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Evaluation of the biological remains from excavations at Jack Taylor Lane, Beverley, East Yorkshire (site code: BJT98)

by

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Summary

Ten sediment samples (from twenty-five submitted) and a single box of hand-collected bone, of medieval and post-medieval date, have been examined for their bioarchaeological potential.

A 12th/13th century natural fen peat showed only a trace of human influence (two synanthropic insects). Another deposit appeared to have formed in water but to have included much occupation waste, predominantly food remains. The pit fills of this period both contained eggs of intestinal parasitic nematodes, indicative of faecal material. The more fully examined of these two samples contained abundant biological remains including weeds of cereal crops, 'bran' and wetland plants (possibly from damp field margins).

The 13th/14th century fills gave a limited range of food remains.

A 14th/15th century layer represented dumping into open water of waste from in and around buildings, with evidence for leather working, wool cleaning and hints of flax retting on the spot.

A 16th-18th century deposit was clearly waterlain on biological evidence, but included dumped material from occupation and evidence of textile working, and indications of faecal material (from eggs of intestinal parasites).

The shell assemblage is of only very limited interpretative value.

The vertebrate remains include those of the main domestic species together with bird and fish remains. What may be tanning and hornworking waste is present alongside primary butchery and domestic refuse.

Keywords: JACK TAYLOR LANE; BEVERLEY; EAST YORKSHIRE; MEDIEVAL;POST-MEDIEVAL; PLANT REMAINS; 'BRAN'; FEN PEAT; INTESTINAL PARASITE EGGS; *TRICHURIS*; ?*ASCARIS*; INSECTS; SHELLFISH; LAND SNAILS; VERTEBRATE REMAINS; FOOD REMAINS; INDUSTRIAL WASTE; TANNING; HORNWORKING; RETTING

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Introduction

Excavations were undertaken at Jack Taylor Lane, Beverley (NGR TA 046 395), during January 1998, by the Humber Archaeology Partnership. Six trenches (A-F) were excavated, revealing deposits of medieval and post-medieval date. The tighter dating of some of the deposits to 12th/13th century or 13th/14th century is tentative and therefore of only limited value in interpreting the results of this evaluation. Twenty-five sediment samples and a single box of hand-collected bone were submitted for evaluation of their bioarchaeological potential.

Methods

Sediment samples

All twenty-five sediment samples were inspected in the laboratory and on the basis of this inspection and information supplied by the excavator ten samples were chosen for further work. A description of the lithology of these ten samples was recorded using a standard *pro forma*. Subsamples of 1 or 2 kg were taken from six 'General Biological Analysis' samples (GBAs *sensu* Dobney *et al*. 1992) for extraction of macrofossil remains, following procedures of Kenward *et al*. (1980; 1986). Two bulk samples (BSs *sensu* Dobney *et al. op. cit.)* were washed on 500 µm mesh. Five samples (two of them exclusively) were examined for the eggs of parasitic nematodes using the 'squash' technique of Dainton (1992). Table 1 shows the quantity of each sample processed and which techniques were employed.

Shell

The shell assemblage was rapidly recorded. Notes were made on the state of preservation of the material. One shell from an unstratified deposit was not recorded.

Vertebrate remains

The vertebrate remains (from both the hand-collected and the sieved assemblages) were examined and a basic archive produced. A record was made of preservation, quantities (numbers and weights) and identifications where appropriate. Measurements were taken (where appropriate) according to von den Driesch (1976), with additional measurements following those outlined by the sheep-goat working-party (Dobney *et al.* forthcoming).

Results

Sediment samples

The results of the investigations are presented in context number order by phase. Archaeological information and/or archaeological questions to be addressed (provided by the excavator) are given in square brackets.

Phase 1/2 [12th/13th century]

Context 193 [Is this natural vegetation build up? Any evidence of human activity?]

Sample 9 (1kg GBA)
Pure fen peat with very small stones (2-6 mm) and woody roots present.

Processing produced a rather large flot (approximately 5% of the original sample), a moderately large washover (approximately 40% of the original sample) and almost no residue.

The flot was dominated by epidermis from the common reed (*Phragmites australis* (Cav.) Trin. ex Steudel) and other finely comminuted mono-cotyledon remains, including rootlets of various sedges (*Carex* sp(p).). Other vegetative macrofossil components included degraded branches of several fen mosses and dicotyledon leaf fragments. The range of fruits and seeds present was somewhat limited; however, all of the taxa present indicated fen or swamp conditions (water mint, *Mentha aquatica* L.; rushes, *Juncus*; sedges, *Carex*; bur-reed, *Sparganium*; and gipsy-wort, *Lycopus europaeus* L.).

The washover contained further abundant remains of *Phragmites* and *Carex* rootlets, mixed with unidentifiable monocotyledon detritus and dicotyledon roots. Several species noted from the flot were present, accompanied by lesser spearwort (*Ranunculus flammula* L.), bedstraw (*Galium*) and celery-leaved crowfoot (*Ranunculus sceleratus* L.). The last-named species in particular is associated with slow flowing mud-bottomed ditches, shallow pools and stream sides. The remainder of the organic fraction consisted of rootlet-rich peat clasts, some charred herbaceous material, and a small quantity of highly degraded organic mud. The very limited inorganic component of the sample consisted of rare sand grains and a gritstone pebble (to 25 mm).

Beetles and bugs were present in modest numbers, with a proportionally strong component of aquatics. This group was reflected in the other invertebrates, which included numerous chironomid midge larvae. The impression was of open water with an appreciable amount of plant matter, and some emergent or marginal vegetation. There were no species wholly dependent on artificial habitats, although the spider beetle *Tipnus unicolor* most probably originated in a building nearby, and this was perhaps also the origin of the woodworm beetle *Anobium punctatum*.

This sample is undoubtedly a natural fen peat deposit, which yielded no clear evidence of occupation debris, faecal material or food waste. The means of entry of the spider beetle and woodworm is uncertain; while the latter may have flown, *T. unicolor* is flightless. It may perhaps have been carried in flowing water from nearby occupation or dumping.

Context 272 [Is the material water-deposited? Running/stagnant? Domestic refuse?]
Sample 15 (2 kg GBA, 8 kg BS)
Moist, mid brown, crumbly, slightly sticky (working soft and sticky), humic clay silt with patches of light brown, sandy silt and blue-grey clay. Roots and mammal bone were present in the sample.

The 2 kg subsample produced a very small flot (<1% of the original sample) and a moderate-sized washover and residue (each representing approximately 10 % of the original sample). The flot contained a very limited wetland plant macrofossil assemblage consisting of stonewort (*Chara*), common spike-rush (*Eleocharis palustris* L.) and mud rush (*Juncus gerardi* Lois.). Other components included unburnt and charred herbaceous detritus, ?modern rootlets and a small charred grass seed. A few scraps of unidentified insect cuticle were also noted.

The washover, which amounted to approximately 20% of the original sample, contained a mixed assemblage of occupation waste with a very limited plant assemblage. A few small hazel nut fragments were noted, accompanied by charred sedge (*Carex*) nutlets, a single charred bogbean (*Menyanthes trifoliata* L.) seed, rare soil fungi fruiting bodies (*Cenococcum* sp(p).), a small quantity of burnt herbaceous material and occasional modern rootlets. Charcoal (to 10 mm) was frequently observed. Other

components of the washover included small bone fragments (some burnt), rare fish scales, a few larger angular bone sherds (to 50 mm), eggshell and woody dicotyledon rootlets.

The inorganic fraction of the residue was moderately small (approximately 10% of the original sample) and mainly consisted of sand with a small quantity of orange baked earth and rounded pebbles and angular stones (to 10 mm). A single glazed pottery sherd to (50 mm) was recovered and retained. Further fish scales, small bones and charcoal (to 10 mm) were noted.

