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BIOLOGICAL REMAINS FROM EXCAVATIONS AT NORTH CAVE, N. HUMBERSIDE.

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Biological remains from excavations at North Cave, N. Humberside

Enid Allison, Allan Hall, Harry Kenward, Barrie McKenna and Alan Robertson

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## Summary

Analysis of plant macrofossils and insects was undertaken for a series of pit- and ditch-fills and other deposits of Iron Age and Romano-British date at North Cave, North Humberside. Despite the prevalence of iron slag and other evidence of human activity, there was remarkably little indication from the biota for concentrated or persistent human occupation. Though annual weeds were the best-represented group amongst the plant remains, there was also a consistent component of perennial plants typical of the scrub or woodland margin habitats that would be likely to become prevalent after occupation or ceased or where it was perhaps only seasonal. The insect faunas were rich and diverse, indicating a range of natural and semi-natural habitats; there were no strong synanthropes. None of the Iron Age and Roman pit-fills produced more than traces of biological evidence that could be used to infer their use and it seems likely that the pits served initially as water-holes and later filled by natural means. There was evidence for charred cereal grains and spikelet fragments from some deposits associated with late Roman kilns which may indicate these were used at some stage as corn-driers.

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## Biological remains from excavations at North Cave, N. Humberside

by

## Enid Allison, Allan Hall, Harry Kenward,

## Barrie McKenna and Alan Robertson

## Introduction

Excavations in 1986–7 of a series of Iron Age and Romano-British features within sands containing flint and chalk gravel at North Cave, N. Humberside (site code NC86/87), revealed a sequence that was divided by the excavator, John Dent (Humberside Archaeological Unit), into four phases of occupation and activity. The following account considers the results of analyses of plant and invertebrate remains from those of the deposits that were known or thought to contain waterlogged or charred organic material. Particular attention is paid to the deposits from a large pit-complex of 2nd–3rd century date, where excellent preservation permitted a detailed consideration of local environmental conditions at the site.

## Methods

Unless otherwise stated, all samples were examined by means of 1 kg subsamples which were disaggregated and subjected to paraffin flotation, following usual methods in the Environmental Archaeology Unit (Kenward *et al.* 1980). The 'flots' were examined for insect and plant remains; the residues were checked either wet or dry for plant remains and their content of other kinds of materials (such as iron slag, chalk and flint gravel and unidentifiable organic material) recorded. For a few additional samples, subsamples of more than 1 kg were examined, primarily with the aim of discovering ecologically or climatically important insect taxa; plant remains from some of these were also listed. Two further samples were 'bulk-sieved' to 1 mm to look specifically for charred cereals.

#### Plant macrofossils

Plant remains have been recorded on a four-point scale of abundance (from 1—one or a few individuals or fragments to 4—abundant individuals or fragments). Inevitably there will be some difference in the scores attributed separately by BMcK and ARH who were both responsible for the palaeobotanical work. For the most up-to-date account of interpretative methods employed in the Environmental Archaeology Unit for plant macrofossil assemblages, see Hall and Kenward (forthcoming).

The results of the plant macrofossil analyses are presented in the archive Appendices 1 (lists of 'taxa' and other components recorded from the samples) and 2 (summary statistics for the ecological, vegetation and other groups). A complete species list is given in Table 2 and wood determinations (both of artefacts and other pieces of waterlogged wood) are presented in Appendix 4. (No further comment is necessary on this latter list, other than to note the identifications of elder, *Sambucus*, stems from two later Roman contexts; elderberry seeds were frequent in many of the biological samples examined and it seems likely that this plant was growing at or near the site of deposition as part of the advancing scrub vegetation for which—as will be discussed—there is a good deal of evidence.)

#### Insects and other invertebrates

Insects were identified by comparison with modern reference material and using the standard works. The species lists in rank and taxonomic order are given in archive Appendix 3, together with secondary statistics for the assemblages. A complete list of invertebrate taxa recorded is given in Table 2; the habitats of the 'outdoor' beetle and bug taxa are given in Table 5.

Parasite ova were checked for by BMcK from many samples in the pit-complex (pits 12 and 14, phase 3, below) but none were recorded.

Molluscs from several samples from this pit-complex have been identified by Dr Terry O'Connor (Environmental Archaeology Unit); they are listed in Table 2. It is likely, however, that some molluscs were lost through fragmentation during processing.

(The very few records of vertebrate remains recorded during these analyses are mentioned, *passim*, in the text; for a report on bones from the excavations at North Cave, see Gilchrist (1989).)

## **Results and interpretation**

#### Data archives

All data have been stored on the University of York VAX mainframe computers, using systems written by ARH (plants) and HKK (insects). Fossil remains retained from these samples are stored in the Environmental Archaeology Unit, University of York; unprocessed material and residues are stored at the Humberside Archaeological Unit, Beverley, North Humberside.

The plant macrofossil and insect assemblages are discussed individually below but their general implications, particularly regarding the vegetation on and around the site, are brought together in the discussion of individual archaeological phases.

#### Phase 1 Iron Age

Samples from the Iron Age village, represented by approximately 14 roundhouses:

#### **Context 51** [pit-fill]

Sample 43 (0.7–0.8 m depth) Dark grey-brown humic sand with abundant chalk gravel; residue predominantly of chalk gravel with some sand, and a little flint and iron slag.

The plant remains from this subsample are effectively a depauperate assemblage of the kind seen in the subsample of 42 (see below) and provide no further interpretative information.

Insect remains were not abundant (N = 36, S = 32), and their preservation was rather poor. Allowing for the random variability introduced by a small fauna, the main statistics were essentially as for sample 42 and, while there were considerable differences in the species present and their relative abundances, these were well within what might be expected in deposits from essentially similar conditions.

Sample 42 (0.6–0.7 m depth) Firm, dark grey-brown humic sand; residue small, with quartz sand and organic detritus moderately common, with some chalk gravel and flint and traces of wood fragments.

The modest assemblage of plant remains from this sample was dominated by weeds of waste places and disturbed (including cultivated) soils, only stinging nettle (*Urtica dioica*) and chickweed (*Stellaria media*) being present in more than very small numbers. A few other taxa are typical of shallow water or damp soils and are perhaps somewhat unexpected on the free-

draining sands present over the whole of this site. The plant remains give no indication of the nature of the pit-fill—they may have originated in vegetation growing at or near the site of deposition or plant material deposited during clearance of a piece of weedy land.

Analysis for insect remains gave a moderately large assemblage of beetles and bugs (minimum number of individuals estimated at 85, with 60 taxa), together with a few adult flies and a single ant. A number of cladoceran ephippia ('resting eggs') and mites were also noted.

The beetle and bug fauna was diverse (alpha ( $\alpha$ ), the index of diversity of Fisher *et al.* (1943), was estimated at 90, with a standard error (SE) of 20). This was probably a result both of the presence of abundant and varied habitats in the surroundings and of the lack of a strong autochthonous component in the pit. (Autochthones are, literally, those remains that 'originated' at the point of deposition; for the present purposes, this means insects attracted to and/or breeding in the deposit as it formed.) There were no obligate synanthropes, although some of the species recorded are probably favoured by human activity in disturbing vegetation. The insects certainly give no indication of the presence of buildings, surprising since a very characteristic fauna would be expected. The predominant ecological group were the 'outdoor' forms, which made up well over half of the assemblage (%N OB = 59, %S OB = 60). Diversity of the outdoor component was quite high (alpha OB = 57, but with a large SE of 17). Few species were at all numerous, only *Anotylus nitidulus* (6 individuals), *Amara apricaria* (5), *Calathus fuscipes* and *Longitarsus* species are characteristic of rather dry soils with generally incomplete vegetation cover. *Longitarsus* species are plant feeders with a variety of hosts. *A. nitidulus* is found near water and in man-made accumulations of organic matter; it is probably best regarded as a generalised decomposer. Common in a variety of archaeological deposits, *A. nitidulus* appears not to be generally very common today.

There is little evidence that the pit contained decaying matter; apart from *A. nitidulus*, known to fly in large numbers, no decomposer taxon was represented by more than two individuals, and together decomposers made up only a third of the assemblage (%N RT = 33). All may have been background fauna, derived from plant litter and dung in the surroundings. While the diversity of this component was rather low, (alpha RT = 19, SE = 7), suggesting that there was a breeding community in or near to the pit, the figure is based on a small number of individuals and heavily biased by *A. nitidulus*.

The cladoceran ephippia indicate that the pit held (or received) water. The single individuals of four aquatic beetles provide a hint, but not clear evidence, for the presence of standing water.

## Context 55 [pit-fill]

Sample 46 (0.6 m depth) Light yellow-brown sand with iron slag, charcoal and chalk gravel; residue of sand with some iron slag and a little chalk gravel.

Only a single seed of the mud rush, *Juncus gerardi*, was recorded from this subsample; it is a species characteristic of the upper parts of salt-marshes though it can extend its range well into adjacent grassland beyond the direct influence of saline conditions. Nevertheless, it is a somewhat unexpected taxon for a site so far from the nearest salt-marsh meadows—on the Humber estuary some 5 km to the south. It is possible that, before drainage, the brackish-water regime extended much further north than it does today, across the area known as Walling Fen, which lies between N. Cave and the Humber. *J. gerardi* is frequently recorded from Roman (and occasionally medieval) deposits in York, where its occurrence has always been somewhat enigmatic; transport to the city in the guts of animals grazed on Humber estuary meadows is one possible explanation.

Only single individuals of five beetles taxa were recovered. They perhaps represented a random extract from a fauna of the type seen in context **51**, but clearly no interpretation can be made.

#### Context 56 [pit-fill; associated with iron smelting]

Sample 51 (0.9 m depth) Dark orange-brown slightly humic sand with chalk gravel and bone fragments; residue of sand and chalk gravel, with smaller amounts of flint gravel and organic detritus.

The small range of plant taxa provides very little information about the nature of the pit-fill; they are almost all weeds of some kind, though the modest numbers of toad rush (*Juncus bufonius*) seeds and traces of spike-rush (*Eleocharis palustris*) fruits and water-flea (*Daphnia*) resting-eggs (ephippia) probably indicate impeded drainage and (perhaps only short-lived) standing water.

All but one of the 29 beetle and bug taxa recorded were represented by single individuals. In so far as a small assemblage can be interpreted the fauna was generally similar to that from sample 42 (context 51) in its implications, although the presence of three (typically associated) *Cercyon* species gave a small hint that foul matter was present. *Daphnia* ephippia were abundant.

**Context 57** [pit-fill; associated with iron smelting (this pit contained 1–2 tonnes of slag)]

Sample 55 (0.8 m depth) Mid grey-brown sand with very abundant chalk gravel and pebbles; residue predominantly chalk gravel, with some sand and traces of organic detritus.

A very small plant macrofossil assemblage was recorded from this subsample, with a character similar to that from the subsample from 53 (below), though mud rush, *Juncus gerardi*, was again recorded.

The assemblage of beetles (41 individuals of 33 taxa) and a single bug was much like that for sample 53, although with even stronger hints of aquatic deposition. Cladoceran ephippia were also present.

Sample 53 (0.76 m depth) Mid orange-brown, slightly humic sand with chalk gravel; residue of chalk gravel, with sand and iron slag and small amounts of organic detritus.

The very small assemblage of essentially weed taxa is of little interpretative significance; all might have been growing in an area of human occupation or intensive disturbance.

A rather small group of beetles and bugs was recorded, 38 taxa being identified, the minimum number of individuals being estimated as 47. Diversity was estimated to be high (alpha = 91), but the standard error of the estimate was substantial (SE = 33). As with all the previously described groups, over half of the individuals were from 'outdoor' taxa (which can very crudely be taken as a measure of the importance of species associated with natural/seminatural conditions), and the decomposer component was small (%N RT = 32 in the present sample). There were, however, seven individuals of the waterside/foul matter staphylinid *Anotylus nitidulus*. Unfortunately the implications of this species are not clear (see above). Overall the fauna indicates conditions in and around the pit to have been much as for all the previous samples. As in those deposits, aquatics were a little more abundant than would be expected unless there was some, at least temporary, open water. Three unidentified beetle larvae and several fly adults were also recovered.

#### Context 69 [fill of posthole within roundhouse, packed with charcoal and slag]

Sample 57 (0.2 m depth) Mid grey-brown sand with dark grey to black humic silt inclusions; residue predominantly iron slag and quartz sand with a little chalk and flint gravel.

There was a surprisingly large assemblage of plant macrofossils—probably from the silt lenses—from this otherwise unpromising context; most were taxa of weedy vegetation. Only *Juncus bufonius*, a plant of waterside habitats and wet paths and tracks, was present in more than very small amounts; *Montia fontana* ssp. *chondrosperma* may have grown in similar habitats, in short turf on areas with impeded drainage. The rare leaves of the woodland and moorland

moss, *Leucobryum glaucum* are quite at variance with the evidence from other taxa and cannot be interpreted in isolation. (A probable heathland component was recorded from the Iron Age context 100 and from some of the Roman contexts at this site—see below; it is possible that these moss fragments also represent exploitation of this kind of habitat.)

A MNI of 47 beetles and bugs was calculated, and 40 taxa were identified. The assemblage was broadly similar to the previous two, with hints of aquatic deposition. The presence of many *Daphnia* and two *Ceriodaphnia* ephippia offers clearer evidence of standing water. There was no evidence for a fauna associated with a structure. This context may have pre- or post-dated the use of the building—both plant and insect assemblages being at variance with the archaeology.

Sample 97 (0.2 m depth) Yellow-brown sand with iron slag inclusions; residue not examined.

Only fine charcoal was recovered from the 'flot' for the subsample from this sample. No insects or other invertebrates were present.

Context 100 [pit-fill; the fill contained a wooden structure interpreted as steps into a water-hole or well]

Sample 60 (0.6-0.7 m depth) Unconsolidated mid-dark grey-brown (?humic) sand with much chalk gravel and some darker (?humic) silty material.

Only plant remains were recorded from the washover of a 1 kg subsample. There were common *Juncus bufonius* and *Chenopodium album* seeds (abundance score 3), and modest numbers of *Ranunculus* Subgenus *Batrachium* achenes, *Stellaria media* seeds and *Polygonum persicaria* nutlets. The remainder of the short list of taxa were mostly weeds, with some possible indicators of heathland (*Hylocomium splendens* and cf. *Calluna vulgaris*) and evidence for standing water in the form of caddis larva cases and *Daphnia* ephippia. The weeds may indicate disturbance in the vicinity of this pit; the *J. bufonius* could be consistent with trampled soils in an area with impeded drainage.

Sample 59 (0.5-0.6 m depth) Dark brown humic silt to clay silt, in a matrix of orangegrey-brown humic silty sand; some lumps of light yellow-grey-brown clay sand to sandy clay.

Again, only the washover from a 1 kg subsample was examined, and only plant remains (and, incidentally, some other macrofossils) recorded. It gave a somewhat longer list of taxa, but as in the previous assemblage, *Chenopodium album* scored 3. *Juncus bufonius*, by contrast, was present in very small amounts. Other 'common' taxa were Stellaria media, *Polygonum lapathifolium, Bilderdykia convolvulus, Raphanus raphanistrum, Spergula arvensis, Sonchus asper, Hylocomium splendens* and *Ranunculus* Subgenus *Batrachium*, with *Daphnia* recorded at 3 and ostracods at 2. This increased component of arable weeds might be interpreted as indicating that the pit was used for disposal of crop waste, though there is no evidence of cereals to support this; clearly there was still a body of standing water in the feature at this time.

Heathland is more convincingly indicated by the records for *Calluna* (capsule(s), flower(s) and root/twig fragment(s)), *Hylocomium splendens*, and perhaps also by *Leucobruym glaucum*—presumably deriving from material imported for some purpose. The pinnule fragment(s) of bracken (*Pteridium aquilinum*) might also be counted in this group.

**Sample 61** (0.4 m depth) Firm lumps of varicoloured (light brown to mid grey-brown to dark brown) humic sandy silt of a buttery consistency, in a humic sandy matrix.

For this 1 kg subsample, the residue was examined for plant remains alone. The assemblage was essentially similar in composition to that from sample 59, though with more *Leucobruym glaucum* (abundance score 2), and *Juncus bufonius* and *Ranunculus* Subgenus *Batrachium* (score 3). *Chenopodium album, Stellaria media, Polygonum lapathifolium,* and ostracods continued to be common or abundant. Apart from *L. glaucum*, the heathland component was perhaps smaller than in sample 59, though *Pteridium* was once again represented by pinnule

fragments. There was a single fruit of the saltmarsh plant *Triglochin maritima*, whose presence must be explained in the same way as the seeds of *Juncus gerardi* (see above, contexts 55, 57 and below, context 154).

#### Context 102 [pit-fill]

Sample 63 (1.0–1.1 m depth) Pale yellowish-brown sand with abundant chalk gravel; residue dominated by sand and chalk gravel.

The list of plant remains from this subsample was rather small, comprising mainly plants of weedy vegetation. The presence of *Zannichellia* and *Ranunculus* Subgenus *Batrachium* perhaps indicates that water, with an aquatic flora was present in the pit at some stage—it is difficult to see how they would have arrived in the pit-fill otherwise.

Only a small insect assemblage was recovered, with 32 taxa and 35 individuals. Bearing this in mind the main statistics have little meaning, although they and the species lists are subjectively much like those for most other samples from this site.

**Sample 62** (0.6–0.75 m depth) Mid grey-brown humic sand with abundant chalk gravel; residue dominated by sand and chalk gravel.

The subsample of this sample gave a small plant macrofossil assemblage (Appendix 2) of no interpretative value.

A small and somewhat poorly preserved group of beetles and bugs was present (N = 22, S = 18). Although the assemblage was too small for interpretation there were hints of more decaying matter than in any previously discussed sample (%N RT = 50, although swayed by *Anotylus nitidulus*, whose origin is uncertain). A single *Ptinus fur* was noted: this spider beetle is found in various natural habitats but is distinctly favoured by human dwellings.

#### Context 400 [ditch-fill]

Sample 400 (taken as find 'BUY') Rather firm, dark brown, crumbly sandy peat with twig and root fragments.

The 0.5 kg subsample examined proved to be very rich in plant remains, with large amounts of wood, twig and root fragments. Amongst the identifiable seeds and fruits, stinging nettle and elder were, as so often at this site, the most frequent, with smaller amounts of *Chaerophyllum temulentum*, *Carduus/Cirsium* spp. (thistles), and *Stachys* cf. *arvensis* (?field woundwort) fruits and *Populus* (poplar/aspen) bud-scales and (the only instance for the site) of *Lemna* (duckweed) seeds. The latter, together with records for caddis larva cases and *Daphnia* ephippia indicate the presence of water, whilst the range of buds and bud-scales and wood and twig material is typical of a deposit formed in a ditch or pool with overhanging trees. One of the few cultivated taxa for this site was recorded from this sample—a charred caryopsis of barley, *Hordeum* sp. The 'flot' was not examined for insects.

#### Context 437 [pit-fill, probably Iron Age]

Sample 437 (spot find of organic material) Black humic sand or sandy amorphous peat.

The 170 g sample yielded abundant evidence for a moorland/heathland origin for the material—essentially, it appeared to be a lump of natural 'mor' humus with vegetative fragments of heather (*Calluna vulgaris*), with the moss *Hylocomium splendens* and ?tormentil, (*Potentilla* cf. *erecta*). Both the latter-named taxa are frequently recorded from heaths and moors. Examination of pollen in a smear of some of the undisaggregated residue revealed a preponderance of Ericales (including *Calluna*), *Betula*, and *Pinus*, consistent with this interpretation. The source of this material cannot be readily confirmed, though there are extensive areas of *Calluna*-dominated heathland to the west and north-west of the North Cave

area today, in the lower Vale of York. It is not inconceivable that heathland might have developed on the very sandy area in which the site was located, especially where leaching at the surface reduced the influence of chalk gravel in the subsoil.

Inspection of the small number of insect remains recovered from this sample cast no further light on its interpretation; they have not been recorded.

## Summary of Phase 1

There was no good evidence from the recorded biota for human dwellings. Human influence seems to have been primarily disturbance to vegetation, encouraging weeds and associated open-ground fauna. Decomposer insects were relatively rare and offered no evidence of large accumulations of organic debris, or even of the materials, like straw, hay or brushwood, which might be expected to have been used in structures. Even dung beetles are poorly represented in the insect assemblages, so there is no good evidence of grazing. Charred cereals are also, notably, absent. It seems quite possible, therefore, that the deposits examined post-date the structures, representing re-use (although perhaps only small-scale) of an area recolonised by plants after the structures were abandoned. The excavator's view that the pits may have served simply to supply water and filled naturally after abandonment is thus at one with the biological evidence.

If the deposits were contemporaneous with the structures, they may have been occupied only briefly—perhaps seasonally—or have functioned for storage or as workshops rather than as established domestic dwellings.

*Phase 2* Early Roman

Roughly rectangular (?field) enclosures running N from a series of major E–W boundary ditches:

#### **Context 40** [pit-fill (containing calf skeleton)]

Sample 38 (0.3 m depth) Light greyish-brown sand with a few orange flecks; residue mainly quartz sand and iron slag, with some charcoal, mammal bone and flint gravel.

No identifiable plant remains were recovered from this subsample, other than charcoal and a trace of wood. No beetles or bugs were recorded; the only insect recovered was possibly a fly and perhaps a modern contaminant.

#### Context 154 [pit-fill]

**Sample 66** (1.0-1.2 m depth) Dark yellowish-grey sand with abundant chalk gravel; residue dominated by chalk gravel and quartz sand.

This subsample yielded a small plant macrofossil assemblage, with quite large numbers of toad rush seeds and with mud rush present; the rest of the taxa were mainly weeds of various kinds.

The material was not examined for insects.

Sample 65 (0.7-0.8 m depth) Reddish-brown sand with lenses of very dark grey-brown to black organic material; residue mainly quartz sand with some flint and chalk gravel and organic detritus.

A small assemblage of plant macrofossils was obtained from the flot from this subsample, only one of the taxa, toad rush (*Juncus bufonius*), being present in large numbers (abundance score 3 on a four-point scale). The assemblage is scarcely large enough to be

interpretable-most taxa were weeds of some kind. The mud rush, Juncus gerardi, recorded from Iron Age pit-fills at this site, was once again recorded here.

The material was not examined for insects.

Phase 3 2nd–3rd century features

A complex of pits that has been resolved into two—pits 12 and 14; the latter comprised contexts 14 and 15, the former, cut into 14, had a wicker ?basket set into its base; its vertical sequence of fills (from the base) was 19, 13, 17. Four other sampled contexts will be dealt with first:

Context 47 [boundary ditch-fill]

Sample 39 Mid grey-brown, moist, crumbly humic sand with flint and chalk gravel.

A rather rich assemblage of 35 plant taxa was recorded from the flot and washover from this sample. Although dominated by weed taxa (the first four 'vegetation' groups in rank order of AIV (cf. Appendix 2), a wide range of other habitats was represented, including wetland. This last presumably reflected the nature of the environment of deposition. Unexpectedly, there were modest numbers of leaves of the bog moss *Sphagnum* (not identified further, but not *S. imbricatum* or *S. papillosum*). There was also a single shoot fragment of heather (*Calluna vulgaris*); these taxa may have derived from heathland/moorland as a component of deliberately imported peat, turf or cut heather for some purpose.

The flot was not very rich in insects and preservation less good than in, for example, the majority of groups from the pit-complex in this phase. A wide range of habitats was represented, with a broad similarity to the aforementioned earlier faunas. There were many *Daphnia* ephippia, indicating the presence of standing water. Invertebrate remains were not recorded systematically from this subsample, however.

Context 448 [ditch-fill, earlier phase of 417 (see below)]

Sample 95 (0.3-07 m depth) Dark grey-brown sandy humic silt, rather sticky to buttery in consistency.

The residue from the 1 kg subsample processed comprised mainly plant detritus and sand, with traces of charcoal and wood. There were large numbers (abundance score 3) of *Sambucus nigra* seeds and *Urtica dioica* achenes, suggesting the presence close to the site of deposition of nitrogen-rich, disturbed soils. The *Juncus bufonius* seeds (abundance 2) may reflect areas of impeded drainage close by, though the fill at this stage seems not to have carried an aquatic flora, and there are only trace amounts of *Daphnia* ephippia and *Ranunculus* Subgenus *Batrachium* to suggest water *in* the ditch. Modest numbers of earthworm egg capsules perhaps indicate inwash of soil into it. Unusually, there were remains of three umbellifers—*Anthriscus caucalis, Chaerophyllum temulentum* and *Torilis japonica;* together, they suggest the presence of a perennial nitrophile community (group ARTE of the scheme used in the analyses presented in Appendix 3)—a community of field margins, less shaded hedge-banks and (typically, today), roadsides.

#### Context 320 [ditch-fill]

Sample 320 (no description recorded).

A rapid 'scan' of the washover from this sample shows it to be dominated by *Sambucus nigra* seeds (abundance 3), with traces of charcoal and charred root/twig fragments of cf. *Calluna vulgaris*. The few scraps of insect were not examined further.

#### **Context 417** [ditch-fill, continuing 320 to the east]

Sample 94 (0.3-0.5 m depth) Dark brown silty detritus peat with abundant rootlets.

Despite its very high organic content, there was a surprisingly limited flora in the residue examined for plant remains; identifiable macrofossils were perhaps 'diluted' by the very large component of root/rootlet fragments (abundance score 4). As in sample 95, there were large numbers of elder seeds and stinging nettle achenes and a modest range of other 'weed' taxa. Intriguing finds were coriander (*Coriandrum sativum*) mericarps and dewberry (*Rubus caesius*) seeds, both were recorded at an abundance of 2; both might be foodplants, though the latter is a native plant and might have arrived accidentally though bird-droppings, for example. The only other record for coriander from the site is a single mericarp from sample 10 (context 19, below), emphasising the unusually poor evidence for human activity, and in particular for domestic occupation, at this site at this period.

Pit 14 [pit-fills in cut later recut by pit 12; these are assumed to pre-date the fills of 12—all the samples analysed were from Context 14]

**Sample 32** (depth not recorded) Dark brown, very humic material, almost an amorphous peat, with a buttery texture; molluscs present; residue of chalk gravel, sand and flint.

The flot and washover from a subsample of this gave a rather small but diverse assemblage of plant macrofossils, representing a wide variety of habitats. Of particular interest is *Moehringia trinervia*, a species of nitrate-rich mull (woodland) soils, discussed in more detail below. Although many of the taxa recorded are indicative of disturbed soils and are typical of urban archaeological deposits there are taxa like *Ranunculus* Subgenus *Batrachium* and *Alisma* which are aquatic or aquatic-marginal (the score of 2 for *Daphnia* ephippia probably indicates standing water in the pit). Large numbers of leaf fragments, some of them probably willow (*Salix* sp(p).) suggest that there were trees nearby—perhaps overhanging the pit.

Insect remains in the flot were excellently preserved and abundant, and subjectively like the assemblages from pit **12** (see below); they were not listed fully.

Sample 33 (depth not recorded) Mid to dark brown, humic silt with chalk gravel; residue of chalk gravel with some flint and sand.

The flot and washover from this subsample gave another rather modest assemblage of plant remains with large numbers of stinging nettle (*Urtica dioica*) and modest numbers of water crowfoot (*Ranunculus* Subg. *Batrachium*) achenes. The remaining taxa represented a range of habitats, the largest group being weeds of waste ground and cultivated and otherwise disturbed soils (CHEN). Leaf fragments, presumably from deciduous trees, were again quite common.

The flot was quickly examined for insect remains. Some of the fossils were well decayed, others normally preserved—this may reflect periods of desiccation. The bulk of the fauna probably consisted of the same elements as seen in pit 12 (see below). There were abundant structures which appeared to be egg-masses of some invertebrate. The following taxa noted in this subsample were not recorded from the samples from this site recorded in detail: *Cymindis* sp. (possibly *C. axillaris*); *Cercyon ?haemorrhoidalis*; and *Onthophagus ?similis*.

Sample 22 (0.8 m depth) Interleaving lenses of grey-black humic silt and sand; plant material rather compressed and difficult to disaggregate.

A large subsample of 3 kg was washed for rapid examination of plant and insect remains. The plant list was rather similar to those for subsamples from pit 12, though with more evidence of willow—as fruits, leaf fragments, buds, and perhaps also twig epidermis fragments. Unusually, for the more richly organic parts of this sequence, there were few seeds of elder, though stinging nettle achenes were quite well represented.

A rapid review of the insect remains in the flot showed a fauna essentially similar to those from the more richly organic parts of pit 12, with the following additional taxa: *Cercyon unipunctatus, Cordalia obscura,* and *Phaedon* sp.

Three mollusc taxa were recorded from this sample (*Anisus vortex, Succinea putris* and *Vitrea crystallina*); though two are species not recorded from other samples to yield molluscs, they shed no further light on the interpretation of these deposits.

**Pit 12** [pit-fill; a column of samples taken from this pit-fill was examined in detail (samples designated as 'column 1' below) with several other samples being examined more cursorily. The column was taken where the pit was deepest and passed through the fills of a wicker structure which appeared to line a recut. Samples are discussed in stratigraphic order, from deepest to shallowest, where depth is known.]

Context 19 (the basal context):

Sample 12 (column 1, 1.4 m depth) Yellow-brown sand with abundant chalk gravel, flint and inclusions of grey sand; residue predominantly sand and chalk gravel, with some flint.

Only trace amounts of stinging nettle and elder were recorded from this subsample, together with various unidentifiable plant fragments, including charcoal.

A very small group of beetles—single individuals of six taxa—was recorded. There were several *Daphnia* ephippia, which are indicative of aquatic deposition.

Sample 11 (column 1, 1.3 m depth) Light yellow-brown sand with lighter and darker grey humic silt inclusions and some moss; residue not examined.

A very small assemblage of plant macrofossils was obtained—seven taxa, all in very small numbers; they were all species found repeatedly through much of the rest of the sequence of samples from this pit-fill.

In contrast, this sample gave a quite substantial insect fauna (N = 106, S = 80) of very high diversity (alpha = 148, SE = 32). The most abundant taxa were the leafhopper *Agallia brachyptera* (9), a rare species associated with damp conditions, and the groundbug *Scolopostethus* sp. (4), probably one of the species found beneath nettle-beds on well-drained soils, and in similar habitats. Decomposers were poorly represented (%N RT = 20) and the rich and varied plant-associated species were the predominant group (%N P = 40). Most of the latter group was probably circumjacent background fauna from an area of herbaceous and scrubby vegetation such as is found in clearings and hedgerows, or in abandoned areas where recolonisation by natural plant communities has proceeded well but patchily. A few aquatic and waterside taxa may have been attracted to the pit and many *Daphnia* ephippia were recovered, so open water must have been present.

A single *Ptinus fur* (discussed under sample 62, context 102, from phase 1) was recorded, but there were no other taxa which suggested structures nearby.

Sample 10 (column 1, 1.2 m depth) Heterogeneous light brown sand and dark grey humic material with fragmentary plant remains visible; residue of chalk gravel with some sand and organic detritus, and traces of flint.

This subsample gave a rather longer list of plant taxa (37 in all), with large numbers of elder and nettle (signifying colonisation of disturbed, probably nitrogen-rich soils), and smaller numbers (abundance score 2) of seeds of three-veined sandwort (*Moehringia trinervia*), this last a species favouring nitrate-rich mull soils, especially in woodland and hedgerows (Clapham *et al.* 1987). Rough chervil, *Chaerophyllum temulentum*, was also recorded from this sample. This umbellifer has a range that extends from woodland margins through hedges and scrub to rough grassy places—it is typical of perennial communities in these 'edge' situations between

major vegetation types. It is likely to occur with *M. trinervia* in shaded woodland-edge habitats, perhaps in a hedgerow or clearing. Indeed, weed and woodland vegetation are the best represented groups in the analysis of this assemblage—suggesting the encroachment of scrub or woodland into an area previously disturbed by man. Neither of these plants has been recorded often from archaeological deposits: *M. trinervia* was noted from a deposit interpreted as a Roman buried soil and from a Roman well-fill at Skeldergate, York (Hall *et al.* 1980), and from a medieval site at Oakwell Hall, West Yorkshire, in a deposit with much evidence of woodland or scrub (Allison *et al.* 1988). *C. temulentum* was recorded (as 42 mericarps) from a Roman stone-lined feature interpreted as a water-hole from Farmoor, Oxfordshire (Lambrick and Robinson 1978), in an assemblage rich in remains of stinging nettle, greater celandine (*Chelidonium majus*) and blackberry (*Rubus fruticosus* agg.), these taken together suggesting strongly the presence of hedgerow or abandoned areas turning to scrub.

The single mericarp of coriander (*Coriandrum sativum*) may be a relic of cultivation, though (with the exception of traces of charred cereal grains) it is the only record of a plant likely to have been imported or cultivated from the entire sequence of samples in pit 12.

The modest amounts of a species of *Drepanocladus*, together with traces of *Scorpidium* scorpioides probably point to the presence of water in this feature—these mosses are unlikely to have been placed there deliberately. Most *Drepanocladus* species are found in fens, bogs, marshes and wet flushes; *S. scorpioides* is a plant of similar habitats and rather rare in lowland Britain today (it is, however, quite widely recorded as a fossil from natural and archaeological deposits and has presumably become restricted in its range through drainage of wetlands).

Beetles and bugs were abundant (198 individuals of 129 taxa) and preservation good. The clover weevil *Apion (Protapion) dissimile*, known to breed on *Trifolium arvense* and perhaps *T. pratense* (Table 5), was the most numerous species (9 individuals), followed by a *Corticaria* species (6; probably living in litter), and *Meligethes aeneus* (5; a 'pollen beetle' associated with crucifers). There were four *Gymnetron labile*, which breeds in *Plantago lanceolata*, and the same number of an unidentified aleocharine (eurytopic as a group), *Atomaria* sp. (probably in litter) and *Agallia brachyptera* (see sample 11 above). Although the relative abundance of taxa differed somewhat, the assemblage was essentially like the previous one, with a small decomposer group, most of it probably derived from plant litter, and abundant and varied phytophages. Again, there were many *Daphnia* ephippia.

Sample 9 (column 1, 1.1 m depth) Heterogeneous dark grey sand and very dark brown organic material with plant stem fragments visible; residue mainly of organic detritus, with some chalk gravel and a little sand.

The plant macrofossil assemblage from this subsample was rather larger (46 'taxa') than that from 10 (the sample immediately below it in column 1), but with the same vegetation groups (CHEN, ARTE, SECA and QUFA) the best represented. With *Moehringia* and *Chaerophyllum* again recorded, the AIV for the ARTE group stood at 26, the second highest value for the pit 12/14 samples. The two moss taxa recorded in 10 were also present, both scoring 2. Evidently there was no major change in the nature of the vegetation or conditions of deposition obtaining, though alder (*Alnus*, presumably *A. glutinosa*) was recorded as fruits and male and female catkin fragments (albeit all in small numbers), suggesting that alder trees were becoming established in the vicinity. The trace of buds/bud-scales of *Populus* sp(p). (poplar or aspen) may also indicate further development of woody vegetation. Both *Alnus* and *Populus* can be rapid colonisers with fast growth.

Together with a trace of charred barley (*Hordeum*) grain, there was a rather larger component of charcoal in this sample than in the others from this sequence. It is possible that this derived from ash from domestic or industrial fires, though it certainly was not sufficiently abundant to suggest the deliberate disposal of quantities of ash into the pit.

This sample gave an even larger insect assemblage than sample 10: 238 individuals of 148 taxa. Subjectively, the fauna was extremely similar to that from sample 10 in its nature and implications. The most abundant species was, again, *Apion dissimile* (13 individuals), and there were 8 *Acrotrichis* sp. (decomposer habitats), 6 each of *Nargus anisotomoides* (present in several pit 12 samples, and found in moss and leaf litter), Aleocharinae sp. (eurytopic) and *Meligethes* 

aeneus (crucifers), and 5 each of Megasternum obscurum (a very eurytopic decomposer), Atomaria sp. (probably in litter) and Scolopostethus ?affinis (generally, but not always, beneath nettle-beds).

#### Context 13 (overlying 19)

Sample 8 (column 1, 1.0 m depth) Very dark grey humic sand with inclusions of organic material, including moss; residue mainly organic detritus with traces of chalk gravel and sand.

The plant remains from sample 8 were very much the same as in sample 9 and demand no further comment, other than to observe that *Chaerophyllum temulentum* was recorded at an abundance score of 2 and *Moehringia* at 1.

