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**Technical Report: Plant and invertebrate remains from
Anglo-Scandinavian deposits at the Queen's Hotel site,
1-9 Micklegate, York (site code 88-9.17)**

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Summary

Twenty assemblages of plant and invertebrate macrofossils of Anglo-Scandinavian date from the Queen's Hotel site, 1-9 Micklegate, York, have been analysed. They came from layers (which appear essentially to have been floors of domestic buildings) or pit fills (mainly faecal in nature). The material broadly resembles contemporaneous groups from elsewhere in York.

Keywords: YORK; 1-9 MICKLEGATE (QUEEN'S HOTEL); ANGLO-SCANDINAVIAN; OCCUPATION DEPOSITS; PIT FILLS; FLOORS; PLANT REMAINS; INVERTEBRATE REMAINS; DYEPLANTS; FOODPLANTS

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List of Tables and Figures

Table 1. List of samples from the Queen's Hotel (1-9 Micklegate) site, York, examined for plant and invertebrate remains.

Table 2. Complete list of plant and invertebrate remains recorded from samples from the Queen's Hotel (1-9 Micklegate) site, York, in taxonomic order.

Table 3. Lists of plants remains and other components of the samples from the Queen's Hotel (1-9 Micklegate) site, York, in context, and sample order.

Table 4. Values for the 'abundance-indicator value' (AIV) for assemblages of plant remains from the Queen's Hotel (1-9 Micklegate) site, York, in context and sample order.

Table 5. Explanation of the codes used for AIV groups in Table 4.

Table 6. Main statistics for the assemblages of adult Coleoptera and Hemiptera (excluding Aphidoidea and Coccidoidea) from the Queen's Hotel (1-9 Micklegate) site, York.

Table 7. Insects and other macro-invertebrates from the Queen's Hotel (1-9 Micklegate) site, York: species lists by context and sample.

Table 8. Assemblages of adult Coleoptera and Hemiptera (excluding Aphidoidea and Coccidoidea) from the Queen's Hotel (1-9 Micklegate) site, York: numbers of taxa (s) and individuals (n) placed in core Groups A, B, C and E by Carrott and Kenward (2000), by context and sample.

Table 9. Abbreviations for ecological codes and statistics used for interpretation of insect remains in text and tables.

Figure 1. Scatter plot of numbers of individuals of adult beetles placed in core Groups 'A' and 'B' (Carrott and Kenward 2000) for the assemblages from the Queen's Hotel (1-9 Micklegate) site, York.

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Introduction

Excavations of deposits of Roman to recent date at 1-9 Micklegate (on the site of the former Queen's Hotel) took place in 1988-9 under the direction of Martin Brann, for York Archaeological Trust. The scale and rate of excavation were both severely affected by exigencies arising from the lack of control which could be exercised at that date on the development with regard to the implementation of an adequate archaeological intervention.

Despite these problems, the excavation team revealed richly organic occupation deposits, including much timber (some of it from wooden structures) of Anglo-Scandinavian date overlying remains of massive Roman buildings (and with intervening Anglian structures). A programme of sampling was undertaken during excavation, and resulted in a total of 916 samples from 497 contexts (of which 495, from 449 contexts, were 'GBAs', *sensu* Dobney *et al.* 1992)—a credit to the excavators, given the circumstances of the intervention. In large part, for the availability of this corpus of material can be attributed to Dr P. R. Tomlinson, who acted as on-site environmentalist during the field project.

An assessment of six Anglo-Scandinavian samples was undertaken in the early 1990s (Dobney *et al.* 1993), as part of a survey of the samples from the site as a whole, and the comments made at that time are included here where appropriate. The present report is concerned with a study of plant and invertebrate remains from samples from 20 contexts of Anglo-Scandinavian date (dating based on the limited archaeological information available at the time of writing). They come from two phases: 9th-10th century and 10th-11th century. The study was carried out in the context of an English Heritage-

funded synthesis of data concerning bioarchaeological evidence from Anglo-Scandinavian York and the scale of investigation was determined by the aims and funding for that project.

Practical methods

A group of 89 GBA samples from 86 contexts, selected on the basis of their date (9th-11th century), was examined in the laboratory in 1999 and from these 20 (from 20 contexts) were selected for investigation. They were chosen to cover the range of context types represented and in most cases because they appeared to have good organic preservation.

The lithology of the selected samples was described using a *pro forma*. Subsamples of 1-2 kg were processed according to the methods of Kenward *et al.* (1980; 1986), the residues being stored wet prior to examination. Plant remains and other components of the residues were recorded using direct input to a PC (using an input form and *Paradox* software). Abundance of all constituents (related to the original size of the subsample) was recorded using a four-point scale from 1 (one or a few individuals or fragments or a small component of the matrix) to 4 (abundant remains or a major component of the matrix).

Insects were identified by comparison with modern reference material and using the standard works. Adult beetles and bugs, other than aphids and scale insects, were recorded fully quantitatively and a minimum number of individuals estimated on the basis of the fragments present. Other invertebrate macrofossils were recorded semi-quantitatively using the scale described by Kenward *et al.* (1986) and Kenward (1992), estimates being

made for extremely abundant taxa. Recording of the macro-invertebrates was essentially 'detailed' in the sense of Kenward (1992): many of the identifications were pushed further than is normal during 'scan' recording. Recording of the state of preservation of invertebrates followed Kenward and Large (1998), making use of the sheet illustrated in their fig. 2.

Insect remains recovered from the residues during recording of plant remains were in most cases included in the record, although there were hardly ever any taxa additional to those from the flots and, indeed, rarely any additional individuals. Fossils from residues tended to be larger or denser than those in the flots.

Data pertaining to invertebrate remains were transferred from a paper record to computer databases (using *Paradox* software) for analysis and long-term storage.

Interpretative methods

The interpretative methods employed in this study were essentially the same as those used in work on a variety of sites by Hall, Kenward and co-workers.

For the plant remains, interpretation is facilitated by the use of 'abundance-indicator values' (AIVs), calculated from the abundance scores and a score for the indicator value of each taxon within a series of ecological, use, and other groups (for details, see Hall and Kenward 1990).

For the insect remains, interpretation rests primarily on a number of 'main statistics' of whole assemblages of adult beetles and bugs, and on the recognition of ecologically-related groups of species (see Kenward 1978, with modifications outlined by, for example, Kenward 1982; 1988; Hall and Kenward 1990; and Kenward and Hall 1995). The main statistics used include: (a) a measure of species-richness (or diversity), α of Fisher *et al.* (1943), for the whole assemblage and for components of it; and (b) proportions of

'outdoor' species (OB, calculated from taxa coded oa and ob), aquatics (W, w), waterside species (D, d), phytophages (plant-feeders) (P, p), species associated with dead wood (L, l), moorland/heathland taxa (M, m), and decomposers (species associated with decomposing matter of some kind). Decomposers are subdivided into (a) species primarily associated with somewhat dry habitats (RD, rd), (b) those found mostly in rather, to very, foul habitats (RF, rf), and (c) a residuum not easily assignable to one of these (rt). The category 'RT' includes all three of these groups of decomposers (rt + rd + rf). (In each case, the lower-case codes (e.g. 'rd') are those applied to species and the upper-case codes ('RD') are for the ecological group.)

A further ecological component quantified for the present site was the synanthropes, i.e. those species favoured by human activity (Kenward 1997). Taxa have been assigned codes for degree of synanthropy as follows: 'sf'—facultative synanthrope, common in natural as well as artificial habitats; 'st'—typically synanthropic, but able to live in nature; 'ss'—strong synanthrope, absent from or very rare in natural habitats in the relevant geographical area. These codes give rise to ecological groups SF, ST, and SS, which are summed to give SA (all synanthropes). A group of synanthropes regarded as particularly typical of buildings of various kinds has been termed 'house fauna' (Kenward and Hall 1995).

The quantification of an 'outdoor' component in what are sometimes clearly natural or semi-natural assemblages may not appear entirely logical, but in fact is useful when working with any deposits associated, even if rather indirectly, with human occupation.

The abundance of these 'ecological' groups is discussed against the background of values for many other assemblages from a large number of sites. Thus, % N OB = 30 is a high value, but % N RT = 30 is low; while % N W and % N RF are both high at 10.

The index of diversity offers a guide to the presence or absence of remains of insects which bred in or on the developing deposit (autochthones), low values indicating breeding communities, high ones faunas of mixed origins. Note that 'significantly' low values differ for the various components of assemblages; the more inherently rich a component is, the higher the value of the index of diversity for a living community will be. Thus, 'outdoor' communities associated with natural vegetation tend to give a high value of α , while very specialised communities, such as those of decaying matter deposited by humans, or stored grain, have low or very low ones.

Results

The results of these investigations are presented in phase, area and context order in the following account (with fills from the same cut being grouped where appropriate). Table 1 gives a list of GBA samples from the site with an indication of those selected for this study. A full list of plant and invertebrate taxa recorded from these deposits appears in Table 2, with lists of plant remains by context in Table 3. AIVs for plant remains are given in Table 4. Main statistics for the assemblages of adult beetles and bugs are presented in Table 6 and species lists by context and sample for macro-invertebrates in Table 7.

In the following accounts the words 'several' and 'many' are used in the semi-quantitative sense of Kenward *et al.* (1986), i.e. estimates of more than three and less than ten individuals were recorded as 'several' and translated to '6' for statistical purposes, and estimates of ten or more were recorded as 'many' and translated as '15', unless the numbers were very large, in which case a rough approximation was used. Numbers of individuals of adult beetles and bugs are 'MNI's, calculated from the numbers of parts (heads, pronota, elytra, etc.) recorded.

9th - 10th century

Area 3, Context Group 12

Context 3025 (layer, probably a floor)

Sample 188 (2 kg): moist dark grey-brown, brittle to crumbly (working somewhat plastic) very humic slight sandy silt with traces of oolitic limestone 20-60+ mm, and inclusions of mid-brown ?ash.

There was a large residue of about 600 cm³ of which about two-thirds was concreted sediment (in clasts to 20 mm) and sand, the washover consisting of granular woody debris; a mixture of moderate amounts of bark (to 20 mm), charcoal (to 15 mm) and wood fragments (to 30 mm), including wood chips (to 40 mm). Most of the plant taxa recorded were foodplants or weeds, the former group including hazel nut, ?cultivated oats, barley, bread/club wheat, linseed, and blackberry. Hop, perhaps used as a flavouring, was also recorded. It might also have served as a dyeplant, however, and one other taxon recovered from this sample is likely to have been used in textile working: the clubmoss, *Diphasium complanatum*. This plant was very widely recorded from Anglo-Scandinavian deposits at 16-22 Coppergate (Kenward and Hall 1995) and has been found in many other Anglo-Scandinavian deposits in York.

Overall, the plant assemblage gave an impression of a build-up of occupation material with no particular component predominating. It seems very likely, therefore, to have formed on a floor, something which is strongly supported by the evidence from the insect remains.

Adult beetles were present in the flot in only moderate numbers (and there was a single bug: number of individuals, N = 88; number of taxa, S = 52). There were various other invertebrate remains, including abundant mites and fly puparia, and several earthworm egg capsules. Much the most abundant beetle was *Atomaria nigripennis* (of which there were 12). This is a

strongly synanthropic species, frequently found in Anglo-Scandinavian floor deposits (e.g. at 16-22 Coppergate, York, Kenward and Hall 1995). Although none of the other species were very abundant, the 'house fauna' group (see Kenward and Hall 1995, 662-7) was well represented. This is best shown using the statistically-defined core Group A of Carrott and Kenward (2000), into which 49% of the beetles fell (Table 8). The following are placed in this group: *Xylodromus concinnus* and *Lathridius minutus* group (five of each were recorded); *Cryptophagus* sp. and *Aglenus brunneus* (three each); *Anobium punctatum*, *Ptinus ?fur*, *Cryptophagus ?scutellatus*, and *Mycetaea hirta* (two of each); and single individuals of a few other taxa. Slightly damper conditions were suggested by a few species, but no more than would be expected in litter on an earth floor. The room in which this deposit formed was probably rather well closed off from the open air, for only six individuals (7%) of 'outdoor' taxa were recorded, and most of these seem as likely to have been imported with litter or water—or to have been trampled in on muddy feet—as to indicate free access to outdoors. The complete dominance of artificial habitats was underlined by the large proportion of synanthropic insects—65% of the individuals fell in Kenward's (1997) 'SA' category (all synanthropes), and 22% in the strong synanthrope (SS) category.

The sheep ked *Melophagus ovinus* was represented by an adult and a puparium (the former perhaps having been released from the latter during processing), probably indicating wool cleaning.

In summary, the insects represent a small but very typical floor assemblage, probably deposited in a well-closed room; the plant remains are not at all inconsistent with this.

Context 3040 (?floor/occupation deposit)

Sample 242 (1 kg assessment)

Plants - There was a modest-sized washover of very decayed wood fragments (including chips), mostly <2 mm, with sand making up the rest of the material.

Insects - The flot was very small; there were some insect remains, subjectively nondescript.

Context 3041 (layer, ?floor/occupation deposit)

Sample 253 (1 kg): very dark grey silt with patches of organic detritus or ash containing organic material and moderate amounts of ?mortar or slag and charcoal and with abundant oyster shells (mostly excluded from the subsample examined).

The very large residue of about 600 cm³ was very largely made up of concretions (to 70 mm), probably all metallic slag or some similar material (there were droplets of slag), often with charcoal embedded in it, and some oyster shell. There was only a very little, poorly preserved waterlogged humic material, mostly small fragments of strongly decayed wood (to 5 mm) and bark (to 10 mm), with the finer fractions mostly consisting of charcoal, concretions and some sand and grit. The few identifiable plant remains were of limited interpretative value.

Only a very small flot was recovered and fossils were rare: nine adult beetles representing eight taxa, and only traces of other invertebrates. The assemblage consisted of taxa typical of Anglo-Scandinavian occupation deposits, but cannot reasonably be interpreted further. This was quite possibly a floor deposit, but seemingly formed where little litter was present—in a workshop, perhaps. Such an interpretation would accord with the presence of so much slag and charcoal in the deposit.

Area 4, Context Group 8

Context 4039 (layer)

Sample 305 (2 kg): moist, dark grey-brown, crumbly (working somewhat plastic), moderately humic sandy silt with traces of oolitic limestone 6-20 mm, of large mammal bone and wood (the latter with recent arthropod frass in patches on some surfaces).

The very large residue (of about 1 litre) was a mixture of organic and inorganic debris—mainly sand with some gravel and grit (including one large piece of oolitic limestone, to 90 mm, and with a volume of 75 cm³), and wood (to 25 mm) and bark (to 20 mm) fragments.

The more abundant identifiable plant remains were all weed seeds, though hazel nutshell was also recorded at an abundance of '2'. Some nutshell fragments bore the apical knife marks characteristic of material previously seen at 16-22 Coppergate (Kenward and Hall 1995, fig. 191g, h). Most of the weeds, which formed the largest groups in terms of numbers of taxa, were plants of waste places and arable fields, though there were also taxa typical of trampled habitats like paths and waysides. With these were some foodplants (barley, bread/cub wheat, apple, linseed, as well as hazel nut); *Diphasium* was again recorded.

Insect remains were very abundant, and there were numerous mites, several earthworm egg capsules, and a few other invertebrates. There were large numbers of adult beetles (and a single bug: N = 205, S = 81). This was an ecologically-mixed group, with two prominent components: house fauna and species associated with rather foul but fairly open-textured decaying matter. The first group was represented by *Cryptophagus* sp. (14), *Aglenus brunneus* (10), *Xylodromus concinnus* (9), *Ptinus fur* and *Lathridius minutus* group (both 6), *Cratarea suturalis* (4), and various rarer taxa. Core Group A of Carrott and Kenward (2000) accounted for 31% of the individuals. This 'house' component is underlined

by the presence of five human fleas (*Pulex irritans*), a human louse (*Pediculus humanus*), and a sheep ked (*Melophagus ovinus*). Deposition on a floor therefore seems very likely.

The second ecological group indicates that conditions in the floor litter became somewhat moist and rather foul. A community likely to occur in moist plant litter, perhaps enriched by wastes of various kinds, is represented by *Carpelimus pusillus* group (25 individuals: the most abundant taxon, and probably *C. pusillus* itself), *Ptenidium* sp. and *Neobisnius* sp. (each 7), *Cercyon analis*, *Acritus nigricornis*, *Platystethus arenarius*, and *Anotylus complanatus* (all 5), *Carpelimus bilineatus* and *Oxytelus sculptus* (4), and numerous rarer taxa. Some of these taxa fall in core Group B of Carrott and Kenward (2000), and this assemblage is one of two among those from the Queen's Hotel site showing a relatively large proportion of this group (Table 8 and Figure 1). There is no indication that conditions became extremely unpleasant, however—decomposers especially typical of material such as stable manure were rare, the foul decomposer (RF) category was fairly weakly represented (4%), and there were few fly puparia.

'Outdoor' forms were present in moderate numbers but made up only a rather small proportion of the assemblage (NOB = 17, PNOB = 8). All were single individuals and an origin in trample (and, for the four aquatics, in imported water) seems probable. The sheep ked and an animal louse, *Damalinia* sp., were probably deposited by the cleaning of wool.

Thus, Context 4039 probably represents material deposited on the floor of a rather well-closed room. Conditions were not perfect for domestic occupation, but were certainly tolerable.

A single individual of *Cryptolestes duplicatus* was recorded (see below).

Context 4054 (layer)

Sample 345 (2 kg): just moist, dark grey-brown, crumbly to brittle, ?ashy, slightly sandy silt with traces of very decayed wood and ?eggshell.

The moderately large residue of about 400 cm³ was about 60% by volume organic material—mainly bark (to 25 mm) with some wood and charcoal (both to 10 mm) and with abundant hazel nutshell fragments. The remainder was sand with some oolitic limestone (to 50 mm). The bark and nutshell gave the residue a very granular appearance.

Weed taxa predominated, with annual nitrophiles (group CHEN) reaching their highest AIV for the 20 assemblages from this site recorded here. The rather large group of cornfield taxa may have originated in straw. Much the same foodplants as in the samples previously discussed were present here: hazel nut, linseed, apple, blackberry and wheat, all in trace amounts.

Insect and other invertebrate remains were not very abundant: there were 73 adult individuals of 55 beetle (and one bug) taxa, several bug nymphs and mites, and only traces of others. Some of the remains were highly fragmented, some showed a considerable degree of decay, and some had a mineral deposit on their surfaces. Diversity was high ($\alpha = 101$, although $SE = 26$), suggesting mixed origins or exposure to 'background fauna' (*sensu* Kenward 1975; 1976; 1978). Ecological mixture is also evident in the species list, with components from decomposing matter of various kinds, from living plants, and from dead wood. 'Outdoor' forms contributed a quarter of the assemblage, a very high proportion, and 14% of the individuals were plant-feeders. Many of the 17 'outdoor' individuals might have originated from 'urban' weeds including crucifers and nettles, and from the ground around them, but the presence of a soft, and therefore presumably newly-emerged and immobile, *Apion* weevil offers a hint of importation in cut vegetation.

The most abundant taxa were 'house fauna' decomposers: *Xylodromus concinnus*, *Cryptophagus* sp. and *Lathridius minutus*, all represented by only four individuals. Carrott and Kenward's (2000) core Group A (statistically-associated house fauna) made up 27% of the assemblage, so that this component was well represented but not dominant. There were, however, two human lice (*Pediculus humanus*) and two human fleas (*Pulex irritans*), as well as a sheep ked (*Melophagus ovinus*), and it seems likely that the layer formed on a floor, or included material removed from one. The latter is possible in view of the botanical evidence for nitrophile weeds, although the weed seeds and the outdoor insects may indicate the use of deposits formed in the open having been used to level up a floor.

The deadwood component included familiar urban forms such as *Anobium punctatum* (the woodworm) and *Leperisinus varius* (a bark beetle). There were also specimens of *Pediacus dermestoides*—found under dead bark—and *Scolytus rugulosus*, a bark beetle primarily associated with Rosaceae. It may be chance that the last three species occurred together in this deposit, but they may indicate an old building or a stack of firewood.

This sample yielded a single honeybee, *Apis mellifera*.

This deposit appears very likely to have been a floor in a building used for domestic purposes and kept reasonably clean.

Area 5, Context Group 15

Context 5050 (pit fill, described by the excavator as containing faecal concretions and having at the base and edges of the fill a hard, concreted layer)

Sample 509 (2 kg): moist, dark grey-brown (locally greyer), soft (working somewhat plastic), very humic sandy silt or slightly sandy silty amorphous organic sediment, with traces of

(?faecal) concretions and moderate amounts of wood including some ?wattle/wicker.

This residue was extremely large (about 1400 cm³) and consisted mainly of bark fragments (to 30 mm), faecal concretions (to 80 mm) and wood fragments (to 45 mm), with much fine (mainly <1 mm) wheat/rye 'bran' and many flax seeds. It was clearly largely faecal in origin. Other food remains included leek leaf fragments (in moderate numbers) and traces of the following: oats (as both charred spikelets and uncharred 'bran'), hazel nut, linseed, apple, sloe, blackberry, 'bilberry', field bean (represented by the characteristic 'tracheid bars' found underneath the hilum ('scar') of the seed) and charred rye grains. There were also three taxa likely to have served mainly as food flavourings: celery seed, dill, and summer savory. The faecal nature of the deposit is emphasised by the observation of eggs of the intestinal parasites *Ascaris* and *Trichuris* lodged in the marginal teeth of leek leaf fragments. The abundant moss *Antitrichia curtipendula* seems likely to have been used for sanitary purposes, though the range of other mosses, whilst largely consistent with this, was small.

With these plants were some rather large fragments of *Diphasium* and traces of two further plants likely to have been used in textile dyeing (and also widely recorded at 16-22 Coppergate and at other sites in York with Anglo-Scandinavian deposits): madder and dyer's greenweed. Annual nitrophile weeds were here represented more by the types found in wet places (group BIDE) than in better-drained habitats (CHEN) and may indicate something of the nature of the environs of the pit. The 'litter' component of this assemblage was the second highest for the group of assemblages as a whole: some taxa may have arrived with peat or turves (heather, heath-grass, and ?tormentil), or as dry litter (bracken and cornfield weed taxa perhaps from straw).

Although fly puparia were very common and there were numerous mites, other invertebrates were not very abundant. Adult beetles and bugs

were represented by 74 individuals of 53 species, with no dominant ecological group (other than decomposers as a whole). Over a quarter of the individuals were of 'outdoor' forms (PNOB = 26%), although all were single individuals apart from *Ceutorhynchus contractus* (of which there were two); this component was ecologically diverse and may have been background fauna, including insects from surrounding surfaces and scattered plants growing on them. Litter from a house floor may have been dumped into the pit, for there was a limited house fauna (Carrott and Kenward's core Group A contributing 26% of the beetles and bugs; there were also two human lice, *Pediculus humanus*). The total numbers for this group were quite small, however, and a background origin of some kind, or redeposition in backfill, cannot be ruled out. Lice may have been deposited directly into a cess pit, having been contemplatively removed by the users or accidentally shed as clothing was adjusted. There was—other than the puparia, which included moderate numbers of Sphaeroceridae—no evidence of a fauna developed *in situ* in a foul fill, and the likely candidates to be regarded as colonisers are equally likely to be accidental arrivals in background fauna.

This sample yielded a single honeybee, *Apis mellifera*.

It seems likely that this pit fill was sealed fairly rapidly after deposition, giving time for some flies to reach the pupal stage but not for beetles to build up large populations—perhaps a matter of 2-3 weeks. The bulk of the fill appears to have been faecal material but with some other waste, including dyeplants and litter.

Context 5057 (layer)

Sample 521 (2 kg): moist, dark, slightly greyish-brown, crumbly to brittle (working somewhat plastic), very humic, slightly sandy silt or slightly sandy, silty amorphous organic sediment with traces of oolitic limestone 20-60 mm, wood chips and twig fragments.

The moderately large residue of about 600 cm³ was roughly 55% by volume organic matter, mainly bark (to 70 mm) with some very decayed wood (to 30 mm) and wattle/wicker fragments (to 80 mm). The rest was sand with some gravel, including oolitic limestone (to 90 mm). A modest-sized assemblage of plant remains was recorded (56 taxa) of which the biggest groups were weeds and mosses. Of the latter, only two were recorded at an abundance of '2', the rest in trace amounts; the two more abundant taxa were *Barbula* and *Ulota*, the latter likely to have arrived on bark (a total of 10 moss taxa were included in the 'bark' category, LIGN, although there were also plants from marshy habitats which presumably arrived by a different route).

Plants likely to have been used for food, oil or flavouring included hemp, linseed, hop, bog myrtle and hazel nut, and there was a trace of wheat/rye 'bran' (though the deposit did not seem to have a distinct faecal component). The only plants included in the analysis as possible dyeplants were hop and bog myrtle.

For the rest, the assemblage was dominated by weeds of various kinds with only corncockle seed fragments and fat hen seeds reaching an abundance of '2' (the former was perhaps introduced with the bran as a food contaminant).

A rather small assemblage of invertebrates was recorded, including 69 beetles and bugs of 47 taxa, many fly puparia and mites, and smaller numbers of various other remains. This was clearly an assemblage formed in the open, for 'outdoor' taxa accounted for almost a third of the fauna (PNOB = 32, more than twice the proportion for the fauna of the site as a whole). Plant feeders were also more than twice as abundant as for the site as a whole. An origin as background fauna seems extremely likely for this component, and possibly for the assemblage as a whole in view of its composition. This was supported by a record made during identification that many taxa were represented by single fragments, and that there were numerous legs and

unidentifiable ventral sclerites which seemed not to be associated with the identifiable remains, suggesting disturbance during deposit formation. Flies may have developed in this deposit, as may perhaps some of the more abundant beetles: *Anotylus complanatus* and various other Oxytelinae, and *Lathridius minutus* group. In view of the presence of a single human flea, however, *L. minutus* and some others may represent strays or scatter from a building.

This layer probably formed fairly gradually in the open, receiving a range of waste, at least some probably from within a building.

Area 5, Context Group 16

Context 5030 (fill of pit 5041, 1.1 x 0.8 m, 0.46m deep and with vertical and steep-sloping sides and a flat base)

Sample 463 (2 kg): dark brown, compressed, fine to coarse herbaceous detritus with traces of slag, and white flecks.

The extremely large residue of about 1600 cm³ gave a large assemblage of 71 plant taxa in a matrix composed (unusually) largely of uncharred cereal chaff in the form of whole spikelets with grains or detached lemmas and glumes, as well as free grains, and wood fragments (to 40 mm). There were modest numbers of seed fragments of corncockle and achenes of stinking mayweed (both likely to have been grain contaminants) as well as uncharred caryopses of oats and wheat/rye (presumably the plants whose chaff formed such a large part of the matrix). Also present were hop achenes and bracts, and wood chips (to 30 mm). There was probably some faecal material present, for tentatively identified faecal concretions were recorded in trace amounts (in fragments up to 40 mm) as was wheat/rye 'bran'. The mosses present were mostly types likely to have been useful for sanitary purposes, though many might also have arrived on the bark of timber. Other food, oil or flavouring plants included sloes (scoring '2'), with traces of dill, hemp, hazel nut, apple, 'plum',

blackberry and wheat. Weeds were numerous but mostly represented by only a few seeds.

The large flot was difficult to sort, but it is believed that few remains were overlooked. Although 91 individuals of 70 beetle and bug taxa were noted, only three were represented by more than two individuals: *Cercyon analis* and *Anotylus complanatus* (six of each) and *Acrotrichis* sp. (3). These may indicate that a population of decomposers was becoming established, rather foul but open-textured organic debris being indicated. (Mites were very abundant, and fly puparia quite common, so these may have become established, too.) However, diversity was estimated to be very high ($\alpha = 138$, although $SE = 33$), and the proportion of outdoor forms was large ($PNOB = 21$); much of the fauna was almost certainly of background origin.

Two honeybees (*Apis mellifera*) were recorded.

This fill probably included some faecal material and other domestic waste.

Area 7, Context Group 11

Context 7030 (charcoal layer in steep-sided, roughly flat-bottomed cut 7033)

Sample 696 (2 kg): moist, black, granular charcoal with flecks of grey rotted mortar or ash and stones 6-20 mm.

There was a large residue of about 700 cm³, mostly charcoal (to 30 mm), amongst which oak, ash, and willow/poplar/aspens were all identified. The only other plant remains were fragments of charred sloe fruitstone and charred hazel nutshell (bearing evidence of apical knife marks). Otherwise there was some sand and traces of burnt bone, slag, brick/tile and mortar and pottery (the last in sherds up to 50 mm).

Not surprisingly, bearing in mind the description of the deposit, no trace of invertebrate remains could be found.

10th - 11th century

Area 4, Context Group 9

Context 4009 (fill of a pit, 4008, 1.0 x 1.0 m x 0.86m deep, with an irregular top edge and steeply-sloping sides)

Sample 262 (1 kg): Dark grey-brown fine to coarse woody and herbaceous detritus, locally with amorphous organic sediment, and with traces of twig fragments and large mammal bone.

The extremely large residue of about 600 cm³ (from this 1 kg subsample) consisted of wood chips (to 30 mm) with some hazel rods, and bark and wood fragments, and was only about 15% by volume inorganic material (mainly oolitic limestone to 90 mm).

Foodplants and annual weeds were the most prominent plant groups, the former including oats, hazel nut, linseed, apple, blackberry, wheat/rye ('bran') and 'bilberry'. Linseed, blackberry and bran all scored '2' and may suggest that a faecal component was present. There were also high scores (within this group of assemblages) for mosses likely to have served as toilet tissue, with *Antitrichia curtispindula*, *Homalothecium sericeum/lutescens*, *Hylocomium splendens*, *Hypnum* cf. *cupressiforme*, *Isoetecium myurum* and *Neckera complanata* all scoring an abundance of '2'.

Dyeplants were represented by clubmoss and various parts of dyer's greenweed (charred and uncharred stem fragments, pod fragments and twig epidermis fragments), all scored at '1'. There was also a significant 'litter' component, mainly represented by taxa likely to have arrived in hay from drier grassland as well as from straw, turf, and woodland and other sources (e.g. the chips of

both bark and wood, as well as bracken rachis and stalk).

The concentration of invertebrate remains was very high, and there were very large numbers of fly puparia and pupal fragments, the latter presumably from within the former. There were 125 adult individuals of 76 beetle and bug taxa, representing an ecologically rather mixed group (the value of the index of diversity was quite high, $\alpha = 72$, $SE = 18$). The proportion of decomposers was rather lower than normal in Anglo-Scandinavian deposits at York (54%; compare with data given by Kenward and Hall 1995, 674-5), and a 'house fauna' group appears to have been present (the most abundant taxa being *Lathridius minutus* group, with eight individuals, and *Cryptophagus* sp., with five). Core Group A (Carrott and Kenward 2000) contributed just under a quarter of the beetles (Table 8). There were also three human fleas (*Pulex irritans*), two sheep keds (*Melophagus ovinus*) and three *Damalinia* lice. Taxa typical of pitfills at Coppergate were present, but always in small numbers; they included three *Philonthus politus*. Such species seem therefore not to have had time to breed, or to have encountered inhospitable conditions tolerable only to the abundant flies. Even the last may have succumbed, however, since they seem to have contained pupae, which had probably not emerged. Foul water is indicated by numerous rat-tailed maggots (Syrphidae larvae), so this pit may have held very polluted water which acted as a trap for insects and provided habitat for only a few very specialised forms. Such conditions would promote the good preservation observed in the remains.

It seems likely that the assemblage included a large background fauna component, for 23% of the individuals were outdoor forms. Much of this component probably came from the immediate surroundings of the pit, but some may have been imported, including some waterside species.

A single honeybee (*Apis mellifera*) was recorded.

Thus this pit fill included both faeces and floor litter, and was exposed for some considerable time, and at least sometimes presented an open water surface.

Context 4011 (fill of pit 4019, a hard green organic concretion covering the sides and base of the pit, 10-20 mm thick; pit 1.15 x 1.50 m x 0.48 m deep. It had near vertical S. and W. edges and sloping N and E sides, with a relatively flat base)

Sample 2711 (2 kg): moist, dark brown (locally mid-brown), compressed fine to coarse herbaceous detritus with moderate amounts of white patches of ?calcium salt efflorescence.