The moderate-sized BS residue was mostly of stones, dried clay and sand. Other inorganic materials present included brick/tile, pottery and slag. Faecal concretions were present in small amounts. Plant remains were limited to charcoal which was present in reasonable quantities. A few shell remains were noted, including a single fragment of mussel (*Mytilus edulis* L.) valve and the terrestrial snails *Cochlicopa lubrica* (Müller) and *Discus rotundatus* (Müller), together with six unidentified landsnail shell fragments.

Vertebrate remains were common, and consisted mostly of large mammal (some burnt) and fish bone fragments. The mammal remains (weighing 65.5 g) included two caprovid fragments (one of a mandible), a single cat (*Felis* f. domestic) metatarsal, a single mouse (*Mus* sp.) maxilla and 29 unidentifiable fragments. Three goose (*Anser* sp.) fragments were also recovered (1.3 g).

The fish remains (6.8 g) included three eel (*Anguilla anguilla* (L.)) vertebrae, three haddock (*Melanogrammus aeglefinus* L.) vertebrae, a single pike (*Esox lucius* L.) vertebra, two cyprinid vertebrae and numerous (>50) unidentified fragments.

The remains from this sample were typical of a food waste assemblage, much of it burnt, probably *in situ*. However, there was little evidence of faecal material. A rather limited range of other refuse was noted. The deposit undoubtedly consisted of occupation waste dumped into water.

Phase 2 [12th/13th century]

Context 176 [Pit fill. Evidence to suggest function? Is the fill through weathering? Does the fill contain evidence of domestic or industrial activity?]
Sample 10 ('squash')
Moist mid grey-brown, crumbly (working soft), slightly clay silt with infrequent mid brown patches. Very small stones (2-6 mm) were present in the sample.

The microfossil 'squash' was mostly inorganic material with some organic detritus. A few phytoliths ('grass' type) were observed together with two poorly preserved (and unmeasurable) *Trichuris* sp. eggs (the latter perhaps indicating the presence of faecal material).

Context 213 [Pit fill. Evidence of domestic or industrial activity? Evidence to suggest function?]
Sample 11 (1 kg GBA, 'squash')

Moist, dark brown, crumbly (locally brittle and layered), amorphous organic sediment containing fine and coarse herbaceous detritus with patches of mid grey-brown clay silt. Twigs were present and faecal concretions common in the sample.

A 1 kg subsample was processed, yielding a moderate-sized flot and a large washover (approximately 70% of the original sample) and almost no residue.

The flot was dominated by abundant wheat/rye bran fragments which were accompanied by cornfield taxa

such as corncockle (*Agrostemma githago* L.), opium poppy (*Papaver somniferum* L.) and long prickly-headed poppy (*P. argemone* L.). Most corncockle seeds were represented by fragments, consistent with the milling of the seeds as a contaminant of flour. A variety of other wasteground/arable taxa were encountered including shepherd's needle (*Scandix pecten-veneris* L.), oraches (*Atriplex* sp(p).), stinging nettle (*Urtica dioica* L.), small nettle (*Urtica urens* L.) common chickweed (*Stellaria media* (L.) Vill.), weld (*Reseda luteola* L.), wild turnip (*Brassica rapa* L.), pale persicaria (*Polygonum lapathifolium*) and shepherd's purse (*Capsella bursa-pastoris* (L.) Medicus). The remaining plant species were indicative of wetland habitats (rushes, *Juncus* sp(p).; sedges, *Carex* sp(p).; water mint, *Mentha aquatica*; and marsh yellow-cress, *Rorippa palustris* (L.) Besser.), damp grassland (blinks, *Montia fontana* ssp. *chondrosperma* (Fenzl) Walters) and waysides/hedgebanks (upright hedge-parsley, *Torilis japonica* (Houtt.) DC.; ?greater knapweed, *Centaurea* cf. *scabiosa* L.). These species could well have been growing at field margins, prior to being imported into the town.

The large washover contained further abundant wheat/rye bran fragments with plum (*Prunus domestica* spp. *insititia)*, cherry (*Prunus* Sect. *Cerasus* L.) and sloe (*Prunus spinosa* L.) stones, apple (*Malus*) endocarp and occasional faecal concretions. The eggs of the gut parasite, *Trichuris* (whipworm) were noted from some of the concretions. The concretions were nearly black, hard and glossy with impressions of monocotyledon stem and leaf fragments, in marked contrast to the majority of the sample which was completely unconsolidated. This suggests that the mineralisation process was very localised in the deposit, possibly reflecting small scale variations in groundwater conditions. The impressions found on some of the concretions could indicate that this material was animal dung. However, further analyses would be required to clarify this point. The only other macrofossil components of the sample were fragments of sedge epidermis and the rare seeds of red bartsia/eyebright (*Odontites verna* (Bellardi) Dumort./*Euphrasia* sp.).

While insects were not present in large numbers in the flot, they gave a strong subjective impression of foul matter in close association with human occupation, and of a resemblance to some other pit fills. The presence of a group of staphylinid beetles in the genera *Platystethus* and *Anotylus* was very consistent with a cess pit fill, and the ?bean weevil *Bruchus* ?*rufimanus* may have entered via faeces after being eaten in pulses. Whether the water beetles and the statoblast of the bryozoan *Lophopus crystallinus* originated in imported water is a matter of conjecture, but possible. A fragment of a flea was noted, but identification was not possible within project constraints. Further investigation using a larger subsample is desirable.

The microfossil 'squash' was mostly organic detritus with a little inorganic material. Thirteen *Trichuris* sp. eggs were present (mostly well preserved and measurable). A single possible *Ascaris* sp. egg was also identified. Further analysis of the *Trichuris* eggs would probably allow species level identification and so determine if the faecal component of the deposit is of human or animal origin.

In summary, the biological remains clearly suggest that this sample was almost pure faecal matter.

Phase 3 [13th/14th century]

Context 265 [Dump. Is this domestic refuse or cess?]
Sample 21 ('squash')
Moist, varicoloured (light brown through grey brown to black), crumbly and sticky (working soft and sticky), clay silt. Very small stones (2-6 mm) were present in the sample.

The microfossil 'squash' was mostly inorganic material with some organic detritus. Phytoliths were present ('grass' type) but fairly fragmentary. No parasite eggs were present.

The absence of parasite eggs implies that this deposit did not contain faecal material.

Context 317 [Fill. Is the ash domestic/industrial? Any significant differences to Context 305?]
Sample 25 (2 kg GBA)
Mixture of mid grey (oxidising mid yellow-brown) sandy clay and dark brown humic silt with crumbly black ?ash. Clay component significantly jumbled.

The 2 kg subsample yielded only a very small washover (approximately 2% of the original sample) and a small residue (approximately 5% of the original sample).

The washover contained small amorphous clasts of humic silt, accompanied by rare charcoal fragments (to 15 mm), rare soil fungi fruiting bodies (*Cenococcum*) and limited numbers of fish scales and vertebrae. The seed assemblage was restricted to a single saw-sedge (*Cladium mariscus* (L.) Pohl.) nutlet, elder (*Sambucus nigra* L.) and moderate numbers of the mud rush, *Juncus gerardi*. Insect remains were limited to a few fragments of unidentified cuticle.

The residue contained a little sand, gravel, eggshell and burnt fish bones. Other components included earthworm egg capsules and further *Cladium* fruits.

This sample yielded a restricted group of food waste remains which, perhaps, indicated domestic (rather than industrial) origins. A brief, visual inspection of Sample 23 (Context 305) suggested that it had essentially the same character as the sample considered above.

Phase 4 [14th/15th century]

Context 3 [Is there evidence of animal slaughter, tanning or other industrial activity?]
Sample 1 (9 kg BS)
Moist, mid-dark greyish brown, crumbly (working plastic), very humic silt with fine and coarse woody and herbaceous detritus, with small lumps of ?flax scutching waste. Mortar/plaster, brick/tile, leather and mammal bone were present in the sample.