The beetles were not listed, but subjectively the assemblage appeared to be very similar to the previous ones.

Sample 14 (column 1, 0.9 m depth) Dark grey sandy organic material with plant stem fragments and pale brown sandy inclusions; residue of organic detritus with some chalk gravel and a little sand.

The plant remains from the subsample of sample 14 were essentially similar to those from the main sequence at a similar depth, though with rare charred cereal grains perhaps suggesting human activity or reworking of older deposits. The large number of marsh pennywort (*Hydrocotyle vulgaris*) fruits (abundance score 3) and the modest amounts of wetland moss (*Drepanocladus* and *Scorpidium*) are probably the primary vegetation of the wet area where deposition and preservation took place; in addition to alder and *Populus*, willow (*Salix* sp(p)., represented by buds) may be added to the list of trees that are thought to have been growing at or near the site at this time.

Insect remains were, again, numerous (N = 255, S = 149) and broadly similar to the assemblages from other richly organic samples from this context. The more abundant species were *Oxytelus fulvipes* (9 individuals; notable for its rarity at the present day, found in carr-like conditions, e.g. at Askham Bog, near York (Kenward 1978)), *Ochthebius minimus* (8) an Aleocharinae sp. (7), *Apion dissimile* (6) and a *Tachyporus* species (5; typically in litter and around the base of plants). There were also four *Hydraena riparia*, three *Chaetarthria seminulum*, and two *Hydrochus elongatulus* and *Laccobius* sp., together with single individuals of eleven other aquatic taxa, so the evidence for weedy open water in the pit at this stage of infilling is very strong. The main statistics and ecological implications accorded closely with other samples from this context.

Puparia of flies *?Sphaerocera* sp. and *?Spilogona* sp. were recorded, a single individual of each being noted. *Spilogona* spp. are associated with moss. When found in urban pits, moss-associated insects like this are generally taken to have been imported in moss used for hygienic purposes, but in the present case mosses appear to have grown actually within the pit.

Sample 7 (column 1, 0.8 m depth) Very dark brown sandy organic material, with orange-brown mottling; residue mainly of organic detritus, with some chalk gravel and a little sand.

The assemblage of plant macrofossils was rather more restricted in this subsample, though essentially similar to those from previous samples in this sequence. The ARTE component, including *Moehringia* and *Chaerophyllum*, was again present, achieving its highest AIV (29) for the entire site. A suggestion of renewed human activity is perhaps to be made from the records of trace amounts of indeterminable charred cereal grains and grain and glume-base material of spelt wheat, *Triticum spelta*.

The material was not examined for insect remains.

Sample 6 (column 1, 0.7 m depth) Very dark brown, highly organic sand; residue mainly organic detritus, with some sand and a little chalk gravel.

With 41 taxa, this is uppermost sample from this sequence to provide a useful assemblage of plant remains. The dominant vegetation types represented are, again, weed vegetation (both annual and perennial communities: groups CHEN and ARTE in the list in Table 3), with cornfield weeds less common. Woody vegetation—primarily deciduous woodland (QUFA)—is also quite well substantiated and wood fragments were abundant in the residue, though alder is the only actual tree taxon to have been identified from macrofossils.

The beetles were not listed, but a superficial examination showed that, subjectively, the assemblage was very similar in character to those from other samples from pit 12. The following taxa from this subsample were not found in the material listed in detail: *Lebia chlorocephala*, *Hydraena testacea*, and *Lema* or *Oulema* sp.

Sample 30 (depth not recorded) Dark grey to grey-brown, crumbly, slightly sandy amorphous organic material with some plant detritus, with the appearance of a slightly indurated peat.

Only a rather small amount of the washover from the 1 kg subsample of this sample was examined (along with the entire flot) for plant remains; a rather modest list of taxa was recorded—including *Moehringia* and *Chaerophyllum*, which were characteristic of the more richly organic parts of pit 12. Leaf fragments (perhaps from deciduous trees) were also recorded, as in the majority of samples from the pit-complex with good preservation.

The flot was examined rapidly for insect remains, which were moderately abundant, well preserved and (subjectively) ecologically close to the material from pit 12. The following taxa from this subsample were not recorded from the quantitatively listed samples from this site: *Thyreocoris scarabaeoides, Leistus ferrugineus, Onthophagus joannae* and *Scolytus* sp. The shieldbug *T. scarabaeoides* is a xerotherm (requiring dry, hot environments) found in chalky and sandy places, generally amongst litter or short mosses (Southwood and Leston 1959, 29). It has a southerly distribution in Britain and Scandinavia (Massee 1955; Coulianos and Ossianilsson 1976); in England and Wales it has a scattered distribution in southern and central counties, and like many other thermophiles has outlying locations in Lancashire. It appears not to have been recorded from Yorkshire, although it has been found in Lincolnshire (Massee 1955). Its occurrence at North Cave is probably indicative of summer temperatures at least a degree or so higher than was normal during the period up to the mid 1980s.

### Context 17 (overlying 13)

Sample 5 (column 1, 0.6 m depth) Dark grey sand; residue predominantly sand with chalk gravel and a little flint)

The number and diversity of plant taxa decreased with this subsample, only 14 taxa being recorded. This is scarcely an interpretable assemblage, except in the light of assemblages from lower levels in the pit-fill, of which it is clearly a heavily depleted representative.

A very small assemblage of poorly preserved beetles and bugs was present, and single individuals of 13 taxa were recorded. As with the plant remains, these seem to be a random extract of the range of taxa seen in the levels below.

Sample 4 (column 1, 0.5 m depth) Heterogeneous dark grey to pale brown sand with charcoal inclusions; residue mainly sand with chalk gravel and a little flint and traces of charcoal.

The few plant macrofossils in this subsample evidently represent the last traces of organic preservation; they are a very much depauperate selection of the taxa present at lower levels.

The concentration of insect remains was also very low, with only 9 individuals of 8 taxa recovered.

Sample 3 (column 1, 0.4 m depth) Very heterogeneous dark grey sand with very extensive orange-red mottling, and inclusions of chalk and charcoal; residue mainly of sand, with chalk gravel, and a little flint and charcoal.

Charcoal was the only plant material recorded. The only insect recovered was an unidentifiable weevil.

**Sample 79** (column 1, 0.3 m depth) Pinkish-grey to greenish sand with chalk inclusions; rather cohesive; residue of sand with some chalk gravel and a little organic detritus.

Apart from a modest amount of charcoal, this sample from very near the uppermost layer of the pit-fill yielded only traces of charred grass and cereal grains.

Sample 2 (column 1, 0.2 m depth) Brownish-grey sand, extensively mottled orange, with charcoal and chalk inclusions; residue of sand, with chalk gravel, and a little flint and charcoal.

Plant remains other than small amounts of charcoal were lacking in this subsample. No insect remains were recorded.

**Sample 1** (column 1, 0.1 m depth) Brownish-grey sand, mottled orange, with charcoal inclusions; residue of sand with small amounts of chalk gravel and flint and traces of charcoal.

Apart from two charred ?rye (cf. *Secale cereale*) grains and a little charcoal, the only plant remains in this subsample were worked wood fragments—some quite large pieces with clear facets due to working with an axe or similar tool. Again, no insect remains were recorded, with the exception of a single sepsid puparium, probably *Nemopoda* sp..

Thought to have been taken from the fill of the wicker structure (context 19), the following samples were also examined:

Sample 25 (1.17 m depth) Not described but broadly similar to samples from similar levels within pit.

The subsample of 6 kg gave—perhaps not surprisingly—the largest assemblage of plant macrofossil taxa (64) for the site, though none was recorded at an abundance score of more than 2. Weed taxa of various kinds were the most frequent (the score of 60 for the AIV for group CHEN was the highest for the samples as a whole, though this is partly a function of sample size). Both *Moehringia* and *Chaerophyllum* were recorded again in this sample, and contributed to the second highest AIV of the vegetation group ARTE (see Table 3) for the pit 12 samples.

A component not recorded in the smaller subsamples from pit 12 was remains of heather, *Calluna vulgaris* and cross-leaved heath, *Erica tetralix*. Charred shoot and root/twig fragments of the former and leaves of the latter were found in trace amounts. Heathland/moorland taxa were also recorded from other contexts at the site, though always in small amounts (except for the spot find of organic material from context 437, phase 1, which appeared to be a large fragment of heathland turf).

The modest group of molluscs from sample 25 represent a mixture of habitats; some are taxa of freshwater (e.g. *Anisus vortex*), others more commonly found in shaded terrestrial habitats (e.g. *Oxychilus alliarius*). A single frog (*Rana temporaria*) tarsus was also recorded from this sample.

The insect fauna from this sample was large and well-preserved and (subjectively) essentially similar to others from the more richly organic parts of pit 12; it was examined rapidly and not listed.

**Sample 28** (1.16 m depth) Mid grey-brown humic sand with chalk gravel and inclusions of very dark brown pan-like concreted sand, and a some twig fragments.

A subsample of 5 kg was washed for rapid examination of plant and insect remains. The list of plant macrofossils is very similar to that from the previous sample, with about half the taxa in each in common. *Calluna* was present again, this time as shoots and flowers and charred shoot and root/twig fragments. *Epilobium* seeds were scored at an abundance of 2 in this sample; in the experience of the botanical authors, there are few published records for this taxon from archaeological deposits, although it includes many very common weeds of cultivated and waste places at the present day. It was recorded at an abundance of 1 in sample 25 from pit 12, and also at 1 in sample 62 from context 102 (a large Iron Age pit) at this site. Unfortunately it is not possible to determine whether these are seeds of rosebay willow-herb (*Epilobium* (*Chamaenerion*) angustifolium, which was probably mainly a plant of woodland clearings and other edge communities before it expanded into a wide range of wasteland situations in recent decades) or one of the several more or less weedy species of lightly shaded or unshaded habitats. Evidence for (presumed tree) leaf fragments was again present, some of the material clearly comprising the cuneate leaf-bases of one or more willow (*Salix*) species.

A somewhat larger list of molluscs was recorded from this sample than from 25, though they have essentially similar implications; the most abundant was the freshwater snail *Anisus vortex* (33 individuals), with smaller numbers of swamp taxa (*Lymnaea peregra* and *Aplexa hypnorum*) and the 'slum' (*sensu* Boycott 1936) taxon *Pisidium personatum*.

Some vertebrate remains were recorded during processing of the subsample from 28: common frog (*Rana temporaria*), probably of one individual; 'mouse' (probably *Apodemus* sp.); and an immature small rodent.

Insect remains from this subsample were not examined in detail, but subjectively resembled the assemblages from other samples from pit 12.

Sample 29 (depth not recorded) Dark grey to grey-brown, crumbly, humic sand with some wood and twig fragments and chalk gravel and modest amounts of plant detritus.

The flot from this subsample was scanned briefly and found to contain a plant macrofossil flora and an insect fauna very similar to those from the 'richer' parts of pit 12.

Sample 81 (depth not recorded) Black sandy organic material; residue of organic detritus with a little sand and chalk gravel.

The flora in this subsample was essentially similar to that of the more richly organic parts of the main sequence and it certainly offers no new interpretative problems. The characteristic taxa, *Moehringia* and *Chaerophyllum* (score 2) were again present. The abundant wood chips may be related to the construction and insertion of the wicker structure into the pit; there is certainly no other evidence for any kind of deliberate disposal of material into the feature.

The subsample gave rather a large assemblage of beetles and bugs (200 individuals of 143 taxa). This fauna was essentially similar to those from other parts of the same context with good organic preservation. The most abundant species was *Apion dissimile*, with 7 individuals; this weevil lives on certain clovers (*Trifolium* spp., see Table 5). There were six *Brachypterus urticae*, generally found on nettles, and four each of the following: *Megasternum obscurum* (a generalised decomposer, found in habitats ranging from grass roots and litter to dung), *Lesteva longoelytrata* (mud by water), *Aphodius contaminatus* (primarily herbivore dung) and *Meligethes ?aeneus* (on crucifers). There were also five individuals of the scale insect *Chionaspis salicis* (scale insects are not included in the main statistics and species lists, although they are bugs, because of the problem of quantification caused by the difficulty of routinely distinguishing adults from larvae). *C. salicis* lives on a wide range of woody hosts, particularly willows (*Salix* spp.), ash (*Fraxinus*) and alder (*Alnus*), and has repeatedly been identified from archaeological sites. Its occurrence in a deposit associated with wicker is perhaps not surprising.

There were a few fly puparia in this subsample: Sepsidae sp. (4) and *?Sphaerocera* sp. (3).

Samples 85–7 (spot finds of insects, depths not recorded):

Sample 85 There were abundant insect fragments (which were not recorded), ostracods, and *Daphnia* and *Ceriodaphnia* ephippia. The sample appears to have been collected for a large dytiscid water beetle, which could not be identified further.

Sample 86 A variety of beetles resembling a small random extract from the richer parts of pit 12 was noted.

Sample 87 Appears to have been collected for a single Agabus bipustulatus, one of the commonest large water beetles.

#### General comments on Pit 12

The fall-off in numbers of both plants and insects in the higher samples from this fill is probably the result of poorer preservation, brought about by a less stable water regime in the sandy deposit. However, to some extent the numbers of insects and plants varied independently, numbers of insects in sample 11 being quite large whereas plant remains were still scarce (Table 1).

The consistent presence of cladoceran ephippia, small numbers of various aquatic insects, and ostracods, and the more abundant moss taxa (Drepanocladus sp. and Scorpidium scorpioides) indicate that the pit must have contained water, even if only periodically, and certainly remained permanently damp. The few fly puparia recovered confirm the presence of damp organic matter. The fill of the pit clearly did not receive dumps of organic rubbish, however-decomposer beetles were rather rare and mostly restricted to species likely to be found in surface litter around living plants or at the edge of water. At most there may have been a little ash from fires reaching the fills. For the most part, though, the deposit has every appearance of having accumulated slowly and naturally, with an abundant and species rich 'background' fauna of insects, mostly perhaps from not too far away. Both the insects and plant remains indicate a mixture of disturbed vegetation and established scrub (or even woodland) nearby (see below): a rich mosaic of herbs, with some bare ground, amongst scrub. The 'bare ground' need only have been, for example, a trampled path or even the unstable edges of the pit. A plant group not represented by plant remains, but strongly indicated by the insects, is Leguminosae (Table 5). It is conceivable that sample 11 represents a phase of usage, the flora being suppressed immediately circumjacent to the large pit, while the insect background flora was plentiful and derived from habitats a short distance away. The later deposits within the main pit may have formed in disuse, when plants colonised in and immediately around it, while supporting a similar insect fauna. The wicker insert provides a complication. Its fauna and flora were subjectively identical to those from the richer layers in the main pit (Table 1; the only substantial difference is for the percentage amount figure for group ARTE for sample 81-inspection of the taxa contributing to this show many of them to be weakly associated with the group, rather than good indicators of it, however).

It is possible that the fill of the wicker structure represents a continuation of the 'disuse' depositional regime, perhaps after a hiatus during which the pit or well was again used. Alternatively, since the deposits inside and outside it were so similar, the wicker structure may have infilled through percolation of deposits from the surrounding pit-fill.

The function of the pit is unclear. A few dung beetles were present in small numbers but there were no indications from insects or plants that stock was kept on the site, for example, so it is unlikely to have been a watering hole (compare the insect results with those from the Bronze Age Wilsford shaft (Osborne 1969)). It was certainly not a cess pit, either, for there was no evidence of cereal 'bran', abundant food remains, or the eggs of intestinal worms. With the exception of a single record of coriander, and trace amounts of charred barley, wheat and unidentifiable cereal grains, all the plants contributing to the 'uses' group FOOS (basic foodplants) could have grown in the local vegetation. The durable charred cereals might have been reworked from earlier deposits; they were all poorly preserved. There is no evidence at all from either plant or insect remains for the presence of domestic rubbish in the pit-fill—or, indeed, anywhere near to it. The small and dispersed slag and charcoal component is likely to have originated in the surrounding surface deposits rather than in acts of deliberate dumping. Dumping of any kind, furthermore, would be incompatible with the growth of the wetland mosses that evidently became established in the pit, and which appear to have supported a

#### small insect fauna.

In summary, this pit appears to have been a damp hollow, at least intermittently with open water—perhaps with seepage from a natural aquifer, giving a flora and fauna that would not be surprising in and around a spring—in an area of patchy scrub probably with little or no substantial contemporaneous human activity within tens of metres.

## Phase 4 3rd-4th century features

A series of major enclosures and boundaries established; samples mostly came from the flues of a series of early 4th century pottery kilns.

#### Context 289 [pit-fill]

Sample 88 (0-0.2 m depth) Dark grey sand with inclusions of pale grey sand; residue mostly quartz sand and charcoal, with some mammal bone.

The only plant remains recorded from the subsample of this sample was a single nutlet of ?sedge (cf. *Carex* sp(p).) A single cladoceran ephippium was present. There were no beetles.

Context 311 [fill of large pit; see also identifications of 'brushwood' from base of pit, Appendix 4]

**Sample 311** (1.0 m depth) Dark grey-brown, silty, humic sand with sandier patches, twigs, chalk and flint gravel and some lumps of grey sandy clay.

A 2 kg subsample was processed and the washover examined for plant remains. There was a large list of taxa (62, almost as large as the richest assemblages from the basal layers in Pit 12, though perhaps partly reflecting the larger subsample size). Sambucus nigra seeds and Urtica dioica achenes were, as in other contexts at this site, the most abundant macrofossils (both scored an abundance of 3), whilst several taxa were recorded at a score of 2: Stellaria media, Conium maculatum, Rumex acetosella agg., Montia fontana ssp. chondrosperma, and Prunus spinosa (thorns). The emphasis here is on weeds of disturbed, nitrogen-rich soils, but with R. acetosella perhaps reflecting areas of poorer, sandy soils, Montia indicating short vegetation on soils with impeded drainage.

There was some other evidence of the presence of trees or shrubs in the vicinity, in the form of dicotyledonous leaf fragments (probably from willow), leaf abscission pads, a twig identified as Pomoideae (the sub-family of Rosaceae includes apple, pear, rowan and hawthorn), buds/bud-scales of oak, a sloe (*Prunus spinosa*) fruitstone and a hawthorn (*Crataegus monogyna*) pyrene, and fruit and testa fragments of ash (*Fraxinus excelsior*), a kind of assemblage very reminiscent of deposits forming in a ditch close to a hedge or area of woodland. By contrast, wetland taxa like *Cladium mariscus, Scorpidium scorpioides* and *Lycopus europaeus* perhaps suggest a less shaded environment (they will grow in fen carr, but there is no evidence for alder, for example, from this sample).

Other taxa of interest include *Sphagnum* (leaves), ?summer savory (cf. *Satureja hortensis*—the only record of this culinary herb for the site), a single charred glume-base of ?spelt wheat (*Triticum* cf. *spelta*) and a rare record of corncockle (*Agrostemma githago*) seed fragment(s) (the only other record for this site was from sample 91). Most of the rest of the taxa recorded were weeds of various kinds, though there was a leafy shoot and charred root/twig fragments of heather (*Calluna*) and the *Daphnia* ephippia at an abundance of 2 suggest the presence of a body of water, though there was no clear component of aquatic plants, perhaps suggesting the pit to have been permanently wet but only intermittently to have held standing water.

#### Context 323 [boundary ditch-fill]

Sample 3231 (depth not recorded) Mid grey-brown, crumbly, humic sand with chalk gravel and large bone fragments; residue of chalk gravel and sand with some flint, bone, and pottery.

Dominated by seeds of elder and achenes of stinging nettle, the rather rich plant macrofossil assemblage from this sample gave evidence for disturbed, nitrogen-rich soils. Several taxa, including *Rorippa islandica* (at an abundance score of 2) also pointed to the nitrification of the ditch itself—reflected in the position of the group BIDE at rank 2 in the list of AIVs for 'vegetation' (Appendix 2). There was no direct evidence for human activity—the ditch appears to have received no refuse from occupation (except for the pottery fragments observed in the residue).

A further 1 kg subsample, numbered **3232** in the laboratory, probably from another layer within pit 323, was also analysed for plant macrofossils. The residue was described as being 'rather strawy', indicating that there were abundant herbaceous stem fragments, possibly from monocotyledonous plants (like grasses or sedges). Again, there were large numbers of seeds of elder and achenes of stinging nettle, and *R. islandica* seeds also scored an abundance of 3; together with these were redshank (*Polygonum persicaria*) and hemlock (*Conium maculatum*) and smaller numbers of water-pepper (*P. hydropiper*). The overall impression of a ditch receiving some nutrients, running through an area of disturbed land is reinforced, though other components of the fill, such as shoot and root/twig fragments, and flowers of heather must be seen as evidence for disposal of some imported materials rather than for the presence of quite different kinds of vegetation in the vicinity. The modest numbers of rose prickles and thorns of hawthorn and blackthorn are consistent with deposition in a ditch near scrub or perhaps a hedgerow.

The only evidence for another cultivated plant—flax (presumably *Linum usitatissimum*)—recorded from this subsample, in the form of a single capsule fragment.

A modest insect fauna was recovered, with a character reminiscent of the assemblages from pit 12 (phase 3), perhaps with a larger proportion of aquatics. Two species of corixid water bugs were present. There were also wings of the moorland/heathland bug *Ulopa reticulata*, associated primarily with *Calluna* and perhaps imported with cut heather or turves. The insects were not recorded quantitatively.

#### **Context 335** [kiln flue (with charcoal)]

Sample 89 (0.2 m depth) Dark brownish-grey sand with charcoal; residue predominantly quartz sand and daub with some flint, charcoal and small amounts of iron slag.

A single waterlogged fruit of annual knawel, *Scleranthus annuus*, was recorded from the flot from this subsample. *S. annuus* was formerly widespread as a calcifuge weed of dry, sandy ground including arable and was recorded from the North Cave area around the end of the last century (Robinson 1902); it has become increasingly uncommon in the past half-century (Crackles 1990). It is likely to have been growing in the vicinity of the point of deposition on the sandy soils prevalent at this site.

No records of beetles, bugs or other invertebrates were made.

Sample 90 (0.2 m depth) Very dark grey sand; residue not examined.

Scleranthus annuus was again represented by a single waterlogged fruit; other plant remains comprised an indeterminable charred cereal grain and a nutlet of bristle scirpus, *Scirpus setaceus*, a plant of pond margins and short damp turf on sandy soils.

No insects or other invertebrates were present.

#### Context 337 [pit-fill]

Sample 91 (base of pit) Very dark grey to black, highly organic, slightly sandy silt with chalk gravel; residue not examined.

There was a modest assemblage of plant macrofossils (27 taxa), predominantly annual and perennial weeds of disturbed and cultivated soils, bearing some similarity to the assemblages from the pit-fill, pit 12, of phase 3 at this site—with *Moehringia trinervia* and *Chaerophyllum temulentum* again recorded. The presence of modest numbers of *Daphnia* ephippia and a record of *Scorpidium scorpioides*—together with several other taxa suggestive of damp to waterlogged soils—point to the likelihood that water stood in the pit during its infilling. One of only two records for corncockle (*Agrostemma githago*, a whole seed), was form this sample (cf. sample 311).

Insect remains from this subsample were not examined.

Sample 337 (a further 1 kg 'test' subsample, examined only for plant remains)

Though similar in many respects to the other subsample, this assemblage included modest numbers (abundance score 2) of *Corylus avellana* buds/bud-scales, some of which were buds for male catkins, together with some fragments of juvenile catkins. Dicotyledonous leaf fragments (perhaps including willow) also scored 2, and there traces of leaf abscission pads, all suggestive of trees or scrub nearby. Stinging nettle achenes were the most abundant (score 3), however, and there was a score of 2 for *Stellaria media*, indicating disturbed soils at or near the point of deposition. The moderately common *Daphnia* ephippia point to a body of water, but aquatic plants were sparse. One or a few leaves of *Erica tetralix* are the single heathland taxon in this sample (they were otherwise only recorded from sample 25, pit 12, with *E. cinerea* recorded from sample 448).

Context 343 [kiln flue (with charcoal and ?charred grain)]

**Sample 92** (0.2 m depth) Dark grey-brown organic sand, with yellow-grey clay inclusions; residue mainly quartz sand, with some quartz and chalk gravel.

There was no identifiable plant material in the flot from this sample, merely traces of fine plant detritus. The single beetle fragment was also unidentifiable.

Sample 343 The remainder of the sample—about 14 kg—was bulk-sieved to 1 mm. From the residue, which consisted largely of burnt clay, there were traces of cereal grains, and some glume-bases identified variously as wheat or spelta wheat (see below, Sample 364 for further discussion).

#### Context 344 [kiln flue (with charcoal)]

Sample 93 (0.2 m depth) Light grey-brown sand with yellow-brown clay inclusions; residue mainly quartz sand, gravel (including chalk) with some charcoal and mortar/plaster.

This subsample also failed to yield identifiable plant remains other than charcoal. There were two snails (one whole, one fragment), not examined further. Insects from this subsample were not examined.

Context 364 [pit-fill at mouth of 343, perhaps stoke-hole for kiln]

Sample 364 This sample, of about 10 kg was bulk-sieved to 1 mm to retrieve charred grain noted as being present during excavation. It yielded modest numbers of charred remains of cereals and traces of large-seeded cereal weeds. Much of the cereal chaff and grain could not be identified further, but a proportion was wheat, some of it of a hexaploid kind, to judge from the size and shape of the grains, and rare examples of spikelet fragments and glume-bases permitted a tentative identification of spelt wheat, *Triticum* cf. *spelta*, a glume-wheat commonly

recorded from deposits of Roman date in Britain. The only other cereal remains identifiable to genus were traces of barley, *Hordeum* sp(p). grains. The assemblage is consistent with the archaeologist's interpretation that the kilns were used, at least at some stage, as corn driers, unless the grain is simply waste from grain-processing or residual grain from poorly-threshed straw, either being used as fuel in the kilns (which may then have served some other purpose).

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Table 1. Selected statistics for insect and plant remains from samples from pit **12**. The insect data are directly comparable between samples; those for AIV (abundance-indicator value) for plant remains may be compared between groups for a given sample, but between-sample comparisons may not be justified. The percentage amount values were obtained by calculating the total abundance 'amount' (on the four-point scale) for taxa assigned to the group as a percentage of the sum of abundance amounts for all taxa in the sample; these figures *may* be compared between samples. Variations in the statistics for the 'richer' samples are regarded as within those predictable from a series of samples from deposits formed under essentially similar conditions.

Explanations of the abbreviations for the plant ecological and use groupings are given in Table 3 and for the insect statistics in Table 4.

|            |      | ~        |            |         |          |     |     |      |     |     |     |     |   |        |
|------------|------|----------|------------|---------|----------|-----|-----|------|-----|-----|-----|-----|---|--------|
| Sample     | 12   | 11       | 10         | 9       | 8        | 14  | 7   | 6    | 5   | 4   | 3   | 2   | 1 | 81     |
|            |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| Insects:   |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| N          | 6    | 106      | 198        | 238     | ***      | 255 | -   | 4    | 13  | 9   | 1   | 0   | 0 | 200    |
| S          | 6    | 80       | 129        | 148     | -        | 149 | -   | 4    | 13  | 8   | 1   | 0   | 0 | 143    |
| ALPHA      | -    | 148      | 160        | 167     |          | 150 | -   | -    |     | -   | -   | -   | - | 224    |
| SE         | -    | 32       | 22         | 20      | -        | 17  |     | -    | -   | -   | -   |     | - | 33     |
| PSOB       | 50   | 64       | 60         | 59      | -        | 61  | -   | •••• | 62  | 38  | _   | -   | - | 66     |
| PNOB       | 50   | 65       | 60         | 56      | _        | 61  | ••• | _    | 62  | 33  |     | _   | _ | 67     |
| ALPHA OB   | _    | 88       | 94         | 113     | _        | 91  | _   | _    | _   | -   | _   | _   | _ | 140    |
| SE         | -    | 23       | 17         | 19      | ****     | 13  | _   | _    |     |     | _   | _   | - | 25     |
| PNW        | 0    | <u>я</u> | 5          | 5       | _        | 12  |     | _    | 0   | 0   | _   |     | _ | 7      |
| PND        | õ    | 13       | 6          | 5       | _        | 7   | _   | _    | 0   | ň   | _   |     |   | ,<br>5 |
| DND        | 33   | 40       | 43         | 26      | _        | 21  |     |      | 21  | 2.1 |     |     |   | 41     |
| L 14L      | 17   | 20       | 4.5        | 20      | -        | 22  | -   | -    | 21  | 11  | -   | -   | - | 41     |
| PNKI       | 11   | 20       | 21         | 21<br>r |          | 23  | -   | -    | 23  | 11  | -   | -   | - | 20     |
| PNRD       | 0    | 4        | 3          | 5       | -        | 2   | *** | -    | 0   | 0   |     | -   | _ | 4      |
| PNRF       | 0    | Z        | 2          | 2       | -        | 6   | -   | -    | 8   | 0   | *** | -   | - | 5      |
| ALPHA RT   | -    | 58       | 25         | 21      | -        | 25  | -   |      | -   | -   | -   |     | - | 27     |
| SE         | -    | 34       | /          | 5       | -        | ъ   |     | -    | -   | -   | -   | -   | - | 8      |
|            |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| Plants:    |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| no. taxa   | 2    | 7        | 37         | 46      | 47       | 39  | 38  | 42   | 15  | 7   | 0   | 0   | 1 | 29     |
| AIV for    |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| ALNE       | -    | 2        | 6          | 15      | 13       | 12  | 17  | 12   | 2   | 2   |     | _   | _ | 7      |
| ARTE       |      | 2        | 19         | 26      | 23       | 19  | 29  | 26   | 3   | 2   | _   | _   | - | 26     |
| CHEN       | -    | 4        | 33         | 44      | 33       | 27  | 25  | 37   | 11  | 5   | -   | _   | _ | 16     |
| EPIL       |      | 2        | 12         | 16      | 8        | 10  | 14  | 10   | 2   | ž   | _   | _   | - | 6      |
| MOAR       |      | 2        | 10         | 12      | 14       | 12  | 12  | â    | 4   | ñ   | _   | _   | _ | 10     |
| OUFA       |      | 4        | 20         | 21      | 17       | 16  | 21  | 17   | 7   | ć   | _   |     |   | 17     |
| 20211      | _    | ^        | 1.0        | 16      | 11       | 14  | 10  | 10   | ć   | c   | _   | _   |   | 10     |
| RIER       |      | -<br>-   | 1 H<br>0 1 | 10      | 14<br>01 | 14  | 10  | 12   | 0   | 2   | -   | -   | - | 12     |
| SECA       | -    | 0        | 21         | 20      | 21       | 10  | 14  | 17   | 8   | 3   | -   | -   | - | 13     |
| FOOS       | **** | 3        | 15         | 15      | 12       | 12  | 21  | 15   | 7   | 6   | -   | -   | - | 12     |
| percentage |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| amount for |      |          |            |         |          |     |     |      |     |     |     |     |   |        |
| ALNE       | -    | ••••     | 7          | 11      | 9        | 11  | 16  | 11   | -   | -   |     | -   | - | 9      |
| ARTE       | -    | ***      | 21         | 23      | 21       | 19  | 31  | 28   | -   |     | -   | -   | - | 41     |
| CHEN       | **** | -        | 35         | 38      | 30       | 26  | 27  | 37   | -   | -   | -   | -   | - | 25     |
| EPIL       | -    | -        | 14         | 14      | 8        | 11  | 16  | 11   | -   | -   | -   | *** | - | 9      |
| MOAR       |      | -        | 12         | 11      | 13       | 13  | 13  | 11   |     |     | -   | -   | - | 16     |
| QUFA       | ***  | -        | 23         | 20      | 17       | 17  | 24  | 20   | *** | -   | _   | _   | _ | 28     |
| RHPR       | ***  | -        | 16         | 14      | 13       | 15  | 18  | 13   | _   | _   | _   | _   | - | 19     |
| SECA       | -    | -        | 23         | 25      | 21       | 17  | 18  | 20   | *** | -   | -   | -   | - | 22     |
| FOOS       | -    | -        | 12         | 9       | 8        | 9   | 16  | 15   | -   | -   | -   | -   | - | 13     |
|            |      | · ··· ·· |            |         |          |     | ··· |      |     |     |     |     |   |        |
| Sample     | 12   | 11       | 10         | 9       | 8        | 14  | 7   | 6    | 5   | 4   | 3   | 2   | 1 | 81     |

Table 2. Complete list of plant and invertebrate taxa recorded from North Cave. For the plants, the parts recovered are included; all material was preserved by waterlogging unless otherwise indicated. Latin names and authorities and taxonomic order follow Tutin et al. (1964-80) (vascular plants) and Smith (1978) (mosses) and vernacular names of vascular plants follow Moore (1987). For Coleoptera and Hemiptera the ecological codes and Clapham, Tutin assigned for the analyses are given in square brackets and nomenclature follows Kloet and Hincks (1964-77), except where superceded. 'Indet.' indicates records which may include taxa already listed.