The extremely large residue of about 2 litres was mostly faecal concretions (to 80 mm) and wheat/rye bran (the latter accounting for much of the large <2 mm fraction). Food remains formed a significant part of the assemblage, with ?leek (some fragments of which retained a greenish coloration) and apple being recorded in abundance, and linseed in moderate amounts. Other taxa included dill, hazel nut, pea, 'plum', sloe, blackberry, and field bean—a mixture wholly typical of Anglo-Scandinavian York. Also typical were the records for clubmoss and dyer's greenweed (the latter represented by both leaves and stem fragments).

The tally of identifiable taxa was actually rather low for this group of samples (46 taxa, compared with a maximum of 86), this despite the large size of the residue and the good waterlogged preservation. This was probably a function of the abundance of faecal concretions and bran, signifying a very high concentration of one component.

Rather few insects were recovered, including 54 individuals of 36 beetle taxa. Although house fauna taxa dominated (five each of *Xylodromus concinnus*, *Atomaria* sp. and *Lathridius minutus* group, 37% of the beetles falling in Carrott and Kenward's core Group A), this appeared to be an

ecologically mixed assemblage deposited under conditions where no taxa became established; only fly puparia ('many') were at all common.

This deposit appears to have consisted largely of faeces. House fauna (including a human flea and a sheep ked) may have been dumped into the pit in ejected floor debris, or in redeposited sediment used as backfill.

Context 4045 (basal pit fill in 4017)

Sample 327 (2 kg): moist, dark grey-brown, crumbly (working somewhat plastic), slightly sandy silt with amorphous organic sediment or very humic slightly sandy silt, with traces of oolitic limestone 20-60 mm, and of brick/tile and wood (including ?chips).

The large residue of about 700 cm³ consisted of roughly equal proportions of organic and inorganic material. The former comprised abundant very decayed bark (to 30 mm) with some charcoal (to 10 mm) and a few wood fragments (to 25 mm), the latter sand and gravel (including oolitic limestone to 50 mm). There was a rather limited range of identifiable plant taxa, though preservation was generally good. Amongst the weeds, which dominated the assemblage, was a prominent component of biennial and perennial nitrophiles typical of neglected waste places and waysides, including scotch thistle, hemlock and weld (all in trace amounts) with henbane at a score of '2'. These suggest a period of disuse for the pit (if the seeds arrived naturally) or that the pit contained some plants cleared from disused land (if they were put there deliberately). The earthworm egg capsules recorded from the flot (see below) may indicate dumped soil consistent with the latter explanation.

Remains of weld were also counted with two other dyeplants in the analyses: clubmoss and dyer's greenweed, both recorded in trace amounts. Foodplants, also all at an abundance of '1', included charred oats, barley and bread/club

wheat, with hazel nut, linseed, apple, and blackberry.

Abundant insect remains (and numerous earthworm egg capsules and mites) were recovered from the subsample. Beetles were abundant, and there were a few bugs (N = 142, S = 78). Taxa regarded as representing house fauna were rather abundant: there were ten *Lathridius minutus* group, eight *Xylodromus concinnus*, six *Cryptophagus* sp., five *Aglenus brunneus*, two *Cratarea suturalis*, and single individuals of several others. Core Group A of Carrott and Kenward (2000) accounted for 36% of the fauna, and there were also five human fleas (*Pulex irritans*). These insects seem most likely to have been dumped from a house floor. Remains of a sheep ked (*Melophagus ovinus*) and a *Damalinea* louse seem likely to have arrived with them.

Decomposers appear to have colonised the pit (although they may have lived in damper parts of a house floor): *Cercyon analis* (6 individuals), *Neobisnius* sp, (5), *Acritus nigricornis* and *Anotylus complanatus* (4), and numerous others. Much fouler conditions are suggested by 'many' rat-tailed maggot larvae (probably *Eristalis tenax*), indicative of foul water.

This fill appeared to be mostly backfill (in the sense of a sealing dump), probably including material which arrived directly or indirectly from a house floor. Foul decomposer insects do not seem to have built up large populations, so the pit may have been backfilled fairly quickly.

Context 4016 (organic lenses in context 4054, a later fill in cut 4017)

Sample 269 (1 kg assessment)

Plants - About half the residue was wood in the >4 mm fraction, including several chunks of ?wattle/wicker and quite a few chips. Most notable, however, were the abundant hemp achenes, which were present along with a rich diversity of other plant remains, mainly weeds

and possible grassland taxa. There was also a little 'bran' and dyer's greenweed stem.

Insects - The flot was quite large but contained abundant insect fragments. Fly puparia were numerous and spiracular processes of Syrphidae immatures were noted. There was a single ?*Melophagus ovinus* (sheep ked) adult. The abundant, very well preserved, beetles included numerous *Anobium punctatum*, but apart from this there were only hints of 'house fauna'. The assemblage consisted predominantly of decomposers of assorted ecological affinities. There were some outdoor taxa.

Context 4020 (pit fill in cut 4021, 0.70 x 1.2 m; the N. edge of the pit appears to have been revetted where it cut through earlier pit fill 4022)

Sample 272 (1 kg assessment)

Plants - Almost all the residue was wood, much of it in the >4 mm fraction and including some chips, with some twig fragments and bark. There were fragments of ?straw, and an unusual mixture of macrofossils including hemp, linseed, bracken, and rather frequent rose seeds. 'Bran' was present, as were sloes, apple pips and 'core', corncockle seed fragments, some moss and dyer's greenweed stem, suggesting that there was at least some faecal material in the fill.

Insects - The flot was quite large and consisted mostly of arthropod remains, with abundant beetles and fly puparia and some syrphid spiracular processes. Preservation was very good. There were several individuals each of *Philonthus* sp(?p). and *Anobium punctatum*, and some *Monotoma* sp. The group may represent material from within a building, colonised by some decomposers of rather foul conditions once deposited in the pit; alternatively this may have been a loose-textured fill of plant debris. Specimens of *Leperisinus varius* and ?*Dorytomus* sp. were noted. This was a somewhat unusual group.

Context 4022 (upper fill in laterally truncated pit 4023)

Sample 285 (2 kg): moist, very dark brown, crumbly to soft (working somewhat plastic), amorphous organic sediment with patches of hypnoid moss and traces of white flecks.

An extremely large residue of about 1800 cm³ resulted from this subsample, the bulk of it wheat/rye 'bran' with some herbaceous and woody detritus and modest amounts of sand and grit (the mineral component perhaps making up 10-15% by volume). This deposit must, like 4011, have contained much faecal material—indeed, some of it had adhered in a mineralised form to some wattle/wicker fragments (themselves up to 90 mm). Overall, though, faecal concretions were sparse and the number of identifiable taxa very high (at 86, the highest for this group of 20 assemblages).

Food remains other than 'bran' included large amounts of ?leek epidermis, apple, sloe (some with the flesh still preserved), dewberry and blackberry, wholly consistent with the deposit being mainly faeces. Other foodplants or flavourings included celery seed, hazel nut, linseed, field bean, oats, ?barley, hawthorn, 'bullace', rose, summer savory, hop and opium poppy, pointing to a very varied diet. With these were several coarse hypnoid mosses (*Neckera complanata* at '3' and *Hypnum* cf. *cupressiforme* at '2', amongst them), most likely to have been used for sanitary purposes. A 'squash' (*sensu* Dainton 1992) gave large numbers of *Ascaris* eggs and a few *Trichuris* eggs, an observation which has been suggested may indicate the presence of faeces from pigs rather than humans. Several groups of plants and other materials may indicate that litter, including straw, was present, but the evidence is not strong.

Several dyeplants were present, with hop achenes and dyer's greenweed stem fragments both scoring '2'; also recorded were clubmoss, greenweed leaves, and seeds of weld or dyer's rocket.

Invertebrates were fairly abundant, and 137 individuals of 70 beetle and bug taxa were recorded. Among the other groups, fly puparia and proctotrupoid wasps (probably parasitic on the flies) were fairly common. The most striking feature of the species list is the abundance of the woodworm beetle (*Anobium punctatum*), of which at least 19 were present. These may have been imported with floor debris, since other house fauna taxa were fairly well represented. There were nine *Lathridius minutus* group, for example, and three human lice (*Pediculus humanus*) and two human fleas (*Pulex irritans*), and Carrott and Kenward's core Group A contributed 42% of the fauna (Table 8)—only 17% without *A. punctatum*, however. It is thus possible that the *Anobium* emerged from timber adjacent to the pit (perhaps a surround or seat), rather than having been imported, and that the parasites were deposited directly by the people using the pit.

There is little to indicate that a fauna developed within the pit, although various species favoured by fairly foul conditions were present in small numbers, so it seems likely that backfilling was fairly rapid.

There was a single honeybee (*Apis mellifera*). The record of *Macromyrmex quadrituberculatus* from this sample is of some note and is discussed below.

This deposit appears to have consisted of faecal material though with some dyeplant waste and litter or other debris from floors.

Context 4032 (lower fill of depression or pit cut 4033, a feature 0.13 deep and 1.0 x 0.78 m across at the top)

Sample 294 (1 kg): dark grey-brown (patchily mid orange-brown) layered and compressed fine to coarse herbaceous detritus and amorphous organic sediment with a somewhat crisp feel, locally.

There was another extremely large residue (of about 1100 cm³) from this subsample, of which most was wheat/rye 'bran' and undisaggregated sediment, some of the latter showing evidence for incipient mineralisation. Faecal concretions as such were quite abundant (they were up to 20 mm in maximum dimension) and all of the taxa recorded at an abundance of '2' or '3' were probably either foodplants (?leek, apple, celery seed, sloes, field bean) or grain contaminants (corncockle, orache, and stinking mayweed). Traces of some other edible taxa were also recorded: hazel nut, pea, and summer savory. Some vegetative tissues of *Allium* (presumably leek) retained a vivid greenish coloration, indicating this to have been extremely well preserved faecal material (*Ascaris* and *Trichuris* eggs were noted as being moderately common in a 'squash').

The sample was notable for being one of the few to have no plants classified in the 'DYES' group, and both the weed and litter categories were rather poorly represented, a phenomenon presumably partly accounted for by the very high concentration of food remains.

Few insect remains were recovered (N = 31, S = 20), and the assemblage gave little indication of conditions during formation of the deposit. A single *Bruchus ?rufimanus* may have originated in pulses via faeces.

This was clearly a deposit largely formed from faeces, the rarity of insects perhaps indicating rapid formation or possibly deposition during winter, when low temperatures would inhibit insect reproduction.

Context 4050 (pit fill)

Sample 329 (1 kg): moist, dark grey-brown, layered to compressed, fine and coarse herbaceous detritus and locally amorphous organic sediment, with traces of fly puparia.

The very large residue (for a 1 kg subsample) of about 600 cm³ included only a few cm³ of mineral material (mainly sand), the remainder being woody and herbaceous detritus, though there was quite a lot of unwashed silty matrix. Wood fragments (to 30 mm) predominated, with large amounts of bark (to 30 mm) and modest numbers of wood chips (to 20 mm). The tally of identifiable plant taxa was very large (at 85, the second largest assemblage for this group of 20 samples) and not surprisingly several were recorded in large amounts, including (unusually) cow parsley mericarps, hemp achenes (and fragments) and wheat/rye 'bran' (all at '3') and a long list scoring '2'. Amongst the latter were several other foodplants, notably ?leek, hazel nut (some fragments with apical knife marks), linseed, apple and blackberry. That this pit held food waste, probably faeces, is suggested by the presence of so much 'bran', together with moderate numbers of rat-tailed maggot respiratory processes noted during sorting for plant remains (there were traces of mineralised fragments of the whole larvae, too). There was also a suite of mosses typical of those found repeatedly in deposits thought to be largely faecal in origin. Other food and flavouring plants recorded were celery seed, summer savory, pea, sloe, rye and wheat.

Although the food content of the assemblage was high, and the largest AIV was for FOOS, weed taxa were abundant and the highest AIVs for CHEN and ARTE for the Queen's Hotel site were achieved in this assemblage. Plants likely to have originated in grassland or reedswamp were also as common here as in any assemblage and the overall 'litter' component in 329/T1 was the highest of any of the 20 newly-investigated Queen's Hotel assemblages. Of these 'litter' plants, the best represented were those likely to have arrived with cereal straw, in turves, from woodland, as hay, or in material brought in the guts of herbivores from grazing land.

Traces of three dyeplants were recorded from this sample: clubmoss, dyer's greenweed, and pod fragments of woad, with two other taxa (hops and

weld) both present at a score of '2'. The record for woad was one of only two from this group of samples; it was similarly only sparsely recorded at 16-22 Coppergate (Kenward and Hall 1995, fig. 196m).

Invertebrate remains were very abundant: there were hundreds of mites, earthworm egg capsules and fly puparia, and 194 adult individuals of 83 beetle and bug taxa. Four 'house fauna' beetles were among the more abundant taxa, but the total number of individuals of other species placed in this group was small (there were, however, two individuals each of the human flea, human louse and sheep ked). There is thus some doubt as to whether one obvious explanation for this component—dumping of floor litter—is appropriate in this case. The most abundant species was the woodworm beetle *Anobium punctatum*, of which there were at least 23. This beetle may have lived in structural timber by the pit. The other 'house fauna' may have exploited some kind of litter in the pit. Core Group A (Carrott and Kenward 2000) accounted for 39% of the fauna, but only 27% after exclusion of *A. punctatum*.

Conditions were not always dry enough for 'dry' decomposers such as typify house fauna, however, for rat-tailed maggots, indicating water, were rather common (as also noted for the residue). Open water may be indicated by the Cladocera (two ephippia) and water beetles (five individuals), although all may equally well have been imported in water disposed of in the pit. The surroundings appear to have been highly disturbed, the only evidence being for at most a sparse weedy vegetation (in contrast to the evidence for abundant weeds from the plant macrofossils).

On balance, it seems likely that the pit did receive house floor debris, much of it in the form of plant litter, but perhaps from a building which was cleaned out fairly frequently, so that only a limited range of beetles was able to develop large populations. The pit also contained faeces and some food preparation waste.

Context 4068 (lowest and main fill of pit 4069, a cut 1.86 x 0.95 x 0.68 m deep)

Sample 368 (1 kg assessment)

Plants - There was a modest amount of wood in the >4 mm fraction, including some chips. Food was quite abundant (especially 'bran', with apple pips and 'core') and some very well preserved seeds and fruits of a variety of other plants, notably teasel (probably fullers' teasel, *Dipsacus sativus*), hemp, summer savory, celery seed and blackberry. Dyer's greenweed was again present.

Insects - The flot was rather large and included abundant fly puparia and other insect remains. The beetle assemblage may have included 'house fauna' but consisted principally of generalist 'compost' taxa. There were some lice, including a male *Pediculus humanus*.

Area 5, Context Group 17

Context 5032 (fill in pit 5038, which was 1.53 x 0.84 x 1.34 m deep, with a curving edge, steeply-sloping sides and a flattish base)

Sample 465 (1 kg): moist, mid-dark greyish-brown (locally more brown and more grey), compressed (locally 'crisp'—just beginning to concrete) fine to coarse herbaceous detritus with traces of stones 20-60 mm and a massive concretion to 300 mm.

The large to very large residue of about 450 cm³ was another one rich in wheat/rye 'bran', especially in the <1 mm fraction, with abundant seed fragments of corncockle (presumably a grain contaminant consumed with flour-based food and voided with faeces), linseed and blackberry. The rest of the matrix was largely made up of wood fragments and chips (to 15 mm). Perhaps about 20% of the volume comprised mineral material, mainly sand and grit.

Present in modest concentrations were further foodplants (both apple pips and 'core') and faecal

concretions (to 45 mm), as well as some dyeplants (fragments of both stem and twig epidermis of dyer's greenweed). Food remains present in trace amounts included celery seed, oats, ?rye, hazel nut, sloe, rose, bread/club wheat and 'bilberry'. Certainly the deposit was largely faecal in origin, with the usual 'latrine' mosses present in variety, though all in small amounts, and *Trichuris* eggs noted from a 'squash'. The content of plants which might indicate litter was quite high, the bulk being woodland taxa and of these many of them the mosses likely to have been used for sanitary purposes.

The invertebrate fauna consisted of 70 adult beetles and bugs of 54 taxa, and various others. The main statistics for this assemblage were unexceptional apart from a rather high proportion of foul decomposers (PNRF = 10, although only seven individuals). This is reflected in the upper ranks of abundance, and such species seem to have been attracted to the deposit. Otherwise, this appears likely to be background fauna and scatter, perhaps with a little house debris. A single human louse (*Pediculus humanus*) was present. Wet conditions were indicated by 'several' larvae of rat-tailed maggots, perhaps *Eristalis tenax*, fly larvae found in water which may be very foul.

Anthicus antherinus, recorded from this sample, is north of its present range in York (see below).

This fill appeared to be primarily faecal, with toilet mosses, and perhaps some soil used to cover faeces. It may have presented an open water surface at times.

Context 5040 (lower pit fill in cut 5036/5096, which was 1.16 x 1.14 x 1.47 m deep, with very steep sloping sides, a flattish base and roughly oval shape)

Sample 478 (2 kg): waterlogged dark brown amorphous organic sediment with concretions and some wood fragments.

The very large residue of about 1500 cm³ consisted of organic detritus which proved to be mainly wheat/rye 'bran' together with an abundance of corncockle seed fragments, oat 'bran', faecal concretions (to 80 mm) and wood fragments (to 70 mm, including some chips to 10 mm). There were also modest amounts of bark (to 25 mm) and a wide range of taxa mainly representing foodplants and weeds, with dyeplants restricted to traces of clubmoss, greenweed and hop, and with plants likely to have originated in litter only moderately common. Foodplant taxa recorded at '2' included various parts of ?leek, hazel nut, linseed, apple, sloes, blackberry, and field bean, with traces of hawthorn, 'bullace', rose and mineralised caryopses of oats and wheat. Three plants might have served as flavourings of various kinds: tentatively identified dill, plus opium poppy and hop.

The invertebrate assemblage from this sample was most notable for the astonishingly good preservation of some soft larval and pupal remains. The range of preservational states was wide, however (from E 0.5—superb, as modern material, to 4.0—very decayed), suggesting addition of material containing already-decayed remains to the pit. The fauna was ecologically mixed, and multiple origins seem likely on this basis, too. Perhaps floor material was dumped into the pit (bringing with it a human flea, two *Damalinia* lice and a sheep ked), while the pit itself was colonised by a range of decomposers. Other waste was present, as indicated by the food remains, and the single bean weevil (*Bruchus ?rufimanus*) perhaps entered via faeces.

A notable record is of two specimens of the longhorn beetle *Phymatodes testaceus*, not previously recorded from York; it is discussed further below.

This deposit appears to consist of faeces but with additional material which may have included floor sweepings or redeposited floor sediment used to cover faeces.

Context 5035 (upper pit fill in cut 5036/5096, which sealed horizontal wattle, 5039)

Sample 451 (2 kg): moist, dark brown, crumbly to soft and slightly layered amorphous organic sediment, locally with herbaceous detritus and locally oxidising to orange with patches of arthropod frass and some small patches of grey ash/mortar.

This subsample yielded a large residue of about 700 cm³ of which about 150 cm³ was mineral material (mainly sand and grit), the rest mostly bark (to 40 mm) with much clubmoss and dyer's greenweed. Indeed, this assemblage gave the highest AIV for DYES for the group of 20 newly-investigated samples since, together with these two taxa, fragments of both woad pods and madder root were present in trace amounts. Weeds were well represented too, though it was noted that, whilst identifiable plant remains were frequent in terms of the number of taxa (this was the third largest assemblage, with 73 taxa), most were present at low concentrations. Plants likely to have arrived in litter of various kinds were quite well represented, especially those from straw, hay from drier grassland habitats, and plants likely to have been consumed by grazing herbivores.

The 2 kg subsample produced quite substantial numbers of insect remains, including 156 adult individuals of 84 beetle and bug taxa. This was an ecologically-mixed assemblage of curious composition: house fauna beetles were not very common (core Group A of Carrott and Kenward 2000 contributing 22% of the fauna), yet there were large numbers of human fleas (at least 15 *Pulex irritans*). The decomposers indicated that the deposit included somewhat foul matter; this may have been dyeplant waste to judge from the botanical evidence. Probably such waste was mixed with (or part of) ejected floor debris and this was a midden-like deposit. Gradual or punctuated accumulation in the open seems likely, for there were rather large numbers of outdoor forms (PNOB = 17). The Cladocera may

have been deposited in waste water from the dyeing process.

A single individual of the brightly-coloured shieldbug *Eurydema oleracea* was recorded; it is discussed below.

In contrast to the lower fill from this cut (Context 5040), this deposit was clearly not rich in faecal material; rather it comprised dyeplant waste and some other plant debris, perhaps with a component of floor litter, unless the fleas had bred in dyeplant waste.

Context 5037 (fill of pit 5038, which was 1.53 x 0.84 x 1.34 m deep, with a curving edge, steeply-sloping sides and a flattish base)

Sample 452 (2 kg): moist, dark grey-brown (locally more or less reddish-brown), fine to coarse woody and herbaceous detritus, locally with amorphous organic sediments, and traces of white flaky crystals, twig fragments and wood chips.

The extremely large residue of about 1500 cm³ was mostly woody and herbaceous detritus which was found to consist largely of dyer's greenweed stem and twig epidermis fragments with moderate numbers of leaves of this plant, together with much uncharred cereal chaff, linseed (including many fragments) and wood chips (to 20 mm). Probably less than 10% by volume was sand and gravel. Preservation of the plant remains was excellent and the assemblage was one of the more species-rich from this site (certainly well above the mean).

As well as dyeplants, plants likely to have been brought as litter were quite well represented, especially those thought to have arrived in of turves and straw. There was also a significant food component; as well as the linseed (scoring '3') and 'bran' (at '2'), the following were recorded at '1': hazel nut, apple, sloe, blackberry, rye and field bean, and a faecal component is

suggested by these and by the presence of traces of faecal concretion (to 15 mm).

Although fly puparia and mites were very abundant, beetles and bugs were present only in moderate numbers (N = 84, S = 49). Other remains included many earthworm egg capsules, fly pupae (probably from the puparia), and beetle larvae. Outdoor forms were proportionally rather rare (PNOB = 8) and foul decomposers rather abundant (PNRF = 12, twice the site mean) and it appears likely that this deposit was exposed for long enough for numerous fly larvae to pupate, and for beetles to colonise, but not for large populations of the latter to develop. This period of time may have been a few weeks. Conditions in the pit may have been wet, as several rat-tailed maggots (probably *Eristalis tenax*) and two faniid larvae were recorded amongst the flies. This was not the factor reducing beetle populations, however, since the supposed background fauna, whose quantity is taken as indicative of exposure time, was fairly slight. House fauna was fairly rare (a fifth of the assemblage falling in Carrott and Kenward's core Group A), but perhaps just sufficiently abundant to suggest that floor sweepings were present; this possibility is supported to some extent by a single human flea (*Pulex irritans*) and one adult sheep ked (*Melophagus ovinus*).

This pit fill appeared to consist largely of dyeplant waste with some food remains (including faeces) and floor sweepings. It was probably exposed for a few weeks before being sealed.

Area 5, Context Group 18

Context 5001 (pit fill in cut 5003/5005, which measured 1.8-2.5 x 2.6 x 0.09 m deep and which was roughly rectangular in shape, narrowing towards the N end)

Sample 364 (2 kg): dark grey-brown, compressed, ?slightly silty fine to coarse woody and herbaceous detritus with traces of stones 20-60

mm, white flecks, twig fragments, large mammal bone and marine shell (oysters), and moderate amounts of wood fragments. Also recorded were small inclusions of grey ?ash.

There was an extremely large residue of about 1800 cm³ which was largely of wood fragments (to 40 mm), wood chips (to 35 mm) and bark (to 65 mm), with some bone, and two large oyster shells. The remaining mineral component was made up by modest amounts of sand and grit. This was the only sample from this group of 20 in which bark fragments were abundant and bark sclereids were present in more than trace amounts, a phenomenon which, elsewhere, has been taken as possible evidence for bark used in tanning. However, there is no supporting evidence here from insects and the presence of a wide range of other plant remains suggests the bark was simply material from timber worked or left to decay in the vicinity and dumped into the pit or—in view of the presence of a substantial wattle revetment to the pit—from roundwood within it. The high concentration of bark and wood may well account for the rather low number of identifiable taxa (the total was a little below the mean for the assemblages from this site).

Dyeplants formed the best-represented group amongst the identifiable plant remains, with greenweed stem and twig epidermis fragments both recorded at '2' and clubmoss and weld at '1'; there were also moderate numbers of uncharred legume pod fragments tentatively identified as greenweed. Plants likely to have arrived in litter were quite well represented though many were woodland mosses typically found on bark.

The pit fill certainly did not contain the concentrations of food remains, including 'bran', or faecal concretions, which would have been indicative of faecal material. Indeed, taxa counted in the AIV group with FOOS were so sparse that this sample ranked fifth from last for this parameter for the assemblages from the Queen's Hotel site, even though foodplants gave the second largest AIV of any group within the

assemblage. (This resulted from the records for both hazel nut and linseed at an abundance of '2', whilst taxa in most other AIV groups were recorded only at '1'.)

This sample produced a very characteristic insect assemblage dominated by an ecological group seen repeatedly at other sites, but rarely of the Anglo-Scandinavian period. Invertebrates were very abundant, 216 individuals of 76 beetle taxa (no adult bugs) being accompanied by large numbers of mites and fly puparia and various others. A very large proportion of the beetle fauna constituted an ecologically coherent group regarded as typical of rather open-textured organic debris such as stable manure. They were supplemented by some of the more eurytopic (habitat tolerant) house fauna taxa. The most abundant species were *Anthicus formicarius* (28 individuals), *Carpelimus fuliginosus* (17), *Oxytelus sculptus* (11), *Leptacinus pusillus* (10), an *Atomaria* sp. (10), *Philonthus discoideus* (7), *Lathridius minutus* group (6), and *Cercyon analis*, *Platystethus arenarius* and *Monotoma picipes* (each 5). Rarer taxa typical of the 'foul mouldering' group included *Cercyon atricapillus*, *Carpelimus bilineatus*, and *Monotoma longicollis* (all 4), and the pattern continues into the lower ranks of abundance, with species such as *Phacophallus parumpunctatus* (2), and *Lithocharis ochraceus* and *Leptacinus ?batychnus* (one of each). At other sites (e.g. Roman Tanner Row York, Hall and Kenward 1990) these species are regarded as a component of an indicator group for stable manure (Kenward and Hall 1997). Such material has never been positively recorded for Anglo-Scandinavian deposits, and these species seem to have exploited other material, probably including dyeplant waste at 16-22 Coppergate (Carrott and Kenward 2000). At Coppergate they formed core Group B in the species association analyses: the abundance of the group in the present sample is clear from Table 8 and Figure 1. They may have behaved similarly at Queen's Hotel, although the presence of a single *Gymnetron ?pascuorum*—regarded as typical of hay-like cut vegetation—offers a tantalising hint that this was indeed stable manure. If so, some of

the other plant-associated species may have come in a similar way.

Conditions in the pit seem to have become wet, for rat-tailed maggots (syrphid larvae) were numerous. A human flea and a nymphal human louse were noted, together with three sheep keds, offering further evidence of material from within a structure.

This pit fill seems to have consisted largely of foul but open-textured dyeplant waste, though with much other material, principally bark fragments, which lay exposed for long enough for a large insect population to develop—probably more than a few weeks.

Context 5012 (this context was described by the excavator as part of a series of timber and limestone steps in the side of pit 5018, but appears really to be a fill)

Sample 401 (1 kg): moist, light to mid orangeish-brown, compressed fine to coarse woody and herbaceous detritus with traces of wood shavings and fly puparia.

This sample yielded a huge residue of about 1 litre, almost all wood (to 50 mm) with other organic detritus, some of it undisaggregated 'strawy' material; there were only a few cm³ of sand constituting the mineral fraction.

Dyeplants again formed the largest group, with greenweed stem and twig epidermis fragments scoring '3' and pod fragments tentatively identified as this plant at '2'. There were also traces of greenweed leaves, and of clubmoss. Two other possible dyeplants were bog myrtle, of which there were leaf fragments (scoring '2') and male catkin fragments (a trace), and heather shoots (recorded at an abundance of '2'). The last were noted as being partly degraded, as if used in some process—for example for dyeing—prior to being discarded. The presence of moderate amounts of animal hair, some of it more like bristles than wool, perhaps resonates with this.

There was certainly a distinctive, albeit small peatland/heathland component in this sample, picked out both in the relatively high AIVs for groups FUGE, NACA and OXSP as well as in the turf and peat groups in the analysis of plants likely to have arrived in litter. Otherwise, there was a mixture of weeds and plants from a variety of other habitats, but the tally of identifiable taxa was rather below the mean for the group of 20 newly-investigated samples from the Queen's Hotel site as a whole.

Mites and fly puparia were very abundant, but other remains rather rare: there were only 55 adult individuals of 44 beetle and bug taxa. Four *Oxytelus sculptus* and two *Platystethus arenarius* offer a hint of rather foul conditions, and many of the other insects might have lived with them. Three *Haematopinus ?apri* were recorded. *H. apri* is a louse of the wild boar and its domestic descendants (but not of modern domestic pigs), and it is tempting to suggest either that pigs were kept at the site, or that one or more was shaved and skinned, depositing lice. If so, the waste was not left exposed for long enough for an associated fauna of necrophilous insects to develop. The animal bristles noted from the residue might well have originated in such a skin and require expert examination.

Much of this fill consisted of foul dyeplant waste but with a component perhaps originating from the processing of pig skin.

Area 6, Context Group 17

Context 6018 (?hearth deposit, 1.2 x 0.8 x 0.2 m (max.) thick)

Sample 681 (1 kg assessment)

Plants - The small washover from this residue of sand and gravel was mostly fine charcoal.

Insects - The tiny flot contained traces of organic matter and a single, suspiciously well-preserved, *Meligethes* sp. pronotum.

Area 7, Context Group 11 (dated 9th-11th C.)

Context 7003 (upper pit fill or pit sealing layer in cut 7006)

Sample 665 (1 kg assessment)

Plants - There was a small washover of angular charcoal and very decayed wood fragments, with a trace of charred barley grain, but few other identifiable plant remains; the remainder was sand and gravel with some mortar/plaster and a little bone.

Insects - The flot contained traces of organic matter including poorly preserved insects which, however, had no obvious implications.

Discussion

The broader implications of the results obtained in this study will be discussed in greater detail elsewhere, as part of a synthesis of data concerning plant and invertebrate remains from Anglo-Scandinavian York. Here, we confine ourselves to a few general comments and a discussion of certain of the insect records.

The plant remains recorded from the 20 newly-investigated samples were broadly similar to those in certain assemblages from 16-22 Coppergate. This was true of some from features interpreted as cess pits—in the case of deposits rich in wheat/rye ‘bran’ and other food remains and usually with some faecal concretions and abundant eggs of intestinal parasites. Dyeplants were present but usually only sparse; a few examples were rich in dyer’s greenweed, but there were no high concentrations of madder like those from many of the Coppergate samples (Kenward and Hall 1995, fig. 196m). Three of the Queen’s Hotel samples had moderately large concentrations of uncharred cereal chaff; in this respect they resemble only seven contexts at Coppergate, but a higher proportion of the samples from 4-7 Parliament Street (Hall and Kenward 2000).

The insect assemblages from the Queen’s Hotel site were broadly similar to those from other Anglo-Scandinavian deposits in York, but they cannot be regarded as simply a repetition of the material observed at, for example, 16-22 Coppergate (Kenward and Hall 1995) and 6-8 Pavement (Hall *et al.* 1993).

The Queen’s Hotel site has provided rather more ‘unusual’ insect remains *pro rata* than the samples from Coppergate. This may be a real phenomenon, but it is just conceivably an artefact of a further ten years of experience. However, the site was on the main Ouse waterfront, where the presence of large quantities of imported materials may inevitably have led to the importation of insects. *Phymatodes testaceus*, *Eurydema oleracea*, and *Cryptolestes duplicatus* seem to be likely candidates to have been imported with raw materials from southern England or the continental mainland (including the southern fringes of the Baltic) to this riverside site.

