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**Environmental evidence from a second trial excavation at
Rawcliffe Manor, Manor Lane, Rawcliffe, York
(Y.A.T/Yorkshire Museum sitecode: 1992.5007)**

by

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Summary

Fifteen samples, mostly from the fills of a variety of cuts, were recovered and ten of these examined for their content of fossil plant and animal remains.

With the exception of moderate numbers of fairly well preserved 'waterlogged' plant and invertebrate remains in one sample, and a modest assemblage of charred plant remains in another, the deposits proved to be largely barren of ancient biological material. Determination of the nature of the environment of deposition of these sediments therefore relies largely on the nature of the lithology. It is emphasised that there may be deposits with better preservation locally and that care should be taken during further disturbance of the site not to overlook such material.

The small bone assemblage consisted of material mostly of medieval date, almost all from Trench 6. The assemblage was too small for useful interpretation but still represents an example from a kind of site not previously examined in the York area.

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Introduction

This report presents the results of preliminary analyses of plant and invertebrate animal remains from ten of a series of fifteen samples from deposits excavated from the Rawcliffe Manor site and of a modest amount of hand-collected bone. The investigation was carried out in order to identify the potential of the deposits for further work on local environmental history and land use and to offer evidence for the mode of formation of the deposits.

Methods

The sedimentary characteristics of fourteen of the fifteen samples were described but further analysis was undertaken on only ten selected in consultation between the excavator and the EAU (one sample, 509, was a 'spot find'). On these ten samples, a 'rapid assessment' was carried out in which subsamples of 1 kg were disaggregated and sieved to 300 μm (following methods outlined by Kenward *et al.* 1980).

A washover, also to 300 μm , was then performed on each subsample to separate the lighter organic material. Plant remains were recorded from the washovers and wet residues were also examined briefly for plant remains and other components.

The samples and results of the analyses

The analyses carried out on each sample, and the remains recovered, are described below. Dating and a brief archaeological description and/or interpretation of the context are given in brackets where available. The samples are presented in context order.

Context 5101 [medieval; fill of original moat cut]:

Sample 502: light/mid grey (slightly mottled orange-brown, ?gleyed), moist, plastic to sticky silty clay with traces of wood fragments and some modern roots.

The subsample gave a rather large flot quite rich in identifiable plant remains and invertebrates. The former included abundant water-plantain (*Alisma* sp(p).) fruits with modest numbers of water-crowfoot (*Ranunculus* Subgenus *Batrachium*) and stinging nettle (*Urtica dioica*) achenes, which point to a body of shallow water abutting dry land. Together with these there were a few taxa in trace amounts that were either of limited interpretative value or which were consistent with the interpretation offered by the more abundant taxa. There were some *Daphnia* ephippia (water-flea resting-eggs) and numerous mites and insects. The insect assemblage consisted primarily of aquatics (especially *Helophorus* spp.) and some

waterside taxa. Obligate dry land forms were rare (there was a single *Aphodius* dung beetle), and there were no synanthropes. There was certainly no indication from the insects of rubbish dumping.

The small residue was of plant detritus of about 1-4 mm and a little sand; the identifiable plant macrofossils included the taxa mentioned above, together with a larger assemblage of plants, most of which are likely to have grown in or near a body of shallow water. One of them, three-veined sandwort (*Moehringia trinervia*) is most typical of woodland on better soils and the presence of willow and oak buds or bud-scales perhaps also points to the presence of woodland or at least some substantial hedges in the vicinity.

Context 5215 [?Roman; fill of shallow linear cut]

Sample 506: light/mid yellow-grey-brown or orange-grey-brown, dry to moist, crumbly, slightly silty sand with modern roots and fine ?root channels. No further analysis was undertaken.

Context 5230 [(post-)medieval; fill of large ?pit within moated area]

Sample 510: mid grey brown (with slight orange-brown to yellow mottle), moist, stiff (working plastic), slightly silty clay with charcoal flecks and modern roots and ?grass debris; with an internal structure in which there was a tendency to laminate.

The minute flot was barren apart from a trace of unidentifiable insect cuticle. The very small residue consisted of white quartz sand with a trace of gravel to 10 mm, the washover being of modern roots with a trace of charcoal <2 mm. A modern grass caryopsis and another, unidentified, modern seed indicated worm movements to this depth. No indication of the nature of the fill of the pit is offered by this analysis.

Context 5305 [medieval; natural accumulation/occupation deposit within moated site; how was deposit formed?]

Sample 501: mid orange-grey-brown, slightly mottled, dry to moist, crumbly, clay sand with modern roots and traces of small stones (6-20 mm); there is no reason to suppose this is not a natural accumulation of ?alluvium.

The tiny flot included a few scraps of modern root; the tiny residue was of sand and gravel to 7 mm, with a fragment of crudely-made pot to 25 mm, and the washover comprised only modern roots.

Context 5320 [?Roman; fill of shallow ?pit/hearth]

Sample 507: much mottled, mid grey-brown to yellow to orange-brown, moist, crumbly, silty clay sand with modern roots.