#### MUSCI

Sphagnum sp(p). [leaves and shoot fragments]

Polytrichum sp(p). [leaves and/or shoot fragments] Dicranum sp(p). [leaves] Leucobryum glaucum (Hedw.) Ångstr. [shoot fragments] Racomitrium sp(p). [shoot fragments]

Drepanocladus sp(p). [leaves and shoot fragments]

- Scorpidium scorpioides (Hedw.) Limpr. [leaves and shoot fragments]
- Eurhynchium cf. praelongum (Hedw.) Br. Eur. [shoot fragments]

Hypnum cupressiforme Hedw. [shoot fragments]

*cf. Rhytidiadelphus* sp(p). [shoot fragments]
 *Hylocomium splendens* (Hedw.) Br. Eur. [leaves and shoot fragments]

#### PTERIDOPHYTA

Filicales (ferns) [pinnule fragments]

Pteridium aquilinum (L.) Kuhn (bracken) [pinnule fragments]

#### ANGIOSPERMAE

Salix sp(p). (willow) [fruits, buds, leaf fragments]

- *Ainus* sp(p). (willow) [twig epidermis fragments]
   *Populus* sp(p). (poplar/aspen) [buds/bud-scales]
   *Ainus* sp(p). (alder) [fruits, female cone axes, male catkin fragments, twig fragments and buds/bud-scales] scales]
- Corylus avellana L. (hazel) [buds/bud-scales and male catkin fragments]
- Quercus sp(p). (oak) [twig fragments and buds/budscales

Urtica dioica L. (stinging nettle) [achenes] U. urens L. (annual nettle) [achenes]

Polygonum aviculare agg. (knotgrass) [nutlets]

P. hydropiper L. (water-pepper) [nutlets] P. persicaria L. (persicaria/red shank) [nutlets, including charred]

- P. lapathifolium L. (pale persicaria) [nutlets] Bilderdykia convolvulus (L.) Dumort. (black bindweed) [nutlets]
- Rumex acetosella agg. (sheep's sorrel) [nutlets, including charred]
- Rumex sp(p). (docks) [nutlets]
- 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] Montia fontana ssp. chondrosperma (Fenzl) Walters (blinks) [seeds]
- Arenaria serpulifolia L. (thyme-leaved sandwort) [seeds] Mochringia trinervia (L.) Clairv. (three-nerved sandwort)
- [seeds] Stellaria media (L.) Vill. (chickweed) [seeds]
- S. cf. neglecta Weihe in Bluff & Fingerh. (?greater chickweed) [seeds]

S. graminea L. (lesser stitchwort) [seeds] Stellaria sp(p). (stitchworts/chickweeds) [seeds]

Cerastium sp(p). (mouse-ear chickweeds) [seeds]

- Scleranthus annuus L. (annual knawel) [fruits] Spergula arvensis L. (corn spurrey) [seeds]
- Agrostemma githago L. (corncockle) [seeds] Silene vulgaris (Moench) Garcke (bladder campion) [seeds]
- S. alba (Miller) Krause in Sturm (white campion) [seeds]
- Ranunculus Section Ranunculus (meadow/creeping/bulbous buttercup) [achenes, including charred]
- R. flammula L. (lesser spearwort) [achenes]
- R. Subgenus Batrachium (water crowfoots) [achenes] Ranunculus sp. [achenes] Ranunculus sp. [achenes] Thalictrum flavum L. (common meadow rue) [achenes] Papaver dubium L. (long-headed poppy) [seeds] P. argemone L. (long prickly-headed poppy) [seeds] Fumaria sp(p). (fumitories) [seeds] Constituent (chemedo and constant) [seeds]

- Cruciferae (shepherds purse/cabbage family) [seeds] Descurainia sophia (L.) Webb ex Prantl (flixweed) [seeds]
- Rorippa islandica (Oeder) Borbás (northern marsh
- yellow-cress) [seeds] Capsella bursa-pastoris (L.) Medicus (shepherd's purse) [seeds]

- Thlaspi arvense L. (field penny-cress) [seeds] Brassica rapa L. ((?wild) turnip) [seeds] Raphanus raphanistrum L. (wild rad radish) fpod segments/fragments and 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). (blackberry, raspberry etc.) [prickles]
- Rubus/Rosa sp(p). (blackberry, etc./rose) [prickles]
- Rosa sp(p). (roses) [prickles] Potentilla palustris (L.)
- Scop. (marsh cinquefoil) [achenes]
- P. anserina L. (silverweed) [achenes]
- P. cf. erecta (L.) Räuschel (tormentil) [achenes]

- P. cf. reptans L. (?creeping cinquefoil) [achenes]
   Potentilla sp(p). (cinquefoils, etc.) [achenes]
   Aphanes microcarpa (Boiss. & Reuter) Rothm. (slender parsley-piert) [achenes]
- Pomoideae (apple/pear/rowan/hawthorn) [twigs] Crataegus monogyna Jacq. (hawthorn) [pyrenes]

- Crataegus sp(p). [thorns] Prunus spinosa L. (blackthorn, sloe) [thorns]
- Leguminosae (pea family) [waterlogged flowers and/or
- petals and charred cotyledons]
- Vicia sp(p). (vetches, etc.) [charred seeds]
- usitatissimum L. (flax, Linum linseed) [capsule fragments]

- Malva sylvestris L. (common mallow) [nutlets] Hypericum sp(p). (St John's-worts) [seeds] Viola sp(p). (violets/pansies, etc.) [seeds, capsule segments
- Epilobium sp(p). (willow-herbs, etc.) [seeds]
- Umbelliferae (cow parsley/carrot family) [mericarps] Hydrocotyle vulgaris L. (marsh pennywort) [mericarps]
- Chaerophyllum temulentum L. (rough chervil) [mericarps] Anthriscus caucalis Bieb. (bur chervil) [mericarps]

- Coriandrum sativum L. (coriander) [mericarps] Oenanthe lachenalii C. G. Gmelin (parsley water-
- dropwort) [mericarps]

Aethusa cynapium L. (fool's parsley) [mericarps] Conium maculatum L. (hemlock) [mericarps] Apium nodiflorum (L.) Lag. (?fool's watercress) cf. [mericarps] Pastinaca sativa L. ((?wild) parsnip) [mericarps] Heracleum sphondylium L. (hogweed) [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) [leaves] Calluna vulgaris (L.) Hull (heather, ling) [capsules, flowers, leaves, shoot and root/twig fragments (incl. charred shoot and root/twig fragments)] Primulaceae (primrose family) [seeds] Anagallis arvensis L. (scarlet pimpernel) [seeds] Fraxinus excelsior L. (ash) [testa and fruit fragments] Fraxinus excessior L. (ash) [testa and fruit frag Menyanthes trifoliata L. (bogbean) [seeds]
Galium aparine L. (goosegrass, cleavers including charred]
Galium sp(p). (bedstraws) [fruits]
cf. Callitriche sp(p). (?water-starworts) [fruits]
Labiatac (mint formily) [multist] cleavers) [fruits, Labiatae (mint family) [nutlets] cf. Marrubium vulgare L. (?white horehound) [nutlets] Galeopsis Subgenus Galeopsis (hemp-nettles) [nutlets] Galeopsis sp(p). (hemp-nettles) [nutlets] Lamium Section Lamiopsis (annual dead-nettles) [nutlets] Stachys cf. sylvatica L. (hedge woundwort) [nutlets] S. cf. arvensis (L.) L. (?field woundwort) [nutlets] Stachys sp(p). (woundworts) [nutlets] Prunella vulgaris L. (selfheal) [nutlets] rrunena valgaris L. (seimeai) [nutlets] cf. Satureja hortensis L. (summer savory) [nutlets] Lycopus europaeus L. (gypsywort) [nutlets] Mentha sp(p). (mints) [nutlets] Hyoscyanus niger L. (henbane) [seeds] Solanum nigrum L. (black nightshade) [seeds] S. dulcamer L. (woodu nightshade) [seeds] S. dulcamara L. (woody nightshade) [seeds] Scrophularia sp(p). (figworts) [seeds] beccabunga-type (brooklime/water/marsh Veronica speedwells) [seeds] Rhinanthus sp(p). (yellow rattles) [seeds] Plantago major L. (greater plantain) [seeds] Plantago sp(p). (plantains) [capsule fragments] Sambucus nigra L. (elder) [seeds, twig fragments] Valerianella dentata (L.) Pollich (narrow-(narrow-fruited cornsalad) [fruits] Campanula cf. rotundifolia L. (?harebell, bluebell) [seeds] Campanula cl. rotunaljota L. (?harebell, bluebell) [seeds] Compositae (daisy family) [involucral fragments] Bidens sp(p). (bur-marigolds) [achenes] Matricaria perforata Mérat (scentless mayweed) [achenes] Arctium sp(p). (burdocks) [achenes] Carduus/Cirsium sp(p). (thistles) [achenes] Leoniodon sp(p). (hawkbits) [achenes] Consoluc accord (). Hill (wright), core thistle) [achenes] Sonchus asper (L.) Hill (prickly sow-thistle) [achenes] S. oleraceus L. (common sow-thistle) [achenes] Taraxacum sp(p). (dandelions) [achenes] Lapsana communis L. (nipplewort) [achenes] Baldellia ranunculoides (L.) Parl. (lesser water-plantain) [carpels] Alisma sp(p). (water-plantains) [carpels] Triglochin maritima L. (sea arrow-grass) [fruits] Zannichellia palustris L. (horned pondweed) [fruits] Juncus cf. inflexus/effusus/conglomeratus (?hard/soft/compact rush) [seeds] J. genardi Loisel. (mud rush) [seeds] J. bufonius L. (toad rush) [seeds] Juncus sp(p). (rushes) [seeds] Gramineae (grasses) [caryopses, including charred] Cerealia indet. (cereals) [charred caryopses, spikelet bases and rachis fragments] cf. Cerealia indet. (?cereals) [charred culm-nodes] cf. Glyceria sp(p). (sweet-grasses) [caryopses] Bromus sp(p). (bromes, etc.) [waterlogged and charred caryopses Triticum spelta (spelt wheat) [charred glume-bases] T. cf. spelta (spelt wheat) [charred caryopses and glume-bases]

Triticum sp(p). (wheats) [charred caryopses and glume-bases]
cf. Secale cereale (?rye) [charred caryopses]
Hordeum sp(p). (barley) [charred caryopses and rachis internodes]
Alopecurus sp(p). (loxtails) [caryopses]
Lemna sp(p). (duckweeds) [seeds]
Sparganium sp(p). (bur-reeds) [fruits]
Typha sp(p). (reed-maces) [seeds]
cf. Scirpus lacustris sensu lato (?bulrush) [nutlets]
S. setaceus L. (bristle club-rush) [nutlets]
Eleocharis palustris sensu lato (common spike-rush) [nutlets]
Cladium mariscus (L.) Pohl (great sedge/saw-sedge) [nutlets]

Carex sp(p). (sedges) [nutlets]

ANNELIDA

Oligochaeta sp. (egg capsule)

CRUSTACEA

Daphnia sp. Ceriodaphnia sp. Cladocera sp. Ostracoda sp.

#### DERMAPTERA

Forficula auricularia Linnaeus Dermaptera sp. indet.

#### HEMIPTERA

Sehirus bicolor (Linnaeus) [oa-p] Thyreocoris scarabaeoides (Linnaeus) [oa-p] Dolycoris baccarum (Linnaeus) [oa-p] Picromerus bidens (Linnaeus) [oa-p] Peritrechus ?lundi (Gmelin) [oa-p] Stygnocoris pedestris (Gallén) [0a-p] Stygnocoris pedestris (Fallén) [0a-p] S. ?rusticus (Fallén) [0a-p] ?Stygnocoris sp. indet. [0a] Drymus sylvaticus (Fabricius) [0a-p] Scolopostethus ?affinis (Schilling) [0a-p] Scolopostethus sp. indet. [oa-p] Lygaeidae sp. [oa-p] Berytinus sp. [oa-p] Acalypta sp. [oa-p] Tingidae sp. [u] Anthocoris sp. [oa-p] Cimicidae sp. [u] Miridae sp. [oa-p] Chartoscirta sp. [oa-w] Saldidae sp. indet. [oa-d] Corixidae spp. [oa-w] Heteroptera sp. [u] Heteroptera sp. (nymph) Nechopicia sp. (IJMph) Neophilaenus campestris (Fallén) [oa-p] Ulopa reticulata (Fabricius) [oa-p-m] Agallia brachyptera (Boheman) [oa-p-d] Aphrodes flavostriatus (Donovan) [oa-p-d] Aphrodes sp. [oa-p] Auchenorhyncha spp. [oa-p] Trioza urticae (Linnaeus) [oa-p] Chionaspis salicis (Linnaeus) Coccidoidea sp. Aphidoidea sp. Hemiptera sp. [u]

TRICHOPTERA

Trichoptera sp(p).

#### COLEOPTERA

Carabus granulatus Linnaeus [oa] Leistus ferrugineus (Linnaeus) [oa] Leistus sp. [oa] Notiophilus sp. [oa] Blethisa multipunctata (Linnaeus) [oa-d] Loricera pilicornis (Fabricius) [oa] Dyschirius globosus (Herbst) [oa] Trechus obtusus Erichson [oa] T. quadristriatus (Schrank) [oa] Asaphidion flavipes (Linnaeus) [oa] Bembidion lampros or properans [oa] B. ?guttula (Fabricius) [oa] B. (guitula (rabricuis) [oa] Benibidion spp. [oa] Pterostichus cupreus (Linnaeus) [oa] Pterostichus (Poecilus) sp. indet. [oa] P. melanarius (Illiger) [ob] P. minor (Gyllenhal) [oa] P. niger (Schaller) [oa] P. nigeria (Paykull) [oa-d] Calathus fuscines (Goare) [na] Calathus fuscipes (Goeze) [oa] Calathus ?melanocephalus (Linnaeus) [oa] C. micropterus or mollis [oa] C. mollis (Marsham) [oa] Calathus sp. indet. [oa] Synuchus nivalis (Panzer) [oa] Amara apricaria (Paykull) [oa] Amara spp. [oa] Harpalus rufipes (Degeer) [oa] Harpalus spp. [oa] Harpalus spp. [oa] Badister ?sodalis (Duftschmid) [oa-d] Lebia chlorocephala (Hoffmannsegg) [oa] Dromius linearis (Olivier) [oa] Microlestes sp. [oa] Cymindis sp. [oa] Carabidae spp. indet. [ob] Hydroporinae sp. [oa-w] Agabus bipustulatus (Linnaeus) [oa-w] Colymbetes fuscus (Linnaeus) [oa-w] Colymbetinae sp. [oa-w] Georissus crenulatus (Rossi) [oa-w] Hydrochus elongatus (Schaller) [oa-w] Helophorus aquaticus or grandis [oa-w] Helophorus spp. [oa-w] Helophorus sp. (terrestrial) [oa] Coelostoma orbiculare Fabricius [oa-w] Cercyon analis (Paykull) [rt] C. atricapillus (Marsham) [rf] C. ?convexiusculus Stephens [oa-d] C. ?haemorrhoidalis (Fabricius) [rf] C. ?melanocephalus (Linnaeus) [rt] C. sternalis Sharp [oa-d] C. terminatus (Marsham) [rf] C. ?tristis (Illiger) [oa-d] Cercyon sp. indet. [u] Megasternum obscurum (Marsham) [rt] Cryptopleurum minutum (Fabricius) [rf] Hydrobius fuscipes (Linnaeus) [oa-w] Laccobius sp. [oa-w] Chaetarthria seminulum (Herbst) [oa-w] Hydrophilinae spp. [oa-w] Acritus nigricornis (Hoffmann) [rt] Onthophilus striatus (Forster) [rt] Histerinae sp. [u] Ochthebius minimus (Fabricius) [oa-w] Ochthebius sp. [oa-w] Hydraena riparia Kugelann [oa-w] H. testacea Curtis [oa-w] Hydraena sp. indet. [oa-w] Limnebius spp. [oa-w] Ptenidium sp. [rt] Acrotrichis spp. [rt] Nargus anisotomoides (Spence) [u] N. velox (Spence) [u] Catops sp. [u] Catopinae sp. indet. [u]

Silpha ?tristis Illiger [u] Silpha sp. indet. [u] ?Scydmaenidae sp. [u] Cypha sp. [rt] Micropeplus fulvus Erichson [rt] M. porcatus (Paykull) [rt] M. staphylinoides (Marsham) [rt] Metopsia retusa (Stephens) [u] Anthobium atrocephalum (Gyllenhal) [oa] Lesteva longoelytrata (Goeze) [oa-d] ?Lesteva sp. indet. [oa-d] Dropephylla sp. [u] Omalium ?rivulare (Paykull) [rt] Omalium spp. [rt] Omalium spp. indet. [u] Syntomium aeneum (Müller) [oa] Bledius sp. [oa-d] Carpelimus bilineatus Stephens [rt] C. ?corticinus (Gravenhorst) [oa-d] C. elongatulus (Erichson) [oa-d] C. bilineatus or rivularis [u] Carpelimus of riounits [u] Aploderus caelatus (Gravenhorst) [rt] Platystethus alutaceus Thomson [oa-d] P. arenarius (Fourcroy) [rf] P. cornutus group [oa-d] P. nitens (Sahlberg) [oa-d] P. ?nodifrons (Mannerheim) [oa-d] Anotylus nitidulus (Gravenhorst) [rt-d] A. rugosus (Fabricius) [rt] A. sculpturatus (Gravenhorst) group [rt] A. tetracarinatus (Block) [rt] Oxytelus fulvipes Erichson [oa-d] O. sculptus Gravenhorst [rt] Stenus spp. [u] Lathrobium spp. [u] Rugilus ?orbiculatus (Paykull) [rt] Paederinae sp. [u] Othius punctulatus (Goeze) [rt] Gyrohypnus ?angustatus Stephens [rt] Gyrohypnus sp. indet. [rt] Xantholinus linearis (Olivier) [rt] X. longiventris Heer [rt] Xantholininae sp. indet. [u] Neobisnius sp. [u] Erichsonius cinerascens (Gravenhorst) [oa-d] Philonthus spp. [u] Philonthus or Gabrius sp. [u] Staphylinus ?aeneocephalus Degeer [u] Staphylininae spp. indet. [u] Mycetoporus sp. [u] Sepedophilus ?marshami (Stephens) [u] Sepetaopinus imarsuum (Stephens) [u] S. nigripennis or pedicularius [u] Sepedophilus sp. indet. [u] Tachyporus ?hypnorum (Fabricius) [u] T. obtusus (Linnaeus) [u] Tachyporus sp.p [u] Tachinus corticinus Gravenhorst [u] T. laticollis or marginellus [u] T. signatus Gravenhorst [u] *Falagria caesa or sulcatula* [rt] *Falagria caesa or sulcatula* [rt] *Falagria or Cordalia sp.* indet. [rt] Aleocharinae spp. [u] *Pselaphidae sp.* [u] *Geotrupes sp.* [oa-rf] Aphodius contaminatus (Herbst) [oa-rf] A. granarius (Linnaeus) [ob-rf] A. prodromus (Brahm) [ob-rf] Aphodius spp. [ob-rf] Oxyomus sylvestris (Scopoli) [rt] Onthophagus joannae Goljan [oa-rf] O. ?similis (Scriba) [oa-rf] Onthophagus sp. [oa-rf] Serica brunnea (Linnaeus) [oa-p] Hoplia philanthus Illiger [oa] Phyllopertha horticola (Linnaeus) [oa-p] Melolonthinae/Rutelinae/Cetoninae sp. indet. [oa-p]

Clambus sp. [rt] Cyphon sp. [oa-d] Simplocaria semistriata (Fabricius) [oa-p] Heterocerus sp. [oa-d] Dryops sp. [oa-d] Agrypnus murinus (Linnaeus) [oa-p] A. murinus (larva) ?Cidnopus sp. (larva) Athous haemorrhoidalis (Fabricius) [0a-p] A. hirtus (Herbst) [oa-p] Agriotes obscurus (Linnaeus) [oa-p] Agriotes sp. indet. [oa-p] Dalopius marginatus (Linnaeus) [oa-p] Adrastus pallens (Fabricius) [oa-p] Elateridae sp. [ob] Elateridae sp. [ob] Cantharis rustica Fallén [ob] Cantharis sp. [ob] Rhagonycha fulva (Scopoli) [ob] R. lutea (Müller) [ob] R. testacea or femoralis [ob] R. testacta of femoratis [00] Rhagonycha sp. indet. [0b] Cantharis or Rhagonycha sp. indet. [0b] Cantharidae sp. indet. [0b] Anobium ?punctatum (Degeer) [1] Ptilinus pectinicornis (Linnaeus) [1] Anobidae sp. indet. [1] Anobiidae sp. indet. [1] Plinus fur (Linnaeus) [rd] Malachius sp. [u] Malachius sp. [u] Kateretes rufilabris (Latreille) [oa-p-d] Brachypterus glaber (Stephens) [oa-p] B. urticae (Fabricius) [oa-p] Meligethes aeneus (Fabricius) [oa-p] Meligethes sp. [oa-p] Omosita discoidea (Fabricius) [rt] Monotoma sp. [rt] Monotoma sp. [rt] Monotoma sp. [rt] Cryptophagus sp. [rd] Atomaria spp. [rd] Ephistemus globulus (Paykull) [rd] Olibrus sp. [oa-p] Phalacridae sp. [oa-p] Orthoperus sp. [rt] Subcoccinellidae sp. [oa-p] Coccinellidae sp. [oa-p] Coccinellidae sp. [oa-p] Stephostethus lardarius (Degeer) [rt] Lathridius minutus group [rd] Enicmus sp. [rt] Corticaria sp. [rt] Corticaria sp. [rt] Cortinicara gibbosa (Herbst) [rt] Corticarina or Cortinicara sp. indet. [rt] Corticariinae sp. indet. [rt] Pyrochroa serraticornis (Scopoli) [oa-1] Anthicus sp. [rt] Lema or Oulema sp. [oa-p] Timarcha tenebricosa (Fabricius) [oa-p] Imarcha tenepricosa (Fabricius) [0a-p] Chrysolina polita (Linnaeus) [0a-p] C. staphylaea (Linnaeus) [0a-p] Chrysolina sp. indet. [0a-p] Gastrophysa polygoni (Linnaeus) [0a-p] G. viridula (Degeer) [0a-p] Chrysomelinao en [0a-p] G. viriauia (Degeer) [0a-p] Chrysomelinae sp. [0a-p] Phyllotreta nemorum group [0a-p] Phyllotreta sp. [0a-p] Longitarsus sp. [0a-p] Crepidodera ferruginea (Scopoli) [0a-p] Crepidodera sp. indet. [0a-p] Hippuriphila modeeri (Linnaeus) [0a-p-d] Chalcoides sp. [0a-p] Chalcoides sp. [oa-p] Chaetocnema concinna (Marsham) [oa-p] Sphaeroderma ?testaceum (Fabricius) [oa-p] Psylliodes sp. [oa-p] Halticinae spp. indet. [oa-p] Apion (Ceratapion) carduorum Kirby [oa-p] A. ?(Synapion) ebeninum Kirby [oa-p] A. (Pirapion) sp. [oa-p] A. (Oxystoma) craccae (Linnaeus) [oa-p]

A. (Protapion) dissimile Germar [oa-p] Apion spp. [oa-p] Apion spp. [0a-p] Otiorhynchus oxatus (Linnaeus) [0a-p] Phyllobius pomaceus Gyllenhal [0a-p] P. viridiaeris (Laicharting) [0a-p] Phyllobius sp. indet. [0a-p] Phyllobius or Polydrusus sp. indet. [0a-p] Phyllobius or Polydrusus sp. indet. [0a-p] Cheorhinus plumbeus (Marsham) [0a-p] Sitora humeralis Stanhons [0a-p] Sitona humeralis Stephens [oa-p] S. ?lineatus (Linnaeus) [oa-p] Sitona spp. indet. [oa-p] Hypera punctata (Fabricius) [oa-p] Tanysphyrus lemnae (Paykull) [oa-w-p] Cidnorhinus quadrimaculatus (Linnaeus) [oa-p] Ceutorhynchus contractus (Marsham) [oa-p] C. erysimi (Fabricius) C. litura (Fabricius) [oa-p] Ceutorhynchus spp. [oa-p] Rhinoncus castor (Fabricius) [oa-p] ?Rhinoncus sp. indet. [oa-p] Ceuthorhynchinae spp. indet. [oa-p] ?Tychiinae sp. [oa-p] Mecinus pyraster (Herbst) [oa-p] Gymnetron labile (Herbst) [oa-p] G. pascuorum (Gyllenhal) [oa-p] ?Rhynchaenus foliorum (Müller) [oa-p] Curculionidae spp. [oa] Leperisinus ?varius (Fabricius) [1] Coleoptera spp. [u] Coleoptera sp. (larva)

DIPTERA (puparia where not otherwise indicated)

Bibionidae sp. (adult) ?Sphaerocera sp. ?Spilogona sp. ?Nemopoda sp. Diptera sp. indet. Diptera sp. indet. (adult)

#### SIPHONAPTERA

Siphonaptera sp.

#### **HYMENOPTERA**

?Bethylidae sp. Proctotrupoidea sp. Parasitica spp. Formicidae spp. Apoidea sp. Aculeata spp.

#### ARACHNIDA

Acarina spp. Aranae spp.

MOLLUSCA (numbers in brackets refer to numbers of individuals estimated for the subsamples from 22 (from context 14, pit 14), and 25 and 28 (probably both from context 19, pit 12) of phase 3, in that order; there are additional records of *Trichia hispida* agg. from samples 9/T [6 individuals] and 14/T, [2], and Helicidae sp. indet. from sample 8/T [1])

Carychium sp. [0,0,1] Aplexa hypnorum (Linnaeus) [0,0,1] Lymnaea peregra (Müller) [0,0,2] Anisus vortex (Linnaeus) [3,3,33] Succinea putris (Linnaeus) [1,0,0] Cochlicopa lubrica (Müller) [0,6,0] Vallonia costata (Müller) [0,3,2] V. excentrica Sterki [0,0,5] Vitrea crystallina (Müller) [1,0,0]

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Aegopinella nitidula (Draparnaud) [0,1,0] Oxychilus alliarius (Miller) [0,2,0] Trichia plebeia (Draparnaud) [0,2,0] Ashfordia granulata (Alder) [0,0,1] Trichia hispida agg. [0,0,1] Pisidium personatum Malm [0,0,3] Table 3. Ecological and 'use' groups to which plant taxa from deposits at North Cave have been assigned. Note that any taxon may be assigned to more than one group (though with a different 'indicator' score of between 1 and 3, and that different parts of plants are each scored separately for the analyses whose results appear in Appendix 3.

| Group       | Description   |
|-------------|---|
| UNCL        | Not classified  |
| Uses:       |   |
| FIBR        | Plants used for their fibre   |
| FOOF        | Plants used as flavouring, including herbs and spices                     |
| FOOO        | Plants with oil-seeds   |
| FOOS        | Plants forming a major component of diet-cereals, pulses, nuts, fruit,    |
|             | vegetables  |
| USEF        | Plants useful in some way other than those already defined                |
| WOOD        | Parts of woody plants other than fruits/seeds                             |
| Vegetation  |   |
| ALNE        | Plants of alder carr  |
| ARTE        | Nitrophilous tall-herb weed communities of waste places river banks       |
|             | waysides and hedgerows  |
| ASTE        | Plants of upper salt-marsh and sea-cliff vegetation                       |
| BIDE        | Nitrophilous weed communities of pond edges, ditches and other places     |
|             | subject to periodic inundation  |
| BULB        | Plants of brackish and saline reedswamp                                   |
| CAKI        | Nitrophilous weedy communities of shingle beaches and sandy               |
| CHEN        | strandines  |
| CHEN        | Introphilous weed communities of cultivated and other disturbed land      |
| <b>FPII</b> | Nitrophilous woodland edge and cleaning communities                       |
| FEBR        | Plants of drier typically calcareous grassland                            |
| ISNA        | Short-lived dwarf rush communities of winter-wet (often sandy) habitats   |
|             | pond edges, etc.  |
| LEMN        | Free-floating aquatic communities of eutrophic waters                     |
| LITT        | Rooted aquatic vegetation at the edge of (usually) oligotrophic waters    |
| MOAR        | Plants of grassland, including the wetter hay meadows and pastures, and   |
| 1000        | adjacent paths  |
| MOCA        | Plants of oligotrophic springs and flushes, mainly upland                 |
| NACA        | Plants of grass and dwart-shrub (typically Calluna) -dominated dry        |
| OVED        | Reaths and moors  |
| PHRA        | Franks of raised bogs and wet nearns                                      |
| PLAN        | Plant communities of trampled places                                      |
| POTA        | Rooted aquatic vegetation of still or slow-moving water                   |
| OUER        | Deciduous woodland on poorer soils  |
| QUFA        | Deciduous woodland on better soils  |
| RHPR        | Woodland edge scrub communities   |
| RUPP        | Submerged communities of brackish water                                   |
| SCCA        | Communities of poor and intermediate fens (acid to mildly basic peat)     |
| SECA        | Weeds of cereal fields  |
| SESC        | Established vegetation of sand dunes and other sandy acidic soils         |
| TRGE        | Species rich communities of grassland/scrub boundaries, often calcicolous |
| VAPI        | Conifer forest and scrub of upland areas (mainly non-British communities) |

# Ecology:

| CALC | Calcicole plants |
|------|------------------|
| FUGE | Calcifuge plants |

Mosses:

| BOGS | Mosses found in bogs  |
|------|---|
| FENS | Mosses of fens  |
| GRAS | Mosses of grassland   |
| HEMO | Mosses of heathland/moorland                                    |
| LIGN | Mosses of living and dead bark and wood                         |
| MARS | Mosses of marshes   |
| OLIT | Mosses of drier, unshaded rocks, stones, and walls              |
| SLIT | Mosses of shaded, moist rocks, stones, and walls                |
| SOIL | Mosses of bare, usually well-drained soil in unshaded places    |
| WOOF | Mosses of woodland floor habitats, principally humus and litter |

Table 4. Explanation of main statistics used in Appendix 3.

| Number of individuals (MNI) estimated at   | N   |
|--|---|
| Number of taxa   | S   |
| Index of diversity (alpha)   | alpha   |
| Standard error of alpha  | SE alpha  |
| Number of 'certain' outdoor taxa<br>Percentage of 'certain' outdoor taxa<br>Number of 'certain' outdoor individuals<br>Percentage of 'certain' outdoor individuals<br>Number of 'certain' and probable outdoor taxa<br>Percentage of 'certain' and probable outdoor taxa<br>Number of 'certain' and probable outdoor individuals<br>Percentage 'certain' and probable outdoor individuals<br>Percentage 'certain' and probable outdoor individuals<br>Index of diversity (alpha) of outdoor component<br>Standard error  | SOA<br>%SOA<br>NOA<br>%NOA<br>SOB<br>%SOB<br>NOB<br>%NOB<br>alpha OB<br>SE alpha OB                               |
| Number of aquatic taxa   | SW  |
| Percentage of aquatic taxa   | %SW   |
| Number of aquatic individuals  | NW  |
| Percentage of aquatic individuals  | %NW   |
| Number of damp ground/waterside taxa   | SD  |
| Percentage of damp ground/waterside taxa   | %SD   |
| Number of damp ground/waterside individuals  | ND  |
| Percentage of damp ground/waterside individuals  | %ND   |
| Number of strongly plant-associated taxa   | SP  |
| Percentage of strongly plant-associated taxa   | %SP   |
| Number of strongly plant-associated individuals  | NP  |
| Percentage of strongly plant-associated individuals  | %NP   |
| Number of heathland/moorland taxa  | SM  |
| Percentage of heathland/moorland taxa  | %SM   |
| Number of heathland/moorland individuals   | NM  |
| Percentage of heathland/moorland individuals   | %NM   |
| Number of wood-associated taxa   | SL  |
| Number of wood-associated individuals  | NL  |
| Percentage of wood-associated individuals  | %NL   |
| Number of decomposer taxa<br>Percentage of decomposer taxa<br>Number of decomposer individuals<br>Percentage of decomposer individuals<br>Number of 'dry' decomposer taxa<br>Percentage of 'dry' decomposer taxa<br>Number of 'dry' decomposer individuals<br>Percentage of 'dry' decomposer individuals<br>Number of 'foul' decomposer taxa<br>Percentage of 'foul' decomposer taxa<br>Number of 'foul' decomposer taxa<br>Sercentage of 'foul' decomposer taxa<br>Number of 'foul' decomposer taxa<br>Number of 'foul' decomposer taxa<br>Sercentage of 'foul' decomposer taxa<br>Number of 'foul' decomposer taxa | SRT<br>%SRT<br>NRT<br>%NRT<br>SRD<br>%SRD<br>NRD<br>%NRD<br>SRF<br>%SRF<br>NRF<br>%NRF<br>alpha RT<br>SE alpha RT |
| Number of individuals of grain pests   | NG  |
| Percentage of individuals of grain pests   | %NG   |

Table 5. Habitats of 'outdoor' Coleoptera and Hemiptera recorded from North Cave. Information from standard British and European works and sources listed by Kenward (1988).

HEMIPTERA

| Sehirus bicolor           | Adults feed on white dead-nettle ( <i>Lamium album</i> ) and black horehound ( <i>Ballota nigra</i> ). Hibernate underground usually under moss near woods.   |
|---------------------------|---|
| Thyreocoris scarabaeoides | Dry, warm places. Foodplant not known. Distribution in Britain southerly, to Lincolnshire and Lancashire.   |
| Dolycoris baccarum        | Numerous host plants. Feeds on flowers and sometimes fruit.<br>Also said to feed on aphids and beetles' eggs. Commonly occurs<br>in flowery margins of woodlands.   |
| Picromerus bidens         | Mainly found in flowery places, esp. near woodlands and near water; feed chiefly on larvae of Lepidoptera and Chrysomelidae.  |
| Peritrechus ?lundi        | Principal habitat is in fields of a variety of crops, usually near woods or with large hedgerows. Also found on sandhills, heaths and in meadows. Overwinters in litter and beneath bark. Feeds on chickweed ( <i>Stellaria media</i> ) and fat hen ( <i>Chenopodium album</i> ) and probably other plants. |
| Stygnocoris pedestris     | Especially on somewhat dry sandy, chalk or light soils where there is good vegetation. Nothing is known of feeding habits.  |
| S. ?rusticus              | Most common on dry sandy or chalky substrate where there are plenty of flowers. Often found in patches of chickweeds ( <i>Stellaria</i> spp.).  |
| Drymus sylvaticus         | Feeds on <i>Mnium</i> and other mosses and upon fungal hyphae.<br>Found in grass moss or litter on almost all dry or dryish soils.  |
| Scolopostethus ?affinis   | Often, but not always, associated with nettles (Urtica spp.).   |
| Scolopostethus sp.        | Ground bugs with various habitats.  |
| Lygaeidae sp.             | Eurytopic ground bugs as a group.   |
| Berytinus sp.             | Dryish, grassy habitats.  |
| Acalypta sp.              | Moss dwellers.  |
| Tingidae sp.              | As a group on various low-growing plants, including moss.   |
| Anthocoris sp.            | Predatory bugs found on a wide range of plants.   |
| Miridae sp.               | Exploit a wide range of habitats and among all types of vegetation.   |
| Cimicidae sp.             | Wide range of habitats.   |
| Chartoscirta spp.         | Water margins, rivers, marshes etc. Commonly associated with <i>Sphagnum</i> .  |
| Saldula saltatoria        | Waterside, rarely damp places away from open water.   |
| Saldidae sp.              | Waterside, rarely damp ground.  |

| Corixidae spp.                    | Aquatic.   |
|-----------------------------------|--|
| Neophilaenus campestris           | On grasses.  |
| Ulopa reticulata                  | Under Erica and Calluna.   |
| Agallia brachyptera               | Local, in marshy places, also on cliffs.   |
| Agallia sp.                       | Low-growing plants.  |
| Aphrodes flavostriatus            | On grasses in damp places.   |
| Aphrodes spp.                     | Low-growing plants.  |
| Chionaspis salicis                | Scale insect found on willow and sallow (Salix), ash (Fraxinus), alder (Alnus), and other trees and bushes.          |
| Lepidosaphes ulmi                 | 'Mussel scale' found on a variety of trees and bushes.   |
| Trioza urticae                    | On nettles (Urtica spp.).  |
| COLEOPTERA                        |  |
| Carabus granulatus                | Rather hygrophilous, occurring in wet meadows or open forests, often under bark near water; also on cultivated soil. |
| Leistus ferrugineus               | On dry soils amongst dense vegetation, in hedges and open woods.   |
| Leistus sp.                       | Among debris in more or less shady places.   |
| Notiophilus spp.                  | Occur in open country or light forests.  |
| Blethisa multipunctata            | On open, marshy water-margins, on soft soil, usually with moss and <i>Carex</i> vegetation.                          |
| Loricera pilicornis               | On moist, more or less shaded ground, usually near water.  |
| Dyschirius globosus               | Very eurytopic on moist ground in all kinds of open country.   |
| Clivina ?fossor                   | Eurytopic ground beetle.   |
| Trechus obtusus                   | On open ground with short vegetation.  |
| T. quadristriatus                 | On open, rather dry, ground with short vegetation.   |
| Asaphidion flavipes               | On open ground with rather moist, clayish or sand mixed soil.<br>Usually near water.                                 |
| Bembidion lampros<br>or properans | Open soils.  |
| B. guttula                        | Near fresh water, usually on clay where vegetation is rich; shaded places.   |
| Bembidion spp.                    | Most species live close to water but some are found in quite dry situations.   |
| Pterostichus melanarius           | Open, not too dry, ground.   |
| P. minor                          | At water margins, on various soils.  |

| P. niger                    | Usually in parks, thin forests etc., on not too dry soil, often under bark.   |
|-----------------------------|---|
| P. nigrita                  | In damp places usually near water.  |
| Pterostichus (Poecilus) sp. | Open ground.  |
| Calathus fuscipes           | Moderately dry meadows and grassland, often on cultivated soil; also in thin forests.   |
| C. ?melanocephalus          | On all kinds of open, moderately dry soil with grass, meadow or weed vegetation.  |
| C. micropterus              | Predominantly a forest species, living among humus litter under deciduous or coniferous trees, but also on open ground.             |
| C. mollis                   | On dry sandy ground with sparse vegetation, especially near the coast.  |
| Calathus spp.               | Mostly in dry places, under leaves, moss or stones, or amongst grass roots.   |
| Synuchus nivalis            | In open, not too dry country, usually sand or gravel. Not common.   |
| Amara apricaria             | Open dry places, usually with weed vegetation and on the whole favoured by human activities.  |
| Amara spp.                  | Open ground with short vegetation. Most species xerophilous.  |
| Harpalus rufipes            | Open ground, often cultivated fields and waste places.  |
| Harpalus spp.               | Open ground, often sandy soil. Most species more or less xerophilous.   |
| Bradycellus sp.             | Eurytopic ground beetles as a genus.  |
| Badister ?sodalis           | Among leaves and moss in moist shaded places, often (but not always) near pools.  |
| Lebia chlorocephala         | In meadows and grassland on light soil. Larva is ectoparasitic on chrysomelid pupae.  |
| Dromius linearis            | On dry, usually sandy soil, both inland and on coast. Climbs plants.  |
| Metabletus sp.              | Mostly on open, sparsely vegetated ground, also in moss and litter.   |
| Cymindis sp.                | Dry soils in open country.  |
| Hydroporinae sp.            | Water.  |
| Agabus bipustulatus         | Eurytopic in water.   |
| Colymbetes fuscus           | Still to slowly flowing water.  |
| Colymbetinae sp.            | Water.  |
| Georissus crenulatus        | At edges of fresh water, often but not necessarily running water.<br>Lives on banks in moist, sparsely covered clay or clayey sand. |
| Hydrochus elongatulus              | In stagnant fresh water, especially eutrophic shallow clayey pools rich in vegetation. Avoids shaded sites.  |
|------------------------------------|--|
| Helophorus aquaticus<br>or grandis | Eurytopic. Often in pools (sometimes temporary ones).  |
| Helophorus spp.                    | Most species found in stagnant water.  |
| Coelostoma orbiculare              | Stagnant fresh water, mainly at edges of eutrophic, open, well vegetated ponds.  |
| Cercyon ?convexiusculus            | At edges of fresh, mainly stagnant water, and usually (but not<br>always) eutrophic waters. Lives in wet mud, among wet moss,<br>under decomposing plant debris; in open country and woodland. |
| C. sternalis                       | As above species, with which it is often found.  |
| C. ?tristis                        | As above species, with which it is often found.  |
| Hydrobius fuscipes                 | Eurytopic water beetle.  |
| Laccobius sp.                      | In or at edges of water.   |
| Chaetarthria seminulum             | At edges of stagnant, normally eutrophic, well-vegetated fresh water, mostly living in wet mud, less frequently among vegetation in water.   |
| Hydrophilinae sp.                  | In or at edges of water.   |
| Ochthebius minimus                 | Most kinds of fresh water, occasionally in brackish water. In shallow water among vegetation. Seems to avoid more oligotrophic waters.   |
| Ochthebius sp.                     | In water.  |
| Hydraena riparia                   | Predominantly found in clear unpolluted running water, but also taken from detritus at edges of lakes. Not found in small stagnant pools.  |
| H. testacea                        | Stagnant fresh water.  |
| Limnebius spp.                     | Stagnant and running water.  |
| Micropepelus fulvus                | In decaying vegetation and on moss and fungi.  |
| M. porcatus                        | In decaying vegetation and on moss and fungi.  |
| Micropeplus spp.                   | Found in decaying heaps of vegetation and on moss, fungi, mud and soil.  |
| Metopsia retusa                    | Under decaying matter, moss and leaves, especially on sandy ground.  |
| Anthobium atrocephalum             | In moss, dead leaves, decaying fungi, etc.   |
| Lesteva longoelytrata              | In moss and damp places.   |
| ?Lesteva sp.                       | Moss and mud in damp places and by water.  |
| Syntomium aeneum                   | In moss, especially in woods and damp places.  |