The shieldbug *Eurydema oleracea* was recorded from Context 5035. This species, the ‘brassica bug’, has a scattered distribution in southern England as far north as Cambridgeshire and Gloucestershire (not in East Anglia). Its main hosts in Britain are jack-by-the-hedge (*Alliaria petiolata* (Bieb.) Cavara & Grande), horse-radish (*Armoracia rusticana* Gaertn., Mey. & Scherb.), and wild radish (*Raphanus raphanistrum* L.), although it will feed on many other crucifers, including cultivated forms (Southwood and Leston 1959; Wagner 1966). While this record from outside the present range may indicate climatic change (as does the nettlebug *Heterogaster urticae*, references given by Kenward, forthcoming), it may have been imported to the Queen’s Hotel site, possibly in dyeplants. In particular, *E. oleracea* may have come with woad (*Isatis tinctoria*), a crucifer and thus a likely foodplant. It is a pest of cultivated crucifers in France (Balachowsky and Mesnil 1935-6, 1219-21).

A single *E. oleracea* was recorded from an Anglo-Scandinavian (11th century) deposit at 118-

126 Walmgate, York (78-9.8, Context 3447, Sample 158/T, Kenward and Hall 2000). A record from Saxon Lincoln (Carrott *et al.* 1995) is rather closer to its present range: it came from an organic layer containing an assemblage which would not have been out of place in Anglo-Scandinavian Coppergate, including house fauna and *Melophagus ovinus* and *Damalinia* sp. A further specimen was recorded from a channel fill of early Roman date at Cophthall Avenue, London (de Moulins *et al.* 1990).

Cryptolestes duplicatus was recorded from Context 4039. This relative of the grain pest *C. ferrugineus* is distinguished by the structure of the pronotum, which has two lateral ridges. It is apparently uncommon, usually being found under bark of oak and beech (sometimes poplar), and very rarely in stored food (Donisthorpe 1939; Lefkovitch 1959). Its distribution is very southerly according to Fowler (1889); more recent records extend to Lincolnshire (Hunter and Johnson 1967). Palm (1959, 261) mentions an association with another species recorded from Queen's Hotel: *Phymatodes testaceus* (see below). Whether the specimen *C. duplicatus* was imported from the south, or indicates loss of habitat (not very likely) or changing climate, is open to debate.

Phymatodes testaceus (recorded from Context 5040) is itself a likely candidate for importation. It is mainly southerly in Britain, and believed to have been imported when found in the North (Fowler 1890). It lays its eggs under bark of recently dead wood, including recently cut timber from which the bark has not been removed. It has been recorded to be a pest of the tanning industry, destroying oak bark in store, although not important in damaging timber (Duffy 1953). If the beetle was established locally (for which there is no evidence) it may have been brought in firewood, from stacks of which it is reported to emerge not infrequently in central Europe (Harde 1984).

The record of the 'riffle beetle' *Macronychus quadrituberculatus* from Context 4022 at the

Queen's Hotel site is of considerable note. This riverine species, apparently found on submerged wood, has very rarely been found in Britain (as far north as Lake Windermere), and is quite possibly extinct (Holland 1972). Like other members of its family (Elminthidae; see Osborne 1997, 196 for a discussion) it appears likely to have been severely restricted by changes in rivers over the past two thousand years. There are some fossil records of *M. quadrituberculatus* (e.g. from deposits of Bronze Age and earlier date in the Lower Trent floodplain, Dinnin 1997, and of c. 9.5 kya at Lea Marston, Warwickshire, Osborne 1974), so its occurrence in York's rivers is not unexpected; what is surprising is that it should be found at so late a date, and the remote chance of discovering it in a terrestrial deposit. (It was, incidentally not found in deposits of Bronze Age date just downstream at St George's Field, York, by Hill 1993.) If changes in river characteristics caused by pollution and increased sediment load limited the Elminthidae, why should *M. quadrituberculatus* have survived changes in the Roman period? The implication may be that there was sufficient post-Roman recovery in the River Ouse to enable these sensitive beetles to re-establish populations. Clearly further research, using riverine sediments, is required to address this significant aspect of past human impact.

Anthicus antherinus, recorded from Context 5032, is known from southern England, as far north as Derbyshire (Buck 1954). It lives in haystack debris and other vegetable refuse. The beetle was provisionally recorded from two contexts at 16-22 Coppergate (Kenward and Hall 1995). It is uncertain whether it was favoured by generally higher temperatures, or by the special conditions of the Anglo-Scandinavian town.

The small bark beetle *Scolytus rugulosus* was recorded from five of the samples, usually as single individuals (two in one case). According to Balachowsky (1949) it is associated with Rosaceae, on domestic forms of which it may be a serious pest, and only extremely rarely known to occur under the bark of other woody plants. (A wide range of woody rosaceous plants was

recorded from the site, though mainly as remains of fruits or seeds and of course quite probably imported to the site.) While the specimens may have emerged from rosaceous firewood, it is tempting to suggest that there was a fruit tree of some kind nearby, perhaps in a garden where the bees discussed below were kept. *S. rugulosus* was recorded from only three contexts of the many hundreds examined at 16-22 Coppergate by Kenward and Hall (1995), although undiagnostic fragments may have been included in the 23 records of '*Scolytus* sp.' from that site.

Honeybees (*Apis mellifera*) were repeatedly recorded from Queen's Hotel (from six contexts, normally as single individuals but in one case two), and records of 'Apoidea' (six records of single individuals) probably also refer to this species. There seem to be too many records to be accounted for by accidental deaths unless there was a hive nearby; the possibility that bees entered sites in honeycomb must be entertained, however. Honeybees were very frequent, and sometimes abundant, in Anglo-Scandinavian deposits at 16-22 Coppergate, where they were noted from 32 contexts, with an additional 122 records of 'Apoidea', probably *A. mellifera* (Kenward and Hall 1995, 491). Clearly bees—and probably bee-keeping—had a significant place in Anglo-Scandinavian York.

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Table 1. List of samples from Queen's Hotel (1-9 Micklegate) site, York, examined for plant and invertebrate remains. Samples examined during an earlier assessment (Dobney et al. 1993) are represented by 'A' in the Wt column (all were of 1 kg). Wt.—weight processed (kg).

Context	Sample	Context type	Wt.
3011	168	Layer	
3013	113	Layer	
3015	150	Timber beam	
3025	188	Layer	2
3026	197	Layer	
3027	198	Construction trench backfill	
3032	202	Post-pit packing deposit	
3040	242	Layer (?floor)	A
3041	253	Layer (?floor/occupation dep.)	1
3042	255	Floor surface	
3044	257	Layer (floor/levelling)	
3055	258	Occupation layer	
3056	278	Layer - levelling/build-up	
3057	279	Layer (levelling ?within structure)	
3058	280	Layer (levelling ?within structure)	
3076	296	Layer (?dump)	
4009	262	Pit fill	1
4009	268	Pit fill	
4009	273	Pit fill	
4010	263	Latest fill of pit 4019	
4011	2711	Fill of pit 4019	2
4012	264	Fill of pit 4019	
4013	265	Fill of pit 4019	
4014	266	Fill of pit 4019	
4015	267	Fill of pit 4019	
4016	269	Pit fill	A
4020	272	Pit fill	A
4022	281	Pit fill	
4022	285	Pit fill	2
4031	293	Floor/fill of pit 4033	
4032	294	Fill of pit 4033	1
4035	299	Layer (hearth deposit)	
4036	300	Layer (hearth deposit)	
4037	302	Pit fill	
4038	304	Layer (?hearth deposit)	
4039	305	Layer	2
4041	319	Layer	
4042	306	Layer	
4045	327	Pit fill	2
4049	335	Layer	
4050	329	Pit fill	1
4054	345	Layer	2
4055	346	Layer	

Context	Sample	Context type	Wt. (kg)
4056	352	Layer (dump/build-up)	
4057	357	Layer (dump/build-up)	
4062	360	Layer	
4064	358	Layer (dump/build-up)	
4065	362	Layer (dump/build-up)	
4068	368	Pit fill	A
4070	370	?pit fill	
4072	372	Spit	
5000	367	Pit fill	
5001	364	Pit fill	2
5012	401	?fill	1
5030	463	Pit fill	2
5031	436	Cess pit fill	
5032	465	Pit fill	1
5035	451	Build-up	2
5037	452	Pit fill	2
5040	478	Pit fill	2
5049	497	Build-up	
5050	509	Pit fill	2
5057	521	Layer (?dump)	2
5058	529	Rubble layer - ?building platform	
5062	535	Layer (?build-up)	
5063	553	Build-up	
5064	551	Surface	
5095	668	Pit fill	
6001	656	Layer (?floor)	
6006	666	Organic layer	
6014	680	?occupation deposit	
6015	678	?hearth	
6018	681	?hearth	A
6019	686	Pit fill	
6034	706	Dump	
6049	734	?dump	
6052	743	?dump	
6053	745	?dump	
6104	896	Dump	
6116	903	Dump	
6141	954	Backfill	
7001	663	?hearth	
7002	662	Dump/demolition deposit	
7003	665	Dump	A
7005	675	?pit fill	
7013	684	Pit fill	
7030	696	Charcoal layer dump	2
7036	703	Dump/backfill	
7140	753	Pit fill	

Table 2. Complete list of plant and invertebrate remains recorded from samples from the Queen's Hotel (1-9 Micklegate) site, York, in taxonomic order. Order and nomenclature follow Tutin et al. (1964-90) for vascular plants, Smith (1978) for mosses, and Kloet and Hincks (1964-77) for insects. Plant material not specifically noted as being preserved by charring or mineral replacement can be taken to be uncharred and unmineralised (i.e. 'waterlogged', but sometimes denoted simply as 'uncharred'). Where both secure and tentative identifications for a given taxon were recorded, only the former are listed here. For plants, * = taxa recorded in the assessment (Dobney et al. 1993) but not in the later study. For invertebrates, * = not used in calculating assemblage statistics (Table 6); ecode—ecological code used in generating main statistics (Table 6); Sp(p).—species not previously listed; Sp(p). indet.—may be a species already listed.

BRYOPHYTA (parts were leaves and/or shoot fragments unless otherwise specified)

Sphagnum sp(p).

Ceratodon purpureus (Hedw.) Brid.

Dicranum scoparium Hedw.

Fissidens taxifolius Hedw.

Barbula sp(p).

Racomitrium heterostichum (Hedw.) Brid./R. *affine* (Web. & Mohr) Lindb.

R. canescens (Hedw.) Brid.

Bryum sp(p).

Plagiomnium undulatum (Hedw.) Kop.

cf. *Plagiomnium* sp(p).

Ulota cf. *crispa* (Hedw.) Brid.

Ulota sp(p).

Leucodon sciuroides (Hedw.) Schwaegr.

Antitrichia curtispindula (Hedw.) Brid.

Neckera crispa Hedw.

N. complanata (Hedw.) Hüb.

Thamnobryum alopecurum (Hedw.) Nieuwl.

Thuidium tamariscinum (Hedw.) Br. Eur.

Cratoneuron filicinum (Hedw.) Spruce

cf. *C. commutatum* (Hedw.) Roth

Campylium stellatum (Hedw.) Lange & Jens.

Amblystegium sp(p).

Drepanocladus sp(p).

Scorpidium scorpioides (Hedw.) Limpr.

Calliargon cf. *giganteum* (Schimp.) Kindb.

C. cuspidatum (Hedw.) Kindb.

Isotheicum myurum Brid.

I. myosuroides Brid.

Homalothecium sericeum (Hedw.) Br. Eur./*lutescens* (Hedw.) Robins.

Pseudoscleropodium purum (Hedw.) Fleisch

Eurhynchium striatum (Hedw.) Schimp.

E. praelongum (Hedw.) Br. Eur.

Eurhynchium sp(p).

Hypnum cf. *cupressiforme* Hedw.

**Rhytidiadelphus* cf. *triquetrus* (Hedw.) Warnst.

R. squarrosus (Hedw.) Warnst.

Rhytidiadelphus sp(p).

Hylocomium splendens (Hedw.) Br. Eur.

PTERIDOPHYTA

Lycopodium sp(p). (clubmoss): shoot fragments

Diphasium complanatum (L.) Rothm. (complanate clubmoss): shoot fragments

Filicales (fern): pinnule fragments

Pteridium aquilinum (L.) Kuhn (bracken): pinnule fragments, rachis fragments, stalk fragments

ANGIOSPERMAE

Salix sp(p). (willow): buds, fruits, *wood

Salix/Populus sp(p): charcoal fragments

Populus sp(p). (poplar/aspens): buds and/or bud-scales

Myrica gale L. (bog myrtle/sweet gale): leaf fragments, male catkin fragments

Betula cf. *pendula* Roth (?silver birch): bark fragments

Betula sp(p). (birch): buds and/or bud-scales, female catkin scales, fruits

Alnus glutinosa (L.) Gaertner (alder): fruits

Corylus avellana L. (hazel): bark fragments, buds and/or bud-scales, charred and uncharred nuts and/or nutshell fragments, wattle/wicker elements

Quercus sp(p). (oak): buds and/or bud-scales, charcoal fragments, wood chips

cf. *Quercus* sp(p). (?oaks): bark fragments

Humulus lupulus L. (hop): achenes, bracts

Cannabis sativa L. (hemp): achenes

Urtica dioica L. (stinging nettle): achenes

U. urens L. (annual nettle): achenes

Polygonum aviculare agg. (knotgrass): fruits

P. hydropiper L. (water-pepper): fruits, at least some with perianth remains

P. persicaria L. (persicaria/red shank): charred, uncharred and mineralised fruits

P. persicaria/lapathifolium (persicarias): charred fruits

- P. lapathifolium* L. (pale persicaria): charred and uncharred fruits
- Bilderdykia convolvulus* (L.) Dumort. (black bindweed): charred and uncharred fruits and uncharred fruit fragments
- Rumex acetosella* agg. (sheep's sorrel): fruits
- Rumex* sp(p). (docks): charred and uncharred fruits
- Chenopodium* Section *Pseudoblitum* (red goosefoot etc.): seeds
- C. ficifolium* Sm. (fig-leaved goosefoot): seeds
- C. album* L. (fat hen): seeds
- Atriplex* sp(p). (oraches): seeds
- Stellaria media* (L.) Vill. (chickweed): seeds
- S. holostea* L. (greater stitchwort): stem fragments
- S. palustris* Retz/*S. graminea* L. (marsh/lesser stitchwort): seeds
- Spergula arvensis* L. (corn spurrey): seeds
- Agrostemma githago* L. (corncockle): seeds and seed fragments
- Silene alba* (Miller) Krause in Sturm: seeds
- Ranunculus* Section *Ranunculus* (meadow/creeping/bulbous buttercup): charred, mineralised and uncharred achenes
- R. sardous* Crantz (hairy buttercup): achenes
- R. flammula* L. (lesser spearwort): achenes
- Papaver somniferum* L. (opium poppy): seeds
- P. argemone* L.: seeds
- Cruciferae (cabbage family): pedicels
- Isatis tinctoria* L. (woad): pod fragments
- Thlaspi arvense* L. (field penny-cress): seeds
- Coronopus squamatus* (Forskål) Ascherson (swine-cress): fruits
- Brassica rapa* L. (turnip): charred and uncharred seeds and uncharred seed fragments
- Brassica* sp(p). (cabbages, etc.): seeds and seed fragments
- Brassica* sp./*Sinapis arvensis* (brassica/charlock): seeds
- Raphanus raphanistrum* L. (wild radish): pod segments and/or fragments, seeds
- Reseda luteola* L. (weld/dyer's rocket): seeds
- Filipendula ulmaria* (L.) Maxim. (meadowsweet): achenes
- Rubus idaeus* L. (raspberry): seeds
- R. fruticosus* agg. (blackberry/bramble): seeds
- R. caesius* L. (dewberry): seeds
- Rubus* sp(p). (blackberries, etc.): stem fragments
- Rosa* sp(p). (roses): achenes
- Potentilla palustris* (L.) Scop. (marsh cinquefoil): achenes
- Potentilla* cf. *erecta* (L.) Räuschel (?tormentil): achenes
- Potentilla* sp(p). (cinquefoils, etc.): achenes
- Aphanes microcarpa* (Boiss. & Reuter) Rothm. (slender parsley-piert): achenes
- Malus sylvestris* Miller (crab apple): endocarp, immature seeds, mineralised seeds/embryos and uncharred seeds
- Crataegus monogyna* Jacq. (hawthorn): mineralised and uncharred pyrenes
- Crataegus* sp(p). (hawthorns): thorns
- Crataegus* sp./*Prunus spinosa* L. (hawthorn/sloe): thorns
- Prunus spinosa* L. (blackthorn, sloe): charred and uncharred fruitstones, and thorns and twigs
- Prunus domestica* s.l. L. (plums, etc.): fruitstones
- P. domestica* cf. ssp. *domestica* (plums, etc.): fruitstones
- P. domestica* ssp. *insititia* (L.) C. K. Schneider (plums, etc.): fruitstones
- Prunus* sp(p). (sloe/plum/cherry, etc.): mesocarp fragments
- Leguminosae (pea family): flowers and/or petals, immature seeds (waterlogged), pods and/or pod fragments, tracheid bars underneath hilum
- Genista tinctoria* L. (dyer's greenweed): charred stem fragments, leaves, pod fragments, stem fragments, twig epidermis fragments
- Vicia faba* L. (field bean): mineralised hila and seed fragments, tracheid bars underneath hilum
- cf. *V. faba*: mineralised testa fragments
- Pisum sativum* L. (garden/field pea): mineralised hila and seed/testa fragments, waterlogged hila
- Oxalis acetosella* L. (wood-sorrel): seeds
- Linum usitatissimum* L. (cultivated flax): capsule fragments, mineralised seeds, uncharred seeds and seed fragments
- Euphorbia helioscopia* L. (sun spurge): charred seeds
- Ilex aquifolium* L. (holly): leaf epidermis fragments
- Viola* sp(p). (violets/pansies, etc.): seeds
- Circaea lutetiana* L. (common enchanter's nightshade): fruits
- Umbelliferae (carrot family): mericarps
- Anthriscus sylvestris* (L.) Hoffm. (cow parsley): mericarps
- Scandix pecten-veneris* L. (shepherd's needle): mericarps
- Oenanthe aquatica* (L.) Poiret in Lam. (fine-leaved water-dropwort): mericarps
- Oe.* cf. *aquatica* (L.) Poiret in Lam. (?fine-leaved water-dropwort): charred mericarps
- Oenanthe* sp(p). (water-dropworts): mericarps
- Aethusa cynapium* L. (fool's parsley): mericarps
- Anethum graveolens* L. (dill): mericarps
- Conium maculatum* L. (hemlock): mericarp fragments, mericarps
- Apium graveolens* L. (wild celery): mericarps
- Torilis japonica* (Houtt.) DC. (upright hedge-parsley): mericarps

- Daucus carota* L. (wild carrot): mericarps
Erica tetralix L. (cross-leaved heath): leaves
E. cinerea L. (bell heather): flowers
Calluna vulgaris (L.) Hull (heather, ling): flowers, shoot fragments
 cf. *C. vulgaris*: root and/or basal twig fragments
Vaccinium sp(p). (bilberries): tori (plates at base of style, apex of fruit), seeds
 Primulaceae (primrose family): seeds
Anagallis arvensis L. (scarlet pimpernel): seeds
Fraxinus excelsior L. (ash): charcoal fragments
Menyanthes trifoliata L. (bogbean): seeds
Galium aparine L. (goosegrass, cleavers): charred fruits, uncharred epicarp (fruit skin)
Galium sp(p). (bedstraws, etc.): fruits
Rubia tinctorum L. (dyer's madder): root fragments
 cf. *R. tinctorum*: root bark fgts
Cuscuta sp(p). (dodders): seeds
Buglossoides arvensis (L.) I. M. Johnston (corn gromwell, 'Stone-hard'): nutlets
Myosotis sp(p). (forget-me-nots): nutlets
Galeopsis Subgenus *Galeopsis* (hemp-nettles): mineralised and uncharred nutlets
Stachys sp(p). (woundworts): nutlets
Nepeta cataria L. (cat-mint): nutlets
Prunella vulgaris L. (selfheal): nutlets
Satureja hortensis L. (summer savory): nutlets
Lycopus europaeus L. (gypsywort): nutlets
Atropa bella-donna L. (deadly nightshade): seeds
Hyoscyamus niger L. (henbane): seeds
Veronica beccabunga-type (brooklime/water/marsh speedwells): seeds
Pedicularis palustris L. (marsh lousewort): seeds
Rhinanthus sp(p). (yellow rattles): seeds
Plantago cf. *media* L. (?hoary plantain): charred and uncharred seeds
P. lanceolata L. (ribwort plantain): charred and mineralised seeds
Sambucus nigra L. (elder): seeds and seed fragments
Valerianella dentata (L.) Pollich (narrow-fruited cornsalad): fruits
 **Dipsacus sativus* (L.) Honckeny/D. *fullonum* L. (teasel)
Bellis perennis L. (daisy): achenes
Bidens sp(p). (bur-marigolds): achenes
Anthemis cotula L. (stinking mayweed): charred and uncharred achenes
Achillea millefolium L. (yarrow): achenes
Leucanthemum vulgare Lam. (ox-eye daisy): achenes
Senecio sp(p). (groundsels/ragworts, etc.): achenes
Calendula officinalis L. (pot marigold): achenes
Arctium sp(p). (burdocks): achenes
Carduus/Cirsium sp(p). (thistles): achenes and achene fragments
Onopordum acanthium L. (scotch thistle): achenes
 **Centaurea* cf. *nigra* L. (?lesser knapweed): involucre bracts
Centaurea sp(p). (knapweeds, etc.): achenes, involucre bracts
Hypochoeris sp(p). (cat's ears): achenes
Leontodon sp(p). (hawkbits): achenes
Picris hieracioides L. (hawkweed ox-tongue): achenes
Sonchus asper (L.) Hill (prickly sow-thistle): achenes
S. oleraceus L. (sow-thistle): achenes
Sonchus sp(p). (sow-thistles): achenes
Lapsana communis L. (nipplewort): achenes
Baldellia ranunculoides (L.) Parl. (lesser water-plantain): carpels
Alisma sp(p). (water-plantains): carpels and/or seeds
Allium porrum L. (leek): leaf epidermis fragments
Iris pseudacorus L. (yellow flag): seeds
Juncus inflexus L./*effusus* L./*conglomeratus* L. (hard/soft/compact rush): seeds
J. bufonius L. (toad rush): seeds
J. cf. acutiflorus Ehrh. ex Hoffm. (?sharp-flowered rush): seeds
Juncus sp(p). (rushes): seeds
 **Luzula* sp(p). (woodrushes): seeds
 Gramineae (grasses): charred and uncharred caryopses
 Gramineae/'Cerealia' (grasses/cereals): charred culm fragments and culm nodes, uncharred chaff, culm fragments, culm nodes, and spikelets/spikelet fragments
 'Cerealia' indet. (cereals): charred awns/awn fragments, caryopses, chaff fragments, rachis fragments, uncharred chaff, rachis fragments, and spikelets/fragments
 cf. *Bromus* sp(p). (?bromes, etc.): waterlogged caryopses
Glyceria sp(p). (sweet-grasses): waterlogged caryopses
Triticum 'aestivo-compactum' (bread/club wheat): charred caryopses
Triticum sp(p). (wheats): charred and mineralised caryopses and charred rachis internodes
Triticum/Secale (wheat/rye): charred, mineralised and uncharred caryopses and periderm ('bran') fragments
Secale cereale L. (rye): charred caryopses
 cf. *S. cereale*: uncharred rachis fragments
Hordeum sp(p). (barley): charred caryopses
 cf. *Hordeum* sp(p). (?barley): waterlogged periderm fragments
Avena cf. *sativa* L. (?cultivated oat): charred spikelets/spikelet fragments

<i>Avena</i> sp(p). (oats): charred, mineralised and waterlogged caryopses, charred and uncharred spikelets/spikelet fragments, uncharred periderm ('bran') fragments		<i>Eurydema oleracea</i> (Linnaeus)	oa-p
* <i>Alopecurus</i> sp(p). (foxtails): uncharred caryopses		<i>Heterogaster urticae</i> (Fabricius)	oa-p
<i>Danthonia decumbens</i> (L.) DC. in Lam. & DC. (heath grass): uncharred caryopses and spikelets/spikelet fragments		? <i>Scolopostethus</i> sp.	oa-p
<i>Scirpus</i> cf. <i>maritimus</i> L. (sea club-rush): nutlets		Lygaeidae sp.	oa-p
<i>S. maritimus</i> L./ <i>S. lacustris</i> s.l. (sea club-rush/bulrush): nutlets		Tingidae sp.	u
<i>S. setaceus</i> L. (bristle club-rush): nutlets		<i>Empicoris</i> sp.	u
<i>Eriophorum vaginatum</i> L. (cotton-grass): charred sclerenchyma spindles		<i>Lyctocoris campestris</i> (Fabricius)	rd-st
<i>Eleocharis palustris</i> s.l. (common spike-rush): charred and uncharred nutlets		*? <i>Lyctocoris campestris</i> (nymph)	rd-st
<i>Eleocharis</i> sp(p). (spike-rushes): nutlets		Saldidae sp.	oa-d
cf. <i>Cladium mariscus</i> (L.) Pohl (saw-sedge): charred leaf fragments		*Heteroptera sp. (nymph)	u
<i>Carex</i> sp(p). (sedges): charred and uncharred nutlets		Heteroptera sp.	u
		<i>Aphrodes flavostriatus</i> (Donovan)	oa-p-d
ANNELIDA: OLIGOCHAETA		<i>Conomelus anceps</i> (Germar)	oa-p
* <i>Oligochaeta</i> sp. (egg capsule)	u	Delphacidae sp.	oa-p
		Auchenorhyncha spp.	oa-p
CRUSTACEA		*Auchenorhyncha sp. indet. (nymph)	oa-p
* <i>Isopoda</i> sp.	u	* <i>Psylloidea</i> sp. (nymph)	oa-p
* <i>Cladocera</i> spp. (ephippium)	oa-w	* <i>Aphidoidea</i> sp.	u
		* <i>Aphidoidea</i> sp. (parasitised mummy)	u
CHILOPODA		* <i>Coccoidea</i> sp.	u
*? <i>Chilopoda</i> sp.	u	*Hemiptera sp. (nymph)	u
		TRICHOPTERA	
INSECTA		* <i>Trichoptera</i> sp.	oa-w
DERMAPTERA		* <i>Trichoptera</i> sp. (case)	oa-w
* <i>Forficula auricularia</i> Linnaeus	rt	LEPIDOPTERA	
* <i>Dermaptera</i> sp.	u	*? <i>Lepidoptera</i> sp. (larva)	u
		* <i>Lepidoptera</i> sp. (pupa)	u
PSOCOPTERA		DIPTERA	
* <i>Psocoptera</i> sp.	u	* <i>Bibionidae</i> sp.	u
		* <i>Nematocera</i> sp. (pupa)	u
MALLOPHAGA		*? <i>Eristalis</i> sp. (larva)	u
* <i>Damalinia ?caprae</i> (Gurlt)	u	* <i>Syrphidae</i> sp. (larva)	u
* <i>Damalinia ovis</i> (Schrank)	u	* <i>Fanniidae</i> sp. (larva)	u
* <i>Damalinia</i> sp.	u	* <i>Sphaeroceridae</i> sp. (puparium)	rt
* <i>Mallophaga</i> sp.	u	* <i>Melophagus ovinus</i> (Linnaeus) (puparium)	u
		* <i>Melophagus ovinus</i> (Linnaeus) (adult)	u
SIPHUNCULATA		* <i>Diptera</i> sp. (adult)	u
* <i>Haematopinus ?apri</i> Goureau	u	* <i>Diptera</i> sp. (larva)	u
* <i>Haematopinus</i> sp. indet.	u	* <i>Diptera</i> sp. (puparium)	u
* <i>Pediculus humanus</i> Linnaeus	u-ss	* <i>Diptera</i> sp. (pupa)	u
*? <i>Pediculus humanus</i> Linnaeus (nymph)	u-ss	SIPHONAPTERA	
*Louse (s.l.) sp. indet.	u	* <i>Pulex irritans</i> Linnaeus	ss
		* <i>Siphonaptera</i> sp. indet.	u
HEMIPTERA		COLEOPTERA	
		<i>Carabus nemoralis</i> Muller	oa
		<i>Nebria ?brevicollis</i> (Fabricius)	oa
		<i>Dyschirius</i> sp.	oa
		<i>Clivina fossor</i> (Linnaeus)	oa

<i>Trechus quadristriatus</i> (Schrank)	oa	<i>Dropephylla</i> sp. indet.	u
<i>Trechus obtusus</i> or <i>quadristriatus</i>	oa	<i>Omalium excavatum</i> Stephens	rt-sf
<i>Trechus micros</i> (Herbst)	u	<i>Omalium caesum</i> or <i>italicum</i>	rt-sf
<i>Bembidion lampros</i> or <i>properans</i>	oa	<i>Omalium ?rivulare</i> (Paykull)	rt-sf
<i>Bembidion obtusum</i> Serville	oa	<i>Omalium</i> sp. indet.	rt
<i>Bembidion (Philochthus)</i> sp.	oa	<i>Xylodromus concinnus</i> (Marsham)	rt-st
<i>Bembidion</i> sp.	oa	<i>Coryphium angusticolle</i> Stephens	u
<i>Pterostichus melanarius</i> (Illiger)	ob	Omalinae sp.	rt
<i>Pterostichus (Poecilus)</i> sp.	oa	<i>Coprophilus striatulus</i> (Fabricius)	rt-st
<i>Pterostichus</i> sp. and sp. indet.	ob	<i>Carpelimus bilineatus</i> Stephens	rt-sf
<i>Laemostenus terricola</i> (Herbst)	ss	<i>Carpelimus ?elongatulus</i> (Erichson)	oa-d
<i>Agonum ?muelleri</i> (Herbst)	oa-d	<i>Carpelimus fuliginosus</i> (Gravenhorst)	st
<i>Agonum</i> sp.	oa	<i>Carpelimus pusillus</i> group	u
? <i>Amara</i> sp.	oa	<i>Carpelimus</i> sp. indet.	u
<i>Harpalus rufipes</i> (Degeer)	oa	<i>Platystethus arenarius</i> (Fourcroy)	rf
<i>Dromius</i> sp.	oa	<i>Platystethus degener</i> Mulsant & Rey	oa-d
Carabidae spp. and spp. indet.	ob	<i>Platystethus cornutus</i> group indet.	oa-d
<i>Hydroporus</i> sp.	oa-w	<i>Platystethus nitens</i> (Sahlberg)	oa-d
Hydroporinae sp. indet.	oa-w	<i>Anotylus complanatus</i> (Erichson)	rt-sf
<i>Agabus</i> or <i>Ilybius</i> sp.	oa-w	<i>Anotylus nitidulus</i> (Gravenhorst)	rt
Colymbetinae sp.	oa-w	<i>Anotylus rugosus</i> (Fabricius)	rt
<i>Dytiscus</i> sp.	oa-w	<i>Anotylus sculpturatus</i> group	rt
<i>Helophorus aquaticus</i> or <i>grandis</i>	oa-w	<i>Anotylus ?tetracarinatus</i> (Block)	rt
<i>Helophorus</i> spp.	oa-w	<i>Anotylus</i> sp. indet.	rt
<i>Sphaeridium</i> sp.	rf	<i>Oxytelus sculptus</i> Gravenhorst	rt-st
<i>Cercyon analis</i> (Paykull)	rt-sf	<i>Stenus crassus</i> Stephens	rt
<i>Cercyon atricapillus</i> (Marsham)	rf-st	<i>Stenus</i> spp. and spp. indet.	u
<i>Cercyon haemorrhoidalis</i> (Fabricius)	rf-sf	<i>Lithocharis ochracea</i> (Gravenhorst)	rt-st
<i>Cercyon terminatus</i> (Marsham)	rf-st	<i>Lithocharis</i> sp. indet.	rt
<i>Cercyon unipunctatus</i> (Linnaeus)	rf-st	<i>Rugilus</i> sp.	rt
<i>Cercyon</i> sp. indet.	u	Paederinae sp.	u
<i>Megasternum obscurum</i> (Marsham)	rt	<i>Othius</i> sp.	rt
<i>Acritus nigricornis</i> (Hoffmann)	rt-st	<i>Leptacinus ?batychrus</i> (Gyllenhal)	rt-st
Histerinae spp.	rt	<i>Leptacinus intermedius</i> Donisthorpe	rt-st
<i>Ochthebius ?minimus</i> (Fabricius)	oa-w	<i>Leptacinus pusillus</i> (Stephens)	rt-st
<i>Ochthebius</i> sp.	oa-w	<i>Leptacinus</i> sp. indet.	rt-st
<i>Hydraena</i> sp.	oa-w	<i>Phacophallus parumpunctatus</i> (Gyllenhal)	rt-st
<i>Limnebius</i> sp.	oa-w	<i>Gyrophypnus angustatus</i> Stephens	rt-st
<i>Ptenidium</i> sp.	rt	<i>Gyrophypnus fracticornis</i> (Muller)	rt-st
<i>Acrotrichis</i> spp.	rt	<i>Gyrophypnus</i> sp. indet.	rt
Ptiliidae sp.	u	<i>Xantholinus longiventris</i> Heer	rt-sf
<i>Catops</i> sp.	u	<i>Xantholinus linearis</i> or <i>longiventris</i>	rt-sf
<i>Aclypea opaca</i> (Linnaeus)	ob-rt	<i>Neobisnius</i> sp.	u
<i>Silpha atrata</i> Linnaeus	u	<i>Philonthus ?cephalotes</i> (Gravenhorst)	rt-st
Silphidae sp.	u	<i>Philonthus discoideus</i> (Gravenhorst)	rt-st
Scydmaenidae sp.	u	<i>Philonthus politus</i> (Linnaeus)	rt-st
<i>Micropeplus fulvus</i> Erichson	rt	<i>Philonthus ?ventralis</i> (Gravenhorst)	rt
<i>Micropeplus</i> sp. indet.	rt	<i>Philonthus</i> spp. and spp. indet.	u
? <i>Olophrum</i> sp.	oa	<i>Creophilus maxillosus</i> (Linnaeus)	rt
<i>Eusphalerum</i> sp.	rt	<i>Quedius mesomelinus</i> (Marsham)	rt
<i>Phyllodrepa ?floralis</i> (Paykull)	rt-sf	<i>Quedius</i> sp.	u
<i>Dropephylla ?grandiloqua</i> (Luze)	u	Staphylininae spp. and spp. indet.	u
<i>Dropephylla vilis</i> (Erichson)	l	<i>Tachyporus</i> sp.	u