The moderately large residue was dominated by plant remains: wood (bark), twigs and charcoal. Other plant remains included moss, a single hemp (*Cannabis sativa* L.) seed, bogbean seeds, a single hazel nutshell fragment and oak (*Quercus*) bud scales. Sheep keds (see below, Sample 5) were also present.

The inorganic fraction consisted of stones, brick/tile, coal and metal (iron nail). A few terrestrial snails (including *Cochlicopa lubrica* and ?*Trichia* sp.) and oyster shell fragments (some burnt) were present. A small quantity of leather offcuts was also noted.

Large mammal, bird and fish bone fragments were present in small quantities. Two bird fragments (weighing 0.1 g) were identified as passerine. The mammal fragments (129 g) included ten caprovid fragments (including two measurable sheep metacarpals: see Table 9), four cattle fragments (one juvenile) and 20 unidentifiable fragments.

The fish remains (0.8 g) included three haddock (*Melanogrammus aeglefinus*) vertebrae, two other haddock fragments, a single cyprinid vertebra, two gadid dentary fragments and 20 unidentifiable fragments.
Sample 5 (1 kg GBA, 'squash')
Description as Sample 1.

Processing of a 1 kg sub-sample produced a moderate-sized flot, a large washover and a small residue. The flot contained a mixed assemblage of plant remains, a significant component of which was wasteground and arable taxa including shepherd's needle (*Scandix pecten-veneris*), stinking mayweed (*Anthemis cotula* L.), field poppy/long-headed poppy (*Papaver rhoeas/dubium* L.), weld (*Reseda luteola*), oraches (*Atriplex* sp(p).), corn marigold (*Chrysanthemum segetum* L.), chickweed (*Stellaria media*) and wild turnip (*Brassica rapa*). A limited range of fen/pool taxa were also present including pondweeds (*Potamogeton* sp(p).), sedges (*Carex* sp(p).), bogbean (*Menyanthes trifoliata*), meadowsweet (*Filipendula ulmaria* L.) and a single fern pinicule. The low-growing grassland species dandelion (*Taraxacum* sp.) and buttercup (*Ranunculus* Sect. *Ranunculus*) were encountered in very limited numbers accompanied by small grass seeds and infrequent fragments of monocotyledon stem and epidermis fragments. A single broken flax (*Linum usitatissimum* L.) pod segment was noted. The presence of the obligate saltmarsh species sea arrow-grass (*Triglochin maritima* L.) may indicate that hay collected from a coastal environment was imported to the site. Alternatively, the fruit may have arrived in the gut of an animal grazed on a saltmarsh.

The large washover (approximately 60% of the original sample) contained a very heterogenous assemblage dominated by fine herbaceous fragments, most of which were monocotyledon remains, and pieces of well-rotted unidentified bark (to 35 mm). Wood chips (to 40 mm), including some worked pieces, were common. Other components included cinder fragments (to 15 mm), clean cut leather off-cuts (to 70 mm), a single piece of large mammal bone (to 150 mm) and moderate quantities of small fish bones. Both coal (to 5 mm), and char (to 10 mm) were noted. Other burnt components included highly eroded bone fragments and pieces of brick/tile. A few degraded twigs were encountered and tentatively identified as elder (*Sambucus nigra*) and heather (*Calluna vulgaris* (L.) Hull). The inorganic component included moderate amounts of sand, very well-rotted mortar and gritstone.

The 1-4 mm fraction of the washover yielded a further mass of fine herbaceous detritus which was probably a mix of monocotyledon and dicotyledon remains. Several distinct clumps of dicotyledon stems were reminiscent of flax; however, it was not practicable to identify the material further within this evaluation. Occasional capsule segments of flax were present in the sample. A limited number of infrequent aquatic taxa were encountered, including sedges (*Carex*), pondweed (*Potamogeton*) and bogbean (*Menyanthes trifoliata*). Other taxa represented as fruits or seeds included, common chickweed (*Stellaria media*), buttercups (*Ranunculus* Sect. *Ranunculus*), elder (*Sambucus nigra*) and nipplewort (*Lapsana communis* L.). These latter types are indicative of grassland or wasteland. *Lapsana* will grow in a wide variety of habitats including waysides, walls, and hedgebank/woodland margins.

The insect remains were predominantly of species associated with natural or semi-natural habitats, with appreciable numbers of aquatics and plant feeders. The aquatic environment cannot be clearly divined with the available information, but the water beetles are a somewhat restricted group of rather tolerant species, perhaps indicating pollution or disturbance. There was certainly some ingress of insects from habitats associated with human occupation, over a third of the assemblage being accounted for by synanthropes (species favoured by human activity). Among these, *Lathridius minutus* group was the most abundant beetle, and *Tipnus unicolor* and *Aglenus brunneus* were notable. The rather small numbers of these species suggests that there was not large-scale dumping of waste containing insects, and indirect entry (perhaps in flowing water) would be suspected if it were not for the evidence from bones, artefacts, shell, leather and plant remains, all clearly dumped. A tentative identification of an adult sheep ked (?*Melophagus ovinus*) is also of note; this species is usually associated with wool processing in archaeological material and in the absence of evidence for livestock in the vicinity (dung beetles were rare) this seems the most likely origin. (Note that at least three *M. ovinus* puparia were recovered from bulk-sieving of Sample 1, also from this context.) Analysis of a larger subsample is desirable, and would refine the reconstruction of the surroundings and probably cast light on the means of entry of the synanthropic component.

The microfossil 'squash' was mostly organic detritus with a little inorganic material. A few pollen grains/spores were noted but no parasite eggs were present.

This sample is a typical highly heterogenous occupation deposit containing a very wide range of components probably of several different origins. The plant assemblage contains a typical mixture of wasteground/arable taxa with a significant component of wetland taxa, found in many archaeological sites. An origin in a building for some of the material is suggested by the insect remains, leather and sheep keds (from wool cleaning) indicating two activities carried out.

Context 280 [Path. Evidence for direct deposition or as domestic refuse?]
Sample 18 (visual examination only)
Silty sandy matrix with lumps of limestone and abundant shell.

It is not possible to determine from the shell (mostly cockle with some oyster) whether this is domestic refuse or dumped material such as ballast. However, it does not appear to have been washed in.

Phase 5 [16th-18th century]

Context 192 [Is this material water-deposited? Running/stagnant?]
Sample 6 (1 kg GBA, 'squash')
Moist, dark grey (with purplish tinge), stiff (working soft), humic slightly clay silt with fine and coarse herbaceous detritus and black patches (reduction) internally. Very small stones (2-6 mm), rotted wood and oyster shell were present in the sample.

The 1 kg subsample yielded a small flot, a large washover (approximately 40% of the original sample) and a small residue. The flot contained a significant wetland/aquatic component including abundant ostracods, occasional saw-sedge fruits (*Cladium mariscus*) and meadowsweet (*Filipendula ulmaria*). A limited range of both tall and short herbs were noted including hemlock (*Conium maculatum* L.), dock (*Rumex* sp.), stinging nettle (*Urtica dioica* L.), weld (*Reseda luteola*), *Chenopodium album* L., *Brassica* sp., greater plantain (*Plantago major* L.) and *Potentilla* sp. Also present were elder (*Sambucus nigra*), *Rubus* sp. and moderate quantities of dicotyledon leaf fragments. Three moss taxa were encountered (*Homalothecium sericeum* Hedw. or *H. lutescens* Hedw., *Eurhynchium praelongum* Hedw. and *Hypnum* cf. *curpressiforme* Hedw.), which commonly occur in occupation deposits.