| Bledius sp.                             | Fossorial; some species live in sandy banks of rivers, others in sandy or clayey places round the coast and in salt marshes. |
|---|--|
| Carpelimus ?corticinus                  | Marshy places, at roots of grass, on mud etc., also in dry places.   |
| C. elongatulus                          | As for C. corticinus. Generally abundant everywhere.   |
| Platystethus alutaceus                  | In muddy places.   |
| P. cornutus group                       | Muddy banks of ponds and rivers.   |
| P. nitens                               | Wet places, S. England. Many archaeological records from the North.  |
| Sepedophilus ?marshami                  | In plant litter and moss.  |
| Sepedophilus spp.                       | Most species found under mildewy bark, in 'fungusy' wood and under mouldy leaves.  |
| Geotrupes sp.                           | Dung.  |
| Aphodius contaminatus                   | In dung.   |
| A. granarius                            | Decaying vegetable matter and dung of all kinds.   |
| Aphodius spp.                           | Foul organic matter usually dung.  |
| Oxyomus sylvestris                      | In rotting vegetation and dung heaps.  |
| Onthophagus joannae                     | In dung, occasionally other foul matter.   |
| O. ?similis                             | As O. joannae.   |
| Onthophagus sp.                         | In dung.   |
| Serica brunnea                          | Sandy places.  |
| Phyllopertha horticola                  | Larvae feed on roots of turf, infesting poor quality pasture on light soil, often on hilly areas. Adults eat leaves.         |
| Hoplia philanthus                       | Local in S. England, rare in the north at present.   |
| Melononthinae/Rutelinae/<br>Cetonae sp. | Larvae feed on roots, adults on foliage and flowers.   |
| Cyphon sp.                              | Swampy ground.   |
| Simplocaria semistriata                 | In moss.   |
| Heterocerus sp.                         | Burrows in ground beside water.  |
| Dryops sp.                              | Mud by water.  |
| Agrypnus murinus                        | Larvae in soil eating other insect larvae and roots, adults on plants and under stones.                                      |
| Athous haemorrhoidalis                  | Larvae develop at plant roots, adults found on trees and bushes, especially in woodland margins.                             |
| A. hirtus                               | In woods.  |

| Agriotes obscurus                        | Larvae develop in soil feeding on roots, adults under stones and in moss.   |
|--|---|
| Agriotes spp.                            | The larvae—wire worms—feed at the roots of a wide variety of plants. The adults are found under stones, in moss, flood refuse, at water margins and on herbage.                                       |
| Dalopius marginatus                      | In woodland, scrub and gardens. Larvae in woodland, in the ground, under leaf and needle litter, more rarely in stumps.   |
| Adrastus pallens                         | Larvae live in soil of damp meadows, beetles on shrub willows.  |
| Elateridae spp.                          | Mostly at plant roots; some dead wood species.  |
| Cantharis rustica                        | On flowers, herbage and scrub.  |
| Cantharis sp.                            | On flowers, herbage and scrub.  |
| Rhagonycha fulva                         | Adults on flowers of umbelliferous plants.  |
| R. femoralis or testacea                 | On flowers.   |
| R. lutea                                 | On flowers.   |
| Rhagonycha spp.                          | Adults found in summer on bushes and other plants, generally preying on other insects.  |
| Cantharidae sp.                          | Larvae live on ground and prey mainly on slugs and snails.<br>Overwinter under stones or in fallen leaves or moss. Adults<br>found in summer months on bushes and flowers, especially<br>umbellifers. |
| Malachius sp.                            | Adults found on flowering grasses and blossoms, larvae mostly beneath bark and in decaying wood.  |
| Kateretes rufilabris                     | Larvae probably live on rushes, sedges and reed grass. The adults can also be found on flowers and bushes in damp localities.   |
| Brachypterus glaber,<br>B. urticae       | On nettles (Urtica spp.).   |
| Meligethes aeneus                        | Larvae on Cruciferae. Adults eat pollen.  |
| Meligethes spp.                          | Larvae often host specific but adults less choosy—found in flowers eating pollen.   |
| Olibrus sp.                              | Beetles develop in flower heads of Compositae.  |
| Phalacridae sp.                          | The beetles are most often found in flowers.  |
| Coccidula rufa                           | Marshy places, amongst vegetation.  |
| Subcoccinella<br>vigintiquattuorpunctata | Vegetarian ladybird. Feeds on wide variety of plants, especially common in dry meadows.   |
| Pyrochroa serraticornis                  | On flowers at edges of woods, larvae live under bark of dead trees.   |
| Donaciinae sp.                           | On aquatic-emergent and aquatic-marginal vegetation.  |
| Lema or Oulema sp.                       | Grass and cereal leaves.  |
|  |   |

| Timarchia tenebricosa     | On low-growing plants, chiefly bedstraws (Galium).  |
|---------------------------|---|
| Chrysolina polita         | Lives on Mentha, in moist places.   |
| C. staphylaea             | On Mentha spp., Veronica beccabunga and Ranunculus acris.   |
| Chrysolina sp.            | On various low-growing plants.  |
| Gastrophysa polygoni      | On Polygonum spp.   |
| G. viridula               | On docks (Rumex spp.).  |
| Phaedon sp.               | Various plant hosts.  |
| Phyllotreta nemorum group | On Cruciferae.  |
| Phyllotreta spp.          | Mainly on Cruciferae.   |
| Longitarsus sp.           | Polyphagous as a group.   |
| Crepidodera ferruginea    | In both dry and moist places. Perhaps associated with <i>Carduus, Cirsium</i> and <i>Centaurea</i> , perhaps with <i>Trifolium</i> and <i>Vicia</i> .   |
| Crepidodera sp.           | On thistles and as above.   |
| Hippuriphila modeeri      | Moist places, at water margins, on Equisetum arvense.   |
| Sphaeroderma ?testaceum   | On thistles ( <i>Carduus acanthoides</i> , <i>C. crispus</i> and <i>C. nutans</i> , and sometimes also on <i>Cirsium</i> sp.).  |
| Chaetocnema concinna      | Chiefly on Polygonum.   |
| Psylliodes sp.            | Various plants, especially Cruciferae.  |
| Halticinae sp.            | Polyphagous as a group.   |
| Apion carduorum           | On <i>Cirsium</i> (especially <i>C. arvense</i> but also <i>C. oleraceum</i> [non-British]) and <i>Carduus</i> , especially <i>C. acanthoides</i> . Larvae and pupae in stems or leaf mid-ribs. |
| A. ?ebeninum              | On <i>Lotus, Lathyrus vernus</i> [non-British], and perhaps other leguminous plants.  |
| A. craccae                | On leguminous plants, especially <i>Vicia cracca</i> , <i>V. hirsuta</i> and <i>Lathyrus sylvestris</i> .   |
| A. dissimile              | On <i>Trifolium arvense</i> (Morris 1990) and perhaps <i>T. pratense</i> (Hoffmann 1958).   |
| A. nigritarse             | On Trifolium, especially T. procumbens, T. repens and T. fragiferum.  |
| A. (Pirapion) sp.         | On Sarothamnus and Genista.   |
| A. (Eutrichapion) sp.     | Most species on Papilionaceae.  |
| Apion spp.                | Polyphagous as a group.   |
| Otiorhynchus ovatus       | In moss and at roots of various plants.   |
| Phyllobius pomaceus       | On nettles, sometimes also on trees and bushes, especially alder.<br>Larvae feed at roots of <i>Urtica dioica</i> .   |

| P. viridaeris<br>Phyllobius<br>or Polydrusus sp. | Most often on nettles ( <i>Urtica</i> spp.).<br>On trees, bushes and herbaceous plants                |
|--|---|
| ?Barypeithes sp.                                 | Amongst litter, at base of plants.  |
| Sitona humeralis                                 | On Papilionaceae, especially Medicago.  |
| S. ?lineatus                                     | On Papionaceae, especially Trifolium, Pisum and Medicago sativa.                                      |
| Sitona spp.                                      | Adults on leaves of leguminous plants. Larvae live on root nodules of these plants.                   |
| Hypera punctata                                  | On leguminous plants, especially <i>Trifolium</i> and <i>Vicia</i> . In moss, at the roots of plants. |
| Tanysphyrus lemnae                               | On duckweed (Lemna spp.).   |
| Cidnorhinus quadrimaculatus                      | On nettles (Urtica spp.).   |
| Ceutorhynchus contractus                         | On Cruciferae.  |
| C. erysimi                                       | On Cruciferae, especially shepherds purse (Capsella bursa-pastoris).                                  |
| C. litura  | On Carduus crispus, C. nutans and Cirsium arvense.  |
| Ceutorhynchus spp.                               | Wide range of herbaceous hosts.   |
| Ceuthorhynchinae sp.                             | Various herbaceous hosts.   |
| Tychiinae sp.                                    | Found on low-growing plants. Larvae live in pods or heads of their food plant.                        |
| Rhinoncus castor                                 | Mostly on dry soils, on Rumex acetosella.   |
| ?Rhinoncus sp.                                   | On Polygonum and Rumex species.   |
| Gymnetron labile                                 | On Plantago spp.  |
| G. pascuorum                                     | On <i>Plantago</i> spp. Larvae, pupae and adults found in seed capsules of <i>P. lanceolata</i> .     |
| ?Rynchaenus foliorum                             | On birch and oak. Rare.   |

## Appendices

This series of appendices contains sample-by-sample species lists and derived statistics for plant and insect remains from Iron Age and Romano-British deposits at North Cave, N. Humberside. The sections are:

1. Species lists for plant remains and other items recorded during analysis of plant macrofossils (except for samples 343 and 364, where a three-point scale is used, these are scored on a four-point scale of abundance); samples in context, then subsample order.

2. Derived statistics from lists in 1. (following same order); for each sample, the number and percentage of taxa in each of the ecological and use groups listed in Table 3 of the main report, together with the abundance-indicator value (AIV). This is calculated by summing the products of the abundance and indicator scores for all taxa for a given group. Thus if there are three taxa in a group, whose abundance scores are 2, 1, and 3 and whose indicator scores for the group are, respectively, 1, 1, and 2, the AIV is found by  $(2 \times 1) + (1 \times 1) + (3 \times 2) = 9$ .

3. Lists of insects and derived statistics for subsamples counted quantitatively, in context and subsample order; for each subsample:

(a) main statistics for the assemblage of Coleoptera and Hemiptera (the parameters are listed in Table 4 of the main report);

and (b) species list for Coleoptera and Hemiptera in rank order by abundance.

4. Identifications of timbers, including artefacts (N.B. 'Pomoideae' includes Crataegus, Malus, Pyrus and Sorbus).

Appendix 1

Context 13 Sample 6/T Alnus sp(p). 1 Alnus sp(p). (fca) 1 2 Urtica dioica 1 Urtica urens Polygonum persicaria 1 1 Polygonum lapathifolium 1 Rumex sp(p). 1 Rumex acetosella agg. 1 Rumex acetosella agg. (ch) 1 Chenopodium album Atriplex sp(p). 1 Montia fontana ssp. chondrosperma 1 Moehringia trinervia 1 Stellaria media 1 1 Silene alba 1 Ranunculus Section Ranunculus Ranunculus Subgenus Batrachium 1 1 Brassica rapa Raphanus raphanistrum (pod segs/fgts) 1 1 Filipendula ulmaria 1 Rubus fruticosus agg. 1 Hypericum sp(p). Hydrocotyle vulgaris 1 2 Chaerophyllum temulentum 1 Aethusa cynapium 1 cf. Daucus carota 1 Primulaceae Galium aparine 1 1 Labiatae Galeopsis sp(p). 1 1 Lamium Section Lamiopsis 1 Stachys cf. arvensis 1 Prunella vulgaris 1 Solanum nigrum 1 Solanum dulcamara 1 Scrophularia sp(p). 3 Sambucus nigra 1 Carduus/Cirsium sp(p). 1 Sonchus asper 1 cf. Triticum sp(p). 1 cf. Hordeum sp(p). 1 Carex sp(p). 1 slaq 1 charcoal charred rhizome/root fgts 1 fly puparia 1 mammal bone 1 1 moss 4 wood fgts Sample 7/T Context 13 

 Alnus sp(p).
 1

 Alnus sp(p). (fca)
 1

 Alnus sp(p). (mc fgts)
 1

Urtica dioica 2 1 Polygonum lapathifolium Rumex sp(p). 1 Rumex acetosella agg. 1 Chenopodium album 1 Atriplex sp(p). 1 Moehringia trinervia 2 Stellaria sp(p). 1 Stellaria media 1 Cerastium sp(p). 1 Ranunculus Section Ranunculus 1 Ranunculus flammula 1 Filipendula ulmaria 2 Rubus idaeus 1 Rubus fruticosus agg. 1 Hydrocotyle vulgaris 1 Chaerophyllum temulentum 2 Aethusa cynapium 1 Labiatae 1 Galeopsis Subgenus Galeopsis 1 Lamium Section Lamiopsis 1 Stachys cf. arvensis 1 Solanum nigrum 1 Solanum dulcamara 2 Sambucus nigra 3 Carduus/Cirsium sp(p). 1 Sonchus asper 1 Lapsana communis 1 Cerealia indet. 1 Triticum sp(p). 1 Triticum spelta (glb) 1 Eleocharis palustris sl 1 Carex sp(p). 1 Drepanocladus sp(p). 1 Scorpidium scorpioides 1 Daphnia (ephippia) 1 charcoal 1 dicot lf fgts 2 earthworm egg caps 1 fine plant detritus 3 fly puparia 1 moss 2 twig fgts 3 Context 13 Sample 8/T \_\_\_\_\_ Populus sp(p). (b/bs) 1 Alnus sp(p). (fca) 1 Alnus sp(p). (mc fgts) 1 Alnus sp(p). (b/bs) 1 2 Urtica dioica Polygonum persicaria 1 Polygonum lapathifolium 1 Bilderdykia convolvulus 1 Rumex sp(p). 1 Rumex acetosella agg. 1 Chenopodium album 1 Moehringia trinervia 1 Stellaria media 1 Stellaria graminea 1

| Ranunculus Section Ranunculus<br>Ranunculus flammula<br>Cruciferae<br>Raphanus raphanistrum (pod segs/fgts)<br>Rubus fruticosus agg.<br>Vicia sp(p). (non faba)<br>Viola sp(p).<br>Hydrocotyle vulgaris<br>Chaerophyllum temulentum<br>Oenanthe lachenalii<br>Aethusa cynapium<br>Conium maculatum<br>Anagallis arvensis<br>Galium aparine (ch)<br>Labiatae<br>Lamium Section Lamiopsis<br>Stachys cf. arvensis<br>Prunella vulgaris<br>Hyoscyamus niger<br>Solanum nigrum<br>Plantago sp(p). (caps)<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Sonchus asper<br>Lapsana communis<br>Juncus bufonius<br>Gramineae<br>Cerealia indet.<br>Eleocharis palustris sl<br>Carex sp(p). | 111111121111111111131111111311        |
|---|---------------------------------------|
| dicot lf fgts<br>earthworm egg caps   | 2<br>1<br>1                           |
| mammal bone   | 1                                     |
| moss  | 2                                     |
| snails<br>twig fats   | 1                                     |
| CWIG IGES   | 2                                     |
| Context 13 Sample 14/T  |                                       |
| <pre>Salix sp(p). (b) Populus sp(p). (b/bs) Alnus sp(p). Alnus sp(p). (mc fgts) Urtica dioica Polygonum aviculare agg. Polygonum persicaria Rumex sp(p). Rumex acetosella agg. Chenopodium album Moehringia trinervia Stellaria media Cerastium sp(p). Silene alba Ranunculus flammula Brassica rapa Raphanus raphanistrum (pod segs/fgts)</pre>  | 1111311111111111111111111111111111111 |

| Filipendula ulmaria<br>Potentilla palustris<br>Hydrocotyle vulgaris<br>Chaerophyllum temulentum<br>Aethusa cynapium<br>Anagallis arvensis<br>Labiatae<br>Lamium Section Lamiopsis<br>Stachys cf. arvensis<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Leontodon sp(p).<br>Leontodon sp(p).<br>Lapsana communis<br>Gramineae<br>Cerealia indet.<br>Bromus sp(p).<br>Triticum sp(p).<br>cf. Scirpus lacustris sl<br>Eleocharis palustris sl<br>Carex sp(p).<br>Drepanocladus sp(p).<br>Scorpidium scorpioides<br>charcoal<br>mammal bone<br>moss<br>snails<br>wood fgts |        | 1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                     |
|--|--------|--|
| Context 13   | Sample | 30/T*  |
| Urtica dioica<br>Rumex sp(p).<br>Chenopodium album<br>Moehringia trinervia<br>Stellaria sp(p).<br>Ranunculus Section Ranunculus<br>Filipendula ulmaria<br>Rubus fruticosus agg.<br>Chaerophyllum temulentum<br>Aethusa cynapium<br>Galeopsis Subgenus Galeopsis<br>Lamium Section Lamiopsis<br>Stachys cf. arvensis<br>Solanum nigrum<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Juncus bufonius<br>chalk gravel<br>dicot lf fgts<br>flint<br>twig fgts  |        | 2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
| Context 14   | Sample | 22/1+  |
| Salix sp(p). (fr)  |        | 2  |

cf. Salix sp(p). (tef) Salix sp(p). (lf fgts) Salix sp(p). (b) Alnus sp(p). Urtica dioica Urtica urens Polygonum persicaria Polygonum lapathifolium Rumex sp(p). Chenopodium Section Pseudoblitum Arenaria serpyllifolia Stellaria media Cerastium sp(p). Ranunculus sp(p). Ranunculus Section Ranunculus Ranunculus Subgenus Batrachium Papaver argemone Fumaria sp(p). Rubus sp(p). (prickles) Rubus fruticosus agg. Hypericum sp(p). Chaerophyllum temulentum Torilis japonica Labiatae Stachys cf. sylvatica Solanum nigrum Scrophularia sp(p). Plantago major Sambucus nigra Bidens sp(p). Carduus/Cirsium sp(p). Sonchus asper Juncus bufonius Gramineae cf. Glyceria sp(p). Bromus sp(p). (w/l) Scorpidium scorpioides Daphnia (ephippia) Heterodera (cysts) bees beetles chalk gravel charcoal dicot lf fgts earthworm egg caps flint fly puparia leaf ab pads ostracods sand snails twig fgts wood fgts Context 14 Sample 29/T 

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1 Urtica dioica 1 Stellaria media 1 Filipendula ulmaria 1 Chaerophyllum temulentum

| Lamium Section Lamiopsis<br>Scrophularia sp(p).<br>Sambucus nigra<br>Drepanocladus sp(p).<br>Scorpidium scorpioides   |          |      | 1<br>1<br>1<br>2   |
|---|----------|------|--|
| chalk gravel<br>dicot lf fgts<br>flint<br>sand<br>twig fgts   |          |      | 1<br>2<br>1<br>1<br>1  |
| Context 14  | Sample   | 32/T |  |
| Urtica dioica<br>Polygonum persicaria<br>Chenopodium Section Pseudobli<br>Arenaria serpyllifolia<br>Moehringia trinervia<br>Stellaria sp(p).<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Papaver argemone<br>Torilis japonica<br>Solanum nigrum<br>Scrophularia sp(p).<br>Rhinanthus sp(p).<br>Plantago major<br>Carduus/Cirsium sp(p).<br>Sonchus asper<br>Alisma sp(p).<br>Juncus bufonius<br>Gramineae<br>Daphnia (ephippia)<br>chalk gravel | tum<br>m |      | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1      |
| dicot lf fgts<br>flint<br>sand  |          |      | 3<br>1<br>1  |
| Context 14  | Sample   | 33/T |  |
| Salix sp(p). (b)<br>Populus sp(p). (b/bs)<br>Urtica dioica<br>Polygonum persicaria<br>Rumex sp(p).<br>Rumex acetosella agg.<br>Chenopodium Section Pseudobli<br>Arenaria serpyllifolia<br>Cerastium sp(p).<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Papaver argemone<br>Hypericum sp(p).<br>Plantago major<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Juncus bufonius  | tum<br>m |      | 1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |

| Gramineae   |        | 2   | 1                               |
|---|--------|---|---------------------------------|
| Heterodera (cysts)<br>chalk gravel<br>charcoal<br>dicot lf fgts<br>flint<br>pottery<br>sand<br>twig fgts<br>wood fgts   |        |   | 1<br>2<br>1<br>2<br>1<br>1<br>1 |
| Context 17  | Sample | 1/T                                       | -                               |
| cf. Secale cereale  |        | 1   | L                               |
| ?slag<br>charcoal<br>fly puparia<br>leather fgts<br>pottery<br>worked wood fgts   |        | 2<br>1<br>1<br>1<br>1<br>1<br>1           | 2<br>L<br>L<br>L                |
| Context 17  | Sample | 2/T                                       | -                               |
| ?daub<br>?slag<br>charcoal<br>mammal bone<br>pottery  |        | 1<br>2<br>1<br>1<br>1                     |                                 |
| Context 17  | Sample | 3/T                                       | _                               |
| ?slag<br>charcoal   |        | 4<br>1                                    | 1                               |
| Context 17  | Sample | 4/T                                       | -                               |
| Urtica dioica<br>Chenopodium album<br>Papaver argemone<br>Viola sp(p).<br>Stachys sp(p).<br>Sambucus nigra<br>Cerealia indet.<br>?slag<br>charcoal<br>mammal bone |        | 1<br>1<br>1<br>1<br>2<br>1<br>1<br>2<br>1 |                                 |
| Context 17  | Sample | 5/T                                       |                                 |
|   |        |   | -                               |

Urtica dioica

| Ranunculus Section Ranunculus<br>Papaver cf. dubium<br>Papaver argemone<br>Leguminosae (ch cot)<br>Viola sp(p).<br>Aethusa cynapium<br>Lamium Section Lamiopsis<br>Stachys cf. arvensis<br>Scrophularia sp(p).<br>Plantago major<br>Sambucus nigra<br>Juncus bufonius<br>cf. Triticum sp(p).<br>Carex sp(p).  |           |      | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
|---|-----------|------|--|
| ?slag<br>charcoal<br>mammal bone<br>snails  |           |      | 1<br>2<br>1<br>1   |
| Context 17  | Sample    | 79/T |  |
| Gramineae (ch)<br>Cerealia indet.   |           |      | 1<br>1   |
| charcoal<br>mammal bone<br>slag   |           |      | 2<br>1<br>3  |
| Context 19  | Sample    | 9/T  |  |
| Alnus sp(p). (fca)<br>Alnus sp(p). (mc fgts)<br>Alnus sp(p). (b/bs)<br>Urtica dioica<br>Polygonum aviculare agg.<br>Polygonum persicaria<br>Polygonum lapathifolium<br>Rumex sp(p).<br>Chenopodium ficifolium<br>Chenopodium album<br>Atriplex sp(p).<br>Montia fontana ssp. chondrosp<br>Moehringia trinervia<br>Stellaria media<br>Stellaria graminea<br>Silene alba<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Fumaria sp(p).<br>Capsella bursa-pastoris<br>Brassica rapa<br>Rubus idaeus<br>Rubus/Rosa sp(p). (prickles)<br>Vicia sp(p).<br>Hydrocotyle vulgaris<br>Chaerophyllum temulentum | erma<br>m |      | 111311131112211111111111111111111111111                                      |

| Conium maculatum<br>Heracleum sphondylium<br>Anagallis arvensis<br>Labiatae<br>Galeopsis Subgenus Galeopsis<br>Lamium Section Lamiopsis<br>Stachys cf. arvensis<br>Solanum nigrum<br>Sambucus nigra<br>Matricaria perforata<br>Sonchus asper<br>Taraxacum sp(p).<br>Lapsana communis<br>Baldellia ranunculoides<br>Hordeum sp(p).<br>Eleocharis palustris sl<br>Drepanocladus sp(p).<br>Scorpidium scorpioides  |        |      | 1111111111111122                        |
|---|--------|------|---|
| charcoal<br>dicot lf fats   |        |      | 3                                       |
| earthworm egg caps  |        |      | 1                                       |
| fine plant detritus   |        |      | 3                                       |
| moss  |        |      | 2                                       |
| snails<br>wood fats   |        |      | 1                                       |
| wood iges   |        |      | 5                                       |
| Context 19  | Sample | 10/T |   |
| Urtica dioica<br>Urtica urens<br>Polygonum aviculare agg.<br>Polygonum hydropiper<br>Polygonum persicaria<br>Bilderdykia convolvulus<br>Rumex sp(p).<br>Rumex acetosella agg.<br>Chenopodium album<br>Atriplex sp(p).<br>Moehringia trinervia<br>Stellaria media<br>Stellaria graminea<br>Silene alba<br>Ranunculus flammula<br>Ranunculus Subgenus Batrachium<br>Papaver argemone<br>Descurainia sophia<br>Rubus fruticosus agg.<br>Viola sp(p).<br>Hydrocotyle vulgaris<br>Chaerophyllum temulentum<br>Coriandrum sativum<br>Aethusa cynapium<br>Anagallis arvensis<br>Labiatae<br>Lamium Section Lamiopsis |        |      | 311111112111111111111111111111111111111 |

| Juncus bufonius<br>Hordeum sp(p).<br>Eleocharis palustris sl<br>Drepanocladus sp(p).<br>Scorpidium scorpioides<br>Daphnia (ephippia)<br>Heterodera (cysts)<br>burnt mammal bone<br>charcoal<br>eggshell membrane fgts<br>fly puparia<br>mites<br>twig fgts<br>wood fgts  |               |       | 1<br>1<br>2<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>2 |
|--|---------------|-------|---|
| Context 19   | Sample        | 11/T  |   |
| Urtica dioica<br>Stellaria media<br>Papaver argemone<br>Labiatae<br>Stachys cf. arvensis<br>Sambucus nigra<br>Eleocharis palustris sl  |               |       | 1<br>1<br>1<br>1<br>1   |
| Context 19   | Sample        | 12/T  |   |
| Urtica dioica<br>Sambucus nigra  |               |       | 1<br>1  |
| Daphnia (ephippia)<br>charcoal<br>fine plant detritus<br>slag<br>stem fgts<br>wood fgts  |               |       | 1<br>1<br>1<br>1<br>1   |
| Context 19   | Sample        | 25/1+ | <b></b>   |
| Salix sp(p). (b)<br>Alnus sp(p).<br>Alnus sp(p). (b/bs)<br>Urtica dioica<br>Urtica urens<br>Polygonum aviculare agg.<br>Polygonum persicaria<br>Polygonum lapathifolium<br>Bilderdykia convolvulus<br>Rumex sp(p).<br>Rumex acetosella agg.<br>Chenopodium Section Pseudobl<br>Chenopodium album<br>Atriplex sp(p).<br>Montia fontana ssp. chondros<br>Moehringia trinervia<br>Stellaria media | itum<br>perma |       | 111211111121122   |

Stellaria graminea Spergula arvensis Silene vulgaris Ranunculus Section Ranunculus Ranunculus Subgenus Batrachium Papaver dubium Papaver argemone Brassica rapa Raphanus raphanistrum (s) Raphanus raphanistrum (pod segs/fgts) Rubus idaeus Rubus fruticosus agg. Hypericum sp(p). Viola sp(p). Viola sp(p). (caps segs) Epilobium sp(p). Hydrocotyle vulgaris Chaerophyllum temulentum Aethusa cynapium Conium maculatum Heracleum sphondylium Erica tetralix (lvs) Calluna vulgaris (ch sht fgts) Calluna vulgaris (ch rt-tw fgts) Anagallis arvensis Labiatae Lamium Section Lamiopsis Stachys cf. arvensis Prunella vulgaris Hyoscyamus niger Solanum nigrum Plantago major Sambucus nigra Sambucus nigra (tw fgts) Carduus/Cirsium sp(p). Sonchus asper Lapsana communis Juncus sp(p). Juncus bufonius Gramineae cf. Cerealia indet. (ch c/n) cf. Glyceria sp(p). Hordeum sp(p). (rachis internodes) Scirpus setaceus Eleocharis palustris sl Carex sp(p). Scorpidium scorpioides Daphnia (ephippia) Heterodera (cysts) amphibian bone beetles charcoal coal dicot lf fgts fly puparia moss snails twig fgts twig fgts (ch) wood fgts

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Filicales (pinn fgts) Salix sp(p). (lf fgts) Salix sp(p). (b) Alnus sp(p). Alnus sp(p). (mc fgts) Alnus sp(p). (tw fgts) Alnus sp(p). (b/bs) Quercus sp(p). (b/bs) Urtica dioica Urtica urens Polygonum persicaria Polygonum persicaria (ch) Bilderdykia convolvulus Rumex sp(p). Rumex acetosella agg. Chenopodium Section Pseudoblitum Chenopodium album Atriplex sp(p). Montia fontana ssp. chondrosperma Arenaria serpyllifolia Stellaria media Stellaria graminea Cerastium sp(p). Ranunculus Section Ranunculus Ranunculus Subgenus Batrachium Papaver dubium Papaver argemone Capsella bursa-pastoris Brassica rapa Rubus fruticosus agg. Rubus/Rosa sp(p). (prickles) Potentilla sp(p). Hypericum sp(p). Epilobium sp(p). Umbelliferae Hydrocotyle vulgaris Chaerophyllum temulentum Torilis japonica Calluna vulgaris (fls) Calluna vulgaris (sht fgts) Calluna vulgaris (ch sht fgts) Calluna vulgaris (ch rt-tw fgts) Labiatae Prunella vulgaris Mentha sp(p). Hyoscyamus niger Solanum nigrum Scrophularia sp(p). Plantago major Sambucus nigra Bidens sp(p). Carduus/Cirsium sp(p). Sonchus asper Juncus bufonius Gramineae cf. Glyceria sp(p). Bromus sp(p). (w/1)Sparganium sp(p). Typha sp(p). Cladium mariscus

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| Carex sp(p).<br>Sphagnum sp(p). (lvs/shts)<br>Hypnum cupressiforme   |        | 1<br>1<br>1   |
|--|--------|---|
| Cenococcum (sclerotia)<br>Daphnia (ephippia)<br>Heterodera (cysts)<br>amphibian bone<br>bark fgts<br>beetles<br>bivalves (freshwater)<br>chalk gravel<br>charcoal<br>dicot lf fgts<br>earthworm egg caps<br>fly puparia<br>ostracods<br>sand<br>snails<br>twig fgts<br>wood fgts   |        | 1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>3<br>2<br>2<br>1 |
| Context 19   | Sample | 29/T  |
| Anagallis arvensis   |        | 1   |
| Context 19   | Sample | 81/T  |
| Alnus sp(p).<br>Urtica dioica<br>Rumex sp(p).<br>Chenopodium album<br>Moehringia trinervia<br>Stellaria media<br>Silene alba<br>Ranunculus Section Ranunculus<br>Ranunculus flammula<br>Filipendula ulmaria<br>Rubus fruticosus agg.<br>Potentilla palustris<br>Hydrocotyle vulgaris<br>Chaerophyllum temulentum<br>Aethusa cynapium<br>Heracleum sphondylium<br>Anagallis arvensis<br>Galium aparine<br>Labiatae<br>cf. Marrubium vulgare<br>Solanum dulcamara<br>Sambucus nigra<br>Compositae (inv fgts)<br>Carduus/Cirsium sp(p).<br>Lapsana communis<br>Carex sp(p).<br>Drepanocladus sp(p).<br>Scorpidium scorpioides<br>Eurhynchium cf. praelongum |        | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                |

twig fgts 1 3 wood chips wood fgts 1 Context 40 Sample 38/T charcoal 2 fine charcoal 1 mammal bone 1 slag 4 wood fgts 1 Context 47 Sample 39/T Alnus sp(p). 1 Alnus sp(p). (b/bs) 1 Urtica dioica 3 Polygonum persicaria 1 Polygonum lapathifolium 1 Chenopodium Section Pseudoblitum 1 Chenopodium ficifolium 1 Chenopodium album 1 Stellaria media 2 Spergula arvensis 1 Silene vulgaris 1 Papaver argemone 2 Rubus idaeus 1 Potentilla cf. reptans 1 Aphanes microcarpa 1 Hydrocotyle vulgaris 1 Chaerophyllum temulentum 1 Calluna vulgaris (sht fgts) 1 Anagallis arvensis 1 Galium sp(p). 1 Galeopsis Subgenus Galeopsis 1 Lamium Section Lamiopsis 1 Stachys cf. arvensis 1 Hyoscyamus niger 1 Solanum nigrum 1 Sambucus nigra 1 Arctium sp(p). 1 Carduus/Cirsium sp(p). 1 Lapsana communis 1 Juncus bufonius 2 Gramineae 1 Scirpus setaceus 1 Cladium mariscus 1 Carex sp(p). 1 Sphagnum sp(p). (lvs) 2 1 Cenococcum (sclerotia) 2 Daphnia (ephippia) chalk gravel 1 charcoal 1 flint 1 leaf ab pads 1 moss 1 root/rootlet fgts 2 sand 2

twig fgts 1 wood fgts 1 Context 51 Sample 42/T Urtica dioica 2 Polygonum aviculare agg. 1 Polygonum persicaria 1 Rumex sp(p). 1 Chenopodium album 1 Atriplex sp(p). 1 Montia fontana ssp. chondrosperma 1 Arenaria serpyllifolia 1 Stellaria media 2 Spergula arvensis 1 Ranunculus Subgenus Batrachium 1 Papaver argemone 1 Rubus fruticosus agg. 1 Viola sp(p). 1 Lamium Section Lamiopsis 1 Hyoscyamus niger 1 Juncus bufonius 1 Gramineae 1 Eleocharis palustris sl 1 earthworm egg caps 1 fly puparia 1 Sample 43/T Context 51 Polygonum aviculare agg. 1 Polygonum hydropiper 1 Atriplex sp(p). 1 Montia fontana ssp. chondrosperma 1 Stellaria media 1 Papaver argemone 1 Thlaspi arvense 1 Viola sp(p). 1 Hyoscyamus niger 1 Juncus bufonius 1 fine plant detritus 1 Context 55 Sample 46/T \_\_\_\_\_ Juncus gerardi 1 Context 56 Sample 51/T \_\_\_\_\_ Polygonum aviculare agg. 1 Rumex acetosella agg. 1 Chenopodium album 1 Arenaria serpyllifolia 1

Stellaria media

Cerastium sp(p).