<i>Tachinus laticollis</i> or <i>marginellus</i>	u	<i>Atomaria nigripennis</i> (Kugelann)	rd-ss
<i>Tachinus</i> sp. indet.	u	<i>Atomaria</i> spp.	rd
<i>Cilea silphoides</i> (Linnaeus)	rt-st	<i>Ephistemus globulus</i> (Paykull)	rd-sf
<i>Cordalia obscura</i> (Gravenhorst)	rt-sf	? <i>Sericoderus lateralis</i> (Gyllenhal)	rt-st
<i>Falagria caesa</i> or <i>sulcatula</i>	rt-sf	<i>Orthoperus</i> sp.	rt
<i>Falagria</i> sp. indet.	rt-sf	Coccinellidae sp.	oa-p
<i>Falagria</i> or <i>Cordalia</i> sp. indet.	rt-sf	<i>Mycetaea hirta</i> (Marsham)	rd-ss
<i>Crataraea suturalis</i> (Mannerheim)	rt-st	<i>Stephostethus angusticollis</i> (Gyllenhal)	rt-st
<i>Aleochara</i> sp.	u	<i>Lathridius minutus</i> group	rd-st
Aleocharinae spp.	u	<i>Enicmus</i> sp.	rt-sf
Staphylinidae sp.	u	<i>Corticaria</i> spp.	rt-sf
<i>Trichonyx sulcicollis</i> (Reichenbach)	u	<i>Corticaria gibbosa</i> (Herbst)	rt
Euplectini sp.	u	<i>Corticarina</i> or <i>Corticaria</i> sp.	rt
Pselaphidae spp.	u	Cisidae sp.	l
<i>Trox scaber</i> (Linnaeus)	rt-sf	<i>Typhaea stercorea</i> (Linnaeus)	rd-ss
<i>Geotrupes</i> sp.	oa-rf	<i>Aglemus brunneus</i> (Gyllenhal)	rt-ss
<i>Aphodius ater</i> (Degeer)	oa-rf	<i>Blaps</i> sp.	rt-ss
<i>Aphodius granarius</i> (Linnaeus)	ob-rf	<i>Tenebrio obscurus</i> Fabricius	rt-ss
<i>Aphodius prodromus</i> (Brahm)	ob-rf	<i>Rhinosimus planirostris</i> (Fabricius)	l
<i>Aphodius</i> spp. and spp. indet.	ob-rf	Melandryidae sp.	u
<i>Phyllopertha horticola</i> (Linnaeus)	oa-p	<i>Anthicus antherinus</i> (Linnaeus)	u
<i>Clambus pubescens</i> Redtenbacher	rt-sf	<i>Anthicus formicarius</i> (Goeze)	rt-st
<i>Clambus</i> sp. and sp. indet.	rt-sf	<i>Anthicus floralis</i> or <i>formicarius</i>	rt-st
<i>Cyphon padi</i> (Linnaeus)	oa-d	<i>Phymatodes alni</i> (Linnaeus)	l
<i>Cyphon</i> sp.	oa-d	<i>Phymatodes testaceus</i> (Linnaeus)	l
<i>Esolus parallelepipedus</i> (Muller)	oa-w	? <i>Saperda populnea</i> (Linnaeus)	l
<i>Macronychus quadrituberculatus</i> Mueller	oa-w	Cerambycidae sp.	l
<i>Oulimnius</i> sp.	oa-w	<i>Bruchus ?rufimanus</i> Boheman	st
Elateridae sp.	ob	<i>Bruchus</i> sp. indet.	u
<i>Dermestes</i> sp.	rt-sf	Donaciinae sp.	oa-d-p
<i>Grynobius planus</i> (Fabricius)	l	? <i>Chrysolina</i> sp.	oa-p
<i>Anobium punctatum</i> (Degeer)	l-sf	? <i>Prasocuris phellandrii</i> (Linnaeus)	oa-p-d
<i>Ptilinus pectinicornis</i> (Linnaeus)	l-sf	Chrysomelinae sp.	oa-p
<i>Ptinus fur</i> (Linnaeus)	rd-sf	<i>Galerucella</i> sp.	oa-p
<i>Ptinus</i> sp. indet.	rd-sf	<i>Phyllotreta nemorum</i> group	oa-p
<i>Lyctus linearis</i> (Goeze)	l-sf	<i>Phyllotreta</i> sp.	oa-p
<i>Necrobia violacea</i> (Linnaeus)	rt-sf	<i>Longitarsus</i> spp.	oa-p
Cleridae sp. indet.	u	<i>Altica</i> sp.	oa-p
<i>Malachius</i> sp.	u	<i>Chaetocnema arida</i> group	oa-p
<i>Brachypterus</i> sp.	oa-p	<i>Chaetocnema concinna</i> (Marsham)	oa-p
<i>Meligethes</i> spp.	oa-p	? <i>Chaetocnema conducta</i> (Motschulsky)	oa-p
<i>Omosita discoidea</i> (Fabricius)	rt-sf	<i>Psylliodes ?chrysocephala</i> (Linnaeus)	oa-p
<i>Omosita</i> sp. indet.	rt-sf	<i>Psylliodes</i> sp. indet.	oa-p
<i>Rhizophagus</i> sp.	u	Halticinae sp.	oa-p
<i>Monotoma bicolor</i> Villa	rt-st	<i>Apion</i> sp.	oa-p
<i>Monotoma longicollis</i> (Gyllenhal)	rt-st	<i>Strophosomus faber</i> (Herbst)	oa-p
<i>Monotoma picipes</i> Herbst	rt-st	<i>Sitona ?lineatus</i> (Linnaeus)	oa-p
<i>Monotoma</i> sp. indet.	rt-sf	<i>Sitona</i> sp. inet.	oa-p
<i>Cryptolestes duplicatus</i> (Waltl)	l	<i>Hypera</i> sp.	oa-p
<i>Pediacus dermestoides</i> (Fabricius)	l	?Cossoninae sp.	u
<i>Cryptophagus scutellatus</i> Newman	rd-st	<i>Cidnorhinus quadrimaculatus</i> (Linnaeus)	oa-p
<i>Cryptophagus</i> spp.	rd-sf	<i>Ceutorhynchus contractus</i> (Marsham)	oa-p
Cryptophagidae sp.	u	<i>Ceutorhynchus</i> spp.	oa-p

<i>?Rhinoncus</i> sp.	oa-p	*Proctotrupoidea sp.	u
Ceuthorhynchinae sp.	oa-p	*Hymenoptera Parasitica sp.	u
<i>Gymnetron ?pascuorum</i> (Gyllenhal)	oa-p	*Formicidae sp.	u
<i>Rhynchaenus</i> sp.	oa-p	*Apoidea sp.	u
Curculionidae spp.	oa	* <i>Apis mellifera</i> Linnaeus	u
<i>Scolytus rugulosus</i> (Muller)	l	*Hymenoptera sp.	u
<i>Leperisinus varius</i> (Fabricius)	l		
Scolytidae sp.	l	*Insecta spp. (larva)	u
Coleoptera spp.	u		
*Coleoptera sp. indet. (larva)	u	ARACHNIDA	
		*Pseudoscorpiones sp.	u
HYMENOPTERA		*Aranae sp.	u
*? <i>Spalangia</i> sp.	u	*Acarina sp.	u
*Chalcidoidea sp.	u		

Table 3. Lists of plants remains and other components of the samples from the Queen's Hotel (1-9 Micklegate) site, York, in context, sample and subsample order. For each list records are presented in descending order by abundance score (on a 3- or 4-point scale as appropriate for the kind of sample) and for each score in alphabetical order.

Abbreviations: *af*—achene fragment(s); *b*—bud(s); *br*—bract(s); *bs*—bud-scale(s); *caps*—capsule(s); *ch*—charred; *c/n*—culm-nodes; *dec*—decayed; *endo*—endocarp; *epid*—epidermis; *fcs*—female catkin or cone scale(s); *ff*—fruit fragment(s); *fgt/s*—fragment(s); *fls*—flower(s); *imm*—immature; *inc*—including; *inv*—involucre/involucral; *lef*—leaf epidermis fragment(s); *lvs*—leaves; *max*—maximum; *mc*—male catkin; *meso*—mesocarp; *mf*—mericarp fragment(s); *min*—mineral-replaced ('mineralised'); *per*—perianth(s); *pet*—petal(s); *pinn*—pinnule; *rt-tw*—root or basal twig; *s*—seed(s); *segs*—segment(s); *sf*—seed fragment(s); *sht*—shoot; *specn*—specimen; *spklt/s*—spikelet(s); *st*—stem; *tef*—twig epidermis fragment(s); *undisagg*—undisaggregated; *v*—very.

Context 3025, Sample 188/T1		Context 3041, Sample 253/T1	
concreted sediment	3 max 20 mm	Potentilla cf. erecta	1
sand	3	Ranunculus flammula	1
bark fgts	2 max 20 mm	Ranunculus Section Ranunculus	1
charcoal	2 max 15 mm	Raphanus raphanistrum (pod segs/fgts)	1
Chenopodium album	2	Rubus fruticosus agg.	1
Corylus avellana	2	Rumex sp(p).	1
Hyoscyamus niger	2	Sambucus nigra	1
wood fgts	2 max 30 mm	Sonchus asper	1
Aethusa cynapium	1	Stellaria media	1
Agrostemma githago	1	Thuidium cf. tamariscinum	1
Agrostemma githago (sf)	1	Triticum aestivo-compactum	1
Atriplex sp(p).	1	Urtica dioica	1
Avena cf. sativa (spklt/s/fgts)	1	wood chips	1 max 40 mm
beetles	1		
Bilderdykia convolvulus (ff)	1		
bone fgts	1 max 50 mm	concretions	4 max 70 mm
brick/tile	1 max 10 mm	charcoal	2 max 10 mm
Carex sp(p).	1	Agrostemma githago (sf)	1
coal	1 max 5 mm	bark fgts	1 max 10 mm
Corylus avellana (ch)	1	beetles	1
Diphysium complanatum	1 v dec	bone fgts	1 max 20 mm
earthworm egg caps	1	brick/tile	1 max 10 mm
Eleocharis palustris sl	1	Carex sp(p).	1
Eleocharis palustris sl (ch)	1	Corylus avellana	1
Eurhynchium sp(p).	1	Eurhynchium sp(p).	1
fish bone	1 max 10 mm	fly puparia	1
fish scale	1 max 10 mm	grit	1
fly puparia	1	Leucodon sciuroides	1 v dec
Galeopsis Subgenus Galeopsis	1	metallic slag	1 max 10 mm
Homalothecium sericeum/lutescens	1	mortar	1 max 20 mm
Hordeum sp(p).	1	oyster shell fgts	1 max 65 mm
Humulus lupulus	1	pebbles	1 max 30 mm
Juncus bufonius	1	Polygonum lapathifolium	1
Lapsana communis	1	Ranunculus Section Ranunculus	1 v dec
Linum usitatissimum	1	Raphanus raphanistrum (pod segs/fgts)	1 v dec
Oenanthe cf. aquatica	1	Sambucus nigra	1
oolitic limestone	1 max 40 mm	sand	1
oyster shell fgts	1 max 30 mm	sclereids (from bark)	1
Papaver argemone	1		
Polygonum aviculare agg.	1		

Sphagnum sp(p).	1 sp., not papillosum or imbricatum	Filicales (pinn fgts)	1
wood fgts	1 v dec, max 5 mm	fish bone	1 max 5 mm
		fish scale	1
		fruit epidermis	1
		Galeopsis Subgenus Galeopsis	1 fgts only
		Genista tinctoria (ch st fgts)	1
		Genista tinctoria (pod fgts)	1
		Genista tinctoria (st fgts)	1
		Genista tinctoria (tef)	1
		Gramineae/Cerealia (c/n)	1
		Gramineae/Cerealia (ch c/n)	1
		Gramineae/Cerealia (w/l chaff)	1
		gravel	1 max 15 mm
		grit	1
		Hyoscyamus niger	1
		Hypochoeris sp(p).	1
		Isoethecium myosuroides	1
		leaf ab pads	1
		leather fgts	1 max 20 mm
		Leguminosae (pods/fgts)	1 max 5 mm
		Leontodon sp(p).	1
		Linum usitatissimum (caps fgts)	1
		Malus sylvestris	1 inc fgts
		Malus sylvestris (endo)	1
		Malus sylvestris (seed base cups)	1
		mites	1
		mortar	1 max 10 mm
		Myrica gale (lf fgts)	1
		Onopordum acanthium	1
		Polygonum aviculare agg.	1
		Polygonum hydropiper	1
		Polygonum lapathifolium	1
		Polygonum persicaria	1
		Polygonum persicaria (min)	1
		Potentilla cf. erecta	1
		Prunella vulgaris	1
		Pteridium aquilinum (rachis fgts)	1
		Pteridium aquilinum (stalk fgts)	1
		Racomitrium canescens	1
		Ranunculus Section Ranunculus	1
		Raphanus raphanistrum (pod segs/fgts)	1
		Rhinanthus sp(p).	1
		Rumex sp(p).	1
		Salix sp(p). (b)	1
		Salix sp(p). (fr)	1
		sand	1
		sclereids (from bark)	1
		Scorpidium scorpioides	1
		Sonchus asper	1
		Spergula arvensis	1
		Sphagnum sp(p). (lvs)	1 sp., not papillosum or imbricatum
		Stellaria media	1
		Thamnobryum alopecurum	1
		Thuidium tamariscinum	1
		Triticum sp(p). (rachis internodes)	1
		Triticum/Secale (w/l)	1
		Ulotia sp(p).	1
		Urtica urens	1

Vaccinium sp(p).	1	mites	1
vivianite	1	Neckera complanata	1
		oolitic limestone	1 max 5 mm
		oyster shell fgts	1 max 10 mm
Context 4011, Sample 2711/T1			
faecal concretions	4 max 80 mm	Pisum cf. sativum (hila)	1
Triticum/Secale ('bran' fgts)	4	Polygonum hydropiper	1
Allium cf. porrum (lef)	3	Polygonum lapathifolium	1
Malus sylvestris (endo)	3	Prunus domestica cf. ssp. domestica	1
Agrostemma githago (sf)	2	Prunus spinosa	1
Anthemis cotula	2	Pteridium aquilinum (stalk fgts)	1
fish bone	2 max 15 mm	Ranunculus Section Ranunculus	1
fly puparia	2	Raphanus raphanistrum (pod segs/fgts)	1
fruit epidermis	2	rat-tailed maggot (min)	1
Gramineae/Cerealialia (w/l spkls/fgts)	2	Rubus fruticosus agg.	1
Lapsana communis	2	Rumex sp(p).	1
Linum usitatissimum	2	Scorpidium scorpioides	1
Malus sylvestris	2	Thuidium tamariscinum	1
Triticum/Secale (w/l)	2	twig fgts	1 max 15 mm
unwashed sediment	2	Ulotia sp(p).	1
Aethusa cynapium	1	Valerianella dentata	1
Anethum graveolens	1	Vicia faba (tracheid bars)	1
animal hairs	1	wood chips	1 max 20 mm
Avena sp(p). (w/l)	1	wood fgts	1 max 90 mm
bark fgts	1 max 15 mm		
bast fgts	1	Context 4022, Sample 285/T1	
beetles	1	Triticum/Secale ('bran' fgts)	4
Bilderdykia convolvulus	1	Agrostemma githago (sf)	3
bone fgts	1 max 20 mm	Allium cf. porrum (lef)	3
Brassica rapa	1	Ascaris (eggs)	3
Brassica sp(p).	1 inc fgts	Cerealialia indet. (w/l chaff)	3
brick/tile	1 max 25 mm	Malus sylvestris (endo)	3
burnt bone fgts	1 max 25 mm	Neckera complanata	3
Calliargon cf. giganteum	1	Prunus spinosa	3
Calliargon cuspidatum	1	Rubus caesius	3
cf. Barbula sp(p).	1	Rubus fruticosus agg.	3
cf. Leucanthemum vulgare	1	Anthemis cotula	2
charcoal	1 max 15 mm	Anthriscus sylvestris	2
Chenopodium album	1	Avena sp(p). ('bran' fgts)	2
Corylus avellana	1	Cannabis sativa	2 inc fgts
Crataegus sp./Prunus spinosa (thorns)	1	cf. Hordeum sp(p). ('bran' fgts)	2
Diphasium complanatum	1 v dec	Crataegus monogyna	2
earthworm egg caps	1	Genista tinctoria (st fgts)	2
earthworm egg caps (min)	1	Gramineae	2
eggshell membrane fgts	1	grit	2
Eurhynchium praelongum	1	Humulus lupulus	2 inc fgts
Eurhynchium striatum	1	Hypnum cf. cupressiforme	2
Galium aparine (epicarp)	1	Isoetecium myurum	2
Genista tinctoria (lvs)	1	Lapsana communis	2
Genista tinctoria (st fgts)	1	Malus sylvestris	2
Gramineae	1	Prunus domestica cf. ssp. domestica	2 inc fgts
Gramineae/Cerealialia (c/n)	1	Prunus domestica ssp. insititia	2
Gramineae/Cerealialia (ch c/n)	1	Rosa sp(p).	2
Gramineae/Cerealialia (culm fgts)	1	sand	2
Hypnum cf. cupressiforme	1	Satureja hortensis	2
Ilex aquifolium (lef)	1 max 10 mm	wood fgts	2 max 30 mm
Leontodon sp(p).	1	'coils'	1
Malus sylvestris (seed base cups)	1	?charred bread	1 max 10 mm

?daub	1 max 10 mm	charcoal	2 max 25 mm
animal hairs (min)	1	Chenopodium album	2
Anthriscus sylvestris	1	Corylus avellana	2 inc material with apical knife marks
bark chips	1 max 35 mm	gravel	2 max 10 mm
bark fgts	1 max 40 mm	grit	2
beetles	1	oolitic limestone	2 max 90 mm
Bilderdykia convolvulus	1 inc fgts	Polygonum aviculare agg.	2
bone fgts	1 max 10 mm	Urtica dioica	2
Calliargon cuspidatum	1	'coils'	1
Carduus/Cirsium sp(p). (af)	1	Aethusa cynapium	1
Carex sp(p).	1	Agrostemma githago	1
charcoal	1 max 10 mm	Agrostemma githago (sf)	1
Corylus avellana	1 max 5 mm	Anthemis cotula	1
fish bone	1 max 5 mm	Anthriscus sylvestris	1
fly puparia	1	Arctium sp(p).	1
fruit epidermis	1	Avena sp(p). (w/l)	1
Galeopsis Subgenus Galeopsis	1	beetles	1
Galium aparine (epicarp)	1	Bilderdykia convolvulus (ff)	1
gravel	1 max 25 mm	bone fgts	1 max 15 mm
grit	1	Brassica sp(p).	1
Hyoscyamus niger	1	Brassica sp(p). (sf)	1
Ilex aquifolium (lef)	1	brick/tile	1 max 5 mm
Lapsana communis	1	burnt bone fgts	1 max 10 mm
Leguminosae (tracheid bars)	1	Carduus/Cirsium sp(p).	1
Leucanthemum vulgare	1	Carex sp(p).	1
Linum usitatissimum (sf)	1	cf. Avena sp(p).	1
mortar	1 max 20 mm	Chenopodium ficifolium	1
Neckera complanata	1	Conium maculatum	1
oolitic limestone	1 max 20 mm	Coronopus squamatus (fr)	1
Pisum sativum (min hila)	1	Corylus (rods)	1 max 70 mm
Pisum sativum (min s fgts)	1	Corylus avellana (ch)	1
Polygonum lapathifolium	1 fgts only	Diphysium complanatum	1
Pteridium aquilinum (pinn fgts)	1	earthworm egg caps	1
Raphanus raphanistrum	1 inc fgts	Eleocharis palustris sl	1 v dec
Raphanus raphanistrum (pod segs/fgts)	1	fish bone	1 max 15 mm
red material	1	fish scale	1
Rumex sp(p).	1 fgts only	fly puparia	1
Satureja hortensis	1	Galeopsis Subgenus Galeopsis	1
sclereids (from bark)	1	Gramineae/Cerealialia (c/n)	1
Stellaria media	1	herbaceous detritus	1
Thuidium tamariscinum	1	Homalothecium sericeum/lutescens	1
Triticum/Secale (w/l)	1	Hordeum sp(p).	1
twig fgts	1 max. 50 x 10 mm	Hyoscyamus niger	1
Urtica dioica	1	Hypnum cf. cupressiforme	1
Valerianella dentata	1	iron-rich concretions	1 max 10 mm
Vicia faba (min hila)	1	Juncus bufonius	1
wood chips	1 max 30 mm	Lapsana communis	1
wood fgts	1	leather fgts	1 v dec, max 10 mm
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Context 4039, Sample 305/T1			
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bark fgts	3 max 20 mm	Leucodon sciuroides	1
sand	3	Linum usitatissimum	1
wood fgts	3 max 25 mm	Linum usitatissimum (caps fgts)	1
Anagallis arvensis	2	Malus sylvestris (endo)	1
Atriplex sp(p).	2	Neckera complanata	1
Bilderdykia convolvulus	2 nutlets and perianth segs both present	oyster shell fgts	1 max 10 mm
		Polygonum lapathifolium	1
		Polygonum persicaria	1
		Potentilla cf. erecta	1
		pottery	1 max 30 mm

Prunella vulgaris	1	Diphasium complanatum	1 v dec
Pteridium aquilinum (pinn fgts)	1	earthworm egg caps	1
Pteridium aquilinum (rachis fgts)	1 max 15 mm	Eleocharis palustris sl	1
Quercus sp(p). (b/bs)	1	fish bone	1 max 5 mm
Ranunculus flammula	1	fly puparia	1
Ranunculus Section Ranunculus	1	Galeopsis Subgenus Galeopsis	1
Raphanus raphanistrum (pod segs/fgts)	1	Genista tinctoria (st fgts)	1 max 2 mm
Rumex acetosella agg.	1	Heterodera (cysts)	1
Rumex sp(p).	1	Homalothecium sericeum/lutescens	1
Sambucus nigra	1	Hordeum sp(p).	1
Scirpus setaceus	1	Hypnum cf. cupressiforme	1
sclereids (from bark)	1	Isothecium myosuroides	1
Sonchus asper	1	Juncus bufonius	1
Sonchus sp(p). (non asper)	1	Lapsana communis	1
Thlaspi arvense	1	leaf ab pads	1
Thuidium tamariscinum	1	leather fgts	1 v dec, max 5 mm
Triticum aestivo-compactum	1	Linum usitatissimum	1
twig fgts	1 max 20 mm	Malus sylvestris (endo)	1
Urtica urens	1	mites	1
Viola sp(p).	1	monocot lf/stem fgts (ch)	1
wood chips	1 max 20 mm	mortar	1 max 30 mm

Context 4045, Sample 327/T1

bark fgts	3 max 30 mm	Onopordum acanthium	1
Atriplex sp(p).	2	oolitic limestone	1 max 50 mm
Bilderdykia convolvulus	2	Polygonum hydropiper	1
Cannabis sativa	2 inc fgts	Polygonum lapathifolium	1
charcoal	2 max 10 mm	Polygonum persicaria (ch)	1
Chenopodium album	2	Ranunculus flammula	1
gravel	2 max 40 mm	Ranunculus Section Ranunculus	1
Hyoscyamus niger	2	Raphanus raphanistrum (pod segs/fgts)	1
Polygonum aviculare agg.	2	Reseda luteola	1
sand	2	Rubus fruticosus agg.	1
Viola sp(p).	2	Rumex sp(p).	1
?Fe object(s)	1 max 30 mm	Sambucus nigra	1
Aethusa cynapium	1	sclereids (from bark)	1
Agrostemma githago	1	Sonchus asper	1
Agrostemma githago (sf)	1	Stellaria media	1
Anagallis arvensis	1	Thuidium cf. tamariscinum	1
Anthemis cotula	1	Triticum aestivo-compactum	1
Avena sp(p).	1	Umbelliferae	1
beetles	1	unwashed peaty sediment	1 max 15 mm
bird bone	1 max 45 mm	Urtica dioica	1
bone fgts	1 max 30 mm	Valerianella dentata	1
Brassica rapa	1	wood fgts	1 max 25 mm
Brassica sp./Sinapis arvensis	1		
brick/tile	1 max 20 mm		
burnt bone fgts	1 max 10 mm		
Calliargon cf. giganteum	1		
Carduus/Cirsium sp(p).	1		
Carex sp(p).	1		
cf. Anethum graveolens	1		
cf. Cladium mariscus (ch lf fgts)	1		
cf. Cratoneuron filicinum	1		
cf. Drepanocladus sp(p).	1		
Conium maculatum	1		
Corylus avellana	1		

Context 4050, Sample 329/T1

wood fgts	4 max 30 mm
Anthriscus sylvestris	3
bark fgts	3 max 40 mm
Cannabis sativa	3 inc fgts
earthworm egg caps	3
Triticum/Secale ('bran' fgts)	3 mostly <1 mm
Agrostemma githago (sf)	2
Allium cf. porrum (lef)	2
Anthemis cotula	2
Antitrichia curtispindula	2

Atriplex sp(p).	2	eggshell membrane fgts	1
Avena sp(p). (w/l)	2	Eleocharis palustris sl	1
beetles	2	Eurhynchium praelongum	1
Carex sp(p).	2	Eurhynchium striatum	1
Cerealia indet. (w/l spkls/fgts)	2	Filipendula ulmaria	1
charcoal	2 max 15 mm	fish bone	1 max 15 mm
Chenopodium album	2	fish scale	1
Corylus avellana	2 inc material with apical knife marks	fruit epidermis	1
Daucus carota	2	Galeopsis Subgenus Galeopsis	1
fly puparia	2	Galium aparine (epicarp)	1
herbaceous detritus	2	Genista tinctoria (st fgts)	1 max 20 mm
Humulus lupulus	2	Gramineae	1
Lapsana communis	2	Gramineae/Cerealia (c/n)	1
Linum usitatissimum	2	grit	1
Malus sylvestris	2	Homalothecium sericeum/lutescens	1
Malus sylvestris (endo)	2	Hylocomium splendens	1
Polygonum hydropiper	2	Hyoscyamus niger	1
Ranunculus Section Ranunculus	2	Hypnum cf. cupressiforme	1
rat-tailed maggot (resp proc)	2	Iris pseudacorus	1 fgts only
Reseda luteola	2	Isatis tinctoria (pod fgts)	1 specn(s) picked out and tubed
Rubus fruticosus agg.	2	Isothecium myosuroides	1
unwashed sediment	2	Isothecium myurum	1
wood chips	2 max 20 mm	Juncus cf. acutiflorus	1
'coils'	1	Juncus inflexus/effusus/conglomeratus	1
Achillea millefolium	1	leather fgts	1 max 20 mm
Agrostemma githago	1	Leguminosae (fls/pet)	1
Alisma sp(p).	1	Leguminosae (imm s)	1
amphibian bone	1	Leguminosae (pods/fgts)	1 max 2 mm
animal bristles	1	Lycopodium sp(p).	1 a single specn: tubed
animal hairs	1		
Apium graveolens	1	Malus sylvestris (seed base cups)	1
Arctium sp(p).	1	mites	1
Ascaris (eggs)	1	mouse droppings (min)	1
Avena sp(p).	1 max. 40 x 10 mm	Neckera complanata	1
Avena sp(p). (spkls/fgts)	1	Oenanthe sp(p).	1
bark chips	1 max 20 mm	oolitic limestone	1 max 15 mm
Bellis perennis	1	Pisum sativum (hila)	1
Betula sp(p).	1	Polygonum aviculare agg.	1
Bilderdykia convolvulus (ch)	1	Polygonum lapathifolium	1
Bilderdykia convolvulus (ff)	1	Polygonum persicaria	1
bone fgts	1 max 50 mm	Potentilla cf. erecta	1
Brassica rapa	1 inc fgts	Prunella vulgaris	1
Brassica sp(p). (sf)	1	Prunus spinosa	1
Buglossoides arvensis	1	Prunus spinosa (thorns)	1
burnt bone fgts	1 max 10 mm	Raphanus raphanistrum (pod segs/fgts)	1
Calliargon cuspidatum	1	rat-tailed maggot (min fgts)	1
Calluna vulgaris (fls)	1	Rhinanthus sp(p).	1
Carduus/Cirsium sp(p).	1	Rumex acetosella agg.	1
Cerealia indet.	1	Rumex sp(p). (inc per)	1
Cerealia indet. (w/l rachis fgts)	1	Salix sp(p). (b)	1
cf. Rubia tinctorum	1	Sambucus nigra	1
cf. Rubia tinctorum (root bark)	1	sand	1
charred leather fgts	1 max 10 mm	Satureja hortensis	1
Corylus avellana (b/bs)	1	sclereids (from bark)	1
Danthonia decumbens	1	Scorpidium scorpioides	1
dicot lf fgts	1	Secale cereale	1
Diphasium complanatum	1	small mammal bone	1
earthworm egg caps (min)	1	Sonchus asper	1

Stellaria media	1	gravel	1 max 15 mm
Thuidium cf. tamariscinum	1	Homalothecium sericeum/lutescens	1
Trichuris (eggs)	1	Hyoscyamus niger	1
Triticum sp(p).	1	Juncus bufonius	1
Triticum/Secale (w/l)	1	Juncus sp(p).	1
twig fgts	1 max 40 mm	leaf ab pads	1
Ulotia sp(p).	1	Linum usitatissimum	1
Urtica urens	1	Malus sylvestris	1
Valerianella dentata	1	Malus sylvestris (seed base cups)	1
Viola sp(p).	1	Menyanthes trifoliata	1 fgts only
vivianite	1	moss	1
wool/string fgts	1 max 5 mm	Myosotis sp(p).	1
		Neckera complanata	1
		Nepeta cataria	1