The washover contained a very rich, relatively well preserved macrofossil assemblage including all of the taxa encountered in the flot. Further wetland taxa were noted, including fruits, bud-scales and small twigs of willow (*Salix* sp.), fool's water-cress (*Apium nodiflorum* (L.) Lag.) and sedge (*Carex* sp(p).) nutlets. Wasteground and arable taxa not found in the flot included oraches (*Atriplex* sp(p).), *Solanum* sp(p)., redshank (*Polygonum persicaria* L.), sheep's sorrel (*Rumex acetosella* agg.), wild turnip (*Brassica rapa*), corncockle (*Agrostemma githago* L.: seed fragments), common chickweed (*Stellaria media*), and prickly sow-thistle (*Sonchus asper* (L.) Hill).

Limited numbers of flax capsules and seeds were present, accompanied by a single seed of the fuller's teasel (*Dipsacus sativus* (L.) Honckeny) which is used to raise the nap on finished cloth.

A restricted range of food remains were encountered in the washover consisting of moderate amounts of wheat/rye bran, apple endocarp and possibly the rare broken *Rubus* sp. seeds. The presence of broken

pieces of corncockle seed with the bran probably indicates that these elements originate from milled flour.

The small residue (<2% of the total sample) contained a complete oyster shell, small quantities of coarse sand, brick/tile, coal, further twigs and dicotyledon leaf fragments.

Insects were present at a quite high concentration in this material, although none of the beetles and bugs were at all common. While the range of water beetles was limited, there were numerous aquatic invertebrates of other groups, particularly 'many' Ostracoda and Chironomidae (midge) larvae, and aquatic deposition seems certain. There were also a few waterside beetles indicating some emergent or marginal vegetation. A substantial part of the fauna appeared to represent semi-natural habitats around the point of deposition, and there was a subjective impression of an area not heavily used by humans, disturbed and with some decaying matter (which could conceivably have been in small patches such as rotting fungi or the dung of wild animals, however). Synanthropes were present in small numbers, with notable records of the grain pests *Oryzaephilus* sp. and *Sitophilus granarius*. The fauna from a larger subsample would provide a detailed reconstruction of the surroundings and might throw light on the origin of the synanthropes.

The microfossil 'squash' was roughly equal parts organic detritus and inorganic material. Many diatoms, of at least five 'types', were observed, together with fungal spores. Two *Trichuris* sp. eggs were noted, one poorly preserved the other moderately well preserved and measurable. The *Trichuris* eggs are clear indicators of the presence of faecal material in the deposit and further analysis might allow identification to species level. Identification of the diatoms may give further information on the method of formation of the deposit (e.g. whether the deposit was waterlain and, if so, possibly additional information on water quality). These last two exercises are beyond the remit of this evaluation.

This sample is notable for the small traces of evidence for several different aspects of textile working. The remainder of the deposit displays a wide mix of components typical of occupation sites, with some food remains and evidence of faeces from eggs of intestinal parasites. Wasteland/arable taxa and wetland types are prominent, however, there is little evidence for hay or manure. Deposition was clearly aquatic, with dumping of various materials. Further analysis of this sample is desirable both to refine the interpretation of the deposit and to provide data for synthesis from a poorly known period in bioarchaeological terms.

Hand-collected shell

A single small bag of hand-collected shell from 15 stratified contexts was presented for examination.

The material was very variably preserved (from mm-size unidentifiable rotted fragments to complete valves).

Most of the recovered shell was of oyster (*Ostrea edulis* L.) and cockle (*Cerastoderma* sp.) with a few terrestrial snails (all *Cepaea*/*Arianta* sp.).

Table 6 gives a list of fragment counts and taxa by context.

Vertebrate remains

Hand-collected vertebrate material from a total of 50 contexts (a single box approximately 16.5 litres) was presented for evaluation. Material was examined from 44 contexts. Of the remaining six contexts, two were described as unstratified by the excavator and four were of modern date and hence, of no zooarchaeological potential. Of the 44 contexts recorded, three were broadly dated to the medieval period,

eleven were of 12th/13th century date and the remaining 30 were of 13th/14th century date.

For most contexts, preservation of fragments was good to excellent, with a few described as fair. Angularity (appearance of broken surfaces) was described as 'spiky' with a few slightly battered fragments scattered throughout the assemblage. Colour, overall, was more variable, although generally consistent within individual contexts, being described mostly as brown or dark brown.

Fragmentation was not extensive, most fragments being between 50 and 200 mm in any dimension. Evidence of dog gnawing and burning was rare, with butchery and fresh breakage more evident (10-20% fragments overall).

A total of 225 fragments (weighing 3570 g) was recovered by hand collection, of which 100 (2207 g) were identifiable to species or species group (Table 7). The prevalent taxon was caprovid (including one probable goat fragment), followed by cattle, pig and chicken (*Gallus* f. domestic). Other species present included horse (*Equus* f. domestic), cat (*Felis* f. domestic), goose (*Anser* sp.), bird and fish. The goose fragments were mostly from greylag-sized individuals, but this does not rule out the possibility that they may represent domestic individuals.

The assemblage contained 30 measurable fragments (Table 9), nine mandibles and two loose teeth, and nine sub-adult fragments.

Numbers of fragments were too small for species representation analysis by period to provide useful information; however, Table 8 shows that the picture appears similar in all periods.

A range of elements was represented, but once again small numbers limited interpretation. The vertebrate remains probably represented a mixture of domestic refuse and primary butchery waste for all the main domesticates.

A single, large, red deer (*Cervus elaphus* L.) antler fragment was recovered from unstratified deposits in Trench D. The antler had not been shed and had been chopped about 150 mm from the base.

Discussion and statement of potential

Sediment samples

The plant and insect macrofossils, and in some cases the microfossils (diatoms, phytoliths and parasite eggs) from these deposits in Jack Taylor Lane have potential to provide a considerable amount of information about conditions and activities at the site. Even the records made during evaluation have been extremely informative, indicating an early phase of fen, dumping into aquatic habitats, a range of craft activities, evidence of foods, and parasites of animals and (probably) humans.

The 16th-18th century material is of particular interest, being of a poorly-represented period (bioarchaeologically) and suggesting a range of activities and processes.

Shell

The marine shell assemblage is of very little interpretative value bearing in mind the means of collection and the small quantity recovered. However, the nearest known oyster beds are located off the Kent, Essex and Suffolk coasts or in the Clyde estuary (Winder 1992 and pers. comm.), indicating that the oysters may have been brought over great distances. It is possible, however, that oyster beds existed more locally

(Kenward, forthcoming).

The very few terrestrial snails identified are mostly of catholic taxa, and so of no interpretative value

Vertebrate remains

The vertebrate assemblage was well preserved and, although small, provided some useful information. The species and element representations suggest the assemblage is composed of mainly domestic refuse with some primary butchery and possible industrial waste. The presence of haddock suggests trade with coastal fisheries whereas eel, pike and cyprinid indicate utilisation of freshwater fish resources.

The generally excellent preservation of the vertebrate remains, combined with reasonable proportions of measurable bones, mandibles and loose teeth, suggests that, if further excavation were undertaken, a significant and useful assemblage would be recovered. Material from Lurk Lane and Eastgate, Beverley (Scott 1991; 1992) would provide useful local comparanda and material from sites in York, including Skeldergate (O'Connor 1984), Petergate (Ryder 1970) and Swinegate (Carrott *et al*. 1994), and Hungate and St. Paul-in-the-Bail, Lincoln (Dobney *et al*. 1996) would provide regional comparanda.

In addition, the possibility of recovering more evidence for industrial activities (e.g. tanning and hornworking) would add significantly to our knowledge of these crafts in Beverley in the medieval period. Evidence for tanning and hornworking is not common for the medieval period in this area; however several sites in York have produced small quantities of material (see above for references).

Industrial activities

The presence of several horncores in Context 3, together with caprovid metapodials and phalanges, leather offcuts, sheep keds and possible hemp and flax processing debris, suggests that industrial waste forms the bulk of this context. The activities of retting, tanning, and hornworking all require a source of water and are noxious activities, hence the concentration of these activities into one area, near the river, makes sense.