1

| Capsella bursa-pastoris<br>Brassica rapa<br>Juncus gerardi<br>Juncus bufonius<br>Gramineae<br>Eleocharis palustris sl<br>Daphnia (ephippia)   |        |      | 1<br>1<br>2<br>1<br>1  |
|---|--------|------|--|
| earthworm egg caps<br>Context 57  | Sample | 53/т | 1  |
| Urtica dioica<br>Polygonum lapathifolium<br>Chenopodium album<br>Stellaria media<br>Juncus bufonius<br>fine plant detritus  |        |      | 1<br>1<br>1<br>1<br>1  |
| Context 57  | Sample | 55/T |  |
| Urtica dioica<br>Polygonum aviculare agg.<br>Chenopodium album<br>Montia fontana ssp. chondrospe<br>Juncus gerardi  | rma    |      | 1<br>1<br>1<br>1   |
| fine charcoal<br>fine plant detritus  |        |      | 1<br>1   |
| Context 69  | Sample | 57/T |  |
| Rumex sp(p).<br>Chenopodium album<br>Atriplex sp(p).<br>Montia fontana ssp. chondrospe<br>Stellaria media<br>Capsella bursa-pastoris<br>Potentilla cf. reptans<br>Lamium Section Lamiopsis<br>Hyoscyamus niger<br>Juncus gerardi<br>Juncus bufonius<br>Gramineae<br>Carex sp(p).<br>Leucobryum glaucum<br>fly puparia | rma    |      | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
| Context 69  | Sample | 97/T |  |
| fine charcoal   |        |      | 1  |

Sample 59/T Context 100 \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ 1 Pteridium aquilinum (pinn fgts) 1 Urtica urens 1 Polygonum aviculare agg. 1 Polygonum persicaria 2 Polygonum lapathifolium 2 Bilderdykia convolvulus 1 Rumex sp(p). 3 Chenopodium album 1 Atriplex sp(p). 2 Stellaria media 2 Spergula arvensis 1 Ranunculus Section Ranunculus 2 Ranunculus Subgenus Batrachium 1 Thlaspi arvense 1 Brassica rapa Raphanus raphanistrum (pod segs/fgts) 2 1 Filipendula ulmaria 1 Potentilla anserina Potentilla cf. erecta 1 Potentilla cf. reptans 1 1 Leguminosae (fls/pet) 1 Viola sp(p). 1 Anthriscus caucalis Calluna vulgaris (caps) 1 Calluna vulgaris (fls) 1 Calluna vulgaris (rt-tw fgts) 1 Galeopsis Subgenus Galeopsis 1 Carduus/Cirsium sp(p). 1 2 Sonchus asper 1 Sonchus oleraceus 1 Lapsana communis 1 Juncus bufonius 1 Polytrichum sp(p). 1 Leucobryum glaucum Scorpidium scorpioides 1 2 Hylocomium splendens 3 Daphnia (ephippia) 1 Heterodera (cysts) 2 beetles 1 caddis larva cases 1 chalk gravel 1 charcoal 1 dicot lf fgts 1 earthworm egg caps 1 flint 1 fly puparia 2 ostracods 2 sand 1 snails 1 twig fgts 1 wood fgts Context 100 Sample 60/T 1 Pteridium aquilinum (pinn fgts)

Urtica dioica

Polygonum aviculare agg.

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| Polygonum persicaria<br>Polygonum lapathifolium<br>Bilderdykia convolvulus<br>Rumex sp(p).<br>Chenopodium album<br>Atriplex sp(p).<br>Stellaria media<br>Spergula arvensis<br>Silene alba<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Cruciferae<br>Capsella bursa-pastoris<br>Thlaspi arvense<br>Brassica rapa<br>Potentilla anserina<br>Viola sp(p).<br>Anthriscus caucalis<br>cf. Calluna vulgaris (ch rt-tw<br>Galeopsis Subgenus Galeopsis<br>Sonchus asper<br>Juncus bufonius<br>cf. Scirpus lacustris sl<br>Hylocomium splendens | r fgts) |      | 2111312111211111111311                                   |
|---|---------|------|--|
| Daphnia (ephippia)<br>beetles<br>caddis larva cases<br>chalk gravel<br>charcoal<br>earthworm egg caps<br>fly puparia<br>pottery<br>sand<br>twig fgts<br>wood fgts   |         |      | 1<br>2<br>1<br>3<br>1<br>1<br>1<br>3<br>1<br>1<br>1<br>3 |
| Context 100   | Sample  | 61/T |  |

| Pteridium aquilinum (pinn fgts)       |
|---------------------------------------|
| Urtica urens                          |
| Polygonum aviculare agg.              |
| Polygonum persicaria                  |
| Polygonum lapathifolium               |
| Bilderdykia convolvulus               |
| Rumex sp(p).                          |
| Chenopodium album                     |
| Atriplex sp(p).                       |
| Stellaria media                       |
| Spergula arvensis                     |
| Ranunculus Section Ranunculus         |
| Ranunculus Subgenus Batrachium        |
| Thlaspi arvense                       |
| Brassica rapa                         |
| Raphanus raphanistrum (pod segs/fgts) |
| Filipendula ulmaria                   |
| Potentilla anserina                   |
| Anthriscus caucalis                   |
| cf. Apium nodiflorum                  |
| Calluna vulgaris (fls)                |
| Calluna vulgaris (rt-tw fgts)         |

Sonchus asper 1 Lapsana communis 1 Triglochin maritima 1 Juncus bufonius 3 Gramineae 1 cf. Bromus sp(p). 1 Alopecurus sp(p). 1 Scirpus lacustris sl 1 Scirpus setaceus 1 Dicranum sp(p). 1 Leucobryum glaucum 2 Hylocomium splendens 1 Daphnia (ephippia) 3 bark fgts 1 beetles 2 caddis larva cases 1 chalk 1 charcoal 1 earthworm egg caps 1 flint 1 fly puparia 1 oolitic limestone 1 ostracods 2 sand 2 snails 1 twig fgts 1 wood fgts 1 Context 102 Sample 62/T Urtica dioica 1 Polygonum persicaria 1 Ranunculus Section Ranunculus 1 Ranunculus Subgenus Batrachium 1 Epilobium sp(p). 1 Hyoscyamus niger 1 Juncus bufonius 1 Gramineae 1 earthworm egg caps 1 Context 102 Sample 63/T Urtica dioica 1 Urtica urens 1 Polygonum aviculare agg. 1 Polygonum persicaria 1 Chenopodium album 1 Montia fontana ssp. chondrosperma 1 Stellaria media 1 Ranunculus Subgenus Batrachium 1 Capsella bursa-pastoris 1 Galeopsis Subgenus Galeopsis 1 Zannichellia palustris 1 Juncus cf. inflexus/effusus/conglomeratus 1 Juncus bufonius 2 Alopecurus sp(p). 1

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| +        | 1 1 | * * | <b>11</b> | 177 | - | r  | 2 | - 23 |
| <u>ب</u> | 7.7 | /   | νι        | ມນ  | a | Τ. | ᆂ | ca   |
|          | _   |     |           | •   |   |    |   |      |

| Context 154   | Sample | 65/T   |   |
|---|--------|--------|---|
| Urtica dioica<br>Urtica urens<br>Rumex acetosella agg.<br>Ranunculus Section Ranunculus<br>Potentilla cf. reptans<br>Anthriscus caucalis<br>Hyoscyamus niger<br>Solanum nigrum<br>Campanula cf. rotundifolia<br>Juncus gerardi<br>Juncus bufonius<br>Carex sp(p). |        |        | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>1 |
| Daphnia (ephippia)<br>earthworm egg caps<br>fly puparia   |        |        | 1<br>1<br>1   |
| Context 154   | Sample | 66/T   |   |
| Urtica dioica<br>Urtica urens<br>Polygonum aviculare agg.<br>Stellaria media<br>Papaver argemone<br>Brassica rapa<br>Juncus gerardi<br>Juncus bufonius<br>Gramineae<br>Alopecurus sp(p).<br>Carex sp(p).<br>fly puparia   |        |        | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1      |
| Context 289   | Sample | 88/T   |   |
| cf. Carex sp(p).<br>burnt mammal bone<br>charcoal<br>fine plant detritus<br>mammal bone<br>slag   |        |        | 1<br>3<br>1<br>1<br>1   |
| Context 311   | Sample | 311/TH | ⊦<br>   |
| Pteridium aquilinum (pinn fgts<br>Salix sp(p). (b)<br>Quercus sp(p). (b/bs)<br>Urtica dioica<br>Urtica urens<br>Polygonum aviculare agg.  | )      |        | 1<br>1<br>3<br>1<br>1   |

Polygonum hydropiper Polygonum lapathifolium Bilderdykia convolvulus Rumex sp(p). Rumex acetosella agg. Chenopodium album Atriplex sp(p). Montia fontana ssp. chondrosperma Stellaria media Stellaria graminea Spergula arvensis Agrostemma githago Ranunculus Section Ranunculus Raphanus raphanistrum (pod segs/fgts) Rubus idaeus Rubus fruticosus agg. Rubus caesius Rubus/Rosa sp(p). (prickles) Rosa sp(p). (prickles) Potentilla cf. erecta Pomoideae (twigs) Crataegus monogyna Prunus spinosa Prunus spinosa (thorns) Viola sp(p). Anthriscus caucalis Conium maculatum Daucus carota Calluna vulgaris (sht fgts) Calluna vulgaris (ch rt-tw fgts) Anagallis arvensis Fraxinus excelsior (testa fgts) Fraxinus excelsior (fr fgts) cf. Callitriche sp(p). Lamium Section Lamiopsis Stachys cf. sylvatica Stachys cf. arvensis cf. Satureja hortensis Lycopus europaeus Hyoscyamus niger Solanum nigrum Solanum dulcamara Sambucus nigra Carduus/Cirsium sp(p). Lapsana communis Juncus bufonius Bromus sp(p). Triticum cf. spelta (glb) cf. Hordeum sp(p). Scirpus setaceus Eleocharis palustris sl Cladium mariscus Carex sp(p). Sphagnum sp(p). (lvs) Racomitrium sp(p). Hypnum cupressiforme Daphnia (ephippia) amphibian bone bark fgts beetles chalk charcoal

61 ŝ

| dicot lf fgts<br>earthworm egg caps<br>fly puparia<br>leaf ab pads<br>mammal bone<br>moss<br>sand<br>twig fgts<br>wood fgts   | 1<br>1<br>1<br>1<br>2<br>2<br>1  |
|---|--|
| Context 320 Sample 320/2  | F  |
| cf. Calluna vulgaris (ch rt-tw fgts)<br>Sambucus nigra  | 1<br>3   |
| charcoal  | 1  |
| Context 323 Sample 3231/5   | ſ<br>  |
| Populus sp(p). (b/bs)<br>Urtica dioica<br>Urtica urens<br>Polygonum aviculare agg.<br>Polygonum persicaria<br>Rumex sp(p).<br>Rumex acetosella agg.<br>Chenopodium Section Pseudoblitum<br>Chenopodium album<br>Atriplex sp(p).<br>Stellaria media<br>Ranunculus Section Ranunculus<br>Papaver argemone<br>Rorippa islandica<br>Brassica rapa<br>Rubus idaeus<br>Rubus idaeus<br>Rubus fruticosus agg.<br>Rosa sp(p). (prickles)<br>Potentilla sp(p).<br>Malva sylvestris<br>Hydrocotyle vulgaris<br>Anthriscus caucalis<br>Conium maculatum<br>Menyanthes trifoliata<br>Stachys cf. arvensis<br>Prunella vulgaris<br>Solanum nigrum<br>Veronica beccabunga-type<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Sonchus asper<br>Juncus bufonius<br>Gramineae<br>Drepanocladus sp(p).<br>Scorpidium scorpioides | 1<br>3<br>1<br>1<br>2<br>2<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
| Daphnia (ephippia)<br>chalk gravel<br>flint   | 2<br>3<br>1  |

62 (\$ leaf ab pads
mammal bone
pottery
root/rootlet fgts
sand
wood fgts

## Context 323 Sample 3232/T

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Urtica dioica Polygonum aviculare agg. Polygonum hydropiper Polygonum persicaria Rumex sp(p). Rumex acetosella agg. Chenopodium ficifolium Chenopodium album Stellaria media Ranunculus Section Ranunculus Thalictrum flavum Rorippa islandica Brassica rapa Rubus fruticosus agg. Rosa sp(p). (prickles) Potentilla cf. erecta Crataegus sp(p). (thorns) Prunus spinosa (thorns) Linum usitatissimum (caps fgts) Conium maculatum Pastinaca sativa Torilis japonica Calluna vulgaris (fls) Calluna vulgaris (sht fgts) Calluna vulgaris (rt-tw fgts) Labiatae Galeopsis Subgenus Galeopsis Solanum nigrum Sambucus nigra Carduus/Cirsium sp(p). Juncus bufonius Cerealia indet. cf. Hordeum sp(p). Scirpus setaceus Eleocharis palustris sl Cladium mariscus Carex sp(p). Scorpidium scorpioides Cenococcum (sclerotia) beetles charcoal dicot lf fgts earthworm egg caps flint fly puparia monocot stem fgts sand twig fgts wood fgts

| Context  | 335  |  | Sample       | 89/T  |   |
|--|--|--|--------------|-------|---|
| Sclerant   | hus annu   | us   |              |       | 1                                       |
| charcoal<br>daub<br>slag   |  |  |              |       | 2<br>3<br>1                             |
| Context  | 335  |  | Sample       | 90/T  |   |
| Sclerant<br>Cerealia<br>Scirpus  | hus annu<br>indet.<br>setaceus   | ນຣ   |              |       | 1<br>1<br>1                             |
| Context  | 337  |  | Sample       | 91/T  |   |
| Alnus sp<br>Urtica d.<br>Polygonur<br>Rumex sp<br>Chenopod:<br>Atriplex<br>Moehring:<br>Stellaria<br>Stellaria<br>Agrostemm<br>Ranunculu<br>Rubus fru<br>Viola sp<br>Chaerophy<br>Anthriscu<br>Aethusa o<br>Anagallis<br>Labiatae<br>Lamium Se<br>Hyoscyamu<br>Solanum r<br>Sambucus<br>Lapsana o<br>Juncus bu<br>Gramineae<br>Carex sp<br>Scorpidiu | <pre>(p). (b/<br/>ioica<br/>m persic<br/>(p).<br/>ium Sect<br/>sp(p).<br/>ia trine<br/>a media<br/>a gramin<br/>na githa<br/>us Subge<br/>uticosus<br/>(p).<br/>yllum ten<br/>s arvens<br/>ection La<br/>us niger<br/>nigrum<br/>nigra<br/>communis<br/>ufonius<br/>a<br/>(p).<br/>um scorp:<br/>(ephippia<br/>ca (cust)</pre> | bs)<br>aria<br>ion Pseudob:<br>rvia<br>ea<br>go<br>nus Batrach:<br>agg.<br>mulentum<br>lis<br>is<br>amiopsis<br>ioides<br>a) | Litum<br>Lum |       | 121112111111111111111111111111111111111 |
| Heteroden<br>dicot lf<br>earthworn<br>fly pupan  | ca (cyst:<br>fgts<br>n egg cap<br>ria  | s)<br>os   |              |       | 1<br>1<br>1<br>1                        |
| Context  | 337  |  | Sample       | 337/T |   |
| cf. Salix<br>Salix spe<br>Corylus a<br>Corylus a   | ( sp(p).<br>(p). (b)<br>avellana<br>avellana   | (lf fgts)<br>(mc fgts)<br>(b/bs)   |              |       | 1<br>1<br>1<br>2                        |

64 Et

| Urtica urens<br>Polygonum lapathifolium<br>Chenopodium album<br>Stellaria media<br>Stellaria cf. neglecta<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Chaerophyllum temulentum<br>Erica tetralix (lvs)<br>Anagallis arvensis<br>Labiatae<br>Prunella vulgaris<br>Hyoscyamus niger<br>Sambucus nigra<br>Juncus sp(p).<br>Gramineae<br>Cerealia indet.<br>Carex sp(p).<br>cf. Drepanocladus sp(p).<br>Hypnum cupressiforme<br>cf. Rhytidiadelphus sp(p). | 3<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
|--|--|
| Daphnia (ephippia)<br>Heterodera (cysts)<br>beetles<br>chalk gravel<br>charcoal<br>dicot lf fgts<br>dicot stem fgts<br>earthworm egg caps<br>fly puparia<br>leaf ab pads<br>twig fgts<br>wood fgts   | 2<br>1<br>2<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>2  |
| Context 343 Sample 92/T  |  |
| fine plant detritus  | 1  |
| Context 343 Sample 343/B   |  |
| Cerealia indet.<br>Triticum sp(p). (glb)<br>Triticum spelta (glb)<br>burnt clay<br>charcoal  | 1<br>1<br>1<br>3<br>1  |
| Context 344 Sample 93/T  |  |
| Heterodera (cysts)<br>charcoal<br>fine charcoal<br>mortar/plaster<br>slag  | 1<br>3<br>1<br>2<br>4  |

65 G snails

| Context   | 364   | Sample | 364/B  |
|---|---|--------|--|
| Bilderdy<br>Cerealia<br>Cerealia<br>Bromus s<br>Triticum<br>Triticum<br>Triticum<br>Triticum<br>Hordeum<br>burnt cl   | <pre>kia convolvulus (ch) indet. indet. (spkltb) indet. (rachis fgts) p(p). sp(p). (hexaploid) sp(p). (glb) cf. spelta spelta (glb) sp(p).</pre>  |        | 1<br>2<br>2<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>2  |
| burnt ma<br>flint   | mmal bone   |        | 1<br>1   |
| Context   | 400   | Sample | 400/T  |
| Populus<br>Alnus sp<br>Alnus sp<br>Alnus sp<br>Quercus<br>Quercus<br>Urtica d<br>Polygonu<br>Polygonu<br>Polygonu<br>Chenopod<br>Stellari<br>Ranuncul<br>Rorippa<br>Rubus fr<br>Prunus sp<br>Rubus fr<br>Prunus s<br>Viola sp<br>Hydrocot<br>Chaeroph<br>Labiatae<br>Stachys<br>Stachys<br>Lycopus<br>Hyoscyam<br>Solanum<br>Sambucus<br>Arctium<br>Carduus/<br>Sonchus<br>Lapsana<br>Juncus h<br>Hordeum<br>Lemna sp | <pre>sp(p). (b/bs)<br/>(p).<br/>(p). (fca)<br/>(p). (tw fgts)<br/>(p). (b/bs)<br/>sp(p). (b/bs)<br/>ioica<br/>m aviculare agg.<br/>m persicaria<br/>m lapathifolium<br/>ium album<br/>a media<br/>us Subgenus Batrachium<br/>islandica<br/>(p). (prickles)<br/>uticosus agg.<br/>pinosa (thorns)<br/>(p).<br/>yle vulgaris<br/>yllum temulentum<br/>cf. sylvatica<br/>cf. arvensis<br/>europaeus<br/>mus niger<br/>dulcamara<br/>a nigra<br/>sp(p).<br/>Cirsium sp(p).<br/>asper<br/>communis<br/>oufonius<br/>sp(p).</pre> | n      | 2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |
| Daphnia<br>bark fgt   | (ephippia)<br>s   |        | 1<br>1   |

| beetles                      | 2 |
|------------------------------|---|
| burnt mammal bone            | 1 |
| caddis larva cases           | 1 |
| charcoal                     | 1 |
| dicot lf fgts                | 1 |
| earthworm egg caps           | 1 |
| fern prothalli (contaminant) | 1 |
| flint                        | 1 |
| leaf ab pads                 | 1 |
| moss (contaminant)           | 1 |
| root/rootlet fgts            | 3 |
| twig fgts                    | 3 |
| wood fgts                    | 3 |
|                              |   |

| Context 417 | Sample ( | 417/T |
|-------------|----------|-------|
|-------------|----------|-------|

| Populus $sp(p)$ (h/bs)                | 2 |
|---------------------------------------|---|
| Urtica dioica                         | 3 |
| Urtica urens                          | 2 |
| Polygonum persicaria                  | 1 |
| Chenopodium album                     | 1 |
| Ranunculus Section Ranunculus         | 1 |
| Raphanus raphanistrum (pod segs/fgts) | 1 |
| Rubus idaeus                          | 1 |
| Rubus fruticosus agg.                 | 1 |
| Rubus caesius                         | 2 |
| Rubus/Rosa sp(p). (prickles)          | 1 |
| Coriandrum sativum                    | 2 |
| Torilis japonica                      | 1 |
| Anagallis arvensis                    | 1 |
| Galeopsis Subgenus Galeopsis          | 1 |
| Lamium Section Lamiopsis              | 2 |
| Stachys sp(p).                        | 1 |
| Mentha sp(p).                         | 1 |
| Solanum dulcamara                     | 1 |
| Sambucus nigra                        | 3 |
| Carduus/Cirsium sp(p).                | 1 |
| Sonchus asper                         | 2 |
| Eleocharis palustris sl               | 1 |
| Carex sp(p).                          | 1 |
| Sphagnum sp(p). (lvs)                 | 1 |
| Daphnia (ephippia)                    | 1 |
| bark fgts                             | 1 |
| beetles                               | 2 |
| brick/tile                            | 1 |
| chalk                                 | 1 |
| charcoal                              | 1 |
| earthworm egg caps                    | 2 |
| flint                                 | 1 |
| pottery                               | 1 |
| root/rootlet fgts                     | 4 |
| sand                                  | 2 |
| twig fgts                             | 2 |
| wood fgts                             | 1 |

| Context 437  | Sample  | 437/SPT  |
|--|---------|--|
| Potentilla cf. erecta<br>Calluna vulgaris (fls)<br>Calluna vulgaris (rt-tw fgts)<br>Juncus bufonius<br>cf. Scirpus lacustris sl<br>Dicranum sp(p).<br>Hylocomium splendens   |         | 2<br>1<br>3<br>1<br>1<br>1<br>2  |
| <pre>?Callunetum mor humus<br/>?earthworm egg caps<br/>Betula pollen<br/>Calluna pollen<br/>Ericales pollen<br/>Pinus pollen<br/>beetles<br/>mites</pre>   |         | 4<br>1<br>1<br>1<br>1<br>1<br>1  |
| Context 448  | Sample  | 448/T  |
| Salix sp(p). (fr)<br>Alnus sp(p). (fca)<br>Urtica dioica<br>Polygonum persicaria<br>Rumex sp(p).<br>Stellaria media<br>Ranunculus Section Ranunculus<br>Ranunculus Subgenus Batrachium<br>Raphanus raphanistrum (pod seg<br>Rubus fruticosus agg.<br>Rubus/Rosa sp(p). (prickles)<br>Chaerophyllum temulentum<br>Anthriscus caucalis<br>Torilis japonica<br>Erica cinerea (lvs)<br>Galeopsis Subgenus Galeopsis<br>Scrophularia sp(p).<br>Sambucus nigra<br>Carduus/Cirsium sp(p).<br>Sonchus asper<br>Juncus bufonius | s/fgts) | 1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>2 |

Scrophularia sp(p). Sambucus nigra Carduus/Cirsium sp(p). Sonchus asper Juncus bufonius Carex sp(p). Daphnia (ephippia) beetles chalk

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charcoal dicot lf fgts earthworm egg caps flint fly puparia sand wood fgts Appendix 2
| Context 13   | 3 Sample     | 9   | 6/T     | Number     | of taxa | 42 |
|--------------|--------------|-----|---------|------------|---------|----|
|              | Group        | No. | taxa    | *taxa      | AIV     |    |
| Uses         | FOOS         |     | 5       | 12         | 15      |    |
|              | F000         |     | 1       | 2          | 1       |    |
|              | WOOD         |     | 1       | 2          | 1       |    |
| Vegetation   | CHEN         |     | 17      | 40         | 37      |    |
| 9            | ARTE         |     | 11      | 26         | 26      |    |
|              | OUFA         |     | 6       | 14         | 17      |    |
|              | SECA         |     | ğ       | 21         | 17      |    |
|              | ALNE         |     | 4       | 10         | 12      |    |
|              | RHPR         |     | 3       | 7          | 12      |    |
|              | EPTL         |     | 4       | 10         | 10      |    |
|              | MOAR         |     | 5       | 12         | 9       |    |
|              | BIDE         |     | ă       | 10         | 8       |    |
|              | NACA         |     | 4       | 10         | 8       |    |
|              | PLAN         |     | 3       | 10         | 6       |    |
|              | DHBY         |     | 3       | י<br>ר     | 5       |    |
|              | CAKT         |     | 2       | 5          | 4       |    |
|              | TSNA         |     | 2       | 5          | 4       |    |
|              | SESC         |     | 2       | 5<br>5     | 4       |    |
|              | 5000         |     | 2       | 5          | 3 4     |    |
|              | POTA         |     | 2.<br>1 | 2          | 3       |    |
|              |              |     | 1       | 2          | 2       |    |
|              | MOCD         |     | 2       | <u>ل</u> م | 2       |    |
|              | NOCA<br>SCCA |     | 1       | 2          | 2       |    |
|              | TREF         |     | 1       | 2          | 2       |    |
| Fcology      | FUCE         |     | 1       | 2          | 1       |    |
| Unclassified | UNCI         |     | ⊥<br>Ω  | 10         | I<br>O  |    |
| 001400011104 | ORCH         |     | Ū       | 19         | 0       |    |
| Context 13   | Sample       |     | 7/T     | Number     | of taxa | 38 |
|              | Group        | No. | taxa    | %taxa      | AIV     |    |
| Uses         | FOOS         |     | 6       | 16         | 22      |    |
|              | WOOD         |     | 2       |            | 2       |    |
| Vegetation   | ARTE         |     | 9       | 2.4        | 29      |    |
|              | CHEN         |     | 12      | 32         | 25      |    |
|              | OUFA         |     | 6       | 16         | 21      |    |
|              | ALNE         |     | 5       | 13         | 17      |    |
|              | RHPR         |     | 5       | 13         | 16      |    |
|              | EPIL         |     | 5       | 13         | 14      |    |
|              | SECA         |     | 8       | 21         | 14      |    |
|              | MOAR         |     | 5       | 13         | 12      |    |
|              | PHRA         |     | 4       | 11         | 9       |    |
|              | BIDE         |     | 3       | 8          | 6       |    |
|              | CAKI         |     | 2       | 5          | 6       |    |
|              | NACA         |     | 3       | 8          | 6       |    |
|              | LITT         |     | 2       | 5          | 4       |    |
|              | SCCA         |     | 2       | 5          | 4       |    |
|              | FEBR         |     | 1       | 3          | 2       |    |
|              | PLAN         |     | 1       | 3          | 2       |    |
|              | SESC         |     | 1       | 3          | 2       |    |
| Mosses       | BOGS         |     | 1       | 3          | 2       |    |
|              | FENS         |     | 1       | 3          | 2       |    |
|              | MARS         |     | 1       | 3          | 2       |    |
|              | UNCL         |     | 1       | 3          | 0       |    |
| Ecology      | FUCE         |     | 1       | ž          | 1       |    |
|              | E Q G E      |     | -       |            |         |    |

| Context 1   | 3 Sampl | е   | 8/T  | Number | of taxa | 47 |
|-------------|---------|-----|------|--------|---------|----|
|             | Group   | No. | taxa | %taxa  | AIV     |    |
| Uses        | FOOS    |     | 3    | 6      | 13      |    |
|             | WOOD    |     | 4    | 9      | 4       |    |
| Vegetation  | CHEN    |     | 16   | 34     | 33      |    |
|             | ARTE    |     | 9    | 19     | 23      |    |
|             | SECA    |     | 11   | 23     | 21      |    |
|             | QUFA    |     | 6    | 13     | 17      |    |
|             | MOAR    |     | 7    | 15     | 14      |    |
|             | RHPR    |     | 4    | 9      | 14      |    |
|             | ALNE    |     | 4    | 9      | 13      |    |
|             | EPIL    |     | 3    | 6      | 8       |    |
|             | NACA    |     | 4    | 9      | 8       |    |
|             | PHRA    |     | 4    | 9      | 7       |    |
|             | BIDE    |     | 3    | 6      | 6       |    |
|             | LITT    |     | 2    | 4      | 4       |    |
|             | PLAN    |     | 2    | 4      | 4       |    |
|             | SCCA    |     | 2    | 4      | 4       |    |
|             | ISNA    |     | 1    | 2      | 3       |    |
|             | BULB    |     | 1    | 2      | 2       |    |
|             | FEBR    |     | 1    | 2      | 2       |    |
|             | SESC    |     | 1    | 2      | 2       |    |
| Mosses      | BOGS    |     | 1    | 2      | 2       |    |
|             | FENS    |     | 1    | 2      | 2       |    |
|             | MARS    |     | 1    | 2      | 2       |    |
|             | UNCL    |     | 2    | 4      | 0       |    |
| Ecology     | FUGE    |     | 1    | 2      | 1       |    |
| Unclassifie | d UNCL  |     | 9    | 19     | 0       |    |

| Context     | 13 | Sampl | е  | 14/T   | 1 | Number | of | taxa | 39 |
|-------------|----|-------|----|--------|---|--------|----|------|----|
|             |    | Group | No | . taxa |   | %taxa  |    | AIV  |    |
| Uses        |    | FOOS  |    | 3      |   | 8      |    | 13   |    |
|             |    | WOOD  |    | 3      |   | 8      |    | 3    |    |
|             |    | F000  |    | 1      |   | 3      |    | 1    |    |
| Vegetation  |    | CHEN  |    | 12     |   | 31     |    | 27   |    |
|             |    | ARTE  |    | 7      |   | 18     |    | 19   |    |
|             |    | QUFA  |    | 4      |   | 10     |    | 16   |    |
|             |    | SECA  |    | 8      |   | 21     |    | 16   |    |
|             |    | RHPR  |    | 3      |   | 8      |    | 14   |    |
|             |    | ALNE  |    | 3      |   | 8      |    | 12   |    |
|             |    | MOAR  |    | 4      |   | 10     |    | 12   |    |
|             |    | EPIL  |    | 3      |   | 8      |    | 10   |    |
|             |    | SCCA  |    | 3      |   | 8      |    | 10   |    |
|             |    | PHRA  |    | 3      |   | 8      |    | 9    |    |
|             |    | LITT  |    | 2      |   | 5      |    | 8    |    |
|             |    | NACA  |    | 2      |   | 5      |    | 8    |    |
|             |    | PLAN  |    | 2      |   | 5      |    | 5    |    |
|             |    | BIDE  |    | 2      |   | 5      |    | 4    |    |
|             |    | SESC  |    | 1      |   | 3      |    | 2    |    |
| Mosses      |    | BOGS  |    | 1      |   | 3      |    | 4    |    |
|             |    | FENS  |    | 1      |   | 3      |    | 4    |    |
|             |    | MARS  |    | 1      |   | 3      |    | 4    |    |
|             |    | UNCL  |    | 1      |   | 3      |    | 0    |    |
| Ecology     |    | FUGE  |    | 1      |   | 3      |    | 1    |    |
| Unclassifie | ≥d | UNCL  |    | 8      |   | 21     |    | 0    |    |

| Context    | 13 | Sampl | е  | 30/T*  | Number | of taxa | 17 |
|------------|----|-------|----|--------|--------|---------|----|
|            |    | Group | No | . taxa | %taxa  | AIV     |    |
| Uses       |    | FOOS  |    | 2      | 12     | 6       |    |
| Vegetation | L  | ARTE  |    | 7      | 41     | 16      |    |
|            |    | CHEN  |    | 6      | 35     | 13      |    |
|            |    | QUFA  |    | 6      | 35     | 13      |    |
|            |    | EPIL  |    | 3      | 18     | 8       |    |
|            |    | RHPR  |    | 3      | 18     | 8       |    |
|            |    | SECA  |    | 5      | 29     | 8       |    |
|            |    | ALNE  |    | 1      | 6      | 4       |    |
|            |    | MOAR  |    | 2      | 12     | 4       |    |
|            |    | ISNA  |    | 1      | 6      | 3       |    |
|            |    | FEBR  |    | 1      | 6      | 2       |    |
|            |    | NACA  |    | 1      | 6      | 2       |    |
|            |    | PHRA  |    | 1      | 6      | 1       |    |
| Ecology    |    | FUGE  |    | 1      | 6      | 1       |    |
| Unclassifi | ed | UNCL  |    | 3      | 18     | 0       |    |

| Context    | 14 | Sampl | е  | 22/1+  | - N | lumber | of | taxa | 38 |
|------------|----|-------|----|--------|-----|--------|----|------|----|
|            |    | Group | No | . taxa | 1   | %taxa  |    | AIV  |    |
| Uses       |    | FOOS  |    | 2      |     | 5      |    | 6    |    |
|            |    | WOOD  |    | 4      |     | 11     |    | 5    |    |
| Vegetation |    | CHEN  |    | 12     |     | 32     |    | 27   |    |
|            |    | SECA  |    | 7      |     | 18     |    | 15   |    |
|            |    | BIDE  |    | 5      |     | 13     |    | 14   |    |
|            |    | ARTE  |    | 6      |     | 16     |    | 13   |    |
|            |    | QUFA  |    | 5      |     | 13     |    | 10   |    |
|            |    | ISNA  |    | 2      |     | 5      |    | 8    |    |
|            |    | RHPR  |    | 3      |     | 8      |    | 8    |    |
|            |    | ALNE  |    | 2      |     | 5      |    | 7    |    |
|            |    | MOAR  |    | 3      |     | 8      |    | 6    |    |
|            |    | POTA  |    | 1      |     | 3      |    | 6    |    |
|            |    | EPIL  |    | 2      |     | 5      |    | 5    |    |
|            |    | FEBR  |    | 2      |     | 5      |    | 4    |    |
|            |    | PLAN  |    | 1      |     | 3      |    | 3    |    |
|            |    | SESC  |    | 1      |     | 3      |    | 3    |    |
|            |    | MOCA  |    | 1      |     | 3      |    | 2    |    |
|            |    | NACA  |    | 1      |     | 3      |    | 2    |    |
|            |    | PHRA  |    | 1      |     | 3      |    | 1    |    |
| Mosses     |    | BOGS  |    | 1      |     | 3      |    | 2    |    |
|            |    | FENS  |    | 1      |     | 3      |    | 2    |    |
|            |    | MARS  |    | 1      |     | 3      |    | 2    |    |
| Unclassifi | ed | UNCL  |    | 11     |     | 29     |    | 0    |    |

| Context   | 14 | Sample | 29/T     | Number | of taxa | 9 |
|-----------|----|--------|----------|--------|---------|---|
|           |    | Group  | No. taxa | %taxa  | AIV     |   |
| Uses      |    | FOOS   | 1        | 11     | 3       |   |
| Vegetatio | n  | ARTE   | 3        | 33     | 7       |   |
| <b>j</b>  |    | QUFA   | 3        | 33     | 6       |   |
|           |    | CHEN   | 2        | 22     | 5       |   |
|           |    | RHPR   | 2        | 22     | 4       |   |
|           |    | ALNE   | 1        | 11     | 2       |   |
|           |    | BIDE   | 1        | 11     | 2       |   |
|           |    | EPIL   | 1        | 11     | 2       |   |
|           |    | MOAR   | 1        | 11     | 2       |   |