Context 4054, Sample 345/T1

bark fgts	3 max 25 mm	Polygonum aviculare agg.	1
Corylus avellana	3	Polygonum hydropiper	1
sand	3	Polygonum lapathifolium	1
Atriplex sp(p).	2	Polygonum lapathifolium (ch)	1
charcoal	2 max 10 mm	Polygonum persicaria	1
Chenopodium album	2	Polygonum persicaria/lapathifolium (ch)	1
Lapsana communis	2	Potentilla cf. erecta	1
oolitic limestone	2 max 50 mm	Prunella vulgaris	1
Rumex sp(p).	2	Quercus sp(p). (b/bs)	1
Urtica dioica	2	Ranunculus flammula	1
wood fgts	2 max 10 mm	Raphanus raphanistrum (pod segs/fgts)	1
Aethusa cynapium	1 v dec	Rubus fruticosus agg.	1
Agrostemma githago	1	Sambucus nigra (sf)	1
Agrostemma githago (sf)	1	sclereids (from bark)	1
Anagallis arvensis	1	Scorpidium scorpioides	1
Anthemis cotula	1	Senecio sp(p).	1
Arctium sp(p).	1	Sonchus asper	1
beetles	1	Stellaria media	1
Bilderdykia convolvulus	1	Triticum sp(p).	1
Bilderdykia convolvulus (ff)	1	Umbelliferae	1 v dec
bone fgts	1 max 45 mm	unwashed sediment	1 max 5 mm
Brassica rapa	1	Urtica urens	1
Brassica sp(p). (sf)	1	Valerianella dentata	1
brick/tile	1 max 10 mm	Veronica beccabunga-type	1
Carduus/Cirsium sp(p).	1	Viola sp(p).	1
Carex sp(p).	1	wood chips	1 max 10 mm
Cerealia indet.	1		
Cerealia indet. (awns)	1		
Cerealia indet. (chaff)	1		
cf. Atropa bella-donna	1 fgts only		
cf. Avena sp(p).	1		
Diphysium complanatum	1 v dec		
earthworm egg caps	1		
Eleocharis palustris sl	1		
Eriophorum vaginatum (ch scl sp)	1 a single specn		
Euphorbia helioscopia (ch)	1 fgts only		
fish bone	1 max 5 mm		
fish scale	1		
fly puparia	1		
Galeopsis Subgenus Galeopsis	1		
Genista tinctoria (st fgts)	1		
Gramineae	1		
Gramineae/Cerealia (c/n)	1		

Context 5001, Sample 364/T1

bark fgts	3 max 65 mm
wood chips	3 max 35 mm
wood fgts	3 max 40 mm
Anthemis cotula	2
bone fgts	2 max 70 mm
cf. Genista tinctoria (pod fgts)	2
charcoal	2 max 15 mm
Chenopodium album	2
Corylus avellana	2
fly puparia	2
Genista tinctoria (st fgts)	2
Genista tinctoria (tef)	2
Gramineae/Cerealia (w/l spk/ls/fgts)	2

grit	2	Reseda luteola	1
Lapsana communis	2	Rhytidiadelphus cf. squarrosus	1
Linum usitatissimum	2 inc fgts	Rumex acetosella agg.	1
Neckera complanata	2	Scandix pecten-veneris	1 fgts only
oyster shell fgts	2 max 90 mm	Scorpidium scorpioides	1
sand	2	Thuidium tamariscinum	1
sclereids (from bark)	2	Triticum sp(p).	1
Agrostemma githago	1	Triticum/Secale (w/l)	1
amphibian bone	1	twig fgts	1 max. 80 x 10 mm
Anthemis cotula (ch)	1	Ulotia sp(p).	1
Antitrichia curtipendula	1	unwashed sediment	1 max 10 mm
Atriplex sp(p).	1		
bast fgts	1		
beetles	1		
Betula cf. pendula (bark fgts)	1 max 10 mm		
Bilderdykia convolvulus	1 inc fgts		
Brassica sp(p).	1		
burnt bone fgts	1 max 10 mm		
Calliergon cf. giganteum	1		
Calliergon cuspidatum	1		
Carduus/Cirsium sp(p).	1		
Carex sp(p).	1		
Centaurea sp(p).	1		
Centaurea sp(p). (inv br)	1		
Cerealium indet. (w/l rachis fgts)	1		
Crataegus sp./Prunus spinosa (thorns)	1		
Cruciferae (pedicels)	1		
dicot lf fgts	1		
Diphasium complanatum	1		
earthworm egg caps	1		
eggshell fgts	1 max 5 mm		
eggshell membrane fgts	1 max 10 mm		
Eleocharis palustris sl	1		
Eurhynchium praelongum	1		
Eurhynchium striatum	1		
fish bone	1 max 25 mm		
Galeopsis Subgenus Galeopsis	1		
Genista tinctoria (lvs)	1		
Gramineae/Cerealium (culm fgts)	1		
gravel	1 max 10 mm		
herbaceous detritus	1		
Homalothecium sericeum/lutescens	1		
Hypnum cf. cupressiforme	1		
Isothecium mysuroides	1		
leather fgts	1 max 15 mm		
Leguminosae (pods/fgts)	1 max 5 mm		
Leucodon sciuroides	1		
Malus sylvestris (endo)	1		
mortar	1 max 5 mm		
Neckera crispa	1		
Oenanthe aquatica	1		
oolitic limestone	1 max 10 mm		
pebbles	1 max 50 mm		
Polygonum lapathifolium	1		
Pteridium aquilinum (pinn fgts)	1		
Pteridium aquilinum (stalk fgts)	1		
Ranunculus Section Ranunculus	1		
Ranunculus Section Ranunculus (min)	1		
Raphanus raphanistrum (pod segs/fgts)	1		
		Context 5012, Sample 401/T1	
		wood fgts	4 max 50 mm
		Genista tinctoria (st fgts)	3 max 20 mm
		Genista tinctoria (tef)	3
		herbaceous detritus	3
		undisagg compressed plant debris	3 max 20 mm
		animal bristles	2
		Anthemis cotula	2
		bark fgts	2 max 10 mm
		Bilderdykia convolvulus	2 inc fgts
		Calluna vulgaris (sht fgts)	2 v dec
		Cerealium indet. (w/l chaff)	2
		cf. Genista tinctoria (pod fgts)	2
		fly puparia	2
		Galeopsis Subgenus Galeopsis	2 inc fgts
		Juncus bufonius	2
		Myrica gale (lf fgts)	2 max 10 mm
		Polygonum lapathifolium	2
		Spergula arvensis	2
		Triticum/Secale (w/l)	2
		Urtica dioica	2
		wood chips	2 max 20 mm
		Agrostemma githago (sf)	1
		Antitrichia curtipendula	1
		Atriplex sp(p).	1
		Barbula sp(p).	1
		beetles	1
		Betula cf. pendula (bark fgts)	1 max 10 mm
		bone fgts	1 max 5 mm
		burnt bone fgts	1 max 10 mm
		Calliergon cf. giganteum	1
		Cannabis sativa	1
		Cerealium indet. (w/l spkfts/fgts)	1
		Chenopodium Section Pseudoblitum	1
		Corylus (rods)	1 max. 70 x 15 mm
		Corylus avellana	1
		dicot lf fgts	1 max 10 mm
		dicot stem fgts	1
		Diphasium complanatum	1 max 30 mm
		earthworm egg caps	1
		Erica cinerea (fls)	1
		Erica tetralix (lvs)	1
		Eurhynchium striatum	1
		fish bone	1 max 5 mm
		fish scale	1

Genista tinctoria (lvs)	1	bone fgts	1 max 30 mm
Gramineae	1	Brassica sp(p).	1
Gramineae/Cerealia (c/n)	1	burnt bone fgts	1 max 15 mm
gravel	1 max 10 mm	Calliargon cf. giganteum	1
Homalothecium sericeum/lutescens	1	Cannabis sativa	1 a single fragment
Hylocomium splendens	1	Carex sp(p).	1
Lapsana communis	1	charcoal	1 max 15 mm
leaf ab pads	1	clinker	1 max 40 mm
leather fgts	1 max 10 mm	Conium maculatum (mf)	1
Leguminosae (fls/pet)	1	Corylus avellana	1
Leguminosae (pods/fgts)	1 max 5 mm	Corylus avellana (b/bs)	1
Linum usitatissimum	1	Cratoneuron filicinum	1
Malus sylvestris (endo)	1	Daucus carota	1
mites	1	dicot lf fgts	1
monocot epid fgts	1	Drepanocladus sp(p).	1
Myrica gale (mc fgts)	1	Eleocharis palustris sl	1
Neckera complanata	1	Eurhynchium praelongum	1
Polygonum hydropiper	1	Eurhynchium striatum	1
Polygonum persicaria	1	Filipendula ulmaria	1
Potentilla palustris	1	fish bone	1 max 10 mm
Potentilla sp(p).	1	fly puparia	1
Racomitrium canescens	1	Galeopsis Subgenus Galeopsis	1
Racomitrium heterostichum/affine	1	gravel	1 max 25 mm
Raphanus raphanistrum (pod segs/fgts)	1	grit	1
Rhytidadelphus squarrosus	1	herbaceous detritus	1
Rumex sp(p).	1	Homalothecium sericeum/lutescens	1
sand	1	Hyoscyamus niger	1
Sphagnum sp(p). (lvs/shts)	1	Hypnum cf. cupressiforme	1
teeth	1	Lapsana communis	1
Thuidium tamariscinum	1	leaf ab pads	1
twig fgts	1 max 10 mm	Leguminosae (pods/fgts)	1 max 3 mm
Ulota sp(p).	1	Leucodon sciuroides	1
		Malus sylvestris	1
		mortar	1 max 5 mm

Context 5030, Sample 463/T1

Cerealia indet. (w/l spkls/fgts)	4	Polygonum aviculare agg.	1
wood fgts	3 max 40 mm	Polygonum hydropiper	1
Agrostemma githago (sf)	2	Polygonum persicaria	1
Anthemis cotula	2	Prunus domestica sl	1
Avena sp(p). (w/l)	2	Pteridium aquilinum (stalk fgts)	1
Chenopodium album	2	Raphanus raphanistrum (pod segs/fgts)	1
Humulus lupulus	2	Rhytidadelphus sp(p).	1
Humulus lupulus (bracts)	2	Rubus fruticosus agg.	1
Neckera complanata	2	sand	1
Polygonum lapathifolium	2	Sonchus asper	1
Prunus spinosa	2	Spergula arvensis	1
Triticum/Secale (w/l)	2	Stachys sp(p).	1
Ulota sp(p).	2	Stellaria media	1
wood chips	2 max 30 mm	Thuidium tamariscinum	1
?faecal concretions	1 max 40 mm	Triticum sp(p).	1
Agrostemma githago	1	Triticum/Secale ('bran' fgts)	1
Alnus glutinosa	1	twig fgts	1 max 30 mm
Anethum graveolens	1	unwashed organic sediment	1 max 10 mm
Anthriscus sylvestris	1	Urtica urens	1
Atriplex sp(p).	1		
bark fgts	1 max 25 mm		
beetles	1		
Bilderdykia convolvulus (ff)	1		

Context 5032, Sample 465/T1

Triticum/Secale ('bran' fgts)	4 much in <1 mm fraction
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Agrostemma githago (sf)	3	Isothecium myurum	1
Linum usitatissimum	3 inc fgts	Lapsana communis	1
Rubus fruticosus agg.	3	Leguminosae (pods/fgts)	1 large type(s)
Atriplex sp(p).	2	Leguminosae (tracheid bars)	1
Bilderdykia convolvulus	2 inc fgts	Linum usitatissimum (caps fgts)	1
bone fgts	2 max 70 mm	Malus sylvestris (seed base cups)	1
Cerealia indet. (w/l chaff)	2	Neckera complanata	1
Chenopodium album	2	oyster shell fgts	1 max 10 mm
dicot stem fgts	2	Polygonum aviculare agg.	1
faecal concretions	2 max 45 mm	Polygonum hydropiper	1
fly puparia	2	Polygonum lapathifolium	1
Genista tinctoria (st fgts)	2 max 20 mm	Polygonum persicaria	1
Genista tinctoria (tef)	2	pottery	1 max 10 mm
herbaceous detritus	2	Prunus spinosa	1
Malus sylvestris	2	Prunus spinosa (thorns)	1
Malus sylvestris (endo)	2	Pseudoscleropodium purum	1
wood chips	2 max 15 mm	Pteridium aquilinum (pinn fgts)	1
wood fgts	2 max 10 mm	Pteridium aquilinum (rachis fgts)	1
Anthemis cotula	1	Quercus (wood chips)	1
Antitrichia curtipendula	1	Quercus sp(p). (b/bs)	1
Apium graveolens	1	Ranunculus Section Ranunculus	1
Atropa bella-donna	1	Raphanus raphanistrum (pod segs/fgts)	1
Avena sp(p). (w/l spkls/fgts)	1	Rhytidiadelphus sp(p).	1
Avena sp(p). (w/l)	1	Rhytidiadelphus squarrosus	1
bark fgts	1 max 20 mm	Rosa sp(p).	1
beetles	1	Rumex sp(p).	1
Betula cf. pendula (bark fgts)	1 max 10 mm	Sambucus nigra	1
Brassica rapa (sf)	1	sand	1
Brassica sp(p).	1	Sonchus asper	1
brick/tile	1 max 10 mm	Spergula arvensis	1
burnt bone fgts	1 max 5 mm	Stellaria media	1
Calliargon cf. giganteum	1	Stellaria palustris/graminea	1
Calliargon cuspidatum	1	Thlaspi arvense	1
Cannabis sativa	1	Thuidium tamariscinum	1
cf. Quercus (bark)	1 max 15 mm	Triticum aestivo-compactum	1
cf. Secale cereale	1	Triticum/Secale (w/l)	1
charcoal	1 max 15 mm	twig fgts	1 max 15 mm
Chenopodium Section Pseudoblitum	1	Ulota cf. crispa	1
Conium maculatum	1	Urtica dioica	1
Corylus (bark)	1 max 10 mm	Urtica urens	1
Corylus (rods)	1 max. 40 x 10 mm	Vaccinium sp(p). (pistil bases)	1
Corylus avellana	1	Viola sp(p).	1
Corylus avellana (b/bs)	1	woodlouse fgts	1
Daucus carota	1		
Drepanocladus sp(p).	1		
earthworm egg caps	1		
eggshell membrane fgts	1 max 2 mm		
Eleocharis palustris sl	1		
Eurhynchium praelongum	1		
Eurhynchium striatum	1		
fish bone	1 max 5 mm		
Galeopsis Subgenus Galeopsis	1 fgts only		
Gramineae/Cerealia (culm fgts)	1		
grit	1		
Homalothecium sericeum/lutescens	1		
Hylocomium splendens	1		
Hypnum cf. cupressiforme	1		
Hypochoeris sp(p).	1		
Isothecium myosuroides	1		

Context 5035, Sample 451/T1

bark fgts	3 max 40 mm
Diphasium complanatum	3 v dec, max 15 mm
Genista tinctoria (st fgts)	3 max 20 mm
Genista tinctoria (tef)	3
Atriplex sp(p).	2
Calliargon cf. giganteum	2
charcoal	2 max 25 mm
Chenopodium album	2
grit	2
sand	2
Urtica dioica	2
wood fgts	2 v dec, max 25 mm

?arthropod frass	1	Malus sylvestris (endo)	1
Aethusa cynapium	1	Malus sylvestris (seed base cups)	1
Agrostemma githago	1	Menyanthes trifoliata	1 fgts only
Agrostemma githago (sf)	1	mortar	1 max 15 mm
Anthemis cotula	1	Neckera complanata	1
Anthriscus sylvestris	1	Oxalis acetosella	1
Antitrichia curtipendula	1	oyster shell fgts	1 max 15 mm
Avena sp(p). (w/l)	1	Polygonum aviculare agg.	1
beetles	1	Polygonum lapathifolium	1
Bilderdykia convolvulus	1 inc fgts	Polygonum persicaria	1
bone fgts	1 max 30 mm	pottery	1 max 20 mm
Brassica rapa	1	Prunus spinosa	1
Brassica sp./Sinapis arvensis	1	Prunus spinosa (thorns)	1
brick/tile	1 max 10 mm	Pseudoscleropodium purum	1
burnt bone fgts	1 max 10 mm	Ranunculus sardous	1
Calliargon cuspidatum	1	Ranunculus Section Ranunculus	1
Campylium stellatum	1	Raphanus raphanistrum (pod segs/fgts)	1
Carduus/Cirsium sp(p).	1	Rhinanthus sp(p).	1
Carex sp(p).	1	Rhytidiadelphus sp(p).	1
Carex sp(p). (ch)	1	Rubia tinctorum	1 max 5 mm
Cenococcum (sclerotia)	1	Rubus caesius	1
cf. Anethum graveolens	1	Rubus fruticosus agg.	1
cf. Glyceria sp(p).	1	Rubus idaeus	1
cf. Secale cereale (w/l rachis fgts)	1	Rumex acetosella agg.	1
Corylus avellana	1 inc material with apical knife marks	Rumex sp(p).	1
Corylus avellana (b/bs)	1	Sambucus nigra	1
Danthonia decumbens	1	Scirpus cf. maritimus	1
dicot st epid	1	Secale cereale	1
dicot stem fgts	1 max 20 mm	Silene alba	1
earthworm egg caps	1	Spergula arvensis	1
eggshell fgts	1 max 2 mm	Stellaria media	1
eggshell membrane fgts	1 max 15 mm	Thlaspi arvense	1
Eleocharis palustris sl	1	Thuidium cf. tamariscinum	1
Eurhynchium striatum	1	Torilis japonica	1
fish bone	1 max 10 mm	Triticum aestivo-compactum	1
fish scale	1 max 3 mm	Triticum sp(p).	1
flaggy sandstone	1 max 40 mm	twig fgts	1 max 25 mm
fly puparia	1	Uloa sp(p).	1
Fraxinus (charcoal)	1 max 10 mm	undisagg compressed plant debris	1 max 10 mm
Galeopsis Subgenus Galeopsis	1	Urtica urens	1
Gramineae	1	Valerianella dentata	1
Gramineae/Cerealia (c/n)	1	wood chips	1 max 15 mm
Gramineae/Cerealia (ch c/n)	1		
gravel	1 max 15 mm		
herbaceous detritus	1		
Homalothecium sericeum/lutescens	1		
Hyoscyamus niger	1	Genista tinctoria (st fgts)	4
Hypnum cf. cupressiforme	1	Cerealia indet. (w/l spkts/fgts)	3
iron-rich concretions	1 max 30 mm	Genista tinctoria (tef)	3
Isatis tinctoria (pod fgts)	1	Linum usitatissimum	3 inc many fgts
Isothecium myurum	1	wood chips	3 max 20 mm
Lapsana communis	1	Anthemis cotula	2
leather fgts	1 max 100 mm	Chenopodium album	2
Leguminosae (fls/pet)	1	concretions	2 max 5 mm
Leucodon sciuroides	1	fly puparia	2
Linum usitatissimum	1 inc fgts	Genista tinctoria (lvs)	2
Linum usitatissimum (caps fgts)	1	grit	2
Malus sylvestris	1	sand	2
		Triticum/Secale ('bran' fgts)	2

Context 5037, Sample 452/T1

Table 4. Values for the 'abundance-indicator value' (AIV) for assemblages of plant remains from the Queen's Hotel (1-9 Micklegate) site, York, in context and sample order. For each sample, AIVs are given in descending order; an explanation of the group codes is given in Table 5. Also presented are sums for the 'amount' (on a four-point scale) of the taxa in each group. Note that the AIVs, whilst internally comparable, use a different scale for 'score' from that used by, for example, Hall and Kenward (1990); instead of an indicator score of 1, 2 or 3, the scale 1, 5, 25 is used to 'stretch' the range of the resulting AIVs. The two 'unclassified' groups are included here because, although they do not have AIVs, the sum of taxon amounts is worth recording.

<u>Group</u>	<u>Sum</u>	<u>AIV</u>	<u>Group</u>	<u>Sum</u>	<u>AIV</u>	<u>Group</u>	<u>Sum</u>	<u>AIV</u>
Context 3025, Sample 188/T1			Context 3041, Sample 253/T1			V PLAN	2	30
U FOOS	9	201	V SECA	3	51	E FUGE	1	25
V SECA	12	136	U FOOS	2	50	V TRGE	5	21
V CHEN	15	111	V QUFA	3	31	M SOIL	5	17
V QUFA	8	92	M BOGS	1	25	M GRAS	3	15
V ARTE	7	31	V CHEN	3	11	V FEBR	7	15
U DYES	2	26	M LIGN	1	5	M HEMO	4	12
U FIBR	1	25	V BIDE	1	5	V QUER	3	11
U FOOF	1	25	V FEBR	1	5	E CALC	2	10
U FOOO	1	25	V MOAR	1	5	M DUNS	2	10
V ISNA	1	25	V RHPR	1	5	M FENS	2	10
V PLAN	1	25	M OLIT	1	1	M MARS	2	10
V RHPR	5	25	V ARTE	1	1	U WOOD	6	10
V MOAR	5	21	V PHRA	1	1	V CAKI	2	10
V PHRA	4	12	* UNCL	1	0	V PHRA	2	6
V ALNE	2	10	M UNCL	1	0	U HERB	5	5
V BIDE	2	10			V ALNE	1	5	
V EPIL	2	10	Context 4009, Sample 262/T1			V EPIL	1	5
M LIGN	2	6	U FOOS	17	353	V OXSP	1	5
M SLIT	2	6	V CHEN	22	186	V SESC	1	5
V FEBR	2	6	V SECA	15	151	U FOOF	1	1
V NACA	2	6	U DYES	6	126	* UNCL	12	0
E CALC	1	5	V MOAR	10	126			
M DUNS	1	5	U FIBR	3	75	Context 4011, Sample 2711/T1		
M OLIT	1	5	U FOOO	3	75	U FOOS	23	479
M SOIL	1	5	M LIGN	15	67	V SECA	12	136
V CAKI	1	5	U USEF	7	63	V CHEN	12	96
V LITT	1	5	V ARTE	9	61	U DYES	3	75
V SCCA	1	5	M SLIT	11	55	V QUFA	9	73
M WOOF	1	1	V BIDE	7	55	V MOAR	4	56
U HERB	1	1	V QUFA	7	43	U FOOO	3	51
V POTA	1	1	M WOOF	9	37	U FIBR	2	50
V QUER	1	1	V RHPR	9	37	V RHPR	8	36
* UNCL	2	0	M OLIT	8	32	V BIDE	2	30
M UNCL	1	0	V NACA	7	31	M LIGN	6	26
			M BOGS	2	30	V ARTE	6	26
					M SLIT	5	25	

Group	Sum	AIV
U FOOF	1	25
M WOOF	5	21
M MARS	4	16
M FENS	3	11
U USEF	6	10
V NACA	2	10
V TRGE	2	10
V FEBR	4	8
M BOGS	2	6
M OLIT	2	6
M GRAS	1	5
V QUER	1	5
U HERB	2	2
U WOOD	2	2
M HEMO	1	1
M SOIL	1	1
V PHRA	1	1
* UNCL	5	0
M UNCL	1	0

Context 4022, Sample 285/T1

U FOOS	43	779
V SECA	21	221
V CHEN	28	184
U FOOF	6	150
V QUFA	24	148
V MOAR	13	141
U DYES	7	127
V ARTE	21	121
U FOOO	5	101
V RHPR	20	100
U FIBR	3	75
M LIGN	15	63
M SLIT	11	51
V BIDE	5	45
M WOOF	9	33
E CALC	6	30
U HERB	6	30
V ALNE	6	30
V PLAN	2	30
M BOGS	1	25
U ORNA	1	25
V NACA	4	20
M OLIT	6	18
V EPIL	3	15
V TRGE	3	15
V FEBR	6	14
M HEMO	3	7
M SOIL	3	7

Group	Sum	AIV
V PHRA	3	7
U USEF	6	6
M DUNS	1	5
M GRAS	1	5
V CAKI	1	5
U WOOD	4	4
M MARS	1	1
V BULB	1	1
V QUER	1	1
* UNCL	14	0

Context 4032, Sample 294/T1

U FOOS	25	553
V SECA	13	185
V QUFA	8	80
U FOOF	3	75
V CHEN	14	70
V MOAR	4	60
V RHPR	8	40
V ARTE	6	30
U FIBR	1	25
U FOOO	1	25
V BIDE	4	20
M LIGN	2	10
M SLIT	2	10
M WOOF	2	10
V CAKI	2	10
V EPIL	2	10
M FENS	1	5
M GRAS	1	5
M MARS	1	5
U USEF	1	5
V ALNE	1	5
V FEBR	1	5
V NACA	1	5
V QUER	1	5
U WOOD	1	1
* UNCL	4	0

Context 4039, Sample 305/T1

U FOOS	10	226
V CHEN	26	186
V SECA	17	141
V QUFA	8	92
V PLAN	5	85
U FIBR	2	50

Group	Sum	AIV
U FOOO	2	50
V ISNA	2	50
V ARTE	9	41
U USEF	4	36
V MOAR	7	31
V RHPR	6	30
U DYES	1	25
V BIDE	5	25
V EPIL	5	25
M LIGN	5	21
V NACA	4	16
M SLIT	3	15
V QUER	4	12
M WOOF	3	11
V ALNE	2	10
V CAKI	2	10
M OLIT	3	7
M SOIL	2	6
V FEBR	2	6
V PHRA	2	6
E CALC	1	5
M DUNS	1	5
V LITT	1	5
V SCCA	1	5
V SESC	1	5
M HEMO	1	1
U WOOD	1	1
* UNCL	8	0

Context 4045, Sample 327/T1

U FOOS	8	176
V CHEN	24	168
V SECA	16	156
V ARTE	11	91
U FOOO	4	76
U DYES	3	75
U FIBR	3	75
V BIDE	6	50
V PLAN	2	50
V MOAR	5	45
V QUFA	5	41
V ISNA	1	25
M SLIT	6	22
V RHPR	4	20
M LIGN	6	18
E CALC	2	10
V CAKI	2	10
V EPIL	2	10

Group	Sum	AIV
M WOOF	4	8
V PHRA	3	7
M DUNS	2	6
M OLIT	2	6
M SOIL	2	6
V FEBR	2	6
M GRAS	1	5
V ALNE	1	5
V LITT	1	5
V NACA	1	5
V SCCA	1	5
V TRGE	1	5
M MARS	2	2
M BOGS	1	1
M FENS	1	1
M HEMO	1	1
U FOOF	1	1
U HERB	1	1
U USEF	1	1
* UNCL	7	0
M UNCL	1	0

Context 4050, Sample 329/T1

U FOOS	28	532
V CHEN	32	220
V SECA	21	217
V ARTE	21	137
U DYES	7	127
U FOOO	6	126
U FIBR	5	125
V MOAR	18	122
V QUFA	15	119
U FOOF	4	100
V BIDE	7	75
V RHPR	11	55
M LIGN	11	47
V NACA	6	46
V PHRA	5	37
M SLIT	8	36
V PLAN	3	35
M WOOF	6	22
V FEBR	6	22
M OLIT	5	21
V EPIL	4	20
E CALC	3	15
M MARS	3	15
V ALNE	3	15
M FENS	2	10
M GRAS	2	10

Group	Sum	AIV
V CAKI	2	10
V TRGE	3	7
M HEMO	2	6
M SOIL	2	6
U USEF	6	6
M BOGS	1	5
M DUNS	1	5
V OXSP	1	5
V SESC	1	5
U HERB	4	4
U WOOD	3	3
V QUER	1	1
V SCCA	1	1
* UNCL	16	0

Context 4054, Sample 345/T1

U FOOS	11	227
V CHEN	24	220
V SECA	16	160
V QUFA	9	101
V ARTE	10	70
V BIDE	8	60
U DYES	2	50
V MOAR	6	42
V RHPR	7	35
V PLAN	2	30
U FOOO	2	26
V OXSP	2	26
U FIBR	1	25
V ISNA	1	25
V EPIL	5	21
E CALC	3	11
V PHRA	3	11
M LIGN	2	10
M SLIT	2	10
V ALNE	2	10
V CAKI	2	10
V SCCA	2	10
V NACA	2	6
M BOGS	1	5
M DUNS	1	5
M FENS	1	5
M MARS	1	5
M OLIT	1	5
M SOIL	1	5
M WOOF	1	5
V LITT	1	5
V TRGE	1	5
U HERB	3	3

Group	Sum	AIV
U USEF	3	3
V FEBR	3	3
V QUER	2	2
U WOOD	1	1
V POTA	1	1
* UNCL	12	0

Context 5001, Sample 364/T1

U DYES	9	177
U FOOS	7	175
V MOAR	10	142
V CHEN	16	112
V SECA	12	92
V QUFA	5	53
M LIGN	12	52
U FIBR	2	50
U FOOO	2	50
M SLIT	9	45
V ARTE	6	42
V TRGE	7	27
M WOOF	6	26
V RHPR	5	21
M OLIT	5	17
V FEBR	9	17
M MARS	4	16
V NACA	3	15
U USEF	6	14
V PHRA	4	12
M FENS	3	11
M GRAS	3	11
E CALC	2	10
V BIDE	2	10
V EPIL	2	10
V QUER	2	10
U HERB	7	7
M BOGS	2	6
M SOIL	2	6
U WOOD	2	6
M DUNS	1	5
V CAKI	1	5
V PLAN	1	5
V POTA	1	5
V SESC	1	5
M HEMO	2	2
V ISNA	1	1
* UNCL	7	0

Context 5012, Sample 401/T1

Group	Sum	AIV
U DYES	13	205
V MOAR	9	177
V SECA	11	135
U FOOS	5	125
V NACA	6	90
V CHEN	16	76
E FUGE	3	75
V BIDE	6	70
U FIBR	2	50
U FOOO	2	50
V ISNA	2	50
V OXSP	6	50
V TRGE	9	37
V QUFA	3	35
M LIGN	6	30
U USEF	5	29
M BOGS	2	26
M OLIT	5	25
M SLIT	5	25
V ALNE	5	25
V ARTE	5	25
M WOOF	4	20
V EPIL	4	20
V RHPR	3	15
U HERB	12	12
M GRAS	2	10
M HEMO	2	10
M SOIL	2	10
V FEBR	9	9
E CALC	1	5
M DUNS	1	5
M MONT	1	5
U WOOD	1	5
V CAKI	1	5
V SCCA	1	5
U FOOF	3	3
M FENS	1	1
M MARS	1	1
* UNCL	5	0
M UNCL	1	0

Context 5030, Sample 463/T1

U FOOS	11	251
V SECA	13	165
V CHEN	20	156
U FOOF	5	125

Context 5032, Sample 465/T1

Group	Sum	AIV
V QUFA	12	80
V BIDE	6	50
V RHPR	10	50
M LIGN	10	46
M SLIT	9	45
V ALNE	5	45
V ARTE	8	40
M WOOF	7	31
E FUGE	1	25
U FIBR	1	25
U FOOO	1	25
V MOAR	5	25
V PLAN	1	25
M OLIT	5	17
M MARS	3	11
M DUNS	2	10
V NACA	2	10
U USEF	5	9
M SOIL	2	6
E CALC	1	5
V CAKI	1	5
V EPIL	1	5
V FEBR	1	5
V PHRA	1	5
V QUER	1	5
U DYES	4	4
U HERB	4	4
M BOGS	1	1
M FENS	1	1
M HEMO	1	1
U WOOD	1	1
V TRGE	1	1
* UNCL	6	0
M UNCL	2	0

Context 5035, Sample 451/T1

U FOOS	27	583
V CHEN	22	182
V SECA	15	171
V MOAR	9	145
U FOOO	6	126
U FIBR	5	125
U DYES	4	100
V QUFA	13	97
U USEF	8	88
V BIDE	7	75
V RHPR	12	60
M LIGN	10	46
V ARTE	10	46