Recommendations

Sediment samples

A full record should be made of the biological remains from the samples considered here, using larger subsamples for plant and invertebrate remains and full analysis of parasite eggs.

In addition, it is recommended that funds should be sought for a further five samples (12, 13, 14, 16 and 23) to be processed and analysed as GBA samples, and that any remaining sediment from Context 272 should be sieved to recover small bones.

Shell

No futher work is recommended on the shell assemblage.

Vertebrate remains

No further work is recommended on the vertebrate remains. If further excavation should take place a moderate to large assemblage is likely to be recovered.

Deposits of the type represented here should not be destroyed by development unless provision is made for excavation and adequate sampling, followed by the full post-excavation analysis and publication of material recovered.

Retention and disposal

All the sediment samples and vertebrate remains should be retained, in suitable conditions, 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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The data archive for insect remains was created following the recommendation of Kenward (forthcoming) that the academic value of evaluations should be increased by providing a permanent electronic record for future synthesis. This component of the work has been funded from EAU resources, but should be provided for in the specification in future evaluations.

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Table 1. List of samples processed from Jack Taylor Lane, Beverley.

Sample	Context	Type of deposit	Notes
1	3	Layer	BS sample, 9 kg processed
5	3	Layer	GBA sample, 1 kg processed, parasite squash
6	192	Layer	GBA sample, 1 kg processed, parasite squash
9	193	Layer	GBA sample, 1 kg processed
10	176	Pit fill	parasite squash
11	213	Pit fill	GBA sample, 1 kg processed, parasite squash done
15	272	Layer	2 kg processed as GBA remaining 8 kg BS
18	280	Path	visually examined only
21	265	Dump	parasite squash
25	317	Fill	GBA sample, 2 kg processed

*Table 2. Complete list of invertebrate taxa from Jack Taylor Lane, Beverley. For explanation of codes see Table 5. Taxa marked * are not employed in calculating the statistics given in Table 3.*

*Oligochaeta sp. (egg capsule)	u
*Ostracoda sp.	u
**Sialis* sp. (larva)	oa-w
Lygaeidae sp.	oa-p
Cimicidae sp.	oa-p
Miridae sp.	oa-p
Saldidae sp.	oa-d
Heteroptera sp.	u
Delphacidae sp.	oa-p
Auchenorhyncha spp.	oa-p
*Auchenorhyncha sp. (nymph)	oa-p
*Trichoptera sp. (larva)	oa-w
*Trichoptera sp.	oa-w
*Bibionidae sp.	u
*Chironomidae sp. (larva)	oa
**Melophagus ovinus* (Linnaeus) (puparium)	u
**?Melophagus ovinus* (Linnaeus) (adult)	u
*Diptera sp. (pupa)	u
*Diptera sp. (puparium)	u
*Diptera sp. (adult)	u
*Diptera sp.	u
*Siphonaptera sp.	u
Carabus sp.	oa
Trechus obtusus or *quadristriatus*	oa
Trechus micros (Herbst)	u
Pterostichus ?melanarius (Illiger)	ob
Pterostichus sp.	ob
Laemostenus sp.	ss
Dromius sp.	oa
Carabidae sp.	ob
Hydroporinae sp.	oa-w
Hydroporinae spp.	oa-w
Agabus or *Ilybius* sp.	oa-w
Helophorus aquaticus or *grandis*	oa-w
Helophorus spp.	oa-w
Coelostoma orbiculare (Fabricius)	oa-w
Cercyon analis (Paykull)	rt-sf
?Cercyon sp.	u
Hydrobius fuscipes (Linnaeus)	oa-w
?Anacaena sp.	oa-w
Chaetarthria seminulum (Herbst)	oa-w
Hydrophilinae sp.	oa-w
Acritus nigricornis (Hoffmann)	rt-st
Onthophilus striatus (Forster)	rt
Ochthebius sp.	oa-w
Limnebius sp.	oa-w
Ptenidium sp.	rt
Megarthrus sp.	rt
Proteinus sp.	rt
Lesteva sp.	oa-d
Dropephylla sp.	u
Xylodromus ?concinnus (Marsham)	rt-st
Omaliinae sp.	rt
Carpelimus sp.	u
Platystethus arenarius (Fourcroy)	rf
Platystethus nitens (Sahlberg)	oa-d
Anotylus nitidulus (Gravenhorst)	rt-d
Anotylus rugosus (Fabricius)	rt
Anotylus sculpturatus group	rt
*Aranae sp.	u
**Lophopus crystallinus* (Pallas)	oa-w
Anotylus tetracarinatus (Block)	rt
Stenus sp.	u
Euaesthetus sp.	oa
Rugilus sp.	rt
Leptacinus sp.	rt-st
Neobisnius sp.	u
Philonthus sp.	u
Staphylininae sp.	u
Tachinus ?signatus Gravenhorst	u
Falagria sp.	rt-sf
Falagria or *Cordalia* sp.	rt-sf
?Crataraea suturalis (Mannerheim)	rt-st
Aleocharinae sp.	u
Geotrupes sp.	oa-rf
Aphodius contaminatus (Herbst)	oa-rf
Aphodius sp.	ob-rf
Oxyomus sylvestris (Scopoli)	rt-sf
Cyphon sp.	oa-d
Scirtidae sp.	oa-d
Dryops sp.	oa-d
Elmidae sp.	oa-w
Elateridae sp.	ob
Grynobius planus (Fabricius)	l
Anobium punctatum (Degeer)	l-sf
Ptilinus pectinicornis (Linnaeus)	l-sf
Anobiidae sp. indet.	l
Tipnus unicolor (Piller & Mitterpacher)	rd-st
Ptinus fur (Linnaeus)	rd-sf
Ptinidae sp. indet.	rd
Monotoma sp.	rt-sf
Oryzaephilus sp.	g-ss
Cryptophagus sp.	rd-sf
Atomaria spp.	rd
Lathridius minutus group	rd-st
Enicmus sp.	rt-sf
Corticaria spp.	rt-sf
Corticariinae sp. indet.	rt
Aglenus brunneus (Gyllenhal)	rt-ss
Bruchus ?rufimanus Boheman	st
Bruchinae sp. indet.	u
Plateumaris affinis (Kunze)	oa-w-p
Prasocuris phellandrii (Linnaeus)	oa-p-d
Phyllotreta nemorum group	oa-p
Phyllotreta sp.	oa-p
Longitarsus sp.	oa-p
Altica sp.	oa-p
Apion sp.	oa-p
Sitona sp.	oa-p
Sitophilus granarius (Linnaeus)	g-ss
Ceutorhynchus ?contractus (Marsham)	oa-p
Ceutorhynchus ?erysimi (Fabricius)	oa-p
Limnobaris sp.	oa-p-d
Curculionidae spp.	oa
Scolytidae sp.	l
*Coleoptera sp. (larva)	u
*Hymenoptera Parasitica sp.	u
*Insecta sp. (larva)	u
*Insecta sp.	u
*Acarina sp.	u

Table 3. Main statistics for assemblages of adult beetles and bugs (excluding aphids and scale

insects) from samples from Jack Taylor Lane, Beverley. Statistics are not given for assemblages with less than 10 individuals, although all assemblages contribute to the 'Site' statistics (last column). For explanation of abbreviations, see Table 5.