| Mosses                            | SECA<br>BOGS<br>FENS |       | 1<br>1<br>1   | 11<br>11<br>11 |    | 2<br>4<br>4 |    |
|-----------------------------------|----------------------|-------|---------------|----------------|----|-------------|----|
|                                   | MARS                 |       | 1             | 11             |    | 4           |    |
|                                   | UNCL                 |       | 1             | 11             |    | 0           |    |
| Unclassified                      | UNCL                 |       | 1             | 11             |    | 0           |    |
| Context 14                        | Sample               | 2     | 32/T          | Number         | of | taxa        | 19 |
|                                   | Group                | No.   | taxa          | %taxa          |    | VIA         |    |
| Vegetation                        | CHEN                 |       | 8             | 42             |    | 14          |    |
|                                   | SECA                 |       | 5             | 26             |    | 9           |    |
|                                   | ARTE                 |       | 4             | 21             |    | 7           |    |
|                                   | MOAR                 |       | 3             | 16             |    | 6           |    |
|                                   | BIDE                 |       | 2             | 11             |    | 5           |    |
|                                   | QUFA                 |       | 3             | 16             |    | 5           |    |
|                                   | EPIL                 |       | 2             | 11             |    | 4           |    |
|                                   | FEBR                 |       | 2             | 11             |    | 4           |    |
|                                   | ISNA                 |       | 2             | 11             |    | 4           |    |
|                                   | PHRA                 |       | 2             | 11             |    | 4           |    |
|                                   | PLAN                 |       | 1             | 5              |    | 3           |    |
|                                   | POTA                 |       | 1             | 5              |    | 3           |    |
|                                   | SESC                 |       | 1             | 5              |    | 3           |    |
|                                   | ALNE                 |       | 1             | 5              |    | 2           |    |
|                                   | RHPR                 |       | 1             | 5              |    | 2           |    |
|                                   | MOCA                 |       | 1             | 5              |    | 1           |    |
| Unclassified                      | UNCL                 |       | 5             | 26             |    | 0           |    |
| Context 14                        | Sample               | :<br> | 33/T          | Number         | of | taxa        | 18 |
|                                   | Group                | No.   | taxa          | %taxa          |    | AIV         |    |
| Uses                              | FOOS                 |       | 1             | 6              |    | 3           |    |
|                                   | WOOD                 |       | 2             | 11             |    | 2           |    |
| Vegetation                        | CHEN                 |       | 7             | 39             |    | 12          |    |
|                                   | QUFA                 |       | 3             | 17             |    | 9           |    |
|                                   | EPIL                 |       | 2             | 11             |    | 8           |    |
|                                   | RHPR                 |       | 2             | 11             |    | 8           |    |
|                                   | ARTE                 |       | 2             | 11             |    | 7           |    |
|                                   | ALNE                 |       | 1             | 6              |    | 6           |    |
|                                   | POTA                 |       | 1             | 6              |    | 6           |    |
|                                   | RIDE                 |       | 2             | 11             |    | 5           |    |
|                                   | ISNA                 |       | 2             | 11             |    | 5           |    |
|                                   | PLAN                 |       | 2             | 17             |    | 5           |    |
|                                   | SECA                 |       | 3             | 11             |    | 5           |    |
|                                   | <b>J646</b><br>0977  |       | 2             | 11<br>11       |    | 2           |    |
|                                   | MOZB                 |       | 2             | 11             |    | 7<br>4      |    |
|                                   | MOCA                 |       | <u>ک</u><br>1 | 51             |    | 2           |    |
|                                   | NACA                 |       | 1             | 6              |    | 2           |    |
|                                   | PHRA                 |       | 1             | 6              |    | 1           |    |
| Unclassified                      | UNCL                 |       | 5             | 28             |    | ō           |    |
| Context 17                        | Sample               |       | 1/T           | Number         | of | taxa        | 1  |
| ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ | Group                | No.   | taxa          | %taxa          |    | AIV         |    |
|                                   | ~                    |       |               |                |    |             |    |

| no identifiable plant remainsContext 17 Sample 4/T Number of taxa 0<br>no identifiable plant remainsContext 17 Sample 4/T Number of taxa 7<br>Group No. taxa %taxa AIVUses<br>VegetationFOOS<br>QUFA<br>QUFA<br>2<br>EPIL2 29<br>29<br>6<br>CHEN<br>2<br>29<br>29<br>29<br>29<br>20Uses<br>VegetationFOOS<br>QUFA<br>QUFA<br>2<br>EPIL2 14<br>14<br>2<br>29<br>20Onclassified UNCL<br>Vegetation2 29<br>CHEN<br>CHEN<br>2<br>29<br>29<br>29Context<br>EPIL<br>Unclassified UNCL5/T<br>2<br>29<br>29<br>20Number of taxa 15<br>2007Group No. taxa<br>%taxa<br>AINVUses<br>Vegetation<br>CHEN<br>CHEN<br>CHEN<br>CHEN<br>CHEN<br>CHEN<br>2<br>2<br>200713<br>20<br>7<br>7<br>3<br>2077Context<br>POS<br>POS<br>2<br>2<br>2<br>2<br>2<br>13<br>15NA<br>AINE<br>1<br>7<br>2<br>2<br>2<br>13<br>3<br>1<br>17<br>2<br>2<br>2007Context<br>PHRA<br>1<br>1<br>7<br>2<br>2<br>2<br>215<br>3<br>3<br>1<br>3<br>1<br>3<br>3<br>4<br>ANTE<br>2<br>1<br>3<br>3<br>4<br>3<br>4<br>4<br>3<br>4<br>4<br>3<br>4<br>4<br>4<br>73/T<br>2<br>2<br>1<br>3<br>3<br>3<br>4<br>4<br>4<br>2<br>7<br>3<br>3<br>4<br>4<br>4<br>4<br>2<br>7<br>3<br>3<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4< | Context 1    | 7 Sample    | 2/T    | Number    | of taxa    | 0  |
|---|--------------|-------------|--------|-----------|------------|----|
| Context         17         Sample         3/T         Number of taxa         0           no identifiable plant remains           Context         17         Sample         4/T         Number of taxa         7           Group         No. taxa         %taxa         AIV         7           Uses         FOOS         2         29         7           Vegetation         QUFA         2         29         6           CHEN         2         29         6         6           CHEN         2         29         6         7           ARTE         1         14         2         7           ARTE         1         14         2         7           Unclassified         UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15           Group         No. taxa         %taxa         AIV         15           Uses         FOOS         2         13         7           Vegetation         CHEN         6         40         11           SECA         5         3         8         20         7 <td>no</td> <td>identifiabl</td> <td>e plan</td> <td>t remains</td> <td></td> <td></td>  | no           | identifiabl | e plan | t remains |            |    |
| no identifiable plant remains           Context         17         Sample         4/T         Number of taxa         7           Group         No. taxa         %taxa         AIV           Uses         FOOS         2         29         7           Vegetation         QUFA         2         29         6           CHEN         2         29         6           CHEN         2         29         6           CHEN         2         29         6           CHEN         14         3           ALNE         1         14         2           Unclassified         UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15           Group         No. taxa         %taxa         AIV           Uses         FOOS         2         13         6           MOAR         2         13         6           MOAR         2         13         6           MOAR         2         13         6           MOAR         2         13         3           PLAN         1   | Context 17   | Sample      | 3/T    | Number o  | f taxa     | 0  |
| Context         17         Sample         4/T         Number of taxa         7           Group         No.         taxa         ALV           Uses         FOOS         2         29         7           Vegetation         QUFA         2         29         6           CHEN         2         29         6         6           CHEN         2         29         5         5           SECA         1         14         3         ALNE         1         14         2           ARTE         1         14         2         29         0         7         14         2           Unclassified         UNCL         2         29         0         7         15           Group         No. <taxa< td="">         %taxa         AIV         15           Unclassified         UNCL         2         13         7           Vegetation         CHEN         6         40         11           SECA         5         33         8         00         7           Wegetation         CHEN         6         40         11         7         3           PLAN         1</taxa<>   | no           | identifiabl | e plan | t remains |            |    |
| Group No. taxa         %taxa         AIV           Uses         FOOS         2         29         7           Vegetation         QUFA         2         29         6           RHPR         2         29         6           CHEN         2         29         5           SECA         1         14         3           ALNE         1         14         2           POID         ARTE         1         14         2           Unclassified         UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15           Group No. taxa         %taxa         AIV         15         15           Uses         FOOS         2         13         7           Vegetation         CHEN         6         0         1           SECA         5         33         8         QUFA         3         20         7           RHPR         2         13         6         MOAR         2         13         6           MOAR         2         13         6         1         7         2 <td>Context 17</td> <td>Sample</td> <td>4/T</td> <td>Number o</td> <td>f taxa<br/></td> <td>7</td>   | Context 17   | Sample      | 4/T    | Number o  | f taxa<br> | 7  |
| Uses         FOOS         2         29         7           Vegetation         QUFA         2         29         6           RHPR         2         29         6           CHEN         2         29         5           SECA         1         14         3           ALNE         1         14         2           ARTE         1         14         2           Unclassified         UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15           Group No. taxa         %taxa         AIV         2         29         0           Uses         FOOS         2         13         7         3           Vegetation         CHEN         6         40         11           SECA         5         33         8         QUFA         3         20         7           RHPR         2         13         6         MOAR         2         13         4           ARTE         2         13         4         17         2         EPIL         1         7         2   |              | Group No.   | taxa   | %taxa     | AIV        |    |
| Vegetation       QUFA<br>RHPR       2       29       6<br>CHEN         CHEN       2       29       5<br>SECA       1       14       3<br>ALNE       1       14       3<br>ALNE       1       14       2<br>P       1       14       2       2       9       0         Context 17 Sample       5/T       Number of taxa       15         Group No. taxa       %taxa       AIV         Uses       FOOS       2       13       7         Vegetation       CHEN       6       40       11         SECA       5       33       8         QUFA       3       20       7       7         Wegetation       CHEN       6       40       11         SECA       5       33       8         QUFA       3       20       7       7         MOAR       2       13       6       40       11         MOAR       2       13       4       4       4       7       1         MOAR       1       7       1       7       2       2       1       1       1       1       1       1 <t< td=""><td>Uses</td><td>FOOS</td><td>2</td><td>29</td><td>7</td><td></td></t<>  | Uses         | FOOS        | 2      | 29        | 7          |    |
| RHPK         2         29         5           SECA         1         14         3           ALNE         1         14         2           ARTE         1         14         2           EFIL         1         14         2           Unclassified UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15  | Vegetation   | QUFA        | 2      | 29        | 6          |    |
| CHEN         2         29         3           ALNE         1         14         3           ALNE         1         14         2           ARTE         1         14         2           EPIL         1         14         2           Unclassified UNCL         2         29         0           Context         17         Sample         5/T         Number of taxa         15           Group         No. taxa         %taxa         AIV         15           Uses         FOOS         2         13         7           Vegetation         CHEN         6         40         11           SECA         5         33         8         20         7           RHPR         2         13         4         A         A         7         3           QUFA         3         20         7         R         MDAR         2         13         4           ARTE         2         13         4         A         A         7         3           PLAN         1         7         3         1         7         1           Unclassified         UNC  |              | CUEN        | 2      | 29        | ю<br>Б     |    |
| AINE       1       14       2         ARTE       1       14       2         ARTE       1       14       2         EPIL       1       14       2         Unclassified UNCL       2       29       0         Context 17 Sample 5/T Number of taxa 15         Group No. taxa %taxa AIV         Uses       FOOS       2       13       7         Vegetation       CHEN       6       40       11         SECA       5       33       8       2007         RHPR       2       13       4         ARTE       2       13       3         ISNA       1       7       3         PLAN       1       7       2         EPIL       1       7       2         FEBR       1       7       1         Unclassified UNCL       4       27       0         Group No. taxa       <   |              | SECA        | 2      | 29        | 3          |    |
| ARTE       1       14       2         EPIL       1       14       2         Unclassified UNCL       2       29       0         Context       17       Sample       5/T       Number of taxa       15         Group No. taxa       %taxa       AIV         Uses       FOOS       2       13       7         Vegetation       CHEN       6       40       11         SECA       5       33       8       20       7         RHPR       2       13       6       MOAR       2       13       4         ARTE       2       13       4       ARTE       2       13       4         ARTE       2       13       4       ARTE       2       13       4         ARTE       2       13       4       ARTE       2       13       4         ARTE       1       7       2       EPIL       1       7       2         EPIL       1       7       2       EPIL       7       1         Unclassified UNCL       4       27       0       0       1         Uses       FOOS  |              | ALNE        | 1      | 14        | 2          |    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |              | ARTE        | 1      | 14        | 2          |    |
| Unclassified UNCL       2       29       0         Context       17       Sample       5/T       Number of taxa       15         Group       No. taxa       %taxa       AIV         Uses       FOOS       2       13       7         Vegetation       CHEN       6       40       11         SECA       5       33       8         QUFA       3       20       7         RHPR       2       13       4         ARTE       2       13       4         ARTE       2       13       4         ARTE       2       13       3         ISNA       1       7       3         PLAN       1       7       2         EPIL       1       7       2         PHRA       1       7       1         Unclassified       UNCL       4       27       0         Context       17       Sample       79/T       Number of taxa       2         Group       No. taxa       %taxa       AIV         Uses       FOOS       1       50       1         Unclassified       VOL  |              | EPIL        | 1      | 14        | 2          |    |
| Context         17         Sample         5/T         Number of taxa         15           Group         No. taxa         %taxa         AIV           Uses         FOOS         2         13         7           Vegetation         CHEN         6         40         11           SECA         5         33         8           QUFA         3         20         7           RHPR         2         13         4           ARTE         2         13         4           ARTE         2         13         4           ARTE         2         13         4           ARTE         2         13         3           ISNA         1         7         3           ALNE         1         7         2           EPIL         1         7         2           PHRA         1         7         1           Unclassified         UNCL         4         27         0           Context         17         Sample         79/T         Number of taxa         2           Group         No. taxa         %taxa         AIV   | Unclassified | UNCL        | 2      | 29        | 0          |    |
| Group No. taxa         %taxa         AIV           Uses         FOOS         2         13         7           Vegetation         CHEN         6         40         11           SECA         5         33         8         0           QUFA         3         20         7           RHPR         2         13         6           MOAR         2         13         4           ARTE         2         13         3           ISNA         1         7         3           PLAN         1         7         2           FEBR         1         7         2           PHRA         1         7         1           Unclassified         UNCL         4         27         0           Context         17         Sample         79/T         Number of taxa         2           Group         No. taxa         %taxa         AIV           Uses         FOOS         1         50         1           Unclassified         UNCL         1         50         0           Context         19         Sample         9/T         Number of taxa <td< td=""><td>Context 17</td><td>Sample</td><td>5/T</td><td>Number o</td><td>f taxa</td><td>15</td></td<>   | Context 17   | Sample      | 5/T    | Number o  | f taxa     | 15 |
| Uses       FOOS       2       13       7         Vegetation       CHEN       6       40       11         SECA       5       33       8         QUFA       3       20       7         RHPR       2       13       6         MOAR       2       13       4         ARTE       2       13       4         ARTE       2       13       4         ARTE       2       13       3         FLAN       1       7       3         ALNE       1       7       2         EPIL       1       7       2         PHRA       1       7       1         Unclassified       UNCL       4       27       0         Context 17 Sample 79/T Number of taxa 2         Group No. taxa       %taxa       AIV         Uses       FOOS       1       50       1         Unclassified       UNCL       1       50       0         Context       19       Sample       9/T       Number of taxa       46         Group No. taxa       %taxa       AIV         Uses  |              | Group No.   | taxa   | %taxa     | VIA        |    |
| Vegetation       CHEN       6       40       11         SECA       5       33       8         QUFA       3       20       7         RHPR       2       13       6         MOAR       2       13       4         ARTE       2       13       4         ARTE       2       13       4         ARTE       2       13       3         PLAN       1       7       3         ALNE       1       7       2         EPIL       1       7       2         PHRA       1       7       1         Ecology       FUGE       1       7       1         Unclassified       UNCL       4       27       0         Context 17 Sample 79/T Number of taxa 2         Group No. taxa       %taxa         Uses       FOOS       1       50       1         Unclassified       UNCL       1       50       0         Group No. taxa       %taxa       AIV         Uses       FOOS       3       7       3         WOOD       3       7       3 <td>Uses</td> <td>FOOS</td> <td>2</td> <td>13</td> <td>7</td> <td></td>  | Uses         | FOOS        | 2      | 13        | 7          |    |
| SECA         5         33         8           QUFA         3         20         7           RHPR         2         13         6           MOAR         2         13         4           ARTE         2         13         4           ARTE         2         13         3           ISNA         1         7         3           PLAN         1         7         3           ALNE         1         7         2           FEBR         1         7         2           PHRA         1         7         1           Unclassified         UNCL         4         27         0           Context 17 Sample 79/T Number of taxa 2           Group No. taxa< %taxa   | Vegetation   | CHEN        | 6      | 40        | 11         |    |
| QUFA       3       20       7         RHPR       2       13       6         MOAR       2       13       4         ARTE       2       13       3         ISNA       1       7       3         PLAN       1       7       2         EPIL       1       7       2         PHRA       1       7       1         Unclassified UNCL       4       27       0         Context 17 Sample 79/T Number of taxa 2         Group No. taxa< %taxa  |              | SECA        | 5      | 33        | 8          |    |
| RHPR       2       13       6         MOAR       2       13       4         ARTE       2       13       3         ISNA       1       7       3         PLAN       1       7       3         ALNE       1       7       2         EPIL       1       7       2         PHRA       1       7       1         Unclassified UNCL       4       27       0         Context 17 Sample 79/T Number of taxa 2         Group No. taxa %taxa AIV         Uses       FOOS       1       50       1         Unclassified UNCL       1       50       0       1         Uses       FOOS       1       50       1         Unclassified UNCL       1       50       0         Context 19 Sample 9/T Number of taxa 46         Group No. taxa<%taxa AIV   |              | QUFA        | 3      | 20        | 7          |    |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |              | RHPR        | 2      | 13        | 6          |    |
| ARTE       2       13       3         ISNA       1       7       3         PLAN       1       7       3         ALNE       1       7       2         EPIL       1       7       2         FEBR       1       7       1         Ecology       FUGE       1       7       1         Unclassified       UNCL       4       27       0         Context 17 Sample 79/T Number of taxa 2         Group No. taxa %taxa AIV         Uses       FOOS       1       50       1         Unclassified       UNCL       1       50       0         Context 19 Sample 9/T Number of taxa 46         Group No. taxa %taxa AIV         Uses       FOOS       3       7       15         WOOD       3       7       3       7       3         FOOO       1       2       1       Vegetation       20       43       44   |              | MOAR        | 2      | 13        | 4          |    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |              | TSNA        | 2      | 13        | <u>২</u>   |    |
| ALNE       1       7       2         EPIL       1       7       2         FEBR       1       7       2         PHRA       1       7       1         Ecology       FUGE       1       7       1         Unclassified       UNCL       4       27       0         Context       17       Sample       79/T       Number of taxa       2         Group       No.       taxa       %taxa       AIV         Uses       FOOS       1       50       1         Unclassified       UNCL       1       50       0         Context       19       Sample       9/T       Number of taxa       46         Group No. taxa       %taxa       AIV         Uses       FOOS       3       7       15         WOOD       3       7       3       7       3         FOOO       1       2       1       1       20       43       44         Number       0       43       44       44   |              | PLAN        | 1      | 7         | 3          |    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |              | ALNE        | 1      | 7         | 2          |    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |              | EPIL        | 1      | 7         | 2          |    |
| PHRA171EcologyFUGE171UnclassifiedUNCL4270Context17Sample79/TNumber of taxa2GroupNo. taxa%taxaAIVUsesFOOS1501UnclassifiedUNCL1500Context19Sample9/TNumber of taxa46GroupNo. taxa%taxaAIVUsesFOOS3715GroupNo. taxa%taxaAIVUsesFOOS373FOOD373FOOO121VegetationCHEN204344NUTE10202626   |              | FEBR        | 1      | 7         | 2          |    |
| EcologyFUGE171Unclassified UNCL4270Context17Sample79/TNumber of taxa2GroupNo. taxa%taxaAIVUsesFOOS1501Unclassified UNCL1500Context19Sample9/TNumber of taxa46Group No. taxa%taxaAIVUsesFOOS3715WOOD37373FOOO121VegetationCHEN204344NUMPE102020202020  |              | PHRA        | 1      | 7         | 1          |    |
| Context17Sample79/TNumber of taxa2GroupNo. taxa%taxaAIVUsesFOOS1501UnclassifiedUNCL1500Context19Sample9/TNumber of taxa46GroupNo. taxa%taxaAIVUsesFOOS3715WOOD373FOOO121VegetationCHEN204344  | Ecology      | FUGE        | 1      | 7         | 1          |    |
| Context17Sample79/TNumber of taxa2GroupNo. taxa%taxaAIVUsesFOOS1501UnclassifiedUNCL1500Context19Sample9/TNumber of taxa46GroupNo. taxa%taxaAIVUsesFOOS3715WOOD373FOOO121VegetationCHEN204344  | Unclassified | ONCT        | 4      | 27        | U          |    |
| Group No. taxa%taxaAIVUsesFOOS1501UnclassifiedUNCL1500Context19Sample9/TNumber of taxa46Group No. taxa%taxaAIVUsesFOOS3715WOOD373FOOO121VegetationCHEN204344  | Context 17   | Sample      | 79/т   | Number o: | f taxa     | 2  |
| Uses FOOS 1 50 1<br>Unclassified UNCL 1 50 0<br>Context 19 Sample 9/T Number of taxa 46<br>Group No. taxa %taxa AIV<br>Uses FOOS 3 7 15<br>WOOD 3 7 3<br>FOOO 1 2 1<br>Vegetation CHEN 20 43 44   |              | Group No.   | taxa   | %taxa     | AIV        |    |
| Unclassified UNCL 1 50 0<br>Context 19 Sample 9/T Number of taxa 46<br>Group No. taxa %taxa AIV<br>Uses FOOS 3 7 15<br>WOOD 3 7 3<br>FOOO 1 2 1<br>Vegetation CHEN 20 43 44<br>NDTE 10 20 20  | Uses         | FOOS        | 1      | 50        | 1          |    |
| Context19Sample9/TNumber of taxa46GroupNo. taxa%taxaAIVUsesFOOS3715WOOD373FOOO121VegetationCHEN204344NUTE102020   | Unclassified | UNCL        | 1      | 50        | 0          |    |
| Context19Sample9/TNumber of taxa46GroupNo. taxa%taxaAIVUsesFOOS3715WOOD373FOOO121VegetationCHEN204344NUME102020   |              |             |        |           |            |    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Context 19   | Sample      | 9/T    | Number of | f taxa     | 46 |
| Uses FOOS 3 7 15<br>WOOD 3 7 3<br>FOOO 1 2 1<br>Vegetation CHEN 20 43 44  |              | Group No.   | taxa   | %taxa     | AIV        |    |
| WOOD         3         7         3           FOOO         1         2         1           Vegetation         CHEN         20         43         44           NETE         10         20         20  | Uses         | FOOS        | 3      | 7         | 15         |    |
| FOOO         1         2         1           Vegetation         CHEN         20         43         44           NATE         10         22         26   |              | WOOD        | 3      | 7         | 3          |    |
| Vegetation CHEN 20 43 44  |              | F000        | 1      | 2         | 1          |    |
|   | Vegetation   | CHEN        | 20     | 43        | 44<br>26   |    |

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| Mosses<br>Ecology<br>Unclassified | SECA<br>QUFA<br>EPIL<br>RHPR<br>ALNE<br>BIDE<br>MOAR<br>PHRA<br>PLAN<br>ISNA<br>LITT<br>NACA<br>POTA<br>CAKI<br>FEBR<br>MOCA<br>SCCA<br>BOGS<br>FENS<br>MARS<br>UNCL<br>FUGE<br>UNCL                 | 13<br>6<br>5<br>4<br>4<br>5<br>6<br>4<br>2<br>2<br>2<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>6 | 28<br>13<br>11<br>9<br>9<br>11<br>13<br>9<br>4<br>4<br>4<br>4<br>2<br>2<br>2<br>4<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>13                      | 26<br>21<br>16<br>15<br>12<br>7<br>5<br>4<br>4<br>4<br>3<br>2<br>2<br>2<br>2<br>2<br>4<br>4<br>4<br>0<br>1<br>0       |    |
|-----------------------------------|--|--|---|---|----|
| Context 19                        | Sample   | 10/T   | Number  | of taxa   | 37 |
|                                   | Group No.  | . taxa   | %taxa   | AIV   |    |
| Uses                              | FOOS<br>FOOF   | 3<br>1   | 8<br>3  | 15<br>3   |    |
| Mosses<br>Ecology<br>Unclassified | CHEN<br>SECA<br>QUFA<br>ARTE<br>RHPR<br>EPIL<br>MOAR<br>BIDE<br>NACA<br>PLAN<br>ALNE<br>ISNA<br>LITT<br>PHRA<br>SCCA<br>POTA<br>CAKI<br>SESC<br>MOCA<br>BOGS<br>FENS<br>MARS<br>UNCL<br>FUGE<br>UNCL | 10<br>5<br>6<br>3<br>5<br>4<br>4<br>3<br>1<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3 | 41<br>27<br>14<br>16<br>8<br>14<br>11<br>11<br>8<br>3<br>5<br>5<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | 21<br>20<br>19<br>14<br>12<br>10<br>9<br>8<br>7<br>6<br>4<br>4<br>4<br>4<br>3<br>2<br>2<br>1<br>2<br>2<br>0<br>1<br>0 |    |
| Context 19                        | Sample   | 11/T   | Number  | of taxa   | 7  |
|                                   | Group No   | . taxa   | *taxa   | AIV   |    |
| Uses                              | FOOS   | 1  | 14  | 3   |    |

| Vegetation   | SECA | 3 | 43 | 6 |
|--------------|------|---|----|---|
|              | CHEN | 2 | 29 | 4 |
|              | QUFA | 2 | 29 | 4 |
|              | RHPR | 2 | 29 | 4 |
|              | ALNE | 1 | 14 | 2 |
|              | ARTE | 1 | 14 | 2 |
|              | BIDE | 1 | 14 | 2 |
|              | EPIL | 1 | 14 | 2 |
|              | MOAR | 1 | 14 | 2 |
|              | PHRA | 1 | 14 | 2 |
| Ecology      | FUGE | 1 | 14 | 1 |
| Unclassified | UNCL | 1 | 14 | 0 |

| Context    | 19 | Sample | e   | 12/T | Number | of | taxa | 2 |
|------------|----|--------|-----|------|--------|----|------|---|
|            |    | Group  | No. | taxa | %taxa  |    | AIV  |   |
| Uses       |    | FOOS   |     | 1    | 50     |    | 3    |   |
| Vegetation | 7  | QUFA   |     | 2    | 100    |    | 4    |   |
| -          |    | RHPR   |     | 2    | 100    |    | 4    |   |
|            |    | ALNE   |     | 1    | 50     |    | 2    |   |
|            |    | ARTE   |     | 1    | 50     |    | 2    |   |
|            |    | EPIL   |     | 1    | 50     |    | 2    |   |

| Context     | 19 | Sampl | e  | 25/1+  | Numbe | er c | of taxa | 64 |
|-------------|----|-------|----|--------|-------|------|---------|----|
|             |    | Group | No | . taxa | %tax  | a    | AIV     |    |
| Uses        |    | FOOS  |    | 3      | 5     |      | 12      |    |
|             |    | WOOD  |    | 3      | 5     |      | 5       |    |
|             |    | USEF  |    | 2      | 3     |      | 2       |    |
|             |    | F000  |    | 1      | 2     |      | 1       |    |
| Vegetation  |    | CHEN  |    | 25     | 39    |      | 60      |    |
|             |    | SECA  |    | 15     | 23    |      | 37      |    |
|             |    | ARTE  |    | 11     | 17    |      | 26      |    |
|             |    | QUFA  |    | 7      | 11    |      | 19      |    |
|             |    | MOAR  |    | 8      | 13    |      | 16      |    |
|             |    | EPIL  |    | 5      | 8     |      | 14      |    |
|             |    | NACA  |    | 6      | 9     |      | 14      |    |
|             |    | RHPR  |    | 5      | 8     |      | 14      |    |
|             |    | BIDE  |    | 5      | 8     |      | 13      |    |
|             |    | ISNA  |    | 4      | 6     |      | 11      |    |
|             |    | ALNE  |    | 3      | 5     |      | 10      |    |
|             |    | PLAN  |    | 4      | 6     |      | 10      |    |
|             |    | OXSP  |    | 3      | 5     |      | 7       |    |
|             |    | POTA  |    | 1      | 2     |      | 6       |    |
|             |    | PHRA  |    | 3      | 5     |      | 5       |    |
|             |    | FEBR  |    | 2      | 3     |      | 4       |    |
|             |    | MOCA  |    | 2      | 3     |      | 3       |    |
|             |    | CAKI  |    | 1      | 2     |      | 2       |    |
|             |    | LITT  |    | 1      | 2     |      | 2       |    |
|             |    | SCCA  |    | 1      | 2     |      | 2       |    |
|             |    | SESC  |    | 1      | 2     |      | 2       |    |
|             |    | TRGE  |    | 1      | 2     |      | 2       |    |
| Mosses      |    | BOGS  |    | 1      | 2     |      | 2       |    |
|             |    | FENS  |    | 1      | 2     |      | 2       |    |
|             |    | MARS  |    | 1      | 2     |      | 2       |    |
| Ecology     |    | FUGE  |    | 2      | 3     |      | 4       |    |
| Unclassifie | ∋d | UNCL  |    | 11     | 17    |      | 0       |    |

| Context   | 19   | 19 Sample 28/1+ |    | Number     | of        | 63     |          |    |
|-----------|------|-----------------|----|------------|-----------|--------|----------|----|
|           |      | Group           | No | . taxa     | %taxa     |        | AIV      |    |
| lises     |      | WOOD            |    | 6          | 10        |        | 7        |    |
| 0000      |      | FOOS            |    | 2          | 3         |        | 6        |    |
|           |      | USEF            |    | 1          | 2         |        | 3        |    |
|           |      | F000            |    | ī          | 2         |        | 1        |    |
| Vegetatio | n    | CHEN            |    | 19         | 30        |        | 52       |    |
| .09000020 |      | SECA            |    | 8          | 13        |        | 23       |    |
|           |      | BIDE            |    | 6          | 10        |        | 21       |    |
|           |      | NACA            |    | 8          | 13        |        | 20       |    |
|           |      | ARTE            |    | 7          | 11        |        | 18       |    |
|           |      | ALNE            |    | 5          | 8         |        | 16       |    |
|           |      | QUFA            |    | 6          | 10        |        | 14       |    |
|           |      | MOAR            |    | 6          | 10        |        | 12       |    |
|           |      | PHRA            |    | 5          | 8         |        | 11       |    |
|           |      | RHPR            |    | 3          | 5         |        | 10       |    |
|           |      | PLAN            |    | 4          | 6         |        | 9        |    |
|           |      | EPIL            |    | 2          | 3         |        | 8        |    |
|           |      | ISNA            |    | 3          | 5         |        | 8        |    |
|           |      | OXSP            |    | 4          | 6         |        | 8        |    |
|           |      | POTA            |    | 2          | 3         |        | 7        |    |
|           |      | SESC            |    | 2          | 3         |        | 5        |    |
|           |      | FEBR            |    | 2          | 3         |        | 4        |    |
|           |      | LITT            |    | 2          | 3         |        | 3        |    |
|           |      | CART            |    | 4<br>1     | 2         |        | 2        |    |
|           |      | CAN1<br>SCC2    |    | 1          | 2         |        | 2        |    |
|           |      | OUER            |    | 1          | 2         |        | 1        |    |
| Mosses    |      | BOGS            |    | 1          | 2         |        | 3        |    |
| 100000    |      | HEMO            |    | 1          | 2         |        | 2        |    |
|           |      | LIGN            |    | 1          | 2         |        | 2        |    |
|           |      | OLIT            |    | 1          | 2         |        | 2        |    |
|           |      | SOIL            |    | 1          | 2         |        | 2        |    |
|           |      | WOOF            |    | 1          | 2         |        | 2        |    |
| Unclassif | fied | UNCL            |    | 16         | 25        |        | 0        |    |
| <b>.</b>  |      | <b>a</b>        |    | 00 (m      | N         | - F    | <b>.</b> | 1  |
| Context   | 19   | Samp1           | .e | 29/T       | Number    | 0I<br> |          |    |
|           |      | Group           | No | . taxa     | %taxa     |        | AIV      |    |
| Vegetatio | n    | CHEN            |    | 1          | 100       |        | 2        |    |
|           |      | SECA            |    | 1          | 100       |        | 2        |    |
|           |      |                 |    |            |           |        |          |    |
| Context   | 19   | Sampl           | e  | 81/T       | Number    | of     | taxa     | 29 |
|           |      | Group           | No | <br>. taxa | <br>%taxa |        | AIV      |    |
|           |      |                 |    | -          | _         |        | 10       |    |
| Uses      |      | FOOS            |    | 2          | 7         |        | 12       |    |
| Vegetatio | on   | ARTE            |    | 12         | 41        |        | 20       |    |
|           |      | QUEA            |    | 1          | 24        |        | 1/<br>1¢ |    |
|           |      | CHEN            |    | ъ<br>г     | 20        |        | 13       |    |
|           |      | SECA<br>adua    |    | /<br>/     | 24        |        | 10       |    |
|           |      | MUYB            |    | 7<br>K     | 17        |        | 10       |    |
|           |      | AT.MP           |    | ר<br>ג     | ⊥/<br>1∩  |        | 7        |    |
|           |      | БРТІ.           |    | 3          | 10        |        | 6        |    |
|           |      | SCCA            |    | 3          | 10        |        | 6        |    |
|           |      | PHRA            |    | 3          | 10        |        | 5        |    |
|           |      | LITT            |    | 2          | 7         |        | 4        |    |

|              | NACA   | 2    | 7      | 4       |
|--------------|--------|------|--------|---------|
|              | BIDE   | 1    | 3      | 2       |
|              | CAKI   | 1    | 3      | 2       |
|              | FEBR   | 1    | 3      | 2       |
| Mosses       | MARS   | 2    | 7      | 3       |
|              | BOGS   | 1    | 3      | 2       |
|              | FENS   | 1    | 3      | 2       |
|              | LIGN   | 1    | 3      | 1       |
|              | SLIT   | 1    | 3      | 1       |
|              | WOOF   | 1    | 3      | 1       |
|              | UNCL   | 1    | 3      | 0       |
| Unclassified | UNCL   | 5    | 17     | 0       |
|              |        |      |        |         |
| Context 40   | Sample | 38/T | Number | of taxa |

| no identifiable | plant | remains |
|-----------------|-------|---------|
|-----------------|-------|---------|

| Context 47   | Sample | 39/T     | Number | of taxa | 35 |
|--------------|--------|----------|--------|---------|----|
|              | Group  | No, taxa | %taxa  | AIV     |    |
| Uses         | FOOS   | 2        | 6      | 6       |    |
|              | USEF   | 1        | 3      | 3       |    |
|              | WOOD   | 1        | 3      | 1       |    |
| Vegetation   | CHEN   | 14       | 40     | 34      |    |
|              | SECA   | 9        | 26     | 24      |    |
|              | ARTE   | 7        | 20     | 19      |    |
|              | BIDE   | 5        | 14     | 13      |    |
|              | ALNE   | 3        | 9      | 12      |    |
|              | EPIL   | 4        | 11     | 12      |    |
|              | RHPR   | 4        | 11     | 12      |    |
|              | ISNA   | 2        | 6      | 9       |    |
|              | QUFA   | 2        | 6      | 8       |    |
|              | NACA   | 2        | 6      | 5       |    |
|              | PHRA   | 2        | 6      | 5       |    |
|              | MOAR   | 2        | 6      | 3       |    |
|              | FEBR   | 1        | 3      | 2       |    |
|              | LITT   | 1        | 3      | 2       |    |
|              | OXSP   | 1        | 3      | 2       |    |
|              | SCCA   | 1        | 3      | 2       |    |
|              | SESC   | 1        | 3      | 2       |    |
|              | TRGE   | 1        | 3      | 2       |    |
| Mosses       | BOGS   | 1        | 3      | 6       |    |
| Ecology      | FUGE   | 2        | 6      | 4       |    |
| Unclassified | UNCT.  | 4        | 11     | Δ       |    |

| Context    | 51 | Sample | e   | 42/T | Number | of taxa | 19 |
|------------|----|--------|-----|------|--------|---------|----|
|            |    | Group  | No. | taxa | %taxa  | AIV     |    |
| Uses       |    | FOOS   |     | 1    | 5      | 3       |    |
| Vegetation |    | CHEN   |     | 10   | 53     | 23      |    |
|            |    | SECA   |     | 5    | 26     | 13      |    |
|            |    | ARTE   |     | 3    | 16     | 8       |    |
|            |    | BIDE   |     | 3    | 16     | 8       |    |
|            |    | ISNA   |     | 3    | 16     | 7       |    |
|            |    | QUFA   |     | 2    | 11     | 6       |    |
|            |    | RHPR   |     | 2    | 11     | 6       |    |
|            |    | ALNE   |     | 1    | 5      | 4       |    |
|            |    | EPIL   |     | 1    | 5      | 4       |    |

| Ecology<br>Unclassified            | PLAN<br>POTA<br>SESC<br>CAKI<br>FEBR<br>MOAR<br>MOCA<br>NACA<br>PHRA<br>FUGE<br>UNCL                                 | 1<br>1<br>1<br>1<br>2<br>1<br>1<br>3                                    | 5<br>5<br>5<br>5<br>5<br>11<br>5<br>5<br>5<br>16  | 3<br>3<br>2<br>2<br>2<br>2<br>2<br>2<br>3<br>0  |    |
|------------------------------------|--|---|---|---|----|
| Context 51                         | Sample   | 43/T  | Number  | of taxa   | 10 |
|                                    | Group No   | . taxa  | *taxa   | AIV   |    |
| Vegetation<br>Unclassified         | CHEN<br>SECA<br>BIDE<br>ISNA<br>PLAN<br>ARTE<br>CAKI<br>MOCA<br>UNCL   | 6<br>4<br>3<br>2<br>1<br>1<br>1<br>1                                    | 60<br>40<br>30<br>20<br>10<br>10<br>10<br>10  | 12<br>9<br>7<br>6<br>3<br>2<br>2<br>1<br>0  |    |
| Context 55                         | Sample   | 46/T  | Number  | of taxa   | 1  |
|                                    | Group No   | . taxa  | %taxa   | AIV   |    |
| Vegetation                         | ASTE   | 1   | 100   | 3   |    |
| Context 56                         | Sample   | 51/T  | Number  | of taxa   | 12 |
|                                    | Group No   | . taxa  | %taxa   | AIV   |    |
| Uses<br>Vegetation<br>Unclassified | FOOO<br>CHEN<br>PLAN<br>ISNA<br>SECA<br>SESC<br>ASTE<br>ARTE<br>BIDE<br>EPIL<br>FEBR<br>MOAR<br>NACA<br>PHRA<br>UNCL | 1<br>7<br>3<br>1<br>3<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2 | 8<br>58<br>25<br>8<br>25<br>17<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>17 | 1<br>15<br>7<br>6<br>5<br>5<br>3<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>0 |    |
| Context 57                         | Sample   | 53/T<br>  | Number  | of taxa   | 5  |
|                                    | Group No   | . taxa  | %taxa   | AIV   |    |
| Vegetation                         | CHEN<br>BIDE   | 3<br>2  | 60<br>40  | 7<br>4  |    |
|                                    | ISNA   | 1   | 20  | 3   |    |