Context 5035, Sample 451/T1

Group	Sum	AIV
M SLIT	8	36
V EPIL	3	35
M WOOF	6	26
E FUGE	1	25
U FOOF	1	25
V NACA	5	25
V PLAN	1	25
V TRGE	5	21
M GRAS	4	20
M HEMO	4	16
V FEBR	6	14
M MARS	3	11
M OLIT	3	11
V QUER	3	11
E CALC	2	10
V CAKI	2	10
U WOOD	4	8
M FENS	2	6
M SOIL	2	6
V PHRA	2	6
M DUNS	1	5
U HERB	5	5
V ALNE	1	5
M BOGS	1	1
* UNCL	9	0
M UNCL	2	0

Context 5035, Sample 451/T1

U FOOS	15	351
U DYES	11	275
V CHEN	24	196
V SECA	16	176
V MOAR	11	175
V QUFA	11	111
V ARTE	12	56
U FOOO	3	51
U FIBR	2	50
V RHPR	10	50
M LIGN	9	37
V PLAN	2	30
V TRGE	6	30
U USEF	4	28
M SLIT	6	26
E FUGE	1	25
V BIDE	5	25
V EPIL	5	25
V QUER	1	25
M OLIT	5	17
V ALNE	3	15

Group	Sum	AIV
V NACA	3	15
M FENS	4	12
M MARS	4	12
M WOOF	4	12
V FEBR	7	11
V PHRA	3	11
E CALC	2	10
M DUNS	2	10
M GRAS	2	10
V CAKI	2	10
M HEMO	2	6
M SOIL	2	6
U HERB	6	6
V ISNA	1	5
V SCCA	1	5
V SESC	1	5
M BOGS	2	2
U WOOD	2	2
U FOOF	1	1
V BULB	1	1
V OXSP	1	1
* UNCL	10	0
M UNCL	1	0

Context 5037, Sample 452/T1

U FOOS	16	376
U DYES	11	251
V MOAR	15	247
V CHEN	19	171
V SECA	16	156
V QUFA	9	101
U FOOO	4	76
U FIBR	3	75
V TRGE	10	46
V ARTE	9	41
V BIDE	3	35
M LIGN	6	30
M SLIT	6	30
U USEF	6	30
V ISNA	2	30
V PLAN	2	30
V RHPR	6	30
V QUER	2	26
U FOOF	1	25
M SOIL	4	20
M WOOF	4	20
V FEBR	12	16
M GRAS	3	15
M OLIT	3	15

Group	Sum	AIV
M MARS	3	11
V NACA	3	11
M DUNS	2	10
M HEMO	2	10
U HERB	10	10
V EPIL	2	10
M BOGS	2	6
M FENS	2	6
E CALC	1	5
V ALNE	1	5
V PHRA	1	1
* UNCL	9	0
M UNCL	3	0

Context 5040, Sample 478/T1

U FOOS	36	716
V SECA	17	197
V CHEN	21	129
U FOOO	5	125
U FIBR	4	100
V QUFA	14	90
V MOAR	8	80
U DYES	4	76
U FOOF	3	51
V RHPR	10	50
M LIGN	9	41
V NACA	3	35
U USEF	4	28
V ARTE	7	27
M WOOF	6	26
E FUGE	1	25
V PLAN	1	25
V FEBR	6	22
M GRAS	4	20
M SLIT	4	20
M OLIT	6	18
V BIDE	3	15
M HEMO	3	11
M MARS	2	10
V TRGE	2	10
M DUNS	1	5
M FENS	1	5
V ALNE	1	5
V CAKI	1	5
V EPIL	1	5
V LITT	1	5
V OXSP	1	5
V SCCA	1	5
U HERB	4	4

Group	Sum	AIV
V PHRA	3	3
M SOIL	1	1
U WOOD	1	1
V ISNA	1	1
V POTA	1	1
V QUER	1	1
* UNCL	8	0
M UNCL	1	0

Context 5050, Sample 509/T1

U FOOS	24	552
V SECA	16	192
U FIBR	6	150
U FOOO	6	150
V CHEN	20	128
U DYES	4	100
V MOAR	12	96
V BIDE	7	95
V QUFA	13	89
U FOOF	3	75
V NACA	9	57
V RHPR	11	51
E FUGE	2	50
M LIGN	8	36
V PLAN	3	35
V ARTE	7	27
M OLIT	6	26
M SLIT	4	20
U USEF	6	14
V PHRA	6	14
V FEBR	4	12
V QUER	4	12
V CAKI	2	10
V EPIL	2	10
V SCCA	2	10
V TRGE	2	10
M FENS	3	7
M MARS	2	6
M SOIL	2	6
M WOOF	2	6
U WOOD	6	6
V OXSP	2	6
E CALC	1	5
M DUNS	1	5
M GRAS	1	5
V LITT	1	5
V SESC	1	5
V POTA	2	2
M BOGS	1	1

Group	Sum	AIV
M HEMO	1	1
U HERB	1	1
* UNCL	11	0

Context 5057, Sample 521/T1

V CHEN	19	167
V SECA	13	141
U FOOS	5	125
U FOOO	3	51
U FIBR	2	50
V QUFA	7	43
M LIGN	10	42
M SLIT	9	41
V RHPR	7	35
V PLAN	2	30
U FOOF	2	26
V ARTE	6	26
V ISNA	1	25

Group	Sum	AIV
M OLIT	5	21
V BIDE	4	20
V MOAR	4	20
M WOOF	5	17
M MARS	4	16
M DUNS	3	15
M GRAS	3	15
V ALNE	3	15
V NACA	3	15
V PHRA	4	12
M SOIL	3	11
U USEF	3	11
V QUER	3	11
V LITT	2	10
M BOGS	2	6
M FENS	2	6
M HEMO	2	6
E CALC	1	5
V CAKI	1	5

Group	Sum	AIV
V EPIL	1	5
V FEBR	1	5
V OXSP	1	5
V SCCA	1	5
U WOOD	3	3
U DYES	2	2
U HERB	2	2
V POTA	1	1
* UNCL	6	0
M UNCL	3	0

Context 7030, Sample 696/T1

U USEF	5	125
U FOOS	2	50
V QUFA	2	30
U WOOD	1	25
V RHPR	1	5

Table 5. Explanation of the codes used for AIV groups in Table 4.

* UNCL	unclassified	V BULB	plants of brackish and saline reedswamp
E CALC	plants with distinctly calcicole habit	V CAKI	plants of nitrophilous weedy communities of shingle beaches and sandy strandlines
E FUGE	plants with distinctly calcifuge habit	V CHEN	plants of annual nitrophilous weed communities of cultivated and other disturbed land, especially rootcrop fields and gardens
M BOGS	mosses of peat bogs	V EPIL	plants of nitrophilous woodland edge and clearing communities
M DUNS	mosses of dunes and dune slacks	V FEBR	plants of drier, typically calcareous, grassland
M FENS	mosses of fens and carr	V ISNA	plants of short-lived dwarf-rush communities of winter-wet (often sandy) habitats, pond edges, wet tracks
M GRAS	mosses of grassland	V LITT	plants of rooted aquatic vegetation at the edge of (usually oligotrophic) waters
M HEMO	mosses of heathland and moorland	V MOAR	plants of grassland, including the wetter meadows and pastures, and adjacent paths
M LIGN	mosses growing on tree bark/dead wood	V NACA	plants of grass- and dwarf-shrub (typically Calluna-) dominated dry heaths and moors
M MARS	mosses of marshes	V OXSP	plants of raised bogs and wet heaths
M MONT	montane mosses	V PHRA	plants of freshwater reedswamp communities
M OLIT	mosses of unshaded rocks	V PLAN	plants of trampled places
M SLIT	mosses of shaded rocks	V POTA	plants of rooted aquatic vegetation of still or slow-moving water
M SOIL	mosses growing on soil	V QUER	plants of deciduous woodland on poorer soils
M UNCL	unclassified	V QUFA	plants of deciduous woodland on better soils
M WOOF	mosses of woodland floors	V RHPR	plants of woodland edge scrub communities
U DYES	plants certainly or probably used in dyeing	V SCCA	plants of poor to intermediate fen communities (acid to mildly basic peat)
U FIBR	plants certainly or probably used as a source of fibre	V SECA	plants of annual weed communities in cereal fields
U FOOF	plants used as flavourings (including herbs, spices)	V SESC	plants of established vegetation of sand dunes and other sandy acidic soils
U FOOO	plants certainly or probably used for oil	V TRGE	plants of species-rich communities of grassland/scrub boundaries, often calcicolous
U FOOS	primary food plants		
U HERB	plants certainly or probably used medicinally		
U ORNA	plants certainly or probably used as ornamentals		
U USEF	plants useful in some way other than for food, fibre, oil, dyeing, medicine or as ornamentals		
U WOOD	plants likely to have originated with brushwood or timber		
V ALNE	plants of alder carr		
V ARTE	plants of biennial and perennial nitrophilous tall-herb weed communities of waste places, river-banks, waysides and hedgerows		
V BIDE	plants of nitrophilous weed communities of pond edges, ditches and other places subject to periodic inundation		

Table 6. Main statistics for the assemblages of adult Coleoptera and Hemiptera (excluding Aphidoidea and Coccidoidea) from the Queen's Hotel (1-9 Micklegate), site, York. For explanation of codes see Table 9.

Context	3025	3041	4009	4011	4022	4032	4039	4045	4050	4054	5001
Sample	188	253	262	2711	285	294	305	327	329	345	364
Ext	/T1	/T	/T	/T	/T1	/T	/T1	/T1	/T	/T1	/T
S	52	8	76	36	70	20	81	78	83	55	76
N	88	9	115	54	137	31	205	142	194	73	216
ALPHA	53	0	97	48	57	25	50	71	55	101	42
SEALPHA	10	0	18	13	8	9	6	10	6	26	5
SOB	6	1	20	8	11	3	17	22	16	16	18
PSOB	12	13	26	22	16	15	21	28	19	29	24
NOB	6	1	26	8	12	3	17	23	18	17	25
PNOB	7	11	23	15	9	10	8	16	9	23	12
ALPHAOB	0	0	41	0	0	0	0	225	0	0	30
SEALPHAOB	0	0	19	0	0	0	0	201	0	0	13
SW	2	0	3	0	2	0	4	3	5	1	1
PSW	4	0	4	0	3	0	5	4	6	2	1
NW	2	0	3	0	2	0	4	3	5	1	1
PNW	2	0	3	0	1	0	2	2	3	1	0
ALPHAW	0	0	0	0	0	0	0	0	0	0	0
SEALPHAW	0	0	0	0	0	0	0	0	0	0	0
SD	1	0	4	1	1	0	0	2	1	2	3
PSD	2	0	5	3	1	0	0	3	1	4	4
ND	1	0	5	1	1	0	0	2	2	2	8
PND	1	0	4	2	1	0	0	1	1	3	4
ALPHAD	0	0	0	0	0	0	0	0	0	0	0
SEALPHAD	0	0	0	0	0	0	0	0	0	0	0
SP	1	0	8	5	3	2	7	8	4	9	5
PSP	2	0	11	14	4	10	9	10	5	16	7
NP	1	0	12	5	3	2	7	8	4	10	5
PNP	1	0	10	9	2	6	3	6	2	14	2
ALPHAP	0	0	0	0	0	0	0	0	0	0	0
SEALPHAP	0	0	0	0	0	0	0	0	0	0	0
SM	0	0	0	0	0	0	0	0	0	0	0
PSM	0	0	0	0	0	0	0	0	0	0	0
NM	0	0	0	0	0	0	0	0	0	0	0
PNM	0	0	0	0	0	0	0	0	0	0	0
ALPHAM	0	0	0	0	0	0	0	0	0	0	0
SEALPHAM	0	0	0	0	0	0	0	0	0	0	0
SL	2	0	3	2	3	0	3	2	4	4	3
PSL	4	0	4	6	4	0	4	3	5	7	4
NL	3	0	5	3	22	0	3	3	26	4	5

Context	3025	3041	4009	4011	4022	4032	4039	4045	4050	4054	5001
Sample	188	253	262	2711	285	294	305	327	329	345	364
Ext	/T1	/T	/T	/T	/T1	/T	/T1	/T1	/T	/T1	/T
PNL	3	0	4	6	16	0	1	2	13	5	2
ALPHAL	0	0	0	0	1	0	0	0	1	0	0
SEALPHAL	0	0	0	0	0	0	0	0	1	0	0
SRT	32	5	33	22	43	14	48	40	48	28	47
PSRT	62	63	43	61	61	70	59	51	58	51	62
NRT	64	6	62	38	89	25	136	95	123	43	158
PNRT	73	67	54	70	65	81	66	67	63	59	73
ALPHART	26	0	29	22	33	13	27	26	29	35	23
SEALPHART	6	0	6	7	6	5	4	4	4	11	3
SRD	8	3	5	4	10	4	8	9	8	4	8
PSRD	15	38	7	11	14	20	10	12	10	7	11
NRD	28	4	17	13	30	8	33	24	38	10	27
PNRD	32	44	15	24	22	26	16	17	20	14	13
ALPHARD	4	0	0	0	5	0	3	5	3	0	4
SEALPHARD	1	0	0	0	2	0	1	2	1	0	1
SRF	1	0	6	4	5	2	4	3	6	5	8
PSRF	2	0	8	11	7	10	5	4	7	9	11
NRF	1	0	9	5	6	2	8	4	8	5	17
PNRF	1	0	8	9	4	6	4	3	4	7	8
ALPHARF	0	0	0	0	0	0	0	0	0	0	0
SEALPHARF	0	0	0	0	0	0	0	0	0	0	0
SSA	26	2	27	15	33	10	31	26	39	21	36
PSSA	50	25	36	42	47	50	38	33	47	38	47
NSA	57	3	54	27	77	20	104	76	120	35	142
PNSA	65	33	47	50	56	65	51	54	62	48	66
ALPHASA	19	0	22	14	22	8	15	14	20	23	16
SEALPHASA	4	0	5	5	4	3	2	3	3	7	2
SSF	14	1	16	11	20	8	17	13	20	11	16
PSSF	27	13	21	31	29	40	21	17	24	20	21
NSF	22	2	30	15	52	16	55	36	88	18	30
PNSF	25	22	26	28	38	52	27	25	45	25	14
ALPHASF	17	0	14	0	12	0	9	7	8	0	14
SEALPHASF	7	0	5	0	3	0	2	2	1	0	5
SST	7	1	10	4	9	2	12	10	15	9	18
PSST	13	13	13	11	13	10	15	13	18	16	24
NST	16	1	23	12	21	4	38	33	28	16	104
PNST	18	11	20	22	15	13	19	23	14	22	48
ALPHAST	0	0	7	0	6	0	6	5	13	0	6
SEALPHAST	0	0	2	0	2	0	2	1	5	0	1
SSS	5	0	1	0	4	0	2	3	4	1	2
PSSS	10	0	1	0	6	0	2	4	5	2	3

Context	3025	3041	4009	4011	4022	4032	4039	4045	4050	4054	5001
Sample	188	253	262	2711	285	294	305	327	329	345	364
Ext	/T1	/T	/T	/T	/T1	/T	/T1	/T1	/T	/T1	/T
NSS	19	0	1	0	4	0	11	7	4	1	8
PNSS	22	0	1	0	3	0	5	5	2	1	4
ALPHASS	0	0	0	0	0	0	0	0	0	0	0
SEALPHASS	0	0	0	0	0	0	0	0	0	0	0
SG	0	0	0	0	0	0	0	0	0	0	0
PSG	0	0	0	0	0	0	0	0	0	0	0
NG	0	0	0	0	0	0	0	0	0	0	0
PNG	0	0	0	0	0	0	0	0	0	0	0
ALPHAG	0	0	0	0	0	0	0	0	0	0	0
SEALPHAG	0	0	0	0	0	0	0	0	0	0	0

Context	5012	5030	5032	5035	5037	5040	5050	5057	7030	Whole
Sample	401	463	465	451	452	478	509	521	696	site
Ext	/T	/T	/T	/T1	/T	/T1	/T1	/T1	/T1	
S	44	70	54	84	49	59	53	47	0	328
N	55	91	70	156	84	80	74	69	0	1943
ALPHA	101	138	107	74	50	101	83	64	0	113
SEALPHA	33	33	29	10	10	24	20	15	0	4
SOB	8	18	7	25	7	10	18	19	0	118
PSOB	18	26	13	30	14	17	34	40	0	36
NOB	10	19	7	26	7	10	19	22	0	276
PNOB	18	21	10	17	8	13	26	32	0	14
ALPHAOB	0	0	0	290	0	0	0	64	0	78
SEALPHAOB	0	0	0	259	0	0	0	37	0	8
SW	0	3	1	3	1	0	4	3	0	16
PSW	0	4	2	4	2	0	8	6	0	5
NW	0	3	1	4	1	0	4	3	0	37
PNW	0	3	1	3	1	0	5	4	0	2
ALPHAW	0	0	0	0	0	0	0	0	0	11
SEALPHAW	0	0	0	0	0	0	0	0	0	3
SD	0	2	0	2	1	1	2	3	0	13
PSD	0	3	0	2	2	2	4	6	0	4
ND	0	2	0	2	1	1	2	5	0	35
PND	0	2	0	1	1	1	3	7	0	2
ALPHAD	0	0	0	0	0	0	0	0	0	8
SEALPHAD	0	0	0	0	0	0	0	0	0	2
SP	4	9	0	14	2	5	6	9	0	52
PSP	9	13	0	17	4	8	11	19	0	16
NP	6	9	0	14	2	5	7	10	0	110
PNP	11	10	0	9	2	6	9	14	0	6
ALPHAP	0	0	0	0	0	0	0	0	0	39
SEALPHAP	0	0	0	0	0	0	0	0	0	6
SM	0	0	0	0	0	0	0	0	0	0
PSM	0	0	0	0	0	0	0	0	0	0
NM	0	0	0	0	0	0	0	0	0	0
PNM	0	0	0	0	0	0	0	0	0	0
ALPHAM	0	0	0	0	0	0	0	0	0	0
SEALPHAM	0	0	0	0	0	0	0	0	0	0
SL	3	3	3	4	1	4	2	0	0	19
PSL	7	4	6	5	2	7	4	0	0	6
NL	4	3	4	6	2	6	2	0	0	101
PNL	7	3	6	4	2	8	3	0	0	5
ALPHAL	0	0	0	0	0	0	0	0	0	7
SEALPHAL	0	0	0	0	0	0	0	0	0	1
SRT	26	30	33	44	34	34	27	20	0	571

Context	5012	5030	5032	5035	5037	5040	5050	5057	7030	Whole site
Sample	401	463	465	451	452	478	509	521	696	
Ext	/T	/T	/T	/T1	/T	/T1	/T1	/T1	/T1	
PSRT	59	43	61	52	69	58	51	43	0	174
NRT	34	51	46	111	68	49	47	37	0	1282
PNRT	62	56	66	71	81	61	64	54	0	66
ALPHART	50	31	52	27	27	50	27	18	0	395
SEALPHART	19	8	16	4	6	15	7	5	0	18
SRD	4	7	8	6	8	6	6	4	0	120
PSRD	9	10	15	7	16	10	11	9	0	37
NRD	6	10	10	20	12	12	10	7	0	319
PNRD	11	11	14	13	14	15	14	10	0	16
ALPHARD	0	0	0	3	0	0	0	0	0	70
SEALPHARD	0	0	0	1	0	0	0	0	0	6
SRF	5	5	6	7	7	6	3	2	0	85
PSRF	11	7	11	8	14	10	6	4	0	26
NRF	6	8	7	9	10	6	3	2	0	116
PNRF	11	9	10	6	12	8	4	3	0	6
ALPHARF	0	0	0	0	0	0	0	0	0	143
SEALPHARF	0	0	0	0	0	0	0	0	0	29
SSA	18	22	25	33	25	20	17	14	0	94
PSSA	41	31	46	39	51	34	32	30	0	29
NSA	25	38	37	88	52	35	35	24	0	1049
PNSA	45	42	53	56	62	44	47	35	0	54
ALPHASA	30	22	34	19	19	20	13	14	0	25
SEALPHASA	13	7	12	3	5	6	4	5	0	2
SSF	10	12	15	16	12	12	11	10	0	45
PSSF	23	17	28	19	24	20	21	21	0	14
NSF	14	24	20	58	27	19	20	18	0	564
PNSF	25	26	29	37	32	24	27	26	0	29
ALPHASF	0	10	28	7	8	0	10	0	0	12
SEALPHASF	0	4	15	2	3	0	4	0	0	1
SST	7	10	9	14	12	5	5	4	0	40
PSST	16	14	17	17	24	8	9	9	0	12
NST	10	14	13	27	24	13	11	6	0	414
PNST	18	15	19	17	29	16	15	9	0	21
ALPHAST	0	0	0	12	10	0	0	0	0	11
SEALPHAST	0	0	0	4	4	0	0	0	0	1
SSS	1	0	1	3	1	3	1	0	0	9
PSSS	2	0	2	4	2	5	2	0	0	3
NSS	1	0	4	3	1	3	4	0	0	71
PNSS	2	0	6	2	1	4	5	0	0	4
ALPHASS	0	0	0	0	0	0	0	0	0	3
SEALPHASS	0	0	0	0	0	0	0	0	0	1

Context	5012	5030	5032	5035	5037	5040	5050	5057	7030	Whole site
Sample	401	463	465	451	452	478	509	521	696	
Ext	/T	/T	/T	/T1	/T	/T1	/T1	/T1	/T1	
SG	0	0	0	0	0	0	0	0	0	0
PSG	0	0	0	0	0	0	0	0	0	0
NG	0	0	0	0	0	0	0	0	0	0
PNG	0	0	0	0	0	0	0	0	0	0
ALPHAG	0	0	0	0	0	0	0	0	0	0
SEALPHAG	0	0	0	0	0	0	0	0	0	0

Table 7. Insects and other macro-invertebrates from the Queen's Hotel (1-9 Micklegate) site, York: species lists by sample. Taxa are listed in descending order of abundance. Key: n - minimum number of individuals; q - quantification (s - semi-quantitative 'several', m - semi-quantitative 'many', both sensu Kenward et al. (1986), e - estimate); ecodes - ecological codes (see Table 9 for explanation); * - not used in calculation of statistics in Table 6.

Context: 3025 Sample: 188/T1 ReM: S
Weight: 2.00 E: 3.50 F: 3.50

Notes: Entered 1.3.2000. Three dish flot, recorded in flot, problems on filter paper. Recording approaching 'detail'. Quite a lot of fossils in AH tube from residue: not listed.

Taxon	n	q	ec
Atomaria nigripennis	12	-	rd-ss
Xylodromus concinnus	5	-	rt-st
Lathridius minutus group	5	-	rd-st
Cercyon ?analis	3	-	rt-sf
Anotylus rugosus	3	-	rt
Cryptophagus sp. B	3	-	rd-sf
Aglenus brunneus	3	-	rt-ss
Trechus micros	2	-	u
Carpelimus bilineatus	2	-	rt-sf
Neobisnius sp.	2	-	u
Aleocharinae sp.	2	-	u
Anobium punctatum	2	-	l-sf
Ptinus ?fur	2	-	rd-sf
Cryptophagus ?scutellatus	2	-	rd-st
Mycetaea hirta	2	-	rd-ss
Corticaria sp. A	2	-	rt-sf
Auchenorhyncha sp.	1	-	oa-p
Trechus obtusus or quadristriatus	1	-	oa
Laemostenus ?terricola	1	-	ss
Megasternum obscurum	1	-	rt
Ochthebius sp.	1	-	oa-w
Catops sp.	1	-	u
Micropeplus sp.	1	-	rt
Omalium ?rivulare	1	-	rt-sf
Omalium sp.	1	-	rt
Platystethus cornutus group	1	-	oa-d
Anotylus nitidulus	1	-	rt
Oxytelus sculptus	1	-	rt-st
Stenus sp.	1	-	u
Gyrophypnus angustatus	1	-	rt-st
Xantholinus longiventris	1	-	rt-sf
Philonthus sp. A	1	-	u
Philonthus sp. B	1	-	u
Staphylininae sp. A	1	-	u
Staphylininae sp. B	1	-	u
Tachinus sp.	1	-	u
Cordalia obscura	1	-	rt-sf
Falagria or Cordalia sp.	1	-	rt-sf

?Cratarea suturalis	1	-	rt-st
Trichonyx sulcicollis	1	-	u
Trox scaber	1	-	rt-sf
Aphodius sp.	1	-	ob-rf
Esolus parallelepipedus	1	-	oa-w
Omosita sp.	1	-	rt-sf
Monotoma picipes	1	-	rt-st
Cryptophagus sp. A	1	-	rd-sf
Atomaria sp.	1	-	rd
Corticaria sp. B	1	-	rt-sf
Corticarina or Cortinicara sp.	1	-	rt
Blaps sp.	1	-	rt-ss
Cerambycidae sp.	1	-	l
Coleoptera sp. A	1	-	u
*Diptera sp. (puparium)	15	m	u
*Acarina sp.	15	m	u
*Oligochaeta sp. (egg capsule)	6	s	u
*Proctotrupoidea sp.	3	-	u
*Coccoidea sp.	2	-	u
*Cladocera sp. (ephippium)	1	-	oa-w
*Psylloidea sp. (nymph)	1	-	oa-p
*Trichoptera sp. (case)	1	-	oa-w
*Diptera sp. (larva)	1	-	u
*Melophagus ovinus (adult)	1	-	oa-w
*Melophagus ovinus (puparium)	1	-	u
*Syrphidae sp. (larva)	1	-	u
*Siphonaptera sp.	1	-	u
*Coleoptera sp. (larva)	1	-	u
*Pseudoscorpiones sp.	1	-	u

Context: 3041 Sample: 253/T ReM: S
Weight: 1.00 E: 3.50 F: 4.00

Notes: Entered 1.3.2000. Tiny flot with only a trace of insects. Recorded in flot, remains to tube.

Taxon	n	q	ec
Ptinus sp.	2	-	rd-sf
Pterostichus sp.	1	-	ob
Omalium sp.	1	-	rt
Othius sp.	1	-	rt
Xantholinus sp.	1	-	u
Staphylininae sp.	1	-	u
Atomaria sp.	1	-	rd
Lathridius minutus group	1	-	rd-st
*Acarina sp.	2	-	u

*Diptera sp. (puparium)	1	-	u	Leptacinus sp.	1	-	rt-st
*Proctotruoidea sp.	1	-	u	Gyrophypnus fracticornis	1	-	rt-st
				Philonthus sp. B	1	-	u
				Philonthus sp. C	1	-	u
				Creophilus maxillosus	1	-	rt
				Quedius sp.	1	-	u
				Staphylininae sp. A	1	-	u
				Staphylininae sp. B	1	-	u
				Aleocharinae sp. A	1	-	u
				Aleocharinae sp. B	1	-	u
				Aleocharinae sp. C	1	-	u
				Aleocharinae sp. D	1	-	u
				Aleocharinae sp. E	1	-	u
				Aleocharinae sp. F	1	-	u
				Trox scaber	1	-	rt-sf
				Aphodius sp.	1	-	ob-rf
				?Phyllopertha horticola	1	-	oa-p
				Clambus ?pubescens	1	-	rt-sf
				Clambus sp.	1	-	rt-sf
				Cyphon padi	1	-	oa-d
				Ptinus sp.	1	-	rd-sf
				Lyctus linearis	1	-	l-sf
				Corticaria sp. A	1	-	rt-sf
				Tenebrio obscurus	1	-	rt-ss
				Cerambycidae sp.	1	-	l
				Bruchus sp.	1	-	u
				?Prasocuris phellandrii	1	-	oa-p-d
				Galerucella sp.	1	-	oa-p
				Longitarsus sp.	1	-	oa-p
				Chaetocnema concinna	1	-	oa-p
				Halticinae sp.	1	-	oa-p
				?Cossoninae sp.	1	-	u
				Curculionidae sp. A	1	-	oa
				Curculionidae sp. B	1	-	oa
				Coleoptera sp.	1	-	u
				Coleoptera sp. B	1	-	u
				*Diptera sp. (pupa)	500	e	u
				*Diptera sp. (puparium)	500	e	u
				*Acarina sp.	50	e	u
				*Syrphidae sp. (larva)	15	m	u
				*Diptera sp. (adult)	6	s	u
				*Coleoptera sp. (larva)	6	s	u
				*Proctotruoidea sp.	6	s	u
				*Damalinia sp.	3	-	u
				*Pulex irritans	3	-	ss
				*Oligochaeta sp. (egg capsule)	2	-	u
				*Coccoidea sp.	2	-	u
				*Melophagus ovinus (adult)	2	-	oa-w
				*?Chilopoda sp.	1	-	u
				*Louse (s.l.) sp.	1	-	u
				*Heteroptera sp. (nymph)	1	-	u
				*?Spalangia sp.	1	-	u
				*Apis mellifera	1	-	u
				*Hymenoptera Parasitica sp.	1	-	u

Context: 4009 Sample: 262/T ReM: S

Weight: 1.00 E: 2.00 F: 2.00

Notes: Entered 1.3.2000. Recorded in flot, problems on filter paper. No record of flot size. Recording approaches 'detail'. Preservation good but a few much more decayed. Two AH tubes containing numerous beetles (recorded).

Taxon	n	q	ec				
Lathridius minutus group	8	-	rd-st				
Cryptophagus sp.	5	-	rd-sf				
Apion sp.	5	-	oa-p				
Cercyon analis	3	-	rt-sf				
Philonthus politus	3	-	rt-st				
Anobium punctatum	3	-	l-sf				
Enicmus sp.	3	-	rt-sf				
Cercyon terminatus	2	-	rf-st				
Cercyon unipunctatus	2	-	rf-st				
Ptenidium sp.	2	-	rt				
Xylodromus concinnus	2	-	rt-st				
Carpelimus ?bilineatus	2	-	rt-sf				
Carpelimus pusillus group	2	-	u				
Platystethus nitens	2	-	oa-d				
Anotylus complanatus	2	-	rt-sf				
Anotylus nitidulus	2	-	rt				
Anotylus rugosus	2	-	rt				
Stenus sp.	2	-	u				
Philonthus sp. A	2	-	u				
Falagria caesa or sulcatula	2	-	rt-sf				
Aphodius granarius	2	-	ob-rf				
Cryptophagus scutellatus	2	-	rd-st				
Corticaria sp. B	2	-	rt-sf				
?Heterogaster urticae	1	-	oa-p				
Empicoris sp.	1	-	u				
Lyctocoris campestris	1	-	rd-st				
Nebria ?brevicollis	1	-	oa				
Carabidae sp.	1	-	ob				
Hydroporus sp.	1	-	oa-w				
Helophorus sp.	1	-	oa-w				
Cercyon haemorrhoidalis	1	-	rf-sf				
Acritus nigricornis	1	-	rt-st				
Histerinae sp.	1	-	rt				
Histeridae sp.	1	-	u				
Limnebius sp.	1	-	oa-w				
Scydmaenidae sp.	1	-	u				
Omalium caesum or italicum	1	-	rt-sf				
Platystethus arenarius	1	-	rf				
Platystethus degener	1	-	oa-d				
Paederinae sp.	1	-	u				

*Insecta sp. 1 - u
 *Aranae sp. 1 - u

Context: 4011 Sample: 2711/T ReM: S

Weight: 2.00 E: 3.50 F: 3.50

Notes: Entered 1.3.2000. Three dish flot. Recorded in flot, problems on filter paper. Insects in AH tube from residue included. NB mineralised ?*Eristalis*. Rather a lot of unidentifiable beetle fragments.

