10-13th]: dark grey-brown, crumbly to brittle to slightly plastic humic sandy clay silt with traces of herbaceous detritus, stones 6-20 mm, limestone fragments <1 cm and bone <2 cm (including some burnt fragments).

The modest flot was quite rich in plant remains, especially seeds of toad-rush, *Juncus bufonius*, which was abundant. The other taxa had no interpretive significance, all being commonly recorded in urban archaeological deposits. The small group of poorly preserved insects was also typical of urban deposits in York (a larger sample would probably yield an interpretable assemblage). The large residue was rich in flaky fragments of wood and bark with some gravel (including oolitic limestone, pot sherds and fish bone to 15 mm, burnt mammal bone, hazel (*Corylus avellana*) nutshell, brick/tile, charcoal and ?daub. The plant macrofossils were mostly weeds of disturbed and cultivated soils, together with further toad-rush seeds; slug granules were again recorded.

There was no evidence from this sample for deposition in water although the abundant toad-rush seeds may point to an area with impeded drainage and perhaps trampling.

Borehole 15

Context 1511, sample 06 [?dumping into river; no pot, but sealed by C11-13th deposits]: mid grey-brown, plastic to slightly crumbly, slightly sandy silty clay, with traces of wood (one fragment identified as oak, *Quercus*), a charred twig fragment, bone >2 cm, vivianite and white flecks.

The small flot contained rather a rich assemblage of plant macrofossils representing a variety of habitats including waste ground/cultivated land and waterside/marsh vegetation; they were all taxa common in urban archaeological deposits. Insects were quite abundant (over 40 species of beetles and bugs recorded, although none was apparently represented by more than two individuals) and their preservation was average for urban deposits in York. There were a few aquatic and waterside taxa, but the proportions of these groups were not large. Assorted decomposers were present, and a variety of taxa which might be found in disturbed areas, but little evidence for occupation in the immediate vicinity.

The rather small residue contained quite a high proportion of bark, wood, and charcoal, with some hazel nutshell, oolitic limestone, mammal bone (to 20 cm) and a worked chip of oak wood. Plant macrofossils included abundant stinging nettle achenes and some other indicators of neglected or disturbed land.

This deposit did not appear to have been water-lain although dumping of terrestrial occupation material into water cannot be ruled out.

Context 1522, sample 07 [possible C2nd Roman structure or dumping into river, 1.2m below OD]: light-mid grey running slightly silty sand with abundant stones 6 mm-20 cm, abundant

wood fragments to 20 cm and traces of bone >2 cm.

A washover was obtained from the whole (4.18 kg) sample; this was small and included a few fibrous plant fragments which may be modern contaminants; there was a single *Sphagnum* leaf and one *Juncus* seed. Three species of grain beetles were recorded in the small assemblage of insects. There were two *Oulimnius* sp., indicators of clean flowing water; another aquatic invertebrate recorded was an ostracod.

The residue consisted mostly of coarse sand with rounded and angular stones to 20 cm (including gritstone, micaceous sandstone, Carboniferous limestone), brick/tile to 15 mm, bone to 3 cm and some somewhat rounded lumps of wood (alder, *Alnus*, and ash, *Fraxinus*) to 15 cm. Two fragments of poles of alder to 10 cm (by 2 cm diameter) were present. There is no evidence that these were part of a structure; the rounding of the larger fragments may suggest some rolling during transportation in running water.

This is likely to have been a water-lain deposit on the basis of its lithology and, to much lesser extent, from the biota recorded. A much larger sample of this deposit would almost certainly yield more reliable information.

Implications

This series of deposits has considerable importance in relation to the wider issue of the history of York's rivers; exposure of material of this kind during development would have substantial implications for further bioarchaeological work.

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.