There was a minute flot with scraps of unidentifiable plant detritus and some modern root fragments. The small residue consisted mostly of white quartz sand with a little iron-concreted sediment to 10 mm, and a few charcoal fragments to 15 mm; the washover was of modern roots only.

Context 5413 [?natural]

Sample 511: mid yellow-brown to grey-brown, moist, crumbly, slightly silty, slight clay sand with modern roots abundant; there is no reason to suppose this deposit is not part of the natural drift. No further analysis was undertaken.

Context 5418 [?natural]

Sample 515: mottled mid grey/orange-brown (gleyed), moist, stiff to plastic to crumbly sandy clay with modern roots and fine ?root channels. This seems very likely to be natural drift. No further analysis was undertaken.

Context 5631 [medieval; hearth use deposit]

Sample 513: mid/dark grey-brown to black (with orange mottling), dry to moist, crumbly clay and ash with abundant very fine charcoal, flecks of orange burnt clay and some modern roots.

The very small flot included nine charred cereal grains and a few scraps of unidentifiable plant detritus. The only invertebrate fossil was a single *Cercyon* elytron. More grain was recorded in the washover from the residue, which also included quite large amounts of charcoal (to 20 mm) and some modern roots, together with white quartz sand, a little brick/tile to 5 mm and some gravel to 10 mm (consisting of concreted sediment, perhaps from roots channels or worm burrows). The cereals were not well preserved, but appeared to be almost exclusively bread/club wheat (*Triticum aestivo-compactum*) with a few grains of ?barley (cf. *Hordeum* sp(p).) and perhaps a grain of oats (cf. *Avena* sp.). There were also some charred legume cotyledons which might have been from field bean (*Vicia faba* ssp. *minor*) or cultivated pea (*Pisum* sp.). There was a trace of bone, including a small mammal vertebra. A further subsample of 3 kg of 513 was bulk-sieved to 1 mm and yielded further charred cereal and legume remains.

Context 5632 [medieval; hearth use deposit]

Sample 512: mid orange-brown (with darker grey areas), dry to moist, crumbly burnt soil and ash.

The flot included a modern birch fruit (probably an airborne contaminant during sampling or processing) and some modern roots, but was otherwise barren. The small residue was mostly of white quartz sand with a little iron-concreted sand to small gravel size (less than 10 mm),

a few fragments of charcoal to 15 mm and a small amount of modern roots. A bulk-sieved subsample of 3 kg gave similar material to the 1 kg subsample with no further evidence of biological remains.

Context 5702 [medieval; upper fill of ?fishpond]

Sample 503: grey (with orange-brown mottling, ?gleyed), moist, stiff (working plastic) silty clay with charcoal and brick/tile flecks and modern roots; the distinctive granular texture of this deposit perhaps suggests that it has at some time dried out and rewetted.

The subsample examined gave no flot, and the tiny washover was of fine plant detritus and modern roots, with two modern grass fruits and a modern raspberry (*Rubus idaeus*) seed, suggesting active movement through the soil by earthworms. There was white quartz sand and iron-rich concretion to 7 mm in the residue, along with a trace of brick/tile and charcoal to 5 mm.

Context 5702 [medieval; lower fill ?fishpond]

Sample 504: mid grey-brown (slightly mottled red-brown), moist, plastic silty clay with traces of charcoal (or manganese oxide?) and modern roots; the same granularity as in sample 503.

The minute flot comprised a few scraps of plant detritus, a single *Daphnia* ephippium, and traces of unidentifiable insect cuticle. The washover was also minute and included modern roots with one charred ?oat grain, a trace of charcoal to 4 mm, several fragmentary elderberry (*Sambucus nigra*) seeds (probably modern) and a single achene of celery-leaved crowfoot (*Ranunculus sceleratus*), perhaps fossil. The very small residue was of white quartz sand and iron-rich concretion to 7 mm, with traces of brick/tile to 10 mm and charcoal to 5 mm.

Context 5703 [?medieval; undisturbed natural or primary fill of ?fishpond]

Sample 505: mid/dark mottled grey-brown/yellow-brown/blue-grey, moist, stiff to plastic clay with modern roots. No further analysis was undertaken.

Context 5705 [Roman; fill of shallow linear cut]

Sample 508: mid/dark, olive to grey-brown to brown, mottled, moist, stiff (working plastic) clay sand with modern roots and a granular texture (cf. context 5702).

No flot was obtained from the subsample examined and the very small residue was of white quartz sand with gravel to 10 mm of iron-rich concreted material, and there was a small washover of modern roots only.

Sample 509 [traces of very decayed ?bone]

This 'spot' find included a small amount of very decayed, decalcified bone probably from the shaft of a long bone but not identifiable further.

Context 5710 [Roman, fill of shallow pit; any evidence for function of pit?]

Sample 514: mid/dark grey-brown to dark grey to black, moist, plastic to crumbly, clay sand with abundant fine charcoal, a few flecks of brick/tile, and modern roots, with perhaps a trace of humic material.