Taxon	n	q	ec
Xylodromus concinnus	5	-	rt-st
Atomaria sp.	5	-	rd
Lathridius minutus group	5	-	rd-st
Cercyon haemorrhoidalis	2	-	rf-sf
Acrotrichis sp.	2	-	rt
Philonthus sp.	2	-	u
Anobium punctatum	2	-	l-sf
Cryptophagus sp. B	2	-	rd-sf
Corticaria sp.	2	-	rt-sf
Cercyon analis	1	-	rt-sf
Cercyon unipunctatus	1	-	rf-st
Ptenidium sp.	1	-	rt
?Olophrum sp.	1	-	oa
Omalium ?rivulare	1	-	rt-sf
Carpelimus sp.	1	-	u
Platystethus arenarius	1	-	rf
Anotylus complanatus	1	-	rt-sf
Anotylus nitidulus	1	-	rt
Anotylus rugosus	1	-	rt
Oxytelus sculptus	1	-	rt-st
Gyrophypnus sp.	1	-	rt
Neobisnius sp.	1	-	u
Cordalia obscura	1	-	rt-sf
Aleocharinae sp. A	1	-	u
Aleocharinae sp. B	1	-	u
Trox scaber	1	-	rt-sf
Aphodius sp.	1	-	ob-rf
Phyllopertha horticola	1	-	oa-p
Cyphon padi	1	-	oa-d
Ptilinus pectinicornis	1	-	l-sf
Cryptophagus sp. A	1	-	rd-sf
Orthoperus sp.	1	-	rt
?Chrysolina sp.	1	-	oa-p
Longitarsus sp.	1	-	oa-p
Sitona ?lineatus	1	-	oa-p
?Rhinoncus sp.	1	-	oa-p
*Diptera sp. (puparium)	15	m	u
*Oligochaeta sp. (egg capsule)	6	s	u
*Proctotrupoidea sp.	6	s	u
*Acarina sp.	6	s	u
*Hymenoptera Parasitica sp.	2	-	u

*Cladocera sp. (ephippium) 1 - oa-w
 *Damalinia ?caprae 1 - u
 *Mallophaga sp. 1 - u
 *Bibionidae sp. 1 - u
 *Melophagus ovinus (adult) 1 - oa-w
 *Melophagus ovinus (puparium) 1 - u
 *Syrphidae sp. (larva) 1 - u
 ?*Eristalis* sp. (larva) 1 - u
 *Pulex irritans 1 - ss
 *Coleoptera sp. (larva) 1 - u
 *Apoidea sp. 1 - u
 *Chalcidoidea sp. 1 - u

Context: 4022 Sample: 285/T1 ReM: S

Weight: 2.00 E: 0.00 F: 0.00

Notes: Entered 2.3.2000. Recorded in flot, problems on filter paper. No record of flot size. No proper record of preservation but parts recorded clearly indicate well fragmented, and chemical erosion seems to have been considerable. AH tube material incorporated.

Taxon	n	q	ec
Anobium punctatum	19	-	l-sf
Lathridius minutus group	9	-	rd-st
Atomaria sp. B	8	-	rd
Orthoperus sp.	5	-	rt
Anotylus complanatus	4	-	rt-sf
Anotylus nitidulus	4	-	rt
Corticaria sp. B	4	-	rt-sf
Cercyon analis	3	-	rt-sf
Ptenidium sp.	3	-	rt
Philonthus ?politus	3	-	rt-st
Ptinus ?fur	3	-	rd-sf
Atomaria sp. A	3	-	rd
Dropephylla vilis	2	-	l
Xylodromus concinnus	2	-	rt-st
Anotylus rugosus	2	-	rt
Gyrophypnus ?fracticornis	2	-	rt-st
Cordalia obscura	2	-	rt-sf
Aleocharinae sp. D	2	-	u
Aleocharinae sp. E	2	-	u
Aphodius granarius	2	-	ob-rf
Clambus sp.	2	-	rt-sf
Cryptophagus sp. C	2	-	rd-sf
Corticaria sp. A	2	-	rt-sf
Tingidae sp.	1	-	u
Lycocoris campestris	1	-	rd-st
Delphacidae sp.	1	-	oa-p
Trechus micros	1	-	u
Carabidae sp.	1	-	ob
Helophorus sp.	1	-	oa-w
Cercyon haemorrhoidalis	1	-	rf-sf

Cercyon unipunctatus	1	-	rf-st
Acritus nigricornis	1	-	rt-st
Histerinae sp.	1	-	rt
Acrotrichis sp.	1	-	rt
Omalium caesum or italicum	1	-	rt-sf
Omalium ?rivulare	1	-	rt-sf
Carpelimus ?bilineatus	1	-	rt-sf
Carpelimus fuliginosus	1	-	st
Carpelimus sp.	1	-	u
Platystethus arenarius	1	-	rf
Platystethus degener	1	-	oa-d
Oxytelus sculptus	1	-	rt-st
Stenus crassus	1	-	rt
Neobisnius sp.	1	-	u
Quedius sp.	1	-	u
Staphylininae sp.	1	-	u
Aleocharinae sp. A	1	-	u
Aleocharinae sp. B	1	-	u
Aleocharinae sp. C	1	-	u
Aleocharinae sp. F	1	-	u
Pselaphidae sp.	1	-	u
Trox scaber	1	-	rt-sf
Aphodius sp.	1	-	ob-rf
Macronychus quadrituberculatus	1	-	oa-w
Elateridae sp.	1	-	ob
Necrobia violacea	1	-	rt-sf
Meligethes sp.	1	-	oa-p
Meligethes sp. B	1	-	oa-p
Monotoma sp.	1	-	rt-sf
Cryptophagus sp. A	1	-	rd-sf
Cryptophagus sp. B	1	-	rd-sf
Ephistemus globulus	1	-	rd-sf
Mycetaea hirta	1	-	rd-ss
Enicmus sp.	1	-	rt-sf
Aglenus brunneus	1	-	rt-ss
Blaps sp.	1	-	rt-ss
Tenebrio obscurus	1	-	rt-ss
Curculionidae sp.	1	-	oa
Scolytidae sp.	1	-	l
Coleoptera sp.	1	-	u
*Cereal bran	100	e	u
*Diptera sp. (puparium)	15	m	u
*Proctotrupoidea sp.	15	m	u
*Oligochaeta sp. (egg capsule)	6	s	u
*Diptera sp. (adult)	6	s	u
*Diptera sp. (pupa)	6	s	u
*Syrphidae sp. (larva)	6	s	u
*Coleoptera sp. (larva)	6	s	u
*Pediculus humanus	3	-	u
*Chalcidoidea sp.	3	-	u
*Acarina sp.	3	-	u
*Pulex irritans	2	-	ss
*Damalinia sp.	1	-	u
*Heteroptera sp. (nymph)	1	-	u

*Aphidoidea sp.	1	-	u
*Coccoidea sp.	1	-	u
*?Spalangia sp.	1	-	u
*Apis mellifera	1	-	u
*Formicidae sp.	1	-	u
*Hymenoptera Parasitica sp.	1	-	u

Context: 4032 Sample: 294/T ReM: S

Weight: 1.00 E: 2.00 F: 2.00

Notes: Entered 2.3.2000. Flot 1 cm in jar: bran and coarse material, mostly seeds. Recorded in flot, problems on filter paper. AH tube from residue added.

Taxon	n	q	ec
Cercyon analis	4	-	rt-sf
Xylodromus concinnus	3	-	rt-st
Ptinus ?fur	2	-	rd-sf
Omosita discoidea	2	-	rt-sf
Cryptophagus sp. A	2	-	rd-sf
Cryptophagus sp. B	2	-	rd-sf
Atomaria sp.	2	-	rd
Corticaria sp. B	2	-	rt-sf
Auchenorhyncha sp.	1	-	oa-p
Phyllodrepa ?floralis	1	-	rt-sf
Carpelimus sp.	1	-	u
Platystethus arenarius	1	-	rf
Anotylus ?tetracarinatus	1	-	rt
Staphylininae sp.	1	-	u
Aleocharinae sp.	1	-	u
Aphodius prodromus	1	-	ob-rf
Corticaria sp. A	1	-	rt-sf
Corticarina or Cortinicara sp.	1	-	rt
Bruchus ?rufimanus	1	-	st
Halticinae sp.	1	-	oa-p
*Cereal bran	100	e	u
*Acarina sp.	15	m	u
*Diptera sp. (puparium)	3	-	u
*Pulex irritans	1	-	ss
*Proctotrupoidea sp.	1	-	u
*Aranae sp.	1	-	u

Context: 4039 Sample: 305/T1 ReM: S

Weight: 2.00 E: 2.50 F: 2.50

Notes: Entered 2.3.2000. Three dish flot; seeds rather abundant. Recorded in flot, problems on filter paper. Quite a lot of fragmentary remains. AH tube from residue included.

Taxon	n	q	ec
Carpelimus pusillus group	25	-	u

Cryptophagus sp. A	14	- rd-sf	Aleocharinae sp. D	1	- u
Aglenus brunneus	10	- rt-ss	Staphylinidae sp.	1	- u
Xylodromus concinnus	9	- rt-st	Pselaphidae sp. A	1	- u
Ptenidium sp.	7	- rt	Aphodius ?granarius	1	- ob-rf
Neobisnius sp.	7	- u	Aphodius sp.	1	- ob-rf
Ptinus fur	6	- rd-sf	Phyllopertha horticola	1	- oa-p
Lathridius minutus group	6	- rd-st	Clambus sp.	1	- rt-sf
Cercyon analis	5	- rt-sf	Oulimnius sp.	1	- oa-w
Acritus nigricornis	5	- rt-st	Brachypterus sp.	1	- oa-p
Platystethus arenarius	5	- rf	Rhizophagus sp.	1	- u
Anotylus complanatus	5	- rt-sf	Monotoma bicolor	1	- rt-st
Pselaphidae sp. B	5	- u	Cryptolestes duplicatus	1	- l
Carpelimus bilineatus	4	- rt-sf	Cryptophagus ?scutellatus	1	- rd-st
Oxytelus sculptus	4	- rt-st	?Atomaria sp.	1	- rd
Crataraea suturalis	4	- rt-st	Enicmus sp.	1	- rt-sf
Corticaria sp. C	4	- rt-sf	Corticaria sp. D	1	- rt-sf
Anotylus rugosus	3	- rt	Corticarina or Cortinicara sp.	1	- rt
Gyrophypnus angustatus	3	- rt-st	Tenebrio obscurus	1	- rt-ss
Corticaria sp. A	3	- rt-sf	Anthicus sp.	1	- rt
Anotylus nitidulus	2	- rt	Cerambycidae sp.	1	- l
Gyrophypnus fracticornis	2	- rt-st	Longitarsus sp.	1	- oa-p
Philonthus sp. A	2	- u	Halticinae sp.	1	- oa-p
?Quedius sp.	2	- u	Apion sp.	1	- oa-p
Cordalia obscura	2	- rt-sf	?Sitona sp.	1	- oa-p
Trox scaber	2	- rt-sf	Ceutorhynchus sp.	1	- oa-p
Cryptophagus sp. B	2	- rd-sf	Scolytus rugulosus	1	- l
Atomaria sp. A	2	- rd	*Acarina sp.	15	m u
Orthoperus sp.	2	- rt	*Oligochaeta sp. (egg capsule)	6	s u
Corticaria sp. B	2	- rt-sf	*Diptera sp. (puparium)	6	s u
Lycocoris campestris	1	- rd-st	*Proctotrupoidea sp.	6	s u
Carabus nemoralis	1	- oa	*Pulex irritans	5	- ss
Trechus obtusus or quadristriatus	1	- oa	*Coccoidea sp.	3	- u
Bembidion sp.	1	- oa	*Cladocera sp. F (ephippium)	2	- oa-w
Pterostichus (Poecilus) sp.	1	- oa	*Auchenorhyncha sp. (nymph)	2	- oa-p
Helophorus sp. A	1	- oa-w	*Coleoptera sp. (larva)	2	- u
Helophorus sp. B	1	- oa-w	*Aranae sp.	2	- u
Cercyon haemorrhoidalis	1	- rf-sf	*Dermaptera sp.	1	- u
?Megasternum obscurum	1	- rt	*Damalinia sp.	1	- u
Histerinae sp.	1	- rt	*Pediculus humanus	1	- u
Hydraena sp.	1	- oa-w	*?Lycocoris campestris (nymph)	1	- rd-st
Catops sp.	1	- u	*Lepidoptera sp. (pupa)	1	- u
Omalium excavatum	1	- rt-sf	*Diptera sp. (adult)	1	- u
?Omalium sp.	1	- rt	*Melophagus ovinus (adult)	1	- oa-w
Coprophilus striatulus	1	- rt-st	*Syrphidae sp. (larva)	1	- u
Anotylus sp.	1	- rt	*Chalcidoidea sp.	1	- u
Lithocharis sp.	1	- rt	*Insecta sp. (larva) A	1	- u
Rugilus sp.	1	- rt	*Insecta sp. (larva) B	1	- u
Leptacinus ?pusillus	1	- rt-st			
Xantholinus linearis or longiventris	1	- rt-sf			
Philonthus sp. B	1	- u	Context: 4045 Sample: 327/T1 ReM: S		
Quedius sp. A	1	- u	Weight: 2.00 E: 4.00 F: 4.00		
Aleocharinae sp. A	1	- u			
Aleocharinae sp. B	1	- u	Notes: Entered 2.3.2000. Smallish flot. Recorded in flot,		
Aleocharinae sp. C	1	- u	problems on filter paper. AH residue tube incorporated.		

Taxon	n	q	ec			
Lathridius minutus group	10	-	rd-st	Quedius sp.	1	- u
Xylodromus concinnus	8	-	rt-st	Staphylininae sp.	1	- u
Cercyon analis	6	-	rt-sf	Tachinus sp.	1	- u
Cryptophagus sp. B	6	-	rd-sf	Aleochara sp.	1	- u
Neobisnius sp.	5	-	u	Aleocharinae sp. C	1	- u
Aglenus brunneus	5	-	rt-ss	Trox scaber	1	- rt-sf
Acritus nigricornis	4	-	rt-st	Aphodius sp.	1	- ob-rf
Anotylus complanatus	4	-	rt-sf	Cyphon sp.	1	- oa-d
Corticaria sp. B	4	-	rt-sf	Meligethes sp.	1	- oa-p
Ptenidium sp.	3	-	rt	Cryptophagus scutellatus	1	- rd-st
Carpelimus bilineatus	3	-	rt-sf	Cryptophagus sp. A	1	- rd-sf
Corticaria sp. A	3	-	rt-sf	Cryptophagus sp. C	1	- rd-sf
Scydmaenidae sp.	2	-	u	Cryptophagidae sp.	1	- u
Omalium caesum or italicum	2	-	rt-sf	Atomaria sp. A	1	- rd
Anotylus nitidulus	2	-	rt	Atomaria sp. B	1	- rd
Anotylus rugosus	2	-	rt	Corticarina or Cortinicara sp.	1	- rt
Oxytelus sculptus	2	-	rt-st	Blaps sp.	1	- rt-ss
Leptacinus intermedius	2	-	rt-st	Tenebrio obscurus	1	- rt-ss
Gyrophypnus fracticornis	2	-	rt-st	Longitarsus sp. A	1	- oa-p
Cratarea suturalis	2	-	rt-st	Longitarsus sp. B	1	- oa-p
Aleocharinae sp. A	2	-	u	Chaetocnema arida group	1	- oa-p
Aleocharinae sp. B	2	-	u	Psylliodes sp.	1	- oa-p
Aphodius ?prodromus	2	-	ob-rf	Apion sp.	1	- oa-p
Anobium punctatum	2	-	l-sf	Ceutorhynchus sp.	1	- oa-p
Ptinus fur	2	-	rd-sf	Scolytus rugulosus	1	- l
Orthoperus sp.	2	-	rt	*Oligochaeta sp. (egg capsule)	15	m u
Bruchus sp.	2	-	u	*Diptera sp. (puparium)	15	m u
Heterogaster urticae	1	-	oa-p	*Syrphidae sp. (larva)	15	m u
Lycocoris campestris	1	-	rd-st	*Acarina sp.	15	m u
Carabus ?nemoralis	1	-	oa	*Coccoidea sp.	6	s u
Clivina fossor	1	-	oa	*Proctotrupeidea sp.	6	s u
Bembidion obtusum	1	-	oa	*Pulex irritans	5	- ss
Bembidion (Philochthus) sp.	1	-	oa	*Auchenorhyncha sp. (nymph)	3	- oa-p
Pterostichus ?melanarius	1	-	ob	*Cereal grain (charred)	1	- u
Carabidae sp.	1	-	ob	*Cladocera sp. (ephippium)	1	- oa-w
Agabus or Ilybius sp.	1	-	oa-w	*Damalinia sp.	1	- u
Helophorus sp.	1	-	oa-w	*Diptera sp. (pupa)	1	- u
Megasternum obscurum	1	-	rt	*Melophagus ovinus (adult)	1	- oa-w
Histerinae sp.	1	-	rt	*Melophagus ovinus (puparium)	1	- u
Ochthebius sp.	1	-	oa-w	*Coleoptera sp. (larva)	1	- u
Acrotrichis sp.	1	-	rt	*Apoidea sp.	1	- u
Aclypea opaca	1	-	ob-rt	*Aranae sp.	1	- u
Silpha atrata	1	-	u			
Eusphalerum sp.	1	-	rt	Context: 4050 Sample: 329/T ReM: S		
Dropephylla ?grandiloqua	1	-	u	Weight: 1.00 E: 3.00 F: 2.50		
Omalium ?rivulare	1	-	rt-sf			
Platystethus arenarius	1	-	rf	Notes: Entered 3.3.2000. Flot almost 1 cm in jar.		
Platystethus nitens	1	-	oa-d	Recorded in flot, problems on filter paper. Preservation		
Stenus sp.	1	-	u	strikingly variable: very good (E1.5) to quite poor (E4).		
Leptacinus pusillus	1	-	rt-st	No colour change present. Some fly larvae particularly		
Philonthus sp. A	1	-	u	well preserved.		
Philonthus sp. B	1	-	u			
Philonthus sp. C	1	-	u			

Taxon	n	q	ec				
				Gyrophypnus fracticornis	1	-	rt-st
Anobium punctatum	23	-	l-sf	Philonthus sp. A	1	-	u
Cryptophagus sp.	17	-	rd-sf	Philonthus sp. B	1	-	u
Cercyon analis	12	-	rt-sf	Creophilus maxillosus	1	-	rt
Lathridius minutus group	9	-	rd-st	Staphylininae sp.	1	-	u
Atomaria sp. B	7	-	rd	Aleochara sp.	1	-	u
Anotylus complanatus	5	-	rt-sf	Aleocharinae sp. B	1	-	u
Corticaria sp. D	5	-	rt-sf	Aleocharinae sp. E	1	-	u
Carpelimus bilineatus	4	-	rt-sf	Pselaphidae sp.	1	-	u
Carpelimus pusillus group	4	-	u	Trox scaber	1	-	rt-sf
Quedius sp.	4	-	u	Aphodius ?prodromus	1	-	ob-rf
Orthoperus sp.	4	-	rt	Clambus pubescens	1	-	rt-sf
Ptenidium sp.	3	-	rt	Ptinus ?fur	1	-	rd-sf
Omalius caesum or italicum	3	-	rt-sf	Lyctus linearis	1	-	l-sf
Anotylus nitidulus	3	-	rt	Monotoma sp.	1	-	rt-sf
Oxytelus sculptus	3	-	rt-st	Cryptophagus scutellatus	1	-	rd-st
Neobisnius sp.	3	-	u	Atomaria sp. A	1	-	rd
Aleocharinae sp. A	3	-	u	Mycetaea hirta	1	-	rd-ss
Aleocharinae sp. C	3	-	u	Stephostethus angusticollis	1	-	rt-st
Cercyon haemorrhoidalis	2	-	rf-sf	Enicmus sp.	1	-	rt-sf
Acritus nigricornis	2	-	rt-st	Typhaea stercorea	1	-	rd-ss
Xylodromus concinnus	2	-	rt-st	Aglenus brunneus	1	-	rt-ss
Platystethus cornutus group	2	-	oa-d	Tenebrio obscurus	1	-	rt-ss
Anotylus rugosus	2	-	rt	Anthicus floralis or formicarius	1	-	rt-st
Philonthus ?politus	2	-	rt-st	Cerambycidae sp.	1	-	l
Falagria or Cordalia sp.	2	-	rt-sf	Bruchus ?rufimanus	1	-	st
Aleocharinae sp. D	2	-	u	Chaetocnema concinna	1	-	oa-p
Aphodius granarius	2	-	ob-rf	Ceutorhynchus contractus	1	-	oa-p
Omosita discoidea	2	-	rt-sf	Curculionidae sp.	1	-	oa
Corticaria sp. A	2	-	rt-sf	Lepersinus varius	1	-	l
Corticaria sp. B	2	-	rt-sf	*Acarina sp.	500	e	u
Corticaria sp. C	2	-	rt-sf	*Oligochaeta sp. (egg capsule)	300	e	u
Corticaria gibbosa	2	-	rt	*Diptera sp. (puparium)	300	e	u
Heterogaster urticae	1	-	oa-p	*Syrphidae sp. (larva)	15	m	u
Auchenorhyncha sp.	1	-	oa-p	*Proctotrupoidea sp.	15	m	u
Bembidion sp.	1	-	oa	*Coleoptera sp. (larva)	6	s	u
Pterostichus melanarius	1	-	ob	*Coccoidea sp.	3	-	u
Carabidae sp.	1	-	ob	*Chalcidoidea sp.	3	-	u
Hydroporinae sp.	1	-	oa-w	*Hymenoptera Parasitica sp.	3	-	u
Helophorus aquaticus or grandis	1	-	oa-w	*Cladocera sp. (ephippium)	2	-	oa-w
Helophorus sp. A	1	-	oa-w	*Pediculus humanus	2	-	u
Helophorus sp. B	1	-	oa-w	*Diptera sp. (larva)	2	-	u
Cercyon terminatus	1	-	rf-st	*Melophagus ovinus (adult)	2	-	oa-w
Cercyon unipunctatus	1	-	rf-st	*Pulex irritans	2	-	ss
Hydraena sp.	1	-	oa-w	*Araneae sp.	2	-	u
Acrotrichis sp.	1	-	rt	*Diptera sp. (adult)	1	-	u
Catops sp.	1	-	u	*Diptera sp. (pupa)	1	-	u
Omalius ?rivulare	1	-	rt-sf				
Coryphium angusticolle	1	-	u				
Platystethus arenarius	1	-	rf	Context: 4054 Sample: 345/T1 ReM: S			
Stenus sp.	1	-	u	Weight: 2.00 E: 3.50 F: 3.50			
Leptacinus ?pusillus	1	-	rt-st				
Leptacinus sp.	1	-	rt-st	Notes: Entered 3.3.2000. One dish flot, recorded in flot,			
Gyrophypnus ?angustus	1	-	rt-st	problems on filter paper. Some extreme fragmentation			

(F5.0), perhaps in processing, but some also fairly well decayed. Paraffin remained in flot. Some fossils with mineral deposit on surface. *Apion* soft.

Taxon	n	q	ec
Xylodromus concinnus	4	-	rt-st
Cryptophagus sp.	4	-	rd-sf
Lathridius minutus group	4	-	rd-st
Cercyon analis	3	-	rt-sf
Carpelimus pusillus group	3	-	u
Anotylus complanatus	2	-	rt-sf
Anotylus nitidulus	2	-	rt
Gyrophypnus fracticornis	2	-	rt-st
Corticaria sp. C	2	-	rt-sf
Ceutorhynchus contractus	2	-	oa-p
?Heterogaster urticae	1	-	oa-p
Dyschirius sp.	1	-	oa
Trechus micros	1	-	u
Helophorus sp.	1	-	oa-w
Cercyon ?atricapillus	1	-	rf-st
Cercyon ?haemorrhoidalis	1	-	rf-sf
Acritus nigricornis	1	-	rt-st
Histerinae sp.	1	-	rt
Ptenidium sp.	1	-	rt
Silpha atrata	1	-	u
Omalius caesum or italicum	1	-	rt-sf
Carpelimus ?bilineatus	1	-	rt-sf
Carpelimus ?elongatulus	1	-	oa-d
Carpelimus sp.	1	-	u
Platystethus arenarius	1	-	rf
Anotylus rugosus	1	-	rt
Oxytelus sculptus	1	-	rt-st
Leptacinus sp.	1	-	rt-st
Philonthus politus	1	-	rt-st
Quedius sp.	1	-	u
Aleocharinae sp. A	1	-	u
Aleocharinae sp. B	1	-	u
Aleocharinae sp. C	1	-	u
Aphodius ater	1	-	oa-rf
Aphodius sp.	1	-	ob-rf
Cyphon sp.	1	-	oa-d
Anobium punctatum	1	-	l-sf
Ptinus ?fur	1	-	rd-sf
Pediacus dermestoides	1	-	l
Atomaria sp.	1	-	rd
Coccinellidae sp.	1	-	oa-p
Stephostethus angusticollis	1	-	rt-st
Corticaria sp. A	1	-	rt-sf
Corticaria sp. B	1	-	rt-sf
Tenebrio obscurus	1	-	rt-ss
Phyllotreta sp.	1	-	oa-p
Longitarsus sp.	1	-	oa-p
?Chaetocnema conducta	1	-	oa-p
Apion sp.	1	-	oa-p

?Sitona sp.	1	-	oa-p
Rhynchaenus sp.	1	-	oa-p
Curculionidae sp.	1	-	oa
Scolytus rugulosus	1	-	l
Leperisinus ?varius	1	-	l
Coleoptera sp.	1	-	u
*Heteroptera sp. (nymph)	6	s	u
*Acarina sp.	6	s	u
*Pediculus humanus	2	-	u
*Pulex irritans	2	-	ss
*Oligochaeta sp. (egg capsule)	1	-	u
*Coccoidea sp.	1	-	u
*Melophagus ovinus (adult)	1	-	oa-w
*Melophagus ovinus (puparium)	1	-	u
*Coleoptera sp. (larva)	1	-	u
*Apis mellifera	1	-	u
*Proctotrupeidea sp.	1	-	u

Context: 5001 Sample: 364/T ReM: S
Weight: 2.00 E: 3.00 F: 2.00

Notes: Entered 3.3.2000. Whole jar of flot: sieved to 5mm, giving 15 mm in jar. Recorded in flot and on filter paper. Preservation markedly variable, superb (E1.0 F1.0) to rather poor (E4.0 F4.0). Colour change to yellow. AH tube from residue incorporated.

Taxon	n	q	ec
Anthicus formicarius	28	-	rt-st
Carpelimus fuliginosus	17	-	st
Oxytelus sculptus	11	-	rt-st
Leptacinus pusillus	10	-	rt-st
Atomaria sp. A	10	-	rd
Philonthus discoideus	7	-	rt-st
Lathridius minutus group	6	-	rd-st
Cercyon analis	5	-	rt-sf
Platystethus arenarius	5	-	rf
Monotoma picipes	5	-	rt-st
Cercyon atricapillus	4	-	rf-st
Carpelimus bilineatus	4	-	rt-sf
Platystethus nitens	4	-	oa-d
Anotylus nitidulus	4	-	rt
Philonthus sp. B	4	-	u
Monotoma longicollis	4	-	rt-st
Typhaea stercorea	4	-	rd-ss
Aglenus brunneus	4	-	rt-ss
Acritus nigricornis	3	-	rt-st
Platystethus degener	3	-	oa-d
Anotylus complanatus	3	-	rt-sf
Anotylus rugosus	3	-	rt
Aleocharinae sp. E	3	-	u
Acrotrichis sp.	2	-	rt
Phacophallus parumpunctatus	2	-	rt-st

Philonthus sp. A	2	- u	*Syrphidae sp. (larva)	15	m u
Falagria caesa or sulcatula	2	- rt-sf	*Coleoptera sp. (larva)	15	m u
Aphodius ?granarius	2	- ob-rf	*Diptera sp. (pupa)	6	s u
Aphodius sp. A	2	- ob-rf	*Proctotrupoidea sp.	6	s u
Clambus sp.	2	- rt-sf	*Melophagus ovinus (adult)	3	- oa-w
Anobium punctatum	2	- l-sf	*Araneae sp.	3	- u
Cryptophagus sp.	2	- rd-sf	*Coccoidea sp.	2	- u
Atomaria sp. B	2	- rd	*Hymenoptera Parasitica sp.	2	- u
Corticaria sp. A	2	- rt-sf	*Damalinia ovis	1	- u
Scolytus rugulosus	2	- l	?Pediculus humanus (nymph)	1	- rt-ss
Clivina fossor	1	- oa	*Heteroptera sp. (nymph)	1	- u
Trechus obtusus or quadristriatus	1	- oa	*Diptera sp. (adult)	1	- u
Bembidion (Philochthus) sp.	1	- oa	*Bibionidae sp.	1	- u
?Amara sp.	1	- oa	*Nematocera sp. (pupa)	1	- u
Dromius sp.	1	- oa	*Pulex irritans	1	- ss
Carabidae sp.	1	- ob	*Apoidea sp.	1	- u
Helophorus sp.	1	- oa-w			
Cercyon haemorrhoidalis	1	- rf-sf			
Cercyon ?terminatus	1	- rf-st	Context: 5012 Sample: 401/T ReM: S		
Histerinae sp. A	1	- rt	Weight: 1.00 E: 0.00 F: 0.00		
Histerinae sp. B	1	- rt			
Ptenidium sp.	1	- rt	Notes: Entered 3.3.2000. Three dish flot, recording in		
Omalius caesum or italicum	1	- rt-sf	flot, problems on filter paper. Chemically preservation		
Xylodromus concinnus	1	- rt-st	good, but often fragmented (no E and F scores).		
Lithocharis ochracea	1	- rt-st			
Leptacinus ?batychnus	1	- rt-st	Taxon	n	q ec
Gyrophypnus ?fracticornis	1	- rt-st	Oxytelus sculptus	4	- rt-st
Xantholinus sp.	1	- u	Phyllotreta nemorum group	3	- oa-p
Neobisnius sp.	1	- u	Cercyon analis	2	- rt-sf
Staphylininae sp. A	1	- u	Platystethus arenarius	2	- rf
Cilea silphoides	1	- rt-st	Anobium punctatum	2	- l-sf
Cordalia obscura	1	- rt-sf	Cryptophagus sp.	2	- rd-sf
?Aleochara sp.	1	- u	Atomaria sp.	2	- rd
Aleocharinae sp. A	1	- u	Corticaria sp. C	2	- rt-sf
Aleocharinae sp. B	1	- u	Auchenorhyncha sp.	1	- oa-p
Aleocharinae sp. C	1	- u	Carabus nemoralis	1	- oa
Aleocharinae sp. D	1	- u	Harpalus rufipes	1	- oa
Trox scaber	1	- rt-sf	Cercyon ?terminatus	1	- rf-st
Aphodius ?prodromus	1	- ob-rf	Cercyon unipunctatus	1	- rf-st
Aphodius sp. B	1	- ob-rf	Histerinae sp.	1	- rt
Ptinus ?fur	1	- rd-sf	Ptenidium sp.	1	- rt
Lyctus linearis	1	- l-sf	Acrotrichis sp.	1	- rt
Cryptophagus ?scutellatus	1	- rd-st	Omalius ?rivulare	1	- rt-sf
Atomaria sp. C	1	- rd	Xylodromus concinnus	1	- rt-st
Enicmus sp.	1	- rt-sf	Carpelimus ?bilineatus	1	- rt-sf
Corticaria sp. B	1	- rt-sf	Carpelimus sp.	1	- u
Donaciinae sp.	1	- oa-d-p	Anotylus complanatus	1	- rt-sf
Phyllotreta nemorum group	1	- oa-p	Anotylus nitidulus	1	- rt
Longitarsus sp.	1	- oa-p	Anotylus rugosus	1	- rt
Apion sp.	1	- oa-p	Gyrophypnus angustatus	1	- rt-st
Gymnetron ?pascuorum	1	- oa-p	Philonthus sp. A	1	- u
*Diptera sp. (puparium)	100	e u	Philonthus sp. B	1	- u
*Acarina sp.	100	e u	Aleochara sp.	1	- u
*Oligochaeta sp. (egg capsule)	15	m u	Aleocharinae sp. A	1	- u

Aleocharinae sp. B	1	-	u	Conomelus anceps	1	-	oa-p
Aleocharinae sp. C	1	-	u	Trechus obtusus or quadristriatus	1	-	oa
Aleocharinae sp. D	1	-	u	Pterostichus sp.	1	-	ob
Staphylinidae sp.	1	-	u	Helophorus aquaticus or grandis	1	-	oa-w
Aphodius sp.	1	-	ob-rf	Helophorus sp.	1	-	oa-w
Aphodius sp. B	1	-	ob-rf	Cercyon haemorrhoidalis	1	-	rf-sf
Ptinus sp.	1	-	rd-sf	Histerinae sp.	1	-	rt
?Sericoderus lateralis	1	-	rt-st	Hydraena sp.	1	-	oa-w
Lathridius minutus group	1	-	rd-st	Acrotrichis sp. B	1	-	rt
Corticaria sp. A	1	-	rt-sf	Silphidae sp.	1	-	u
Corticaria sp. B	1	-	rt-sf	Scydmaenidae sp.	1	-	u
Aglenus brunneus	1	-	rt-ss	Omalium ?rivulare	1	-	rt-sf
Phymatodes alni	1	-	l	Xylodromus concinnus	1	-	rt-st
?Saperda populnea	1	-	l	Coprophilus striatulus	1	-	rt-st
Longitarsus sp.	1	-	oa-p	Carpelimus bilineatus	1	-	rt-sf
Sitona ?lineatus	1	-	oa-p	Carpelimus fuliginosus	1	-	st
*Diptera sp. (puparium)	300	e	u	Platystethus cornutus group	1	-	oa-d
*Acarina sp.	100	e	u	Platystethus nitens	1	-	oa-d
*Diptera sp. (adult)	6	s	u	Anotylus nitidulus	1	-	rt
*Haematopinus ?apri	3	-	u	Stenus sp.	1	-	u
*Syrphidae sp. (larva)	2	-	u	Paederinae sp.	1	-	u
*Coleoptera sp. (larva)	2	-	u	Leptacinus sp.	1	-	rt-st
*Damalinia sp.	1	-	u	Neobisnius sp.	1	-	u
*Auchenorhyncha sp. (nymph)	1	-	oa-p	Philonthus discoideus	1	-	rt-st
*Diptera sp. (pupa)	1	-	u	Philonthus sp.	1	-	u
*Siphonaptera sp.	1	-	u	Quedius sp.	1	-	u
*Formicidae sp.	1	-	u	Staphylininae sp. A	1	-	u
*Hymenoptera Parasitica sp.	1	-	u	Staphylininae sp. B	1	-	u
*Proctotrupoidea sp.	1	-	u	Tachyporus sp.	1	-	u
				Falagria sp.	1	-	rt-sf
				Crataraea suturalis	1	-	rt-st
				Aleochara sp.	1	-	u
				Aleocharinae sp. A	1	-	u
				Aleocharinae sp. B	1	-	u
				Aleocharinae sp. C	1	-	u
				Aleocharinae sp. D	1	-	u
				Euplectini sp.	1	-	u
				Aphodius sp.	1	-	ob-rf
				Phyllopertha horticola	1	-	oa-p
				Grynobius planus	1	-	l
				Anobium punctatum	1	-	l-sf
				Ptinus sp.	1	-	rd-sf
				Cleridae sp.	1	-	u
				Malachius sp.	1	-	u
				Cryptophagus sp. A	1	-	rd-sf
				Atomaria sp. B	1	-	rd
				Atomaria sp. C	1	-	rd
				Corticaria sp. B	1	-	rt-sf
				Phyllotreta sp.	1	-	oa-p
				Longitarsus sp.	1	-	oa-p
				Psylliodes sp.	1	-	oa-p
				Apion sp.	1	-	oa-p
				Sitona sp.	1	-	oa-p
				Cidnorhinus quadrimaculatus	1	-	oa-p

Context: 5030 Sample: 463/T ReM: S

Weight: 2.00 E: 3.50 F: 0.00

Notes: Entered 3/03/2000. Quarter jar of flot, mainly fine to rather fine plant debris. Rather hard to sort, drifting and obscuring. One ?modern contaminant fly larva. Recorded in flot, problems on filter paper. No record of fragmentation. Several 'fungus balls'.