Context	**3**	**192**	**193**	**213**	**272**	**317**	**Whole**
Sample	**5**	**6**	**9**	**11**	**15**	**25**	**site**
Ext	**/T**	**/T**	**/T**	**/T**	**/T**	**/T**	
S	32	56	24	28	0	0	110
N	36	59	24	29	0	0	148
ALPHA	135	523	0	363	0	0	193
SEALPHA	69	296	0	323	0	0	35
SOB	12	32	17	9	0	0	53
PSOB	38	57	71	32	0	0	48
NOB	13	33	17	9	0	0	72
PNOB	36	56	71	31	0	0	49
ALPHAOB	0	473	0	0	0	0	90
SEALPHAOB	0	421	0	0	0	0	23
SW	5	7	11	2	0	0	16
PSW	16	13	46	7	0	0	15
NW	6	7	11	2	0	0	25
PNW	17	12	46	7	0	0	17
ALPHAW	0	0	0	0	0	0	20
SEALPHAW	0	0	0	0	0	0	8
SD	0	6	3	2	0	0	9
PSD	0	11	13	7	0	0	8
ND	0	7	3	2	0	0	12
PND	0	12	13	7	0	0	8
ALPHAD	0	0	0	0	0	0	0
SEALPHAD	0	0	0	0	0	0	0
SP	5	12	2	1	0	0	18
PSP	16	21	8	4	0	0	16
NP	5	13	2	1	0	0	22
PNP	14	22	8	3	0	0	15
ALPHAP	0	0	0	0	0	0	48
SEALPHAP	0	0	0	0	0	0	27
SM	0	0	0	0	0	0	0
PSM	0	0	0	0	0	0	0
NM	0	0	0	0	0	0	0
PNM	0	0	0	0	0	0	0
ALPHAM	0	0	0	0	0	0	0
SEALPHAM	0	0	0	0	0	0	0
SL	1	3	1	1	0	0	6

Context	**3**	**192**	**193**	**213**	**272**	**317**	**Whole**
Sample	**5**	**6**	**9**	**11**	**15**	**25**	**site**
Ext	**/T**	**/T**	**/T**	**/T**	**/T**	**/T**	
PSL	3	5	4	4	0	0	5
NL	1	3	1	1	0	0	6
PNL	3	5	4	3	0	0	4
ALPHAL	0	0	0	0	0	0	0
SEALPHAL	0	0	0	0	0	0	0
SRT	16	17	1	15	0	0	45
PSRT	50	30	4	54	0	0	41
NRT	18	19	1	16	0	0	54
PNRT	50	32	4	55	0	0	36
ALPHART	0	0	0	0	0	0	125
SEALPHART	0	0	0	0	0	0	44
SRD	5	5	1	1	0	0	12
PSRD	16	9	4	4	0	0	11
NRD	7	6	1	1	0	0	15
PNRD	19	10	4	3	0	0	10
ALPHARD	0	0	0	0	0	0	0
SEALPHARD	0	0	0	0	0	0	0
SRF	1	2	0	2	0	0	5
PSRF	3	4	0	7	0	0	5
NRF	1	2	0	2	0	0	5
PNRF	3	3	0	7	0	0	3
ALPHARF	0	0	0	0	0	0	0
SEALPHARF	0	0	0	0	0	0	0
SSA	12	10	2	8	0	0	25
PSSA	38	18	8	29	0	0	23
NSA	14	10	2	9	0	0	35
PNSA	39	17	8	31	0	0	24
ALPHASA	0	0	0	0	0	0	40
SEALPHASA	0	0	0	0	0	0	14
SSF	5	6	1	6	0	0	14
PSSF	16	11	4	21	0	0	13
NSF	5	6	1	7	0	0	19
PNSF	14	10	4	24	0	0	13
ALPHASF	0	0	0	0	0	0	0
SEALPHASF	0	0	0	0	0	0	0
SST	5	2	1	2	0	0	7
PSST	16	4	4	7	0	0	6
NST	7	2	1	2	0	0	12
PNST	19	3	4	7	0	0	8

Context	**3**	**192**	**193**	**213**	**272**	**317**	**Whole**
Sample	**5**	**6**	**9**	**11**	**15**	**25**	**site**
Ext	**/T**	**/T**	**/T**	**/T**	**/T**	**/T**	
ALPHAST	0	0	0	0	0	0	0
SEALPHAST	0	0	0	0	0	0	0
SSS	2	2	0	0	0	0	4
PSSS	6	4	0	0	0	0	4
NSS	2	2	0	0	0	0	4
PNSS	6	3	0	0	0	0	3
ALPHASS	0	0	0	0	0	0	0
SEALPHASS	0	0	0	0	0	0	0
SG	0	2	0	0	0	0	2
PSG	0	4	0	0	0	0	2
NG	0	2	0	0	0	0	2
PNG	0	3	0	0	0	0	1
ALPHAG	0	0	0	0	0	0	0
SEALPHAG	0	0	0	0	0	0	0

Table 4. Species lists in rank order for invertebrate macrofossils from samples from Jack Taylor Lane, Beverley. For each sample assemblage the adult Hemiptera (bugs) and Coleoptera (beetles) are listed first, followed by the remaining invertebrates. ReM is 'recording method' (N = non-quantitative; RS = rapid scan); Weight is in kilogrammes; E is 'erosion' and F is 'fragmentation' both on scales from 0.0 (undamaged) to 5.5 (very damaged); numbers are minimum number of individuals; semi-quantitative estimates are m = 'many', translated as 15 individuals; s = several, translated as 6). For translation of ecological codes (final column), see Table 5. 'null' indicates that there were no recognisable remains of macro-invertebrates, although there may have been decayed scraps unassignable to Class.

Context: 3 Sample: 1/BS ReM: N
Weight: not applicable

*Melophagus ovinus (puparium)	3		u

Context: 3 Sample: 5/T ReM: RS
Weight: 1.00 E: 0.0 F: 0.0

Lathridius minutus group	3		rd-st
Hydrobius fuscipes	2		oa-w
Stenus sp.	2		u
Auchenorhyncha sp. A	1		oa-p
Auchenorhyncha sp. B	1		oa-p
Pterostichus sp.	1		ob
Laemostenus sp.	1		ss
Hydroporinae sp.	1		oa-w
Helophorus aquaticus or grandis	1		oa-w
Helophorus sp.	1		oa-w
Hydrophilinae sp.	1		oa-w
Acritus nigricornis	1		rt-st
Ptenidium sp.	1		rt
Xylodromus ?concinnus	1		rt-st
Anotylus rugosus	1		rt
Leptacinus sp.	1		rt-st
Neobisnius sp.	1		u
Falagria sp.	1		rt-sf
Aphodius sp.	1		ob-rf
Tipnus unicolor	1		rd-st
Ptinus fur	1		rd-sf
Cryptophagus sp.	1		rd-sf
Atomaria sp.	1		rd
Enicmus sp.	1		rt-sf
Corticaria sp.	1		rt-sf
Corticariinae sp.	1		rt
Aglenus brunneus	1		rt-ss
Bruchinae sp.	1		u
Phyllotreta sp.	1		oa-p
Altica sp.	1		oa-p
Sitona sp.	1		oa-p
Scolytidae sp.	1		l
*Acarina sp.	15	m	u
*Diptera sp. (puparium)	6	s	u
*Coleoptera sp. (larva)	1		u
*Insecta sp.	1		u
*?Melophagus ovinus (adult)	1		u
*Aranae sp.	1		u
*Siphonaptera sp.	1		u
*Trichoptera sp.	1		oa-w