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|                                      | ALNE<br>ARTE<br>EPIL<br>QUFA<br>RHPR<br>SECA   | 1<br>1<br>1<br>1<br>1  | 20<br>20<br>20<br>20<br>20<br>20  | 2<br>2<br>2<br>2<br>2<br>2<br>2   |    |
|--------------------------------------|--|--|---|---|----|
| Context 57                           | Sample   | 55/T   | Number  | of taxa   | 5  |
|                                      | Group No   | . taxa   | %taxa   | AIV   |    |
| Vegetation                           | CHEN<br>ASTE<br>ISNA<br>PLAN<br>ALNE<br>ARTE<br>EPIL<br>QUFA<br>RHPR<br>SECA<br>MOCA   | 2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                | 40<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20            | 5<br>3<br>3<br>2<br>2<br>2<br>2<br>2<br>2<br>1                                |    |
| Context 69                           | Sample   | 57/T   | Number  | of taxa   | 14 |
|                                      | Group No   | . taxa   | %taxa   | VIA   |    |
| Vegetation<br>Mosses<br>Unclassified | CHEN<br>ISNA<br>BIDE<br>ASTE<br>ARTE<br>CAKI<br>PLAN<br>SECA<br>MOAR<br>MOCA<br>BOGS<br>HEMO<br>LIGN<br>SLIT<br>WOOF<br>UNCL | 6<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3 | 43<br>14<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>21 | 14<br>9<br>4<br>2<br>2<br>2<br>2<br>1<br>1<br>2<br>2<br>2<br>2<br>2<br>2<br>0 |    |
| Context 69                           | Sample   | 97/T   | Number  | of taxa   | 0  |
| no :                                 | identifiab.  | le plan  | t remain  | s   |    |
| Context 100                          | Sample   | 59/T   | Number  | of taxa   | 36 |
|                                      | Group No   | . taxa   | %taxa   | AIV   |    |
| Uses<br>Vegetation                   | USEF<br>FOOO<br>CHEN<br>SECA<br>ARTE<br>BIDE<br>NACA   | 1<br>18<br>11<br>7<br>4<br>5                                       | 3<br>3<br>50<br>31<br>19<br>11<br>14  | 2<br>1<br>56<br>35<br>13<br>12<br>12  |    |

80 ×

| Mosses<br>Ecology<br>Unclassified | MOAR<br>OXSP<br>POTA<br>ISNA<br>PLAN<br>RHPR<br>FEBR<br>QUER<br>QUFA<br>CAKI<br>EPIL<br>MOCA<br>VAPI<br>PHRA<br>HEMO<br>WOOF<br>BOGS<br>GRAS<br>FENS<br>LIGN<br>MARS<br>SLIT<br>UNCL<br>FUGE<br>UNCL | 5<br>3<br>1<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>2<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2 | 14<br>8<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>3<br>3<br>3<br>3<br>6<br>6<br>6<br>6 | 8<br>6<br>6<br>5<br>5<br>4<br>3<br>3<br>3<br>2<br>2<br>2<br>2<br>1<br>6<br>6<br>4<br>4<br>2<br>2<br>2<br>2<br>0<br>6<br>0 |    |
|-----------------------------------|--|---|--|---|----|
| Context 100                       | Sample   | 60/T  | Number   | of taxa   | 27 |
|                                   |  |   |  |   |    |
|                                   | Group  | No. taxa  | %taxa  | AIV   |    |
| Uses                              | USEF   | 1   | 4  | 2   |    |
|                                   | F000   | 1   | 4  | 1   |    |
| Vegetation                        | CHEN   | 16  | 59   | 43  |    |
|                                   | SECA   | 9   | 33   | 20  |    |
|                                   | BIDE   | 4   | 15   | 12  |    |
|                                   | ARTE   | 6   | 22   | 11  |    |
|                                   | ISNA   | 2   | 7  | 11  |    |
|                                   | PLAN   | 3   | 11   | 7   |    |
|                                   | POTA   | 1   | 4  | 6   |    |
|                                   | EPIL   | 2   | 7  | 4   |    |
|                                   | MOAR   | 2   | 7  | 4   |    |
|                                   | RHPR   | 2   | 7  | 4   |    |
|                                   | NACA   | 2   | 7  | 3   |    |
|                                   | QUFA   | 2   | 7  | 3   |    |
|                                   | ALNE   | 1   | 4  | 2   |    |
|                                   | CAKI   | 1   | 4  | 2   |    |
|                                   | FEBR   | 1   | 4  | 2   |    |
|                                   | MOCA   | 1   | 4  | 2   |    |
|                                   | PHRA   | 2   | 7  | 2   |    |
|                                   | QUER   | 1   | 4  | 2   |    |
|                                   | 1 TAV  | 1   | 4  | 2   |    |
| Managa-                           | OXSP   | L<br>T  | 4  | 1   |    |
| MOSSES                            | GKAS   | L<br>1  | 4  | 2   |    |
|                                   | HEMO   | Ţ   | 4  | 2   |    |
|                                   | 1477 17 11 1   | -   | <i>n</i>   |   |    |
| Realers                           | WOOF   | 1   | 4  | 2   |    |
| Ecology                           | WOOF<br>FUGE   | 1   | 4<br>4   | 2   |    |

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| Context    | 100     | Sampl           | e   | 61/T    | N | lumber | of | taxa | 34 |
|------------|---------|-----------------|-----|---------|---|--------|----|------|----|
| ···        |         | Group           | No  | . taxa  |   | %taxa  |    | AIV  |    |
| Uses       |         | USEF            |     | 1       |   | 3      |    | 2    |    |
| 0000       |         | FOOD            |     | 1       |   | Ř      |    | 1    |    |
| Vecetati   | <u></u> | CHEN            |     | 16      |   | 47     |    | 46   |    |
| vegetati   | on      | CDEN<br>CDEN    |     | 10<br>Q |   | 26     |    | 23   |    |
|            |         | TONA            |     | 3       |   | 20     |    | 15   |    |
|            |         | LONA            |     | 1       |   | 12     |    | 10   |    |
|            |         | אסטיים<br>סיוים |     | ч<br>5  |   | 15     |    | 12   |    |
|            |         | DOWN            |     | 1       |   | 10     |    | 9    |    |
|            |         | NACA            |     | 3       |   | 0      |    | 9    |    |
|            |         | DIAN            |     | 2       |   | 5      |    | 0    |    |
|            |         | MOND            |     | 2       |   | 0      |    | 6    |    |
|            |         | MUAR            |     | 2       |   | 9      |    | 5    |    |
|            |         | PHKA            |     | 3       |   | 9      |    | 2    |    |
|            |         | OXSP            |     | 2       |   | 6      |    | 4    |    |
|            |         | RHPR            |     | 2       |   | 6      |    | 4    |    |
|            |         | ASTE            |     | 1       |   | 3      |    | 3    |    |
|            |         | MOCA            |     | 1       |   | 3      |    | 3    |    |
|            |         | QUFA            |     | 2       |   | 6      |    | 3    |    |
|            |         | CAKI            |     | 1       |   | 3      |    | 2    |    |
|            |         | FEBR            |     | 1       |   | 3      |    | 2    |    |
|            |         | QUER            |     | 1       |   | 3      |    | 2    |    |
|            |         | VAPI            |     | 1       |   | 3      |    | 2    |    |
|            |         | BULB            |     | 1       |   | 3      |    | 1    |    |
| Mosses     |         | HEMO            |     | 2       |   | 6      |    | 6    |    |
|            |         | WOOF            |     | 2       |   | 6      |    | 6    |    |
|            |         | BOGS            |     | 1       |   | 3      |    | 4    |    |
|            |         | LIGN            |     | 1       |   | 3      |    | 4    |    |
|            |         | SLIT            |     | 1       |   | 3      |    | 4    |    |
|            |         | GRAS            |     | 1       |   | 3      |    | 2    |    |
|            |         | UNCL            |     | 1       |   | 3      |    | 0    |    |
| Ecology    |         | FUGE            |     | 1       |   | 3      |    | 3    |    |
| Unclassi   | fied    | UNCL            |     | 4       |   | 12     |    | 0    |    |
| 0110240001 |         | 01101           |     |         |   |        |    | Ū    |    |
| Context    | 102     | Sampl           | е   | 62/T    | N | lumber | of | taxa | 8  |
|            |         | Group           | No  | . taxa  |   | %taxa  |    | VIA  |    |
| Vegetati   | on      | ARTE            |     | 3       |   | 38     |    | 5    |    |
| -          |         | CHEN            |     | 3       |   | 38     |    | 5    |    |
|            |         | ISNA            |     | 2       |   | 25     |    | 4    |    |
|            |         | POTA            |     | 1       |   | 13     |    | 3    |    |
|            |         | OUFA            |     | 2       |   | 25     |    | 3    |    |
|            |         | ALNE            |     | 1       |   | 13     |    | 2    |    |
|            |         | BIDE            |     | 1       |   | 13     |    | 2    |    |
|            |         | EPIL            |     | 1       |   | 13     |    | 2    |    |
|            |         | FEBR            |     | 1       |   | 13     |    | 2    |    |
|            |         | MOAR            |     | 1       |   | 13     |    | 2    |    |
|            |         | DUDD            |     | 1       |   | 13     |    | 2    |    |
|            |         | MOCA            |     | 1       |   | 13     |    | 1    |    |
|            |         | NUCA            |     | 1       |   | 13     |    | 1    |    |
|            |         | CLUN            |     | 1       |   | 13     |    | 1    |    |
| Unclassi   | fied    | UNCL            |     | 2       |   | 25     |    | 0    |    |
|            |         |                 |     |         |   |        |    |      |    |
| Context    | 102     | Sample          | e   | 63/T    | N | lumber | of | taxa | 14 |
| <b></b>    |         | Group           | No. | . taxa  |   | %taxa  |    | AIV  |    |
| Vegetati   | on      | CHEN            |     | 7       |   | 50     |    | 16   |    |

|              | ISNA | 3 | 21 | 10 |
|--------------|------|---|----|----|
|              | POTA | 2 | 14 | 6  |
|              | SECA | 3 | 21 | 6  |
|              | EPIL | 3 | 21 | 5  |
|              | PLAN | 2 | 14 | 5  |
|              | ARTE | 2 | 14 | 4  |
|              | BIDE | 2 | 14 | 4  |
|              | RUPP | 1 | 7  | 3  |
|              | ALNE | 1 | 7  | 2  |
|              | MOCA | 2 | 14 | 2  |
|              | QUFA | 1 | 7  | 2  |
|              | RHPR | 1 | 7  | 2  |
|              | MOAR | 1 | 7  | 1  |
| Unclassified | UNCL | 1 | 7  | 0  |

| Context      | ontext 154 Sample 65/T N |        | Number | of   | taxa | 12     |    |      |    |
|--------------|--------------------------|--------|--------|------|------|--------|----|------|----|
|              |                          | Group  | No.    | taxa |      | %taxa  |    | AIV  |    |
| Vegetati     | on                       | CHEN   |        | 6    |      | 50     |    | 12   |    |
|              |                          | ISNA   |        | 1    |      | 8      |    | 9    |    |
|              |                          | ARTE   |        | 4    |      | 33     |    | 7    |    |
|              |                          | EPIL   |        | 2    |      | 17     |    | 4    |    |
|              |                          | MOAR   |        | 3    |      | 25     |    | 4    |    |
|              |                          | ASTE   |        | 1    |      | 8      |    | 3    |    |
|              |                          | FEBR   |        | 2    |      | 17     |    | 3    |    |
|              |                          | NACA   |        | 2    |      | 17     |    | 3    |    |
|              |                          | QUFA   |        | 2    |      | 17     |    | 3    |    |
|              |                          | SECA   |        | 2    |      | 17     |    | 3    |    |
|              |                          | SESC   |        | 2    |      | 17     |    | 3    |    |
|              |                          | ALNE   |        | 1    |      | 8      |    | 2    |    |
|              |                          | PLAN   |        | 1    |      | 8      |    | 2    |    |
|              |                          | RHPR   |        | 1    |      | 8      |    | 2    |    |
|              |                          | PHRA   |        | 1    |      | 8      |    | 1    |    |
| Unclassified |                          | TRGE   |        | 1    |      | 8      |    | 1    |    |
|              |                          | UNCL   |        | 1    |      | 8      |    | 0    |    |
| Context      | 154                      | Sample | •      | 66/T | N    | lumber | of | taxa | 11 |
|              |                          | Group  | No.    | taxa |      | %taxa  |    | AIV  |    |
| Uses         |                          | F000   |        | 1    |      | 9      |    | 1    |    |
| Vegetati     | on                       | CHEN   |        | 5    |      | 45     |    | 12   |    |
| -            |                          | SECA   |        | 3    |      | 27     |    | 7    |    |
|              |                          | ISNA   |        | 1    |      | 9      |    | 6    |    |
|              |                          | ARTE   |        | 2    |      | 18     |    | 4    |    |
|              |                          | ASTE   |        | 1    |      | 9      |    | 3    |    |
|              |                          | PLAN   |        | 1    |      | 9      |    | 3    |    |
|              |                          | ALNE   |        | 1    |      | 9      |    | 2    |    |
|              |                          | BIDE   |        | 1    |      | 9      |    | 2    |    |
|              |                          | EPIL   |        | 1    |      | 9      |    | 2    |    |
|              |                          | QUFA   |        | 1    |      | 9      |    | 2    |    |
|              |                          | RHPR   |        | 1    |      | 9      |    | 2    |    |
| Unclassi     | fied                     | UNCL   |        | 3    |      | 27     |    | 0    |    |
| Context      | 289                      | Sample | ÷ .    | 88/T | N    | lumber | of | taxa | 1  |
|              |                          | Group  | No.    | taxa |      | %taxa  |    | AIV  |    |
| Unclassi     | fied                     | UNCL   |        | 1    |      | 100    |    | 0    |    |

| Context  | 311     | Sample | e 3  | 311/T+  |        | nber    | of | taxa | 62 |
|----------|---------|--------|------|---------|--------|---------|----|------|----|
|          |         | Group  | No.  | taxa    | 81     | caxa    |    | VIA  |    |
| Uses     |         | FOOS   |      | 9       |        | 15      |    | 26   |    |
| 0000     |         | WOOD   |      | 6       | -      | 10      |    | 7    |    |
|          |         | USEF   |      | 2       | -      | ŤŽ      |    | 5    |    |
|          |         | FOOF   |      | 1       |        | 2       |    | 1    |    |
| Vegetati | on      | CHEN   |      | 17      |        | 27      |    | 40   |    |
| Vegeeuer | 011     | OUFA   |      | 13      |        | 21      |    | 32   |    |
|          |         | RHPR   |      | 11      |        | 18      |    | 31   |    |
|          |         | ARTE   |      | 11      | -      | 18      |    | 26   |    |
|          |         | SECA   |      | 11      | -      | 18      |    | 25   |    |
|          |         | NACA   |      | 7       | -      | 11      |    | 17   |    |
|          |         | EPTL   |      | 4       | -      | 6       |    | 13   |    |
|          |         | TGNA   |      | 4       |        | ĥ       |    | 13   |    |
|          |         | MOND   |      | 5       | -      | ι Ô     |    | 13   |    |
|          |         | NT NF  |      | 1       | -      | ۲0<br>۲ |    | 12   |    |
|          |         | ADINE  |      | 4       |        | 6       |    | 11   |    |
|          |         | עסתם   |      | -1<br>5 |        | 0       |    | 10   |    |
|          |         | DIAN   |      | 2       |        | 2       |    | 7    |    |
|          |         | TUAN   |      | 2       |        | 5       |    | 5    |    |
|          |         | CART   |      | 2       |        | 3       |    | 1    |    |
|          |         | OVED   |      | 2       |        | 2       |    | 4    |    |
|          |         | ONDED  |      | 2       |        | с<br>Г  |    | 1    |    |
|          |         | QUER   |      | 3<br>1  |        | 2       |    | 4    |    |
|          |         | MOCA   |      | 1       |        | 2       |    | 7    |    |
|          |         | MOCA   |      | 1       |        | 2       |    | 2    |    |
|          |         | VAPI   |      | 1       |        | 2       |    | 2    |    |
|          |         | LTT.   |      | 1       |        | 2       |    | 1    |    |
|          |         | POTA   |      | 1       |        | 2       |    | 1    |    |
|          |         | TRGE   |      | 1       |        | 2       |    | 1    |    |
| Mosses   |         | BOGS   |      | 1       |        | 2       |    | 3    |    |
|          |         | HEMO   |      | 1       |        | 2       |    | 2    |    |
|          |         | LIGN   |      | Ţ       |        | 2       |    | Z    |    |
|          |         | OLIT   |      | 1       |        | 2       |    | 2    |    |
|          |         | SOL    |      | 1       |        | 2       |    | 2    |    |
|          |         | WOOF   |      | 1       |        | 2       |    | 2    |    |
|          |         | UNCL   |      | 1       |        | 2       |    | 0    |    |
| Ecology  |         | FUGE   |      | 2       |        | 3       |    | 4    |    |
|          |         | CALC   |      | 1       |        | 2       |    | 2    |    |
| Unclassi | fied    | UNCL   |      | 7       | -      | 11      |    | 2    |    |
|          |         |        |      |         |        |         |    |      |    |
| Context  | 320     | Sample | ∋ 3  | 20/T    | Nur    | nber    | of | taxa | 2  |
|          |         | Group  | No.  | taxa    | કt     | caxa    |    | AIV  |    |
| Heos     |         | FOOS   |      | 1       | 1      | 50      |    | Q    |    |
| Vogotati | <u></u> | L OOS  |      | 1       |        | 50      |    | 5    |    |
| vegetati | ΟΠ      | DUDD   |      | ±<br>1  | ,<br>c | 50      |    | 6    |    |
|          |         | NACA   |      | 1       | ç      | 50      |    | 1    |    |
|          |         | ACA    |      | 1       |        | 50      |    | 1    |    |
|          |         | UNGE   |      | Ŧ       |        |         |    | 1    |    |
| Context  | 323     | Sample | = 32 | 31/T    | Num    | wher    | of | taxa | 36 |
|          |         |        |      | , *<br> |        |         |    |      |    |
|          |         | Group  | NO.  | taxa    | কা     | .axa    |    | ¥1 A |    |
| Uses     |         | FOOS   |      | 3       |        | 8       |    | 15   |    |
|          |         | F000   |      | 1       |        | 3       |    | 1    |    |
|          |         | WOOD   |      | 1       |        | 3       |    | 1    |    |
| Vegetati | on      | CHEN   |      | 15      | 4      | 12      |    | 36   |    |
|          |         | BIDE   |      | 6       | -      | 7       |    | 28   |    |

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|                                       | ARTE<br>RHPR<br>QUFA<br>SECA<br>EPIL<br>MOAR<br>PLAN<br>ALNE<br>ISNA<br>NACA<br>PHRA<br>SCCA<br>CAKI<br>FEBR<br>LITT<br>SESC<br>OXSP                    | 7<br>4<br>7<br>3<br>4<br>3<br>1<br>1<br>3<br>2<br>1<br>1<br>1<br>1<br>1                          | 19<br>11<br>19<br>8<br>11<br>8<br>3<br>8<br>8<br>6<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                 | 19<br>16<br>15<br>10<br>10<br>7<br>6<br>6<br>6<br>5<br>4<br>2<br>2<br>2<br>2<br>2<br>1             |    |
|---------------------------------------|---|--|---|--|----|
| Mosses                                | BOGS<br>FENS<br>MARS<br>UNCL<br>FUGE  | 1<br>1<br>1<br>1   | 3<br>3<br>3<br>3<br>3   | 2<br>2<br>0<br>1   |    |
| Unclassified                          | UNCL  | 6  | 17  | 2  |    |
| Context 323                           | Sample  | e 3232/T   | Number  | of taxa  | 38 |
|                                       | Group   | No. taxa   | %taxa   | AIV  |    |
| Uses                                  | FOOS<br>FIBR<br>USEF<br>FOOO<br>WOOD  | 5<br>1<br>2<br>2   | 13<br>3<br>5<br>5   | 17<br>3<br>3<br>2<br>2   |    |
| Vegetation                            | CHEN<br>BIDE<br>ARTE<br>QUFA  | 10<br>5<br>8<br>6  | 26<br>13<br>21<br>16  | 29<br>27<br>25<br>18   |    |
|                                       | MOAR<br>RHPR<br>NACA<br>SECA<br>EPIL<br>ALNE<br>ISNA<br>OXSP<br>PHRA<br>FEBR<br>PLAN<br>SESC<br>QUER  | 7<br>5<br>6<br>5<br>3<br>1<br>2<br>3<br>3<br>2<br>1<br>1   | 18<br>13<br>16<br>13<br>8<br>3<br>5<br>8<br>8<br>8<br>8<br>5<br>3<br>3<br>3                                     | 17<br>17<br>14<br>13<br>12<br>6<br>6<br>6<br>5<br>5<br>5<br>2<br>1                                 |    |
| Mosses<br>Unclassified                | MOAR<br>RHPR<br>NACA<br>SECA<br>EPIL<br>ALNE<br>ISNA<br>OXSP<br>PHRA<br>FEBR<br>PLAN<br>SESC<br>QUER<br>BOGS<br>FENS<br>MARS<br>UNCL                    | 7<br>5<br>6<br>5<br>3<br>1<br>2<br>3<br>3<br>2<br>1<br>1<br>1<br>1<br>5                          | 18<br>13<br>16<br>13<br>8<br>3<br>5<br>8<br>8<br>8<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>13           | 17<br>17<br>14<br>13<br>12<br>6<br>6<br>6<br>6<br>5<br>5<br>2<br>1<br>2<br>2<br>2<br>4             |    |
| Mosses<br>Unclassified<br>Context 335 | MOAR<br>RHPR<br>NACA<br>SECA<br>EPIL<br>ALNE<br>ISNA<br>OXSP<br>PHRA<br>FEBR<br>PLAN<br>SESC<br>QUER<br>BOGS<br>FENS<br>MARS<br>UNCL<br>Sample          | 7<br>5<br>6<br>5<br>3<br>1<br>2<br>3<br>3<br>2<br>1<br>1<br>1<br>1<br>5<br>89/T                  | 18<br>13<br>16<br>13<br>8<br>3<br>5<br>8<br>8<br>8<br>8<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>13<br>Number | 17<br>17<br>14<br>13<br>12<br>6<br>6<br>6<br>6<br>5<br>5<br>2<br>1<br>2<br>2<br>2<br>4<br>0f taxa  | 1  |
| Mosses<br>Unclassified<br>Context 335 | MOAR<br>RHPR<br>NACA<br>SECA<br>EPIL<br>ALNE<br>ISNA<br>OXSP<br>PHRA<br>FEBR<br>PLAN<br>SESC<br>QUER<br>BOGS<br>FENS<br>MARS<br>UNCL<br>Sample<br>Group | 7<br>5<br>6<br>5<br>3<br>1<br>2<br>3<br>3<br>3<br>2<br>1<br>1<br>1<br>1<br>5<br>89/T<br>No. taxa | 18<br>13<br>16<br>13<br>8<br>3<br>5<br>8<br>8<br>8<br>8<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>13<br>Number      | 17<br>17<br>14<br>13<br>12<br>6<br>6<br>6<br>5<br>5<br>2<br>1<br>2<br>2<br>4<br>0<br>f taxa<br>AIV | 1  |

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| Context    | 335 | Sampl         | .e      | 90/T   | Nu         | umber    | of     | taxa    | 3  |
|------------|-----|---------------|---------|--------|------------|----------|--------|---------|----|
|            |     | Group         | No      | . taxa | 1 <b>8</b> | staxa    |        | AIV     |    |
| Uses       |     | FOOS          |         | 1      |            | 33       |        | 1       |    |
| Veretatio  | n   | TSNA          |         | 1      |            | 22       |        | 2       |    |
| .09004010  | **  | SECA          |         | 1      |            | 33       |        | ž       |    |
|            |     | CHEN          |         | 1      |            | 33       |        | 2       |    |
|            |     | Спен          |         | T      |            | 22       |        | 2       |    |
| Context    | 337 | Sampl         | .e      | 91/T   | Nu         | mber     | of     | taxa    | 27 |
|            |     | Group         | No      | . taxa | <br>%      | taxa     |        | AIV     |    |
| Uses       |     | FOOS          |         | 2      |            | 7        |        | 6       |    |
|            |     | WOOD          |         | 1      |            | 4        |        | 1       |    |
| Vegetatio: | n   | CHEN          |         | 11     |            | 41       |        | 25      |    |
|            |     | ARTE          |         | 7      |            | 26       |        | 17      |    |
|            |     | SECA          |         | 6      |            | 22       |        | 15      |    |
|            |     | QUFA          |         | 5      |            | 19       |        | 12      |    |
|            |     | BIDE          |         | 4      |            | 15       |        | 11      |    |
|            |     | RHPR          |         | 4      |            | 15       |        | 10      |    |
|            |     | ALNE          |         | 2      |            | 7        |        | 1       |    |
|            |     | EFIL<br>TOND  |         | 2      |            | -        |        | 6       |    |
|            |     | 1 DINA        |         | 2      |            | '<br>-   |        | 4       |    |
|            |     |               |         | 2      |            | ~        |        | 4       |    |
|            |     | CAVI          |         | 1      |            | 4        |        | 3       |    |
|            |     | MOND          |         | 1      |            | 4        |        | 2       |    |
|            |     | MOCA          |         | 1      |            | 4        |        | 4       |    |
| Massas     |     | POCE          |         | 1      |            | 4        |        | 1       |    |
| MUSSES     |     | DUGS<br>FFNC  |         | 1      |            | 4        |        | 2       |    |
|            |     | MADC          |         | 1      |            | 4        |        | 2       |    |
| Unclassif  | ied | UNCL          |         | 5      |            | 19       |        | 0       |    |
|            |     |               |         |        |            |          |        |         |    |
| Context    | 337 | Sampl         | e 3<br> | 337/T  | Nu:<br>    | mber     | of<br> | taxa    | 27 |
|            |     | Group         | No.     | taxa   | Ŷ          | taxa     |        | AIV     |    |
| Uses       |     | WOOD          |         | 4      |            | 15       |        | 5       |    |
| Vocotatio  | ~   | CUEN          |         | 2      |            | /<br>22  |        | 4<br>10 |    |
| vegetation | 1   | OUEN          |         | 9      |            | 33<br>22 |        | 19      |    |
|            |     | DULU<br>VDULU |         | 6      |            | 22<br>22 |        | 17      |    |
|            |     | RHPR          |         | 2      |            | 7        |        | 8       |    |
|            |     | SECA          |         | 4      |            | 15       |        | 8       |    |
|            |     | BIDE          |         | 3      |            | 11       |        | 7       |    |
|            |     | ALNE          |         | 1      |            | 4        |        | 6       |    |
|            |     | EPIL          |         | 1      |            | 4        |        | 6       |    |
|            |     | MOAR          |         | 3      |            | 11       |        | 6       |    |
|            |     | FEBR          |         | 2      |            | 7        |        | 4       |    |
|            |     | OXSP          |         | 1      |            | 4        |        | 3       |    |
|            |     | POTA          |         | 1      |            | 4        |        | 3       |    |
|            |     | PHRA          |         | 2      |            | 7        |        | 2       |    |
|            |     | PLAN          |         | 1      |            | 4        |        | 2       |    |
|            |     | ISNA          |         | 1      |            | 4        |        | 1       |    |
|            |     | MOCA          |         | 1      |            | 4        |        | 1       |    |
| Mosses     |     | HEMO          |         | 1      |            | 4        |        | 2       |    |
|            |     | LIGN          |         | 1      |            | 4        |        | 2       |    |
|            |     | OLIT          |         | 1      |            | 4        |        | 2       |    |
|            |     | SOIL          |         | 1      |            | 4        |        | 2       |    |
|            |     | WOOF          |         | 1      |            | 4        |        | 2       |    |

| Unclassified | UNCL<br>1 UNCL | 2<br>4    | 7<br>15  |    | 0<br>0 |    |
|--------------|----------------|-----------|----------|----|--------|----|
| Context 343  | 8 Sample       | 92/T      | Number   | of | taxa   | 0  |
| no           | identifi       | able plan | t remain | ns |        |    |
| Context 343  | 3 Sample       | 343/B     | Number   | of | taxa   | 3  |
|              | Group          | No. taxa  | %taxa    |    | AIV    |    |
| Uses         | FOOS           | 3         | 100      |    | 5      |    |
| Context 344  | Sample         | 93/T      | Number   | of | taxa   | 0  |
| no           | identifi       | able plan | t remain | ns |        |    |
| Context 364  | Sample         | 364/B     | Number   | of | taxa   | 10 |
|              | Group          | No. taxa  | %taxa    |    | AIV    |    |
| Uses         | FOOS           | 6         | 60<br>20 |    | 16     |    |
| Vegetation   | CHEN           | 1         | 10       |    | 2      |    |
| Unclassified | SECA<br>l UNCL | 1<br>1    | 10<br>10 |    | 2<br>0 |    |
| Context 400  | Sample         | 400/T     | Number   | of | taxa   | 35 |
|              | Group          | No. taxa  | %taxa    |    | AIV    |    |
| Uses         | FOOS           | 3         | 9        |    | 15     |    |
|              | WOOD           | 7         | 20       |    | 10     |    |
| Vegetation   | ARTE           | 8         | 23       |    | 23     |    |
|              | OUFA           | 7         | 20       |    | 20     |    |
|              | RHPR           | 5         | 14       |    | 18     |    |
|              | CHEN           | 8         | 23       |    | 17     |    |
|              | SECA           | 5         | 14       |    | 10     |    |
|              | BIDE           | 4         | 11       |    | 9      |    |
|              | EPIL           | 3         | 9        |    | 9      |    |
|              | DHRA           | ⊥<br>3    | 9        |    | 6      |    |
|              | ISNA           | 2         | 6        |    | 4      |    |
|              | NACA           | 2         | 6        |    | 4      |    |
|              | PLAN           | 1         | 3        |    | 3      |    |
|              | POTA           | 1         | 3        |    | 3      |    |
|              | CAKI           | 1         | 3        |    | 2      |    |
|              | LITT           | 1         | 3        |    | 2      |    |
|              | MUAK           | 1<br>2    | 3<br>6   |    | 2      |    |
|              | SCCA           | 2<br>1    | 3        |    | 2      |    |
|              | MOCA           | 1         | 3        |    | 1      |    |
| Ecology      | FUGE           | 1         | 3        |    | 2      |    |
| Unclassified | UNCL           | 4         | 11       |    | 0      |    |

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| Context 4  | 117 | Sampl  | e   | 41     | 7/T   | Nu    | mber  | of | taxa       | 25 |
|------------|-----|--------|-----|--------|-------|-------|-------|----|------------|----|
|            |     | Group  | No  | 0.     | taxa  | Ą     | staxa |    | AIV        |    |
| Uses       |     | FOOS   |     |        | 4     |       | 16    |    | 21         |    |
|            |     | FOOF   |     |        | 1     |       | 4     |    | 6          |    |
|            |     | WOOD   |     |        | 1     |       | 4     |    | 2          |    |
| Vegetation | ר   | CHEN   |     |        | 9     |       | 36    |    | 28         |    |
| 5          |     | RHPR   |     |        | 5     |       | 20    |    | 20         |    |
|            |     | ARTE   |     |        | 7     |       | 28    |    | 19         |    |
|            |     | OUFA   |     |        | 4     |       | 16    |    | 15         |    |
|            |     | ALNE   |     |        | 3     |       | 12    |    | 12         |    |
|            |     | SECA   |     |        | 5     |       | 20    |    | 12         |    |
|            |     | EPIL   |     |        | 3     |       | 12    |    | 10         |    |
|            |     | MOAR   |     |        | 3     |       | 12    |    | 6          |    |
|            |     | PHRA   |     |        | 3     |       | 12    |    | 5          |    |
|            |     | BIDE   |     |        | 1     |       | 4     |    | 2          |    |
|            |     | CAKI   |     |        | 1     |       | 4     |    | 2          |    |
|            |     | FEBR   |     |        | 1     |       | 4     |    | 2          |    |
|            |     | NACA   |     |        | 1     |       | 4     |    | 2          |    |
| Mosses     |     | BOGS   |     |        | 1     |       | 4     |    | 3          |    |
| Ecology    |     | CALC   |     |        | 1     |       | 4     |    | 4          |    |
| Unclassifi | ed  | UNCL   |     |        | 5     |       | 20    |    | Ō          |    |
| Context 4  | 37  | Sample | е   | 43     | 7/SPT | Nu    | mber  | of | taxa       | 7  |
|            |     | Group  | No  | <br>o. | taxa  | <br>8 | taxa  |    | AIV        |    |
| Vegetation | ı   | NACA   |     |        | 3     |       | 43    |    | 14         |    |
|            |     | OXSP   |     |        | 2     |       | 29    |    | 8          |    |
|            |     | ISNA   |     |        | 1     |       | 14    |    | 3          |    |
|            |     | FEBR   |     |        | 1     |       | 14    |    | 2          |    |
|            |     | MOAR   |     |        | 1     |       | 14    |    | 2          |    |
|            |     | QUER   |     |        | 1     |       | 14    |    | 2          |    |
|            |     | PHRA   |     |        | 1     |       | 14    |    | 1          |    |
| Mosses     |     | GRAS   |     |        | 1     |       | 14    |    | 4          |    |
|            |     | HEMO   |     |        | 1     |       | 14    |    | 4          |    |
|            |     | WOOF   |     |        | 1     |       | 14    |    | 4          |    |
|            |     | UNCL   |     |        | 1     |       | 14    |    | 0          |    |
| Context 4  | 48  | Sample | e   | 44     | 8/T   | Nu    | mber  | of | taxa       | 22 |
|            |     | Group  |     |        |       | <br>2 |       |    | <br>λ τ \/ |    |
|            |     | Group  | IVC |        | LANA  | °C    | lana  |    | ALV        |    |
| Uses       |     | FOOS   |     |        | 2     |       | 9     |    | 12         |    |
|            |     | WOOD   |     |        | 2     |       | 9     |    | 2          |    |
| Vegetation | 1   | ARTE   |     |        | 7     |       | 32    |    | 18         |    |
|            |     | QUEA   |     |        | 4     |       | 18    |    | 15         |    |
|            |     | RHPR   |     |        | 3     |       | 14    |    | 14         |    |
|            |     | CHEN   |     |        | 7     |       | 32    |    | 13         |    |
|            |     | SECA   |     |        | 5     |       | 23    |    | 10         |    |
|            |     | ALNE   |     |        | 2     |       | 9     |    | 9          |    |
|            |     | EPIL   |     |        | 2     |       | 9     |    | 8          |    |
|            |     | ISNA   |     |        | 2     |       | 9     |    | 7          |    |
|            |     | NACA   |     |        | 2     |       | 9     |    | 5          |    |
|            |     | BIDE   |     |        | 2     |       | 9     |    | 4          |    |
|            |     | MOAR   |     |        | 2     |       | 9     |    | 4          |    |
|            |     | POTA   |     |        | 1     |       | 5     |    | 3          |    |
|            |     | FEBR   |     |        | 1     |       | 5     |    | 2          |    |
|            |     | MOCA   |     |        | 1     |       | 5     |    | 1          |    |
|            |     | PHRA   |     |        | 1     |       | 5     |    | 1          |    |
| Unclassifi | ed  | UNCL   |     |        | 5     |       | 23    |    | 0          |    |