Taxon	n	q	ec		n	q	ec
Cercyon analis	6	-	rt-sf	Anobium punctatum	1	-	l-sf
Anotylus complanatus	6	-	rt-sf	Ptinus sp.	1	-	rd-sf
Acrotrichis sp. A	3	-	rt	Cleridae sp.	1	-	u
Cercyon atricapillus	2	-	rf-st	Malachius sp.	1	-	u
Platystethus arenarius	2	-	rf	Cryptophagus sp. A	1	-	rd-sf
Oxytelus sculptus	2	-	rt-st	Atomaria sp. B	1	-	rd
Gyrophynus fracticornis	2	-	rt-st	Atomaria sp. C	1	-	rd
Aphodius granarius	2	-	ob-rf	Corticaria sp. B	1	-	rt-sf
Cryptophagus sp. B	2	-	rd-sf	Phyllotreta sp.	1	-	oa-p
Atomaria sp. A	2	-	rd	Longitarsus sp.	1	-	oa-p
Lathridius minutus group	2	-	rd-st	Psylliodes sp.	1	-	oa-p
Corticaria sp. A	2	-	rt-sf	Apion sp.	1	-	oa-p
Heteroptera sp.	1	-	u	Sitona sp.	1	-	oa-p
				Cidnorhinus quadrimaculatus	1	-	oa-p

Ceutorhynchus sp.	1	-	oa-p
Leperisinus varius	1	-	l
Coleoptera sp.	1	-	u
*Acarina sp.	50	e	u
*Diptera sp. (puparium)	16	m	u
*Oligochaeta sp. (egg capsule)	15	m	u
*Diptera sp. (pupa)	6	s	u
*Coccoidea sp.	4	-	u
*Coleoptera sp. (larva)	3	-	u
*Hemiptera sp. (nymph)	2	-	u
*Diptera sp. (adult)	2	-	u
*Pulex irritans	2	-	ss
*Apis mellifera	2	-	u
*Haematopinus sp.	1	-	u
*Melophagus ovinus (puparium)	1	-	u
*Syrphidae sp. (larva)	1	-	u
*Formicidae sp.	1	-	u
*Proctotrupoidea sp.	1	-	u

Context: 5032 Sample: 465/T ReM: S
Weight: 1.00 E: 3.00 F: 3.50

Notes: Entered 3/3/2000. Recorded in flot, problems on filter paper. Remains from AH residue tube included.

Taxon	n	q	ec
Corticaria sp. B	4	-	rt-sf
Aglenus brunneus	4	-	rt-ss
Cercyon analis	2	-	rt-sf
Cercyon terminatus	2	-	rf-st
Scydmaenidae sp.	2	-	u
Anotylus complanatus	2	-	rt-sf
Oxytelus sculptus	2	-	rt-st
Gyrophypnus fracticornis	2	-	rt-st
Philonthus sp. A	2	-	u
Atomaria sp. B	2	-	rd
Lathridius minutus group	2	-	rd-st
Phymatodes alni	2	-	l
Lycocoris campestris	1	-	rd-st
Trechus obtusus or quadristriatus	1	-	oa
Pterostichus sp.	1	-	ob
Cercyon atricapillus	1	-	rf-st
Cercyon unipunctatus	1	-	rf-st
Cercyon sp.	1	-	u
Ochthebius ?minimus	1	-	oa-w
Catops sp.	1	-	u
Phyllodrepa floralis group	1	-	rt-sf
Dropephylla sp.	1	-	u
Omalium excavatum	1	-	rt-sf
Omalium ?rivulare	1	-	rt-sf
Xylodromus concinnus	1	-	rt-st
Omaliinae sp.	1	-	rt
Carpelimus bilineatus	1	-	rt-sf

Carpelimus pusillus group	1	-	u
Platystethus arenarius	1	-	rf
Anotylus nitidulus	1	-	rt
Anotylus rugosus	1	-	rt
Anotylus sculpturatus group	1	-	rt
Philonthus sp. B	1	-	u
Philonthus sp. C	1	-	u
Staphylininae sp.	1	-	u
Falagria sp.	1	-	rt-sf
Aleocharinae sp. A	1	-	u
Aleocharinae sp. B	1	-	u
Aphodius ?prodromus	1	-	ob-rf
Aphodius sp.	1	-	ob-rf
Clambus pubescens	1	-	rt-sf
Elateridae sp.	1	-	ob
Anobium punctatum	1	-	l-sf
Ptinus fur	1	-	rd-sf
Omosita discoidea	1	-	rt-sf
Rhizophagus sp.	1	-	u
Cryptophagus scutellatus	1	-	rd-st
Cryptophagus sp. A	1	-	rd-sf
Cryptophagus sp. B	1	-	rd-sf
Atomaria sp. A	1	-	rd
Corticaria sp. A	1	-	rt-sf
Cisidae sp.	1	-	l
Anthicus antherinus	1	-	u
Curculionidae sp.	1	-	oa
*Diptera sp. (puparium)	15	m	u
*Acarina sp.	15	m	u
*Oligochaeta sp. (egg capsule)	6	s	u
*Syrphidae sp. (larva)	6	s	u
*Proctotrupoidea sp.	6	s	u
*Isopoda sp.	1	-	u
*Pediculus humanus	1	-	u
*Diptera sp. (larva)	1	-	u
*Diptera sp. (pupa)	1	-	u
*Melophagus ovinus (adult)	1	-	oa-w
*Coleoptera sp. (larva)	1	-	u
*Aranae sp.	1	-	u

Context: 5035 Sample: 451/T1 ReM: S
Weight: 2.00 E: 0.00 F: 0.00

Notes: Entered 3/3/2000. Flot 15mm in jar; sorted in flot, problems on filter paper. No preservation record. AH tube from residue incorporated. See notes on sheet regarding Mallophaga sp. ?Trox unexpanded. Modern adult Nematocera: 100e. Cercyon spp. estimated on elytra.

Taxon	n	q	ec
Anotylus complanatus	12	-	rt-sf
Cercyon analis	9	-	rt-sf

Corticaria sp. B	7	-	rt-sf	Aleocharinae sp. B	1	-	u
Anotylus rugosus	6	-	rt	Aleocharinae sp. C	1	-	u
Corticaria sp. C	6	-	rt-sf	Aleocharinae sp. D	1	-	u
Cryptophagus sp.	5	-	rd-sf	Pselaphidae sp.	1	-	u
Lathridius minutus group	5	-	rd-st	?Trox scaber	1	-	rt-sf
Xylodromus concinnus	4	-	rt-st	Aphodius ?granarius	1	-	ob-rf
Anotylus nitidulus	4	-	rt	Aphodius ?prodromus	1	-	ob-rf
Atomaria sp. A	4	-	rd	Clambus sp.	1	-	rt-sf
Carpelimus bilineatus	3	-	rt-sf	Cyphon padi	1	-	oa-d
Philonthus ?politus	3	-	rt-st	Lyctus linearis	1	-	l-sf
Anobium punctatum	3	-	l-sf	Brachypterus sp.	1	-	oa-p
Cercyon terminatus	2	-	rf-st	Rhizophagus sp.	1	-	u
Ochthebius ?minimus	2	-	oa-w	Monotoma bicolor	1	-	rt-st
Omalium caesum or italicum	2	-	rt-sf	Enicmus sp.	1	-	rt-sf
Coprophilus striatulus	2	-	rt-st	Corticarina or Cortinicara sp.	1	-	rt
Carpelimus sp.	2	-	u	Aglenus brunneus	1	-	rt-ss
Platystethus arenarius	2	-	rf	Tenebrio obscurus	1	-	rt-ss
Philonthus sp.	2	-	u	Rhinosimus planirostris	1	-	l
Falagria sp.	2	-	rt-sf	Cerambycidae sp.	1	-	l
Ptinus ?fur	2	-	rd-sf	Longitarsus sp.	1	-	oa-p
Cryptophagus scutellatus	2	-	rd-st	Psylliodes sp.	1	-	oa-p
Atomaria sp. B	2	-	rd	Strophosomus faber	1	-	oa-p
Orthoperus sp.	2	-	rt	Sitona sp. A	1	-	oa-p
Corticaria sp. A	2	-	rt-sf	Sitona sp. B	1	-	oa-p
Anthicus formicarius	2	-	rt-st	Hypera sp.	1	-	oa-p
Eurydema oleracea	1	-	oa-p	Ceutorhynchus sp. A	1	-	oa-p
Lygaeidae sp.	1	-	oa-p	Ceutorhynchus sp. B	1	-	oa-p
Auchenorhyncha sp. A	1	-	oa-p	Ceuthorhynchinae sp.	1	-	oa-p
Auchenorhyncha sp. B	1	-	oa-p	*Diptera sp. (puparium)	15	m	u
Nebria ?brevicollis	1	-	oa	*Pulex irritans	15	-	ss
Bembidion sp.	1	-	oa	*Coleoptera sp. (larva)	15	m	u
Laemostenus terricola	1	-	ss	*Proctotrupoidea sp.	15	m	u
Agonum sp.	1	-	oa	*Acarina sp.	15	m	u
Carabidae sp.	1	-	ob	*Oligochaeta sp. (egg capsule)	6	s	u
Helophorus sp. A	1	-	oa-w	*Heteroptera sp. (nymph)	6	s	u
Helophorus sp. B	1	-	oa-w	*Coccoidea sp.	6	s	u
Sphaeridium sp.	1	-	rf	*Syrphidae sp. (larva)	6	s	u
Cercyon atricapillus	1	-	rf-st	*Cladocera sp. (ephippium)	3	-	oa-w
Cercyon unipunctatus	1	-	rf-st	*?Damalinia sp.	3	-	u
Histerinae sp.	1	-	rt	*Melophagus ovinus (adult)	2	-	oa-w
Ptenidium sp.	1	-	rt	*Chalcidoidea sp.	2	-	u
Acrotrichis sp.	1	-	rt	*Formicidae sp.	2	-	u
Phyllodrepa ?floralis	1	-	rt-sf	*Hymenoptera Parasitica sp.	2	-	u
Platystethus ?degener	1	-	oa-d	*Araneae sp.	2	-	u
Oxytelus sculptus	1	-	rt-st	*Mallophaga sp.	1	-	u
Stenus sp.	1	-	u	*Aphidoidea sp.	1	-	u
Othius sp.	1	-	rt	*Diptera sp. (adult)	1	-	u
Leptacinus sp.	1	-	rt-st	*Melophagus ovinus (puparium)	1	-	u
Gyrophypnus fracticornis	1	-	rt-st	*Apis mellifera	1	-	u
Xantholinus sp.	1	-	u	*Hymenoptera Parasitica sp.	1	-	u
Neobisnius sp.	1	-	u				
Staphylininae sp.	1	-	u				
Crataraea suturalis	1	-	rt-st				
Aleocharinae sp. A	1	-	u				

Context: 5037 Sample: 452/T ReM: S
 Weight: 2.00 E: 2.50 F: 0.00

Notes: Entered 3.3.2000. Flot half a jar of coarse plant debris. Recorded in flot, problems on filter paper. No record of fragmentation.

Taxon	n	q	ec
Cercyon analis	6	-	rt-sf
Anotylus complanatus	5	-	rt-sf
Acrotrichis sp.	4	-	rt
Carpelimus bilineatus	4	-	rt-sf
Xylodromus concinnus	3	-	rt-st
Oxytelus sculptus	3	-	rt-st
Philonthus ?cephalotes	3	-	rt-st
Cryptophagus sp.	3	-	rd-sf
Orthoperus sp.	3	-	rt
Lathridius minutus group	3	-	rd-st
Cercyon atricapillus	2	-	rf-st
Cercyon unipunctatus	2	-	rf-st
Platystethus arenarius	2	-	rf
Anotylus rugosus	2	-	rt
Gyrophypnus fracticornis	2	-	rt-st
Philonthus politus	2	-	rt-st
Philonthus ?ventralis	2	-	rt
Anobium punctatum	2	-	l-sf
?Scolopostethus sp.	1	-	oa-p
Lyctocoris campestris	1	-	rd-st
?Pterostichus melanarius	1	-	ob
Agonum ?muelleri	1	-	oa-d
Helophorus aquaticus or grandis	1	-	oa-w
Cercyon haemorrhoidalis	1	-	rf-sf
Cercyon terminatus	1	-	rf-st
Ptiliidae sp.	1	-	u
Carpelimus sp.	1	-	u
Anotylus nitidulus	1	-	rt
Stenus sp.	1	-	u
Gyrophypnus angustatus	1	-	rt-st
?Quedius sp.	1	-	u
Tachinus sp.	1	-	u
Aleocharinae sp. A	1	-	u
Aleocharinae sp. B	1	-	u
Aleocharinae sp. C	1	-	u
Pselaphidae sp.	1	-	u
Trox scaber	1	-	rt-sf
Aphodius ?ater	1	-	oa-rf
Aphodius sp.	1	-	ob-rf
Clambus pubescens	1	-	rt-sf
Ptinus sp.	1	-	rd-sf
Omosita sp.	1	-	rt-sf
Cryptophagus scutellatus	1	-	rd-st
Atomaria ?nigripennis	1	-	rd-ss
Atomaria sp. A	1	-	rd
Atomaria sp. B	1	-	rd

Corticaria sp. A	1	-	rt-sf
Corticaria sp. B	1	-	rt-sf
Rhynchaenus sp.	1	-	oa-p
*Diptera sp. (puparium)	100	e	u
*Acarina sp.	50	e	u
*Oligochaeta sp. (egg capsule)	15	m	u
*Diptera sp. (pupa)	15	m	u
*Coleoptera sp. (larva)	15	m	u
*Syrphidae sp. (larva)	6	s	u
*Diptera sp. (larva)	3	-	u
*Hymenoptera Parasitica sp.	3	-	u
*Proctotrupeidea sp.	3	-	u
*Diptera sp. (adult)	2	-	u
*Fanniidae sp. (larva)	2	-	u
*?Lyctocoris campestris (nymph)	1	-	rd-st
*Bibionidae sp.	1	-	u
*Melophagus ovinus (adult)	1	-	oa-w
*Pulex irritans	1	-	ss
*Apoidea sp.	1	-	u
*Formicidae sp.	1	-	u
*Hymenoptera sp.	1	-	u
*Aranae sp.	1	-	u

Context: 5040 Sample: 478/T1 ReM: S
 Weight: 2.00 E: 2.00 F: 3.00

Notes: Entered 6.3.2000. Recorded in flot, problems on filter paper. Astonishing preservation of soft larval and pupal remains. Erosion range large (0.5-4.0). AH tube from residue incorporated.

Taxon	n	q	ec
Xylodromus concinnus	4	-	rt-st
Lathridius minutus group	4	-	rd-st
Anotylus complanatus	3	-	rt-sf
Cryptophagus sp.	3	-	rd-sf
Neobisnius sp.	2	-	u
Philonthus sp. A	2	-	u
Cratarea suturalis	2	-	rt-st
Aleocharinae sp. A	2	-	u
Aleocharinae sp. D	2	-	u
Anobium punctatum	2	-	l-sf
Ptinus fur	2	-	rd-sf
Orthoperus sp.	2	-	rt
Corticaria sp. B	2	-	rt-sf
Anthicus floralis or formicarius	2	-	rt-st
Phymatodes testaceus	2	-	l
Heteroptera sp.	1	-	u
Aphrodes flavostriatus	1	-	oa-p-d
Auchenorhyncha sp. A	1	-	oa-p
Auchenorhyncha sp. B	1	-	oa-p
Trechus ?quadristriatus	1	-	oa
Sphaeridium sp.	1	-	rf

Cercyon sp.	1	-	u	*Bibionidae sp.	1	-	u
Megasternum obscurum	1	-	rt	*Melophagus ovinus (adult)	1	-	oa-w
Histerinae sp.	1	-	rt	*Melophagus ovinus (puparium)	1	-	u
Acrotrichis sp.	1	-	rt	*Nematocera sp. (pupa)	1	-	u
Scydmaenidae sp.	1	-	u	*Pulex irritans	1	-	ss
Omalium ?rivulare	1	-	rt-sf	*Apoidea sp.	1	-	u
Carpelimus bilineatus	1	-	rt-sf	*Aranae sp.	1	-	u
Platystethus arenarius	1	-	rf				
Anotylus nitidulus	1	-	rt				
Anotylus rugosus	1	-	rt	Context: 5050 Sample: 509/T1 ReM: S			
Anotylus sculpturatus group	1	-	rt	Weight: 2.00 E: 2.00 F: 2.00			
Stenus sp. A	1	-	u				
Stenus sp. B	1	-	u	Notes: Entered 6.3.2000. Flot i cm in jar. Recorded in			
Philonthus sp. B	1	-	u	flot, problems on filter paper. AH residue tube material			
Quedius mesomelinus	1	-	rt	incorporated.			
Staphylininae sp.	1	-	u				
Aleocharinae sp. B	1	-	u	Taxon	n	q	ec
Aleocharinae sp. C	1	-	u	Xylodromus concinnus	4	-	rt-st
Trox scaber	1	-	rt-sf	Anotylus complanatus	4	-	rt-sf
Geotrupes sp.	1	-	oa-rf	Lathridius minutus group	4	-	rd-st
Aphodius granarius	1	-	ob-rf	Corticaria sp. B	4	-	rt-sf
Aphodius sp. A	1	-	ob-rf	Aglenus brunneus	4	-	rt-ss
Aphodius sp. B	1	-	ob-rf	Cercyon analis	3	-	rt-sf
Clambus pubescens	1	-	rt-sf	Cryptophagus sp.	3	-	rd-sf
Dermestes sp.	1	-	rt-sf	Anotylus nitidulus	2	-	rt
Rhizophagus sp.	1	-	u	Orthoperus sp.	2	-	rt
Atomaria ?nigripennis	1	-	rd-ss	Ceutorhynchus contractus	2	-	oa-p
Atomaria sp. A	1	-	rd	Saldidae sp.	1	-	oa-d
Atomaria sp. B	1	-	rd	Auchenorhyncha sp.	1	-	oa-p
Corticaria sp. A	1	-	rt-sf	Trechus quadristriatus	1	-	oa
Corticaria sp. C	1	-	rt-sf	Bembidion lampros or properans	1	-	oa
Aglenus brunneus	1	-	rt-ss	Dytiscus sp.	1	-	oa-w
Tenebrio obscurus	1	-	rt-ss	Helophorus sp.	1	-	oa-w
?Rhinosimus sp.	1	-	l	Cercyon ?haemorrhoidalis	1	-	rf-sf
Cerambycidae sp.	1	-	l	Histerinae sp.	1	-	rt
Bruchus ?rufimanus	1	-	st	Ochthebius ?minimus	1	-	oa-w
Chaetocnema concinna	1	-	oa-p	Hydraena sp.	1	-	oa-w
Apion sp.	1	-	oa-p	Micropeplus fulvus	1	-	rt
*Diptera sp. (puparium)	100	e	u	Dropephylla vilis	1	-	l
*Cereal bran	15	m	u	Omalium caesum or italicum	1	-	rt-sf
*Diptera sp. (adult)	15	m	u	Omalium ?rivulare	1	-	rt-sf
*Diptera sp. (pupa)	15	m	u	Carpelimus ?bilineatus	1	-	rt-sf
*Proctotrupoidea sp.	15	m	u	Carpelimus pusillus group	1	-	u
*Acarina sp.	15	m	u	Anotylus rugosus	1	-	rt
*Bryophyta sp.	6	s	u	Gyrohypnus ?fracticornis	1	-	rt-st
*Agrostemma githago (seed)	6	s	u	Neobisnius sp.	1	-	u
*Oligochaeta sp. (egg capsule)	6	s	u	Philonthus ?politus	1	-	rt-st
*Coleoptera sp. (larva)	6	s	u	Philonthus sp.	1	-	u
*Damalinia sp.	2	-	u	Staphylininae sp.	1	-	u
*Coccoidea sp.	2	-	u	Aleocharinae sp. A	1	-	u
*Syrphidae sp. (larva)	2	-	u	Aleocharinae sp. B	1	-	u
*Cladocera sp. (ephippium)	1	-	oa-w	Aleocharinae sp. C	1	-	u
*?Lepidoptera sp. (larva)	1	-	u	Aphodius granarius	1	-	ob-rf
*Diptera sp. (larva)	1	-	u	Aphodius sp.	1	-	ob-rf

?Cyphon sp.	1	-	oa-d	Anotylus nitidulus	6	-	rt
Atomaria sp. A	1	-	rd	Lathridius minutus group	3	-	rd-st
Atomaria sp. B	1	-	rd	Platystethus degener	2	-	oa-d
Atomaria sp. C	1	-	rd	Platystethus nitens	2	-	oa-d
Corticaria sp. A	1	-	rt-sf	Anotylus rugosus	2	-	rt
Corticaria sp. C	1	-	rt-sf	Aleocharinae sp. B	2	-	u
Melandryidae sp.	1	-	u	Aleocharinae sp. D	2	-	u
Anthicus floralis or formicarius	1	-	rt-st	Atomaria sp.	2	-	rd
Chrysomelinae sp.	1	-	oa-p	Corticaria sp. B	2	-	rt-sf
Longitarsus sp.	1	-	oa-p	Longitarsus sp. A	2	-	oa-p
Psylliodes ?chrysocephala	1	-	oa-p	Saldidae sp.	1	-	oa-d
Apion sp.	1	-	oa-p	Carabidae sp. A	1	-	ob
Curculionidae sp. A	1	-	oa	Carabidae sp. B	1	-	ob
Curculionidae sp. B	1	-	oa	Colymbetinae sp.	1	-	oa-w
Scolytus ?rugulosus	1	-	l	Helophorus sp.	1	-	oa-w
Ptinus sp.		-	rd-sf	Cercyon analis	1	-	rt-sf
*Diptera sp. (puparium)	100	e	u	Megasternum obscurum	1	-	rt
*Sphaeroceridae sp. (puparium)	15	m	rt	Ochthebius sp.	1	-	oa-w
*Acarina sp.	15	m	u	Omalium caesum or italicum	1	-	rt-sf
*Agrostemma githago (seed)	6	s	u	Xylodromus concinnus	1	-	rt-st
*Diptera sp. (adult)	6	s	u	Coprophilus striatulus	1	-	rt-st
*Hymenoptera Parasitica sp.	6	s	u	Carpelimus ?bilineatus	1	-	rt-sf
*Proctotrupoidea sp.	6	s	u	Platystethus arenarius	1	-	rf
*Oligochaeta sp. (egg capsule)	3	-	u	Oxytelus sculptus	1	-	rt-st
*Syrphidae sp. (larva)	3	-	u	Stenus sp.	1	-	u
*Chalcidoidea sp.	3	-	u	Philonthus sp.	1	-	u
*Forficula auricularia	2	-	rt	Tachinus laticollis or marginellus	1	-	u
*Pediculus humanus	2	-	u	Cordalia obscura	1	-	rt-sf
*Auchenorhyncha sp. (nymph)	2	-	oa-p	Aleocharinae sp. A	1	-	u
*Coccoidea sp.	2	-	u	Aleocharinae sp. C	1	-	u
*?Damalinia sp.	1	-	u	Aphodius sp.	1	-	ob-rf
*?Lyctocoris campestris (nymph)	1	-	rd-st	Ptinus sp.	1	-	rd-sf
*Aphidoidea sp. (parasitised mummy)	1	-	u	Brachypterus sp.	1	-	oa-p
*Diptera sp. (larva)	1	-	u	Rhizophagus sp.	1	-	u
*Diptera sp. (pupa)	1	-	u	Monotoma sp.	1	-	rt-sf
*?Melophagus ovinus (puparium)	1	-	u	Cryptophagus sp.	1	-	rd-sf
*Siphonaptera sp.	1	-	u	Coccinellidae sp.	1	-	oa-p
*Coleoptera sp. (larva)	1	-	u	Corticaria sp. A	1	-	rt-sf
*?Spalangia sp.	1	-	u	Phyllotreta sp.	1	-	oa-p
*Apis mellifera	1	-	u	Longitarsus sp. B	1	-	oa-p
*Formicidae sp.	1	-	u	Altica sp.	1	-	oa-p
*Aranae sp.	1	-	u	?Chaetocnema concinna	1	-	oa-p
				Sitona sp.	1	-	oa-p
				Ceutorhynchus sp.	1	-	oa-p
				Curculionidae sp.	1	-	oa
				Coleoptera sp.	1	-	u
				*Diptera sp. (puparium)	15	m	u
				*Acarina sp.	15	m	u
				*Agrostemma githago (seed)	6	s	u
				*Diptera sp. (pupa)	6	s	u
				*Proctotrupoidea sp.	6	s	u
				*Syrphidae sp. (larva)	3	-	u
				*Coleoptera sp. (larva)	3	-	u
				*Oligochaeta sp. (egg capsule)	2	-	u

Context: 5057 Sample: 521/T1 ReM: S

Weight: 2.00 E: 0.00 F: 0.00

Notes: Entered 6/3/2000. Flot 1 cm in jar. Recorded in flot, problems on filter paper. No record of preservation. Numerous odd legs and underside fragments without major sclerites, and many single sclerites.

Taxon	n	q	ec
Anotylus complanatus	8	-	rt-sf

*Coccoidea sp.	2	-	u	Context: 7030 Sample: 696/T1	ReM: S			
*Hymenoptera Parasitica sp.	2	-	u	Weight: 2.00	E: 0.00	F: 0.00		
*Aranae sp.	2	-	u					
*Psocoptera sp.	1	-	oa-w	Notes: Entered 6/3/2000. One dish of charcoal and peculiar concretions; trace of charred seeds. Recorded in flot. No trace of invertebrates.				
*Trichoptera sp.	1	-	oa-w					
*Diptera sp. (adult)	1	-	u					
*Pulex irritans	1	-	ss					
*Apoidea sp.	1	-	u	Taxon		n	q	ec
*Formicidae sp.	1	-	u	null		0	-	u

Table 8. Assemblages of adult Coleoptera and Hemiptera (excluding Aphidoidea and Coccidoidea) from the Queen's Hotel (1-9 Micklegate) site, York: numbers of taxa (s) and individuals (n) placed in core Groups A, B, C and E (by Carrott and Kenward (2000), by sample. Note that the various fleas, lice and flies placed in Group A are excluded. The 'core' group consists of taxa with strong affinities only with the group.

Context	Sample	Ext.	Sample N	Core Group									
				A (house)		B (foul mouldering)		C (foul)		E (cesspits?)			
				n	%	n	%	n	%	N	%		
3025	188	/T1	88	43	48.9	7	8.0	4	4.5	2	2.3		
4009	262	/T	115	26	22.6	7	6.1	10	8.7	6	5.2		
4011	2711	/T	54	20	37.0	4	7.4	3	5.6	2	3.7		
4022	285	/T1	137	57	41.6	5	3.6	12	8.8	6	4.4		
4032	294	/T	31	13	41.9	0	0.0	0	0.0	3	9.7		
4039	305	/T1	205	64	31.2	44	21.5	12	5.9	9	4.4		
4045	327	/T1	142	49	34.5	14	9.9	10	7.0	8	5.6		
4050	329	/T	194	75	38.7	20	10.3	13	6.7	7	3.6		
4054	345	/T1	73	20	27.4	7	9.6	6	8.2	2	2.7		
5001	364	/T	216	39	18.1	90	41.7	15	6.9	3	1.4		
5012	401	/T	55	10	18.2	6	10.9	3	5.5	2	3.6		
5030	463	/T	91	14	15.4	14	15.4	12	13.2	3	3.3		
5032	465	/T	70	18	25.7	7	10.0	5	7.1	3	4.3		
5035	451	/T1	156	35	22.4	13	8.3	19	12.2	3	1.9		
5037	452	/T	84	18	21.4	13	15.5	10	11.9	1	1.2		
5040	478	/T1	80	22	27.5	7	8.8	6	7.5	4	5.0		
5050	509	/T1	74	19	25.7	4	5.4	7	9.5	1	1.4		
5057	521	/T1	69	10	14.5	3	4.3	19	27.5	1	1.4		

Table 9. 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 2 for codes assigned to taxa from the Queen's Hotel site, 1-9 Micklegate, York. Alpha - the index of diversity alpha (Fisher et al. 1943); Indivs - individuals (based on MNI); No - number.

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

Figure 1. Scatter plot of numbers of individuals of adult beetles placed in core Groups 'A' and 'B' (Carrott and Kenward 2000) for the assemblages from the Queen's Hotel (1-9 Micklegate) site, York.