Context: 192 Sample: 6/T ReM: RS
Weight: 1.00 E: 0.0 F: 0.0

Anotylus nitidulus	2	rt-d
Atomaria sp. B	2	rd
Ceutorhynchus ?contractus	2	oa-p
Lygaeidae sp.	1	oa-p
Cimicidae sp.	1	oa-p
Miridae sp.	1	oa-p
Saldidae sp.	1	oa-d
Auchenorhyncha sp. A	1	oa-p
Auchenorhyncha sp. B	1	oa-p
Auchenorhyncha sp. C	1	oa-p
Carabus sp.	1	oa
Trechus obtusus or quadristriatus	1	oa
Dromius sp.	1	oa
Carabidae sp.	1	ob
Hydroporinae sp.	1	oa-w
Agabus or Ilybius sp.	1	oa-w
Helophorus sp.	1	oa-w
?Anacaena sp.	1	oa-w
Onthophilus striatus	1	rt
Ochthebius sp.	1	oa-w
Limnebius sp.	1	oa-w
Megarthrus sp.	1	rt
Proteinus sp.	1	rt
Lesteva sp.	1	oa-d
Dropephylla sp.	1	u
Carpelimus sp.	1	u
Anotylus sculpturatus group	1	rt
Leptacinus sp.	1	rt-st
Tachinus ?signatus	1	u
Falagria or Cordalia sp.	1	rt-sf
Aleocharinae sp.	1	u
Geotrupes sp.	1	oa-rf
Aphodius contaminatus	1	oa-rf
Oxyomus sylvestris	1	rt-sf
Cyphon sp.	1	oa-d
Scirtidae sp.	1	oa-d
Elmidae sp.	1	oa-w
Elateridae sp.	1	ob
Grynobius planus	1	l
Ptilinus pectinicornis	1	l-sf
Anobiidae sp.	1	l

Ptinidae sp.	1		rd
Monotoma sp.	1		rt-sf
Oryzaephilus sp.	1		g-ss
Cryptophagus sp.	1		rd-sf
?Atomaria sp.	1		rd
Lathridius minutus group	1		rd-st
Corticaria sp.	1		rt-sf
Prasocuris phellandrii	1		oa-p-d
Phyllotreta nemorum group	1		oa-p
Phyllotreta sp.	1		oa-p
Longitarsus sp.	1		oa-p
Apion sp.	1		oa-p
Sitophilus granarius	1		g-ss
Curculionidae sp.	1		oa
Curculionidae sp. B	1		oa
*Ostracoda sp.	15	m	u
*Chironomidae sp. (larva)	15	m	oa
*Diptera sp. (adult)	6	s	u
*Insecta sp. (larva)	6	s	u
*Diptera sp. (pupa)	6	s	u
*Auchenorhyncha sp. (nymph)	1		oa-p
*Coleoptera sp. (larva)	1		u
*Bibionidae sp.	1		u
*Sialis sp. (larva)	1		u
*Trichoptera sp.	1		oa-w
*Trichoptera sp. (larva)	1		oa-w
*Diptera sp. (puparium)	1		u

Context: 193 Sample: 9/T ReM: RS
Weight: 1.00 E: 1.50 F: 2.50

Delphacidae sp.	1		
Saldidae sp.	1		oa-d
Heteroptera sp.	1		u
Hydroporinae sp. A	1		oa-w
Hydroporinae sp. B	1		oa-w
Agabus or Ilybius sp.	1		oa-w
Helophorus sp. A	1		oa-w
Helophorus sp. B	1		oa-w
Coelostoma orbiculare	1		oa-w
?Cercyon sp.	1		u
Hydrobius fuscipes	1		oa-w
?Anacaena sp.	1		oa-w
Chaetarthria seminulum	1		oa-w
Ochthebius sp.	1		oa-w
Stenus sp.	1		u
Euaesthetus sp.	1		oa
Aleocharinae sp.	1		u
Dryops sp.	1		oa-d
Anobium ?punctatum	1		l-sf
Tipnus unicolor	1		rd-st
Plateumaris affinis	1		oa-w-p
Limnobaris sp.	1		oa-p-d
Curculionidae sp. A	1		oa
Curculionidae sp. B	1		oa
*Acarina sp.	15	m	u
*Insecta sp. (larva)	15	m	u
*Diptera sp. (puparium)	15	m	u
*Chironomidae sp. (larva)	6	s	oa
*Bibionidae sp.	1		u
*Oligochaeta sp. (egg capsule)	1		u
*Sialis sp. (larva)	1		u

Context: 213 Sample: 11/T ReM: RS
Weight: 1.00 E: 0.0 F: 0.0

Enicmus sp.	2		rt-sf
Trechus obtusus or quadristriatus	1		oa
Trechus micros	1		u
Pterostichus ?melanarius	1		ob
Carabidae sp.	1		ob
Agabus or Ilybius sp.	1		oa-w
Helophorus sp.	1		oa-w
Cercyon analis	1		rt-sf
Ptenidium sp.	1		rt
Omaliinae sp.	1		rt
Platystethus arenarius	1		rf
Platystethus nitens	1		oa-d
Anotylus rugosus	1		rt
Anotylus sculpturatus group	1		rt
Anotylus tetracarinatus	1		rt
Rugilus sp.	1		rt
Philonthus sp.	1		u
Staphylininae sp.	1		u
?Crataraea suturalis	1		rt-st
Aphodius sp.	1		ob-rf
Cyphon sp.	1		oa-d
Anobium punctatum	1		l-sf
Atomaria sp.	1		rd
Corticaria sp.	1		rt-sf
Corticaria sp. A	1		rt-sf
Corticaria sp. B	1		rt-sf
Bruchus ?rufimanus	1		st
Ceutorhynchus ?erysimi	1		oa-p
*Diptera sp. (puparium)	6	s	u
*Acarina sp.	1		u
*Diptera sp. (adult)	1		u
*Hymenoptera Parasitica sp.	1		u
*Lophopus crystallinus	1		oa-w
*Siphonaptera sp.	1		u

Context: 272 Sample: 15/T ReM: RS
Weight: 2.00

null	0		u

Context: 317 Sample: 25/T ReM: RS
Weight: 2.00

null	0		u

Table 5. Abbreviations for ecological codes and statistics used for interpretation of insect remains in text and tables. Lower case codes in parentheses are those assigned to taxa and used to calculate the group values (the codes in capitals). See Table 4 for codes assigned to taxa from Jack Taylor Lane, Beverley. Indivs = individuals (based on MNI); No = number.

No taxa	S
Estimated number of indivs (MNI)	N
Index of diversity (α)	alpha
Standard error of alpha	SE alpha
No 'certain' outdoor taxa (oa)	SOA
Percentage of 'certain' outdoor taxa	PSOA
No 'certain' outdoor indivs	NOA
Percentage of 'certain' outdoor indivs	PNOA
No OA and probable outdoor taxa (oa+ob)	SOB
Percentage of OB taxa	PSOB
No OB indivs	NOB
Percentage OB indivs	PNOB
Index of diversity of the OB component	alphaOB
Standard error	SEalphaOB
No aquatic taxa (w)	SW
Percentage of aquatic taxa	PSW
No aquatic indivs	NW
Percentage of W indivs	PNW
Index of diversity of the W component	alphaW
Standard error	SEalphaW
No damp ground/waterside taxa (d)	SD
Percentage D taxa	PSD
No damp D indivs	ND
Percentage of D indivs	PND
Index of diversity of the D component	alphaD
Standard error	SEalphaD
No strongly plant-associated taxa (p)	SP
Percentage of P taxa	PSP
No strongly P indivs	NP
Percentage of P indivs	PNP
Index of diversity of the P component	alphaP
Standard error	SEalphaP
No heathland/moorland taxa (m)	SM
Percentage of M taxa	PSM
No M indivs	NM
Percentage of M indivs	PNM
Index of diversity of the M component	alphaM
Standard error	SEalphaM
No wood-associated taxa (l)	SL
Percentage of L taxa	PSL
No L indivs	NL
Percentage of L indivs	PNL
Index of diversity of the L component	alphaL
Standard error	SEalphaL
No indivs of grain pests (g)	NG
Percentage of indivs of grain pests	PNG
No decomposer taxa (rt + rd + rf)	SRT
Percentage of RT taxa	PSRT
No RT indivs	NRT
Percentage of RT indivs	PNRT
Index of diversity of RT component	alpha RT
Standard error	SEalphaRT
No 'dry' decomposer taxa (rd)	SRD
Percentage of RD taxa	PSRD
No RD indivs	NRD
Percentage of RD indivs	PNRD
Index of diversity of the RD component	alphaRD
Standard error	SEalphaRD
No 'foul' decomposer taxa (rf)	SRF
Percentage of RF taxa	PSRF
No RF indivs	NRF
Percentage of RF indivs	PNRF
Index of diversity of the RF component	alphaRF
Standard error	SEalphaRF
No synanthropic taxa (sf+st_ss)	SSA
Percentage of synanthropic taxa	PSSA
No synanthropic indivs	NSA
Percentage of SA indivs	PNSA
Index of diversity of SA component	ALPHASA
Standard error	SEALPHASA
No facultatively synanthropic indivs	SSF
Percentage of SF taxa	PSSF
No SF indivs	NSF
Percentage of SF indivs	PNSF
Index of diversity of SF component	ALPHASF
Standard error	SEALPHASF
No typical synanthropic indivs	SST
Percentage of ST taxa	PSST
No ST indivs	NST
Percentage of ST indivs	PNST
Index of diversity of ST component	ALPHAST
Standard error	SEALPHAST
No strongly synanthropic taxa	SSS
Percentage of SS taxa	PSSS
No SS indivs	NSS
Percentage of SS indivs	PNSS
Index of diversity of SS component	ALPHASS
Standard error	SEALPHASS
No uncoded taxa (u)	SU
Percentage of uncoded indivs	PNU