No flint was obtained from the subsample examined. The washover from the residue was of modern roots with a little charcoal to 5 mm and there were several fragmentary seeds of fat-hen (*Chenopodium album*), which may have been charred. The small residue consisted largely of amorphous lumps of dark brown, apparently concreted, non-calcareous material in which fragments of charcoal and brick/tile had been incorporated. This appears to be some kind of ash and may represent part of the material deposited during the life of the pit.

The animal bone assemblage

A very small assemblage of animal bones was recovered from the site by hand collection and amounted to less than one standard-sized box. Bone was almost exclusively recovered from Trench 6. No bone was recovered from the Roman deposits in Trench 7 apart from several very poorly preserved fragments from a single spot sample (see above).

The bulk of the assemblage came from medieval deposits, dated to the period 13th-15th century, with the remainder representing material of much broader date range.

A total of 36 contexts produced bone, 30 of them from Trench 6 (which included 21 contexts which yielded material worth recording, five very small contexts for which information about preservation was recorded and a further ten with very small numbers of wholly unidentified fragments). A total of 122 fragments were recorded, with just over half (65 fragments) deriving from 13/14th century deposits and only 15 from 15th century contexts. Only 45 were identifiable to species (23 from 13/14th century, eight from 15th century deposits and 14 from mixed and modern contexts). A total of 21 fragments were complete enough for measurements to be taken, the largest number (13 fragments) again coming from 13/14th century deposits). No mandibles with teeth *in situ* were recovered and isolated teeth were rare.

Preservation was for the most part fair but a significant number of contexts showed very variable preservation and, more significantly, wide colour variation from within a single deposit. These provided, in the main, corroborative evidence of mixed contexts which archaeologically had already been recognised as of uncertain date. However bones from two more securely dated contexts (5603 dated to the 14/15th century and 5605 dated to the 14th century) exhibited similar variability, suggesting the presence of residual material.

Burnt or charred bone was almost entirely absent and amounted to only six fragments from contexts 5648, 5400 and 5631 (all medieval in date). In addition, only a minor part of the assemblage showed characteristic evidence of butchery and dog gnawing.

Since the assemblage had been recovered without the use of systematic sieving, the assemblage was undoubtedly biased in favour of larger mammals. The total number of fragments was also too small to make any realistic evaluation of species frequency.

The remains of cattle and sheep, not surprisingly, were the most commonly identified species from all periods. From the unidentified fraction, however, almost all the fragments were from cow-sized animals. Also present were the sparse remains of horse (mostly teeth) totalling four fragments only, pig (represented by a single maxillary molar from a 13/14th century context) and a single cat ulna fragment, again from a 13th century deposit. Six bird bones were also recovered from Trench 6, but only one from a securely dated deposit. This was a proximal ulna fragment from a late 12th/13th century context identified as either rook (*Corvus frugilegus*) or crow (*Corvus corone*). The others included three further fragments from a mixed deposit of 14th-18th century date, identified again as rook, and a single femur head of a sparrowhawk (*Accipter nisus*) from recent deposits. The absence of domestic pig, fowl and deer is perhaps not surprising from such a small assemblage.

Implications

Most of the deposits examined gave no useful bioarchaeological remains and interpretative information concerning environmental history or land-use is thus extremely limited. A deposit from the presumed moat fill confirmed the presence of standing water and natural infilling by silting rather than deliberate backfilling. A medieval hearth deposit gave small amounts of charred food remains.

Any future excavation seems likely to produce relatively little bioarchaeological information but selected contexts with firm dating and known or suspected preservation of plant or animal remains should certainly be sampled, as should the full depth of the moat fills. It is possible that deep pits or wells would contain deposits with good organic preservation and such material would potentially be of great importance; a contingency should be allowed for their analysis. In the short term, the assemblage of insects from the moat fill should be examined in more detail from the sediment already available.

Most of the bone came from late medieval deposits from Trench 6 although some of the more securely dated contexts may be mixed. A modest bone assemblage may well be recovered from this general period should future systematic excavation of this particular area occur. Since preservation is mostly poor to fair and the quantities of material limited, the material is of relatively low priority in terms of zooarchaeological information. However the presence of bird bones from the hand-collected assemblage suggests that systematic recovery may well produce a more diverse and representative assemblage.

The lack of vertebrate remains from Roman deposits suggests that very little useful material will be recovered by future excavations of these unless better preservational regimes are encountered. However it would be important to collect whatever limited information is

available from any future excavation since little is known about the economies of semi-rural sites around the periphery of York.

Retention of material

With the exception of samples 502 and 513 it is not thought worthwhile to retain any voucher samples of sediment from this site in the longer term. The bone should be retained as an example of an assemblage from a kind of site not previously examined in the York area.

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 microfossils from waterlogged archaeological deposits. *Science and Archaeology* 22, 3-15.

Please note: Information concerning the archaeological context and dating of the deposits and biota considered in this report have been provided by York Archaeological Trust; the Environmental Archaeology Unit takes no responsibility for changes in archaeological interpretation or re-phrasing which may have occurred since this report was compiled.