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**Evaluation of biological remains from excavations at Magistrates' Court,
Brough, East Riding of Yorkshire (site code: BRO2001)**

by

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Summary

Thirteen sediment samples from deposits of Romano-British to early 19th century date, revealed by excavations at Magistrates' Court, Brough, East Riding of Yorkshire, were submitted for an evaluation of their bioarchaeological potential.

Examination of subsamples from two of the samples (dated to the Roman-British phase) revealed the presence of low concentrations of well preserved plant and invertebrate remains with a high potential to explore local environmental conditions and human activity. The record of a species of bug north of its recent range in England indicates that the deposits will provide important information relating to palaeo-temperature.

KEYWORDS: MAGISTRATES' COURT; BROUGH; EAST RIDING OF YORKSHIRE; EVALUATION; ROMANO-BRITISH; ALLUVIUM; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; BEETLES; BUGS; SNAILS

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Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology at Magistrates' Court, Brough, East Riding of Yorkshire (NGR SE 9365 2679), in late Spring 2001.

Thirteen sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) were recovered from the deposits. Preliminary evidence gave dates for the deposits ranging from Romano-British to early 19th century.

Three of the samples were submitted to the EAU for an evaluation of their bioarchaeological potential.

Methods

Sediment samples

The sediment samples were inspected in the laboratory. Two of the samples (both dated to the Romano-British period) were selected for evaluation and their lithologies were recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The flots and residues were examined for plant remains. The flots were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

Preservation of insect remains was estimated using the scales of Kenward and Large (1998). In summary, preservation is recorded as chemical erosion (E) and fragmentation (F), in each case on a scale from 0.5 (superb) to 5.5 (extremely decayed or fragmented).

Results

Sediment samples

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets.

Context 1027 [alluvial silts. Phase 1—Romano-British]

Sample 11/T (3 kg sieved to 300 microns, with paraffin flotation)

Moist, mid brown, soft and sticky (working slightly sticky and soft to plastic), clay silt.

The small residue of about 150 cm³ was about 60% by volume angular gravel and sand, the rest herbaceous and woody detritus preserved by anoxic waterlogging. There were also traces of brick/tile and bone and a single land snail (*Cochlicopa* sp.). Amongst the plant remains were traces of a variety of plants, including hazel (*Corylus*) nutshell, cornfield weed seeds—corncockle (*Agrostemma githago* L.), corn marigold (*Chrysanthemum segetum* L.) and shepherd's needle (*Scandix pecten-veneris* L.)—and various peatland taxa—cotton-grass (*Eriophorum vaginatum* L.), heather (*Calluna vulgaris* (L.) Hull), and the bog moss *Sphagnum imbricatum* Hornsch. ex Russ. The last group of taxa were probably all introduced with peat, small (<5 mm) fragments of which were also noted. There were traces of charred cereal grains, probably 'bread/club' wheat, *Triticum 'aestivo-compactum'*, and a single seed of small-flowered catchfly (*Silene gallica* L.), a species not apparently known as a fossil in the British record before the medieval period. The small flot contained further *Sphagnum* leaves and another charred wheat grain.

This plant material in this deposit is typical of occupation sites, but perhaps more reminiscent of medieval than Roman or Romano-British assemblages.

The small flot contained further *Sphagnum* leaves and another charred wheat grain, together with a range of insect remains. These were moderately well preserved, though in some cases so fragmented as to limit identification (E 2.0-3.5, mode 3.0, weak; F 2.0-5.0, mode 3.0, weak). There was a strong aquatic component, with numerous *Ochthebius* sp. and several other aquatic and waterside taxa; there were also

modest numbers of water flea (*Daphnia*) resting eggs (ephippia). Most of the terrestrial taxa may have originated at the water's edge, but there was a distinct component of synanthropes (species favoured by artificial habitats), some of them obligate; the grain pests *Sitophilus granarius* (Linnaeus) and *Oryzaephilus surinamensis* (Linnaeus), and *Mycetaea hirta* (Marsham) were the most notable. Further analysis of this material, preferably supplemented by a larger subsample, would probably give a useful reconstruction of conditions at the point of deposition and might indicate the origins of the synanthropic component.

Context 1028 [alluvial foreshore silts. Phase 1—Romano-British]
Sample 9/T (5 kg sieved to 300 microns, with paraffin flotation)

Moist, mid brown (dark grey to black internally—oxidation/reduction), soft and slightly sticky (working soft), slightly sandy, clay silt (to silty clay).

The tiny residue of barely 100 cm³ was of sand and gravel and about 40% by volume organic detritus; most of the plant material (and also the many small snails present) were stained black with iron sulphide, indicating a euxinic (highly reducing) post-burial environment, typical of alluvial sediments. Some wood fragments were rounded, as if rolled.

Identifiable plant remains were sparse, but included two salt-marsh taxa, sea arrow-grass (*Triglochin maritima* L.) and annual seablite (*Suaeda maritima* (L.) Dumort.), as well as some terrestrial and fenland taxa (the latter probably arriving with inwashed peat, which was represented by clasts of whole peat to 5 mm, and some leaves of *Sphagnum imbricatum*).

Invertebrate remains were present in useful numbers, though only moderately well preserved. A substantial proportion were aquatics, for example *Ochthebius minimus* (Fabricius) and *Helophorus* sp. (with several of each), numerous ostracods, and some statoblasts of the bryozoon *Lophopus crystallinus* (Pallas). Most of the terrestrial component may have originated locally at the water's edge.

A notable record was a head of the shieldbug *Thyreocoris scarabaeoides* (Linnaeus), a warmth-lover with a southerly distribution in Britain (with very sparse old records from further north, to Lancashire). It has also been recorded from Roman deposits at North Cave (Carrott *et al.* 1996). On the basis of these two records it seems to have been established in Eastern Yorkshire, and its presence is probably indicative of temperatures above those of the

mid 20th century (when the last systematic reviews of bug distributions in Britain were published: Masee 1955, Southwood and Leston 1959).

The snail remains (representing approximately 50 individuals) were all of *Hydrobia ventrosa* (Montagu), a brackish water species.

The plant and animal assemblage from this sample indicates natural deposition in an aquatic environment with a strong brackish influence, consistent with the archaeological interpretation that it was foreshore alluvium.

Discussion and statement of potential

Plant remains in these deposits were sparse but mostly well preserved and, in tandem with invertebrate remains, have potential to illuminate questions of deposit formation and human activity provided large enough samples are processed (a minimum of 5 kg is probably required).

Recommendations

No further work on plant remains from these samples is warranted at present but they should be retained and further work carried out on them or others from the evaluation to make a proper record if dating is thought to be sufficiently precise.

If dating is refined, and in view of the record of *Thyreocoris*, it is suggested that larger subsamples should be processed in order to attempt to recover insect remains with significance in reconstructing palaeo-temperatures.

Any further excavation of deposits in this area is likely to generate more material worthy of at least assessment for plant and invertebrate remains.

Retention and disposal

All of the current material should be retained for the present.

Archive

All material is currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

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