Table 6. Hand-collected shell from Jack Taylor Lane, Beverley. (Note that all counts are of fragments > 20 mm in largest dimension, not minimum numbers of individuals).

Context	***Ostrea edulis* L.**	***Cerastoderma* sp.**	***Cepaea/Arianta* sp.**	**Unidentified fragments**	**Total**
2	1	-	-	-	1
28	1	-	-	-	1
29	9	3	-	-	12
30	4	1	-	-	5
37	1	-	-	-	1
49	1	1	1	-	3
55	2	-	-	-	2
58	2	-	-	-	2
139	1	-	-	-	1
166	-	-	1	many small fragments	1 (+ many small fragments)
168	1	-	-	-	1
267	1	-	-	-	1
270	1	-	-	-	1
272	1	-	-	-	1
280	2	3	-	6	11
Total	28	8	2	6 (+ many small fragments)	

Table 7. The vertebrate remains from Jack Taylor Lane, Beverley. Key: Juv/neo = juvenile/neonatal, mands = mandibles, frags = fragments.

Taxa		**No. unfused**	**No. juv/neo**	**No. mands**	**No. teeth***	**No. frags**	**Weight (g)**
Cat	*Felis* f. domestic	1	-	-	-	3	5
Horse	*Equus* f. domestic	-	1	-	-	2	59
Pig	*Sus* f. domestic	2	-	1	-	8	94
Cow	*Bos* f. domestic	1	1	-	-	22	1286
Sheep/goat	Caprovid	3	-	8	2	45	712
?Goat	cf. *Capra* f. domestic	-	-	-	-	1	
Bird		-	-	-	-	2	2.3
Goose	*Anser* sp.	-	-	-	-	5	22
Chicken	*Gallus* f. domestic	-	-	-	-	6	19.3
?Chicken	cf. *Gallus* f. domestic	-	-	-	-	1	3
Fish		-	-	-	-	5	4.6
Subtotal		***7***	***2***	***9***	***2***	***100***	***2207***
Unidentified		-	-	-	-	125	1363
Total		**7**	**2**	**9**	**2**	**225**	**3570**

*Includes only those teeth of use for ageing or sexing information.

Table 8. The vertebrate remains from Jack Taylor Lane, Beverley (by date).

Taxa		**12th / 13th C**	**13th / 14th C**	**Medieval**	**Total**
Cat	*Felis* f. domestic	1	2	-	3
Horse	*Equus* f. domestic	-	2	-	2
Pig	*Sus* f. domestic	1	7	-	8
Cow	*Bos* f. domestic	5	10	7	22
Sheep/goat	Caprovid	11	29	5	45
?Goat	cf. *Capra* f. domestic	-	-	1	1
Bird		-	2	-	2
Goose	*Anser* sp.	1	4	-	5
Chicken	*Gallus* f. domestic	1	5	-	6
?Chicken	cf. *Gallus* f. domestic	1	-	-	1
Fish		4	1	-	5
Subtotal		***25***	***62***	***13***	***100***
Unidentified		49	70	6	125
Total		**74**	**132**	**19**	**225**

Table 9. Measurements of vertebrate remains from Jack Taylor Lane, Beverley.

Context	Species	Element	Side	Measurements				
3	Cow	Horncore	l	45=43.05	46=34.05	BC=134		
3	Cow	Horncore	l	45=44.74	46=35.17	BC=133		
3	Cow	Horncore	r	45=64.74	46=56.02	BC=198		
3	Cow	Horncore	r	45=36.75	46=33.14	BC=118	47=122	
3	Cow	Horncore	r	45=42.98	46=32.56	BC=128	47=131	
3	Sh/g	Metatarsal	l	Gl=127.05	SD=12.34	Bp=20.53	Dp=21.20	BFd=25.32
				Dd=15.62	Dem=9.56	Dvm=15.56	Dim=13.24	
3	Sh/g	Metatarsal	r	Gl=134.28	SD=10.70	Bp=19.84	Dp=20.26	BFd=23.35
				Dd=15.68	Dem=9.80	Dvm=15.89	Dim=13.15	
3 (1/BS)	Sh/g	Metacarpal	l	Gl=111.05	SD=11.92	Bp=20.65	Dp=15.08	BFd=23.64
				Dd=15.42	Dem=10.51	Dvm=15.40	Dim=12.55	
3 (1/BS)	Sh/g	Metacarpal	r	Gl=117.77	SD=13.37	Bp=21.00	Dp=14.63	BFd=23.67
				Dd=15.07	Dem=10.45	Dvm=15.01	Dim=12.65	
9	Sh/g	Metatarsal	l	SD=12.35	Bp=21.61	Dp=22.66		
9	?Goat	Metacarpal	r	SD=15.16	Bp=29.30	Dp=19.34		
28	Sh/g	Scapula	l	SLC=19.94	ASG=17.58			
30	Goose	Carpo-metacarpus	l	Gl=95.73	Bp=22.53	Did=12.06		
37	Sh/g	Humerus	r	BT=28.05	HT=17.66	HTC=13.24		
37	Sh/g	Radius	l	Bd=24.83	BFd=21.72			
49	Sh/g	Metacarpal	l	SD=13.60	Bp=22.59	Dp=16.56		
49	Sh/g	Metacarpal	l	SD=12.92	Bp=22.00	Dp=15.73		
82	Chicken	Tibiotarsus	l	Gl=116.27	Dip=22.61	Bd=12.85	Dd=12.58	
82	Goose	Ulna	l	Gl=149.34	Did=15.50	Dip=18.02	Bp=14.78	SC=7.71
153	Cat	Metatarsal5	l	Gl=37.64	SD=2.21	Bd=4.19		
166	Cow	Metacarpal	r	SD=25.25	Bp=46.02	Dp=27.43		
262	Cow	Metacarpal	l	SD=30.30	Bp=57.82	Dp=36.68		
262	Sh/g	Metacarpal	r	BFd=23.73	Dd=15.12	Dem=10.17	Dvm=15.01	Dim=12.53
264	Goose	Tibiotarsus	l	Bd=16.61	Dd=16.06			
266	Sh/g	Calcaneum	r	Gl=55.32	DS=19.56	C=13.54	C+D=24.42	

Context	Species	Element	Side	Measurements				
267	Pig	Humerus	l	BT=30.35	HTC=19.73	SD=14.9		
270	Pig	Metatarsal5	l	Gl=66.26				
272	Cow	Metacarpal	r	BFd=45.82	Dd=26.48	Dem=19.13	Dvm=26.76	Dim=23.75
272	Sh/g	Metacarpal	r	Bp=19.18	Dp=14.92			
322	Sheep	Humerus	r	BT=27.58	HT=17.39	HTC=13.53	SD=13.76	