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Appendix 3

Context: 13 Sample: 14/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

## Erosion = 3 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as               |          | N             | -        | 255 |
|--|----------|---------------|----------|-----|
| Number of taxa                                   |          |               | =        | 149 |
| Index of diversity (alpha)                       | ~-       | aipha         | =        | 120 |
| Standard error of alpha                          | SE       | alpha         | =        | 1/  |
| Number of 'certain' outdoor taxa                 |          | SOA           | =        | 83  |
| Percentage of 'certain' outdoor taxa             |          | %SOA          | Ξ        | 56  |
| Number of 'certain' outdoor individuals          |          | NOA           | =        | 155 |
| Percentage of 'certain' outdoor individuals      |          | %NOA          | =        | 61  |
| Number of 'certain' and probable outdoor taxa    |          | SOB           | =        | 93  |
| Percentage of 'certain' and probable outdoor tax | a        | %SOB          | =        | 62  |
| Number of 'certain' and probable outdoor individ | uals     | NOB           | -        | 166 |
| Percentage 'certain' and probable outdoor indivi | duals    | %NOB          | #        | 65  |
| Index of diversity of outdoor component          | al       | pha OB        | =        | 87  |
| Standard error                                   | SE al    | pha OB        | =        | 12  |
| Number of aquatic taxa                           |          | SW            | =        | 16  |
| Percentage of aquatic taxa                       |          | %SW           | =        | 11  |
| Number of aquatic individuals                    |          | NW            |          | 30  |
| Percentage of aquatic individuals                |          | %NW           | Ħ        | 12  |
| Number of damp ground/waterside taxa             |          | SD            | =        | 14  |
| Percentage of damp ground/waterside taxa         |          | <b>%</b> SD   | =        | 9   |
| Number of damp ground/waterside individuals      |          | ND            | =        | 32  |
| Percentage of damp ground/waterside individuals  |          | %ND           | =        | 13  |
| Number of strongly plant-associated taxa         |          | SP            | =        | 45  |
| Percentage of strongly plant-associated taxa     |          | %S₽           | =        | 30  |
| Number of strongly plant-associated individuals  |          | NP            | =        | 80  |
| Percentage of strongly plant-associated individu | als      | %NP           | =        | 31  |
| Number of heathland/moorland taxa                |          | SM            | Ħ        | 0   |
| Number of heathland/moorland individuals         |          | NM            | <u> </u> | 0   |
| Percentage of heathland/moorland individuals     |          | *NM           | =        | 0   |
| Number of wood-associated taxa                   |          | SL            | =        | 2   |
| Number of wood-associated individuals            |          | NL.           | =        | 2   |
| Remember of wood-associated individuals          |          | \$ΝĬ.         | =        | 1   |
| Number of decomposer taxa                        |          | SRT           |          | 29  |
| Remonstrate of decomposer taxa                   |          | *SRT          | =        | 19  |
| Number of decomposer individuals                 |          | NRT           | =        | 50  |
| Number of decomposer individuals                 |          | \$NRT         | =        | 20  |
| Number of (dru( docomposer tax)                  |          | SBD           | =        | - 3 |
| Number of dry decomposer taxa                    |          | 498D          |          | 2   |
| Number of Idrul docomposer individuals           |          | NRD           | _        | 4   |
| Number of dry decomposer individuals             |          | &NRD          | =        | 2   |
| Number of (foul) decomposer individuals          |          | CDE           | _        | 2   |
| Number of foul decomposer taxa                   |          | SUDE.         | _        | 2   |
| Percentage of four decomposer taxa               |          | NDE           | _        |     |
| Number of 'foul' decomposer individuals          |          | NICE<br>SNIDE | _        | 2   |
| Percentage of 'foul' decomposer individuals      | - 1      | 21NRC         | _        | 200 |
| Index of diversity of decomposer component       | ar<br>ar | pna Kr        | =        | 29  |
| Standard error                                   | SE ar    | pna Kr        | =        | 0   |
| Number of individuals of grain pests             |          | NG            | =        | 0   |
| Percentage of individuals of grain pests         |          | *NG           | =        | 0   |
| Number of individuals of grain pests             |          | NG            | -        | 0   |
| Number of uncoded taxa                           |          | SU            | =        | 28  |
| Percentage of uncoded individuals                |          | PNU           | =        | 17  |

Context: 13 Sample: 14/T

| Ta | х | on |
|----|---|----|
|----|---|----|

| Taxon                                  | Number | * | Rank | Ecodes    |
|--|--------|---|------|-----------|
| Oxytelus fulvipes Erichson             | 9      | 4 | 1    | oa d      |
| Ochthebius minimus (Fabricius)         | 8      | 3 | 2    | oa w      |
| Aleocharinae sp. E                     | 7      | 3 | 3    | u         |
| Apion (Protapion) dissimile Germar     | 6      | 2 | 4    | oa p      |
| Tachyporus sp. E                       | 5      | 2 | : 5  | น         |
| Hydraena riparia Kugelann              | 4      | 2 | 6    | oa w      |
| Acrotrichis sp. B                      | 4      | 2 | 6    | rt        |
| Lesteva longoelytrata (Goeze)          | 4      | 2 | 6    | oa d      |
| Aphodius contaminatus (Herbst)         | 4      | 2 | 6    | oa rf     |
| Meligethes aeneus (Fabricius)          | 4      | 2 | 6    | oa p      |
| Corticarina ?fuscula (Gyllenhal)       | 4      | 2 | 6    | rt        |
| Apion sp. B                            | 4      | 2 | 6    | oa p      |
| Gymnetron pascuorum (Gyllenhal)        | 4      | 2 | 6    | oa p      |
| Aphrodes flavostriatus (Donovan)       | 4      | 2 | 6    | oa p d    |
| Chaetarthria seminulum (Herbst)        | 3      | 1 | 15   | oa w      |
| Anthobium atrocephalum (Gyllenhal)     | 3      | 1 | 15   | oa        |
| Corticaria sp.                         | 3      | 1 | 15   | rt        |
| Apion (Oxystoma) craccae (Linnaeus)    | 3      | 1 | 15   | oa p      |
| Apion sp. A                            | 3      | 1 | 15   | oa p      |
| Aphrodes sp.                           | 3      | 1 | 15   | oa p      |
| Auchenorhyncha sp. A                   | 3      | 1 | 15   | oa p      |
| Trechus quadristriatus (Schrank)       | 2      | 1 | 22   | oa        |
| Harpalus sp. A                         | 2      | 1 | 22   | oa        |
| Harpalus sp. B                         | 2      | 1 | 22   | oa        |
| Dromius linearis (Olivier)             | 2      | 1 | 22   | oa        |
| Hydrochus elongatulus (Schaller)       | 2      | 1 | 22   | oaw       |
| Cercyon ?convexiusculus Stephens       | 2      | 1 | 22   | oa d      |
| Laccobius sp.                          | 2      | 1 | 22   | oaw       |
| Ptenialum sp.                          | ~ ~    | 1 | 22   | rt        |
| Acrotrichis sp. A                      | 2      | 1 | 22   | rt        |
| Matenaia votuca (Stenhena)             | 2      | 1 | 22   | u         |
| Carpolinus clongatulus (Fricheon)      | 2      | 1 | 22   | u<br>op d |
| Anotylus pitidulus (Crayophoret)       | 2      | 1 | 22   | va u      |
| Anotylus nitidulus (Gravenhorst)       | 2      | 1 | 22   | rt u      |
| Anotylus sculpturatus group            | 2      | 1 | 22   | 1L<br>~+  |
| Xantholinus longiventris Heer          | 2      | 1 | 22   | 14<br>77  |
| Tachyporus sp B                        | 2      | 1 | 22   | 10        |
| Tachinus corticinus Gravenborst        | 2      | 1 | 22   | 11        |
| Tachinus signatus Gravenhorst          | 2      | 1 | 22   | 1)        |
| Aleocharinae sp. F                     | 2      | 1 | 22   | <u>u</u>  |
| Aphodius sp.                           | 2      | 1 | 22   | ob rf     |
| Serica brunnea (Linnaeus)              | 2      | 1 | 22   | oap       |
| Dryops sp.                             | 2      | 1 | 22   | oad       |
| Brachypterus urticae (Fabricius)       | 2      | 1 | 22   | oa p      |
| Atomaria sp.                           | 2      | 1 | 22   | rd        |
| Orthoperus sp.                         | 2      | 1 | 22   | rt        |
| Enicmus sp.                            | 2      | 1 | 22   | rt        |
| Phyllotreta sp.                        | 2      | 1 | 22   | oa p      |
| Crepidodera sp.                        | 2      | 1 | 22   | oap       |
| Sphaeroderma ?testaceum                | 2      | 1 | 22   | oa p      |
| Apion sp. D                            | 2      | 1 | 22   | oa p      |
| Cidnorhinus quadrimaculatus (Linnaeus) | 2      | 1 | 22   | oa p      |
| Ceutorhynchus sp.                      | 2      | 1 | 22   | oa p      |
| Gymnetron ?labile (Herbst)             | 2      | 1 | 22   | oa p      |
| Auchenorhyncha sp. B                   | 2      | 1 | 22   | oa p      |
| Carabus granulatus Linnaeus            | 1      | 0 | 57   | oa        |

Pterostichus melanarius (Illiger) 57 ob 1 0 Pterostichus minor (Gyllenhal) 1 0 57 Calathus fuscipes (Goeze) 1 0 57 Amara sp. 57 1 Ω Carabidae sp. 1 0 57 57 oa w 57 oa w Hydroporinae sp. 1 0 Agabus bipustulatus (Linnaeus) 1 0 57 oa w Colymbetinae sp. 1 0 Helophorus sp. A 57 oa w 1 0 57 oa w Helophorus sp. B 1 0 Helophorus sp. C 57 oa w 1 0 Coelostoma orbiculare (Brulle) 1 0 57 oa w Cercyon ?tristis (Illiger) 1 0 57 oa d Cercyon sp. 1 0 57 u Megasternum obscurum (Marsham) 1 0 57 rt 1 0 Hydrophilinae sp. 57 oa w Onthophilus striatus (Forster) 1 57 0 1 57 Ochthebius sp. 0 Limnebius sp. A 1 0 57 Limnebius sp. B 1 0 57 Micropeplus fulvus (Erichson) 1 0 57 Micropeplus porcatus (Paykull) 1 0 57 Omalium ?rivulare (Paykull) 1 0 57 57 Omalium sp. A 1 0 57 rt Omalium sp. B 1 0 57 oa Syntomium aeneum (Muller) 1 0 57 u Stenus sp. 1 0 Lathrobium sp. A 1 57 u 0 Lathrobium sp. B 1 0 57 u Rugilus ?orbiculatus (Paykull) 1 0 57 rt Gyrohypnus ?angustatus Stephens 1 0 57 rt Xantholinus ?linearis (Olivier) 1 0 57 rt 57 oa d Erichsonius cinerascens (Gravenhorst) 1 0 Philonthus sp. 1 0 57 u Staphylinus ?aeneocephalus Degeer 1 0 57 Sepedophilus sp. 1 0 57 Tachyporus obtusus (Linnaeus) 1 0 57 Tachyporus sp. A 1 57 0 Tachyporus sp. C 1 0 57 Tachyporus sp. D 1 0 57 Tachinus laticollis or marginellus 57 1 0 57 rt Falagria caesa or sulcatula 1 0 57 u Aleocharinae sp. A 1 0 Aleocharinae sp. B 57 u 1 0 Aleocharinae sp. C 1 0 57 u 1 57 u Aleocharinae sp. D 0 Aleocharinae sp. G 1 0 57 u Aleocharinae sp. H 1 0 57 u 0 Aleocharinae sp. I 1 57 u 0 1 57 oa rf Geotrupes sp. Oxyomus sylvestris (Scopoli) 1 0 57 rt Melolonthinae/Rutelinae/Cetoninae sp. 1 0 57 Cyphon sp. 1 0 57 oa d ?Agrypnus murinus (Linnaeus) 1 0 57 1 57 Adrastus pallens (Fabricius) 0 57 Elateridae sp. A 1 0 57 ob Elateridae sp. B 1 0 57 ob Elateridae sp. C 1 0 57 ob Cantharis rustica (Fallen) 1 0 57 ob 0 Cantharis sp. 1 57 ob 1 0 Rhagonycha sp. 57 ob 0 Cantharidae sp. 1 57 1 Anobium ?punctatum (Degeer) 1 0

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| <pre>Kateretes ?rufilabris (Latreille)<br/>Meligethes sp.<br/>Ephistemus globulus (Paykull)<br/>Olibrus sp.<br/>Coccinellidae sp.<br/>Lathridius minutus group<br/>Timarcha tenebricosa (Fabricius)<br/>Chrysolina polita (Linnaeus)<br/>Gastrophysa ?polygoni (Linnaeus)<br/>Phyllotreta nemorum group<br/>Hippuriphila modeeri (Linnaeus)<br/>Psylliodes sp.<br/>Halticinae sp.<br/>Apion sp. C<br/>Otiorhynchus ovatus (Linnaeus)<br/>Phyllobius pomaceus Gyllenhal<br/>Phyllobius ?viridiaeris (Laicharting)<br/>Sitona humeralis Stephens<br/>Rhinoncus castor (Fabricius)<br/>Curculionidae sp.<br/>Leperisinus ?varius (Fabricius)<br/>Scolopostethus sp.<br/>Lygaeidae sp.<br/>Anthccoris sp.<br/>Saldidae sp.<br/>Neophilaenus campestris (Fallen)<br/>Agallia brachyptera (Boheman)<br/>Auchenorhyncha sp. C<br/>Hemiptera sp.<br/>Context: 17; Sample: 1/T<br/>NO RECORDS OF BEETLES OR BUGS</pre> | $ \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\$ |               | 57777777777777777777777777777777777777 | oa<br>ord<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo<br>oo | υσυρυσό υσυρουσουρούο το το | dd |
|---|---|---------------|--|---|-----------------------------|----|
| Context: 17; Sample: 2/T  |   |               |  |   |                             |    |
| NO RECORDS OF BEETLES OR BUGS   |   |               |  |   |                             |    |
| Context: 17 Sample: 3/T - STATISTICS FOR BEETLES<br>Fully quantitative (or estimates for very large r<br>Erosion = 0 Fragmentation = 0; Weight = 1.000kg  | AND E<br>number   | BUGS<br>s onl | .y).                                   |   |                             |    |
| Number of individuals estimated as<br>Number of taxa  |   | N<br>S        | =<br>} =                               |   | 1<br>1                      |    |
| Index of diversity not calculated, $n = s$ or $n < 2$<br>Number of 'certain' outdoor taxa   | 20  | SOA           | / =                                    |   | 1                           |    |
| Percentage of 'certain' outdoor taxa  |   | %SOA          | ( ==                                   | 1   | 00                          |    |
| Number of 'certain' outdoor individuals<br>Percentage of 'certain' outdoor individuals  |   | NOA<br>%NOA   | . =                                    | 1   | 1<br>00                     |    |
| Number of 'certain' and probable outdoor taxa   |   | SOE           | } ==                                   | -   | 1                           |    |
| Percentage of 'certain' and probable outdoor taxa   | L   | *SOE          | } ===                                  | 1   | 00                          |    |
| Number of 'certain' and probable outdoor individu   | als   | NOE           | ; =                                    | 1   | 1                           |    |
| Diversity index for OB not calculated, NOB = SOB  | or NO   | 3NOE<br>B < 2 | ; =<br>:0                              | Ŧ   | 00                          |    |
| Number of aquatic taxa  |   | SW            | / =<br>1 _                             |   | 0                           |    |
| rercentage of aquatic taxa  |   | 85W<br>NT-    | ; =<br>1                               |   | 0<br>0                      |    |
| Percentage of aguatic individuals   |   | 100<br>%NW    | 1 =                                    |   | 0                           |    |
| Number of damp ground/waterside taxa  |   | SE            | ) =                                    |   | 0                           |    |
|   |   |               |  |   |                             |    |

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| receipting of admp ground, wheelpille cana  | %SD  | = 0  |
|---|--|--|
| Number of damp ground/waterside individuals   | ND   | = 0  |
| Percentage of damp ground/waterside individ   | uals %ND   | = 0  |
| Number of strongly plant-associated taxa  | SP   | = 0  |
| Percentage of strongly plant-associated tax   | a %SP  | - 0  |
| Number of strongly plant-associated individ   | uals NP  | = 0  |
| Percentage of strongly plant-associated inc   | ividuals %NP   | = 0  |
| Number of heathland/moorland taxa   | SM   | - 0  |
| Number of heathland/moorland individuals  | NM   | = 0  |
| Percentage of heathland/moorland individual   | s %NM  | - 0  |
| Number of wood-associated taxa  | SL   | - 0  |
| Number of wood-associated individuals   | NL   | - 0  |
| Percentage of wood-associated individuals   | %NL  | = 0  |
| Number of decomposer taxa   | SRT  | = 0  |
| Percentage of decomposer taxa   | *SRT   | = Õ  |
| Number of decomposer individuals  | NBT  | = 0  |
| Percentage of decomposer individuals  | &NDT   | = 0  |
| Number of 'dry' decomposer taxa   | SPD  | = 0  |
| Percentage of 'dry'decomposer taxa  | 999  | - 0  |
| Number of 'dry' decomposer individuals  | ND   | - 0  |
| Percentage of (dry/decomposer individuals   | מתוא<br>געמאא  | - 0  |
| Number of (foul) decomposer taxa  | CDE  | 0  |
| Remonstrate of /foul/ decomposer taxa   |  | - 0  |
| Number of (foul) decomposer individuals   | TORE   | = 0  |
| Number of fould decomposer individuals  | NRE  | = 0  |
| Percentage of 'rour' decomposer individuals   | *NRF   | = 0  |
| Diversity index for RT not calculated, NRT  | = SRT or NRT $< 20$  |  |
| Number of individuals of grain pests  | NG   | = 0  |
| Percentage of individuals of grain pests  | %NG ÷  | = 0  |
| Number of individuals of grain pests  | NG   | = 0  |
| Number of uncoded taxa  | SU   | = 0  |
| Porcontago of uncoded individuals   |  | = Ω  |
| reicentage of uncoded individuals   | PNU  | Ũ  |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T   | PNU  | Ū  |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon  | PNU<br>Number % Rank   | Ecodes   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon  | PNU<br>Number % Rank   | Ecodes   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.   | PNU<br>Number % Rank<br>1 100 1  | Ecodes   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg  | Ecodes<br>oa   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =   | Ecodes<br>oa<br>).   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as<br>Number of taxa  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =  | Ecodes<br>oa<br>= 9<br>= 8   |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as<br>Number of taxa<br>Index of diversity not calculated, n = s or   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =  | Ecodes<br>oa<br>= 9<br>= 8   |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa</pre>  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =   | Ecodes<br>oa<br>= 9<br>= 8   |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa</pre>   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =   | Ecodes<br>oa<br>).<br>= 9<br>= 8<br>= 2<br>= 25  |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor taxa</pre>  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>NOA =  | Ecodes<br>oa<br>•.<br>= 9<br>= 8<br>= 2<br>= 25<br>= 25  |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals</pre>   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%NOA =   | Ecodes<br>oa<br>•.<br>= 9<br>= 8<br>= 25<br>= 25<br>= 22   |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' outdoor individuals</pre>  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%NOA =<br>%NOA =   | Ecodes<br>oa<br>oa<br>o.<br>= 9<br>= 8<br>= 25<br>= 25<br>= 22<br>= 22<br>= 3                                    |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor ta</pre>   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%SOB =   | Ecodes<br>oa<br>oa<br>oa<br>o.<br>= 9<br>= 8<br>= 2<br>= 25<br>= 22<br>= 22<br>= 22<br>= 38                      |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor individuals</pre>   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%SOB =<br>fixiduals NOB =  | Ecodes<br>oa<br>oa   |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor in<br/>Percentage of 'certain' and probable outdoor in<br/>Percentage 'certain' and probable outdoor in<br/>Percentage 'certain' and probable outdoor in<br/>Percentage 'certain' and probable outdoor in</pre>  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%NOA =     | Ecodes<br>oa<br>oa<br>oa<br>o  |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor in<br/>Percentage 'certain' and probable outdoor in</pre>  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only)<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%SOA =<br>%NOA =     | Ecodes<br>oa<br>oa   |
| <pre>SPECIES LIST IN RANK ORDER<br/>Context: 17 Sample: 3/T<br/>Taxon<br/>Curculionidae sp.<br/>Context: 17 Sample: 4/T - STATISTICS FOR BE<br/>Fully quantitative (or estimates for very 1<br/>Erosion = 4 Fragmentation = 4; Weight = 1.0<br/>Number of individuals estimated as<br/>Number of taxa<br/>Index of diversity not calculated, n = s or<br/>Number of 'certain' outdoor taxa<br/>Percentage of 'certain' outdoor taxa<br/>Number of 'certain' outdoor taxa<br/>Number of 'certain' outdoor individuals<br/>Percentage of 'certain' outdoor individuals<br/>Number of 'certain' and probable outdoor ta<br/>Percentage of 'certain' and probable outdoor in<br/>Percentage 'certain'</pre> | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>% | Ecodes<br>oa<br>oa<br>oa<br>o.<br>= 9<br>= 8<br>= 25<br>= 22<br>= 22<br>= 38<br>= 38<br>= 33<br>= 33<br>= 33     |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as<br>Number of taxa<br>Index of diversity not calculated, n = s or<br>Number of 'certain' outdoor taxa<br>Percentage of 'certain' outdoor taxa<br>Number of 'certain' outdoor individuals<br>Percentage of 'certain' outdoor individuals<br>Number of 'certain' and probable outdoor ta<br>Percentage of 'certain' and probable outdoor in<br>Percentage of 'certain' and probable outdoor in<br>Percentage of aquatic taxa<br>Percertage of aquatic taxa  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%SOB =<br>hdividuals NOB =<br>sOB or NOB < 20<br>SW =<br>%SW =  | Ecodes<br>oa<br>oa<br>oa<br>o.<br>= 9<br>= 8<br>= 25<br>= 22<br>= 22<br>= 38<br>= 38<br>= 33<br>= 33<br>= 0<br>0 |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as<br>Number of taxa<br>Index of diversity not calculated, n = s or<br>Number of 'certain' outdoor taxa<br>Percentage of 'certain' outdoor taxa<br>Number of 'certain' outdoor taxa<br>Number of 'certain' outdoor individuals<br>Percentage of 'certain' outdoor individuals<br>Percentage of 'certain' and probable outdoor ta<br>Percentage of 'certain' and probable outdoor in<br>Percentage 'certain' and probable outdoor in<br>Percentage 'certain' and probable outdoor in<br>Percentage of aquatic taxa<br>Percentage of aquatic taxa   | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%SOB =<br>hdividuals NOB =<br>sOB or NOB < 20<br>SW =<br>%SW =  | Ecodes<br>oa<br>oa<br>oa<br>e 9<br>e 25<br>e 22<br>e 22<br>e 38<br>e 33<br>e 33<br>e 0<br>e 0                    |
| SPECIES LIST IN RANK ORDER<br>Context: 17 Sample: 3/T<br>Taxon<br>Curculionidae sp.<br>Context: 17 Sample: 4/T - STATISTICS FOR BE<br>Fully quantitative (or estimates for very 1<br>Erosion = 4 Fragmentation = 4; Weight = 1.0<br>Number of individuals estimated as<br>Number of taxa<br>Index of diversity not calculated, n = s or<br>Number of 'certain' outdoor taxa<br>Percentage of 'certain' outdoor taxa<br>Number of 'certain' outdoor taxa<br>Number of 'certain' outdoor individuals<br>Percentage of 'certain' outdoor individuals<br>Percentage of 'certain' and probable outdoor ta<br>Percentage of 'certain' and probable outdoor in<br>Percentage 'certain' and probable outdoor in<br>Percentage 'certain' and probable outdoor in<br>Percentage of aquatic taxa<br>Percentage of aquatic taxa<br>Number of aquatic taxa<br>Number of aquatic individuals  | PNU<br>Number % Rank<br>1 100 1<br>ETLES AND BUGS<br>arge numbers only<br>00kg<br>N =<br>S =<br>n < 20<br>SOA =<br>%SOA =<br>%SOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%NOA =<br>%SOB =<br>dividuals NOB =<br>sOB or NOB < 20<br>SW =<br>%SW =<br>%SW =<br>%SW =   | Ecodes<br>oa<br>oa<br>oa<br>o<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e              |

¥\$

| Number of damp ground/waterside taxa                | SD           | =        | 0  |
|---|--------------|----------|----|
| Percentage of damp ground/waterside taxa            | %SD          | =        | 0  |
| Number of damp ground/waterside individuals         | ND           | =        | 0  |
| Percentage of damp ground/waterside individuals     | %ND          | =        | 0  |
| Number of strongly plant-associated taxa            | SP           | =        | 1  |
| Percentage of strongly plant-associated taxa        | ቆSP          | =        | 13 |
| Number of strongly plant-associated individuals     | NP           | =        | 1  |
| Percentage of strongly plant-associated individuals | %NP          | =        | 11 |
| Number of heathland/moorland taxa                   | SM           | =        | 0  |
| Number of heathland/moorland individuals            | NM           | =        | 0  |
| Percentage of heathland/moorland individuals        | %NM          | -        | 0  |
| Number of wood-associated taxa                      | SL           | =        | 0  |
| Number of wood-associated individuals               | NL           | =        | 0  |
| Percentage of wood-associated individuals           | %NL          | =        | 0  |
| Number of decomposer taxa                           | SRT          | =        | 1  |
| Percentage of decomposer taxa                       | %SRT         | =        | 13 |
| Number of decomposer individuals                    | NRT          | =        | 1  |
| Percentage of decomposer individuals                | %NRT         | =        | 11 |
| Number of 'dry' decomposer taxa                     | SRD          | =        | 0  |
| Percentage of 'dry'decomposer taxa                  | %SRD         | <b>#</b> | 0  |
| Number of 'dry' decomposer individuals              | NRD          | =        | 0  |
| Percentage of 'dry'decomposer individuals           | %NRD         | =        | 0  |
| Number of 'foul' decomposer taxa                    | SRF          | Ξ        | 0  |
| Percentage of 'foul' decomposer taxa                | <b>%</b> SRF | =        | 0  |
| Number of 'foul' decomposer individuals             | NRF          | =        | 0  |
| Percentage of 'foul' decomposer individuals         | *NRF         | =        | 0  |
| Diversity index for RT not calculated, NRT = SRT or | NRT < 20     |          |    |
| Number of individuals of grain pests                | NG           | =        | 0  |
| Percentage of individuals of grain pests            | %NG          | =        | 0  |
| Number of individuals of grain pests                | NG           | =        | 0  |
| Number of uncoded taxa                              | SU           | =        | 4  |
| Percentage of uncoded individuals                   | PNU          | =        | 56 |

Context: 17 Sample: 4/T

| Taxon                   |          | Number | ૠ | Rank | Ecodes |
|-------------------------|----------|--------|---|------|--------|
| Xantholinus sp.         |          | 2      | 2 | 2 1  | u      |
| Dyschirius ?globosus (H | lerbst)  | 1      | 1 | 1 2  | oa     |
| Carabidae sp.           |          | 1      | 1 | 1 2  | ob     |
| Megasternum obscurum (N | (arsham) | 1      | 1 | 1 2  | rt     |
| Omaliinae sp.           |          | 1      | 1 | 1 2  | u      |
| Staphylininae sp.       |          | 1      | 1 | 1 2  | u      |
| Ceuthorhynchinae sp.    |          | 1      | 1 | 1 2  | oa p   |
| Heteroptera sp.         |          | 1      | 1 | 1 2  | u      |

Context: 17 Sample: 5/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 4 Fragmentation = 4; Weight = 1.000kg

| Number of individuals estimated as                 | N =    | 13 |
|--|--------|----|
| Number of taxa                                     | S =    | 13 |
| Index of diversity not calculated, n = s or n < 20 |        |    |
| Number of 'certain' outdoor taxa                   | SOA =  | 6  |
| Percentage of 'certain' outdoor taxa               | %SOA = | 46 |
| Number of 'certain' outdoor individuals            | NOA =  | 6  |
| Percentage of 'certain' outdoor individuals        | %NOA = | 46 |
| Number of 'certain' and probable outdoor taxa      | SOB =  | 8  |

| Percentage of 'certain' and probable outdoor taxa    | %SOB =   | • 62       |
|--|----------|------------|
| Number of 'certain' and probable outdoor individuals | NOB =    | * 8        |
| Percentage 'certain' and probable outdoor individual | s %NOB = | ≠ 62       |
| Diversity index for OB not calculated, NOB = SOB or  | NOB < 20 |            |
| Number of aquatic taxa                               | SW =     | - 0        |
| Percentage of aquatic taxa                           | %S₩ =    | = 0        |
| Number of aquatic individuals                        | NW =     | = 0        |
| Percentage of aquatic individuals                    | %NW =    | = 0        |
| Number of damp ground/waterside taxa                 | SD =     | - 1        |
| Percentage of damp ground/waterside taxa             | %SD =    | - 8        |
| Number of damp ground/waterside individuals          | ND =     | - 1        |
| Percentage of damp ground/waterside individuals      | %ND ≕    | - 8        |
| Number of strongly plant-associated taxa             | SP =     | - 4        |
| Percentage of strongly plant-associated taxa         | %SP =    | = 31       |
| Number of strongly plant-associated individuals      | NP =     | - 4        |
| Percentage of strongly plant-associated individuals  | %NP =    | - 31       |
| Number of heathland/moorland taxa                    | SM =     | = 0        |
| Number of heathland/moorland individuals             | NM =     | = 0        |
| Percentage of heathland/moorland individuals         | %NM =    | = 0        |
| Number of wood-associated taxa                       | SL =     | ⊧ 0        |
| Number of wood-associated individuals                | NL =     | = 0        |
| Percentage of wood-associated individuals            | %NL =    | = 0        |
| Number of decomposer taxa                            | SRT ≍    | <u> </u>   |
| Percentage of decomposer taxa                        | &SRT =   | = 23       |
| Number of decomposer individuals                     | NRT =    | ± 3        |
| Percentage of decomposer individuals                 | %NRT =   | - 23       |
| Number of 'dry' decomposer taxa                      | SRD =    | • 0        |
| Percentage of 'dry'decomposer taxa                   | %SRD ≕   | ÷ 0        |
| Number of 'dry' decomposer individuals               | NRD =    | = 0        |
| Percentage of 'dry'decomposer individuals            | %NRD =   | * O        |
| Number of 'foul' decomposer taxa                     | SRF =    | = 1        |
| Percentage of 'foul' decomposer taxa                 | %SRF =   | <u>∗</u> 8 |
| Number of 'foul' decomposer individuals              | NRF =    | - 1        |
| Percentage of 'foul' decomposer individuals          | %NRF =   | - 8        |
| Diversity index for RT not calculated, NRT = SRT or  | NRT < 20 |            |
| Number of individuals of grain pests                 | NG =     | - 0        |
| Percentage of individuals of grain pests             | %NG =    | • 0        |
| Number of individuals of grain pests                 | NG =     | = O        |
| Number of uncoded taxa                               | SU =     | = 3        |
| Percentage of uncoded individuals                    | PNU =    | 23         |

Context: 17 Sample: 5/T

| Taxon                                | Number | * | Rank | Ecodes |
|--------------------------------------|--------|---|------|--------|
| Dyschirius globosus (Herbst)         | 1      | 8 | 3 1  | oa     |
| Carabidae sp.                        | 1      | 8 | 3 1  | do     |
| Megasternum obscurum (Marsham)       | 1      | 8 | 3 1  | rt     |
| Xantholininae sp.                    | 1      | 8 | 31   | u      |
| Staphylininae sp.                    | 1      | 8 | 3 1  | u      |
| Tachinus ?corticinus Gravenhorst     | 1      | 8 | 3 1  | u      |
| Aphodius sp.                         | 1      | 8 | 31   | ob rf  |
| Simplocaria ?semistriata (Fabricius) | 1      | 8 | 3 1  | oa p   |
| Dryops sp.                           | 1      | 8 | 31   | oa d   |
| Enicmus sp.                          | 1      | 8 | 3 1  | rt     |
| ?Longitarsus sp.                     | 1      | 8 | 3 1  | oa p   |
| Lygaeidae sp.                        | 1      | 8 | 31   | oa p   |
| Auchenorhyncha sp.                   | 1      | 8 | 3 1  | oa p   |
|                                      |        |   |      |        |

Context: 19 Sample: 9/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

# Erosion = 2 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as               | 71             | _   | 220     |
|--|----------------|-----|---------|
| Number of individuals estimated as               | N              | -   | 230     |
| Number of taxa                                   |                | =   | 148     |
| Index of diversity (alpha)                       | alpha          | =   | 167     |
| Standard error of alpha                          | SE alpha       | =   | 20      |
| Number of 'certain' outdoor taxa                 | SOA            | =   | 82      |
| Percentage of 'certain' outdoor taxa             | %SOA           | =   | 55      |
| Number of 'certain' outdoor individuals          | NOA            | **  | 127     |
| Percentage of 'certain' outdoor individuals      | %NOA           | ==  | 53      |
| Number of 'certain' and probable outdoor taxa    | SOB            | =   | 90      |
| Percentage of 'certain' and probable outdoor tay | a %SOB         | =   | 61      |
| Number of 'certain' and probable outdoor individ | iuals NOB      | =   | 136     |
| Percentage 'certain' and probable outdoor indivi | duals %NOB     | =   | 57      |
| Index of diversity of outdoor component          | alpha OB       | _   | 116     |
| Standard error                                   | CP alpha OP    | _   | 10      |
| Number of equation have                          | SE aiplia OB   | _   | ور<br>د |
| Number of aquatic taxa                           | SW             | -   |         |
| Percentage of aquatic taxa                       | *SW            | =   | 5       |
| Number of aquatic individuals                    | NW             | 200 | 11      |
| Percentage of aquatic individuals                | %NW            | =   | 5       |
| Number of damp ground/waterside taxa             | SD             | -   | 15      |
| Percentage of damp ground/waterside taxa         | 8SD            | =   | 10      |
| Number of damp ground/waterside individuals      | ND             | =   | 19      |
| Percentage of damp ground/waterside individuals  | %ND            | =   | 8       |
| Number of strongly plant-associated taxa         | SP             | ==  | 49      |
| Percentage of strongly plant-associated taxa     | %SP            | =   | 33      |
| Number of strongly plant-associated individuals  | NP             | =   | 84      |
| Perceptage of strongly plant-associated individu | uals %NP       | =   | 35      |
| Number of heathland/moorland taxa                | SM             | =   | ñ       |
| Number of heathland/moorland individuals         | NM             | _   | ň       |
| Remonstance of heathland/meanland individuals    | 141-1<br>& XIM | _   | 0       |
| Number of word appreciated town                  | O T            | _   | 2       |
| Number of wood-associated taxa                   | 20             | -   | 2       |
| Number of wood-associated individuals            | NL<br>tore     | =   | 2       |
| Percentage of wood-associated individuals        | %NL            | =   | 1       |
| Number of decomposer taxa                        | SRT            |     | 25      |
| Percentage of decomposer taxa                    | %SRT           | =   | 17      |
| Number of decomposer individuals                 | NRT            | =   | 50      |
| Percentage of decomposer individuals             | %NRT           | =   | 21      |
| Number of 'dry' decomposer taxa                  | SRD            | #   | 3       |
| Percentage of 'dry'decomposer taxa               | %SRD           | =   | 2       |
| Number of 'dry' decomposer individuals           | NRD            | =   | 11      |
| Percentage of 'dry'decomposer individuals        | %NRD           | =   | 5       |
| Number of 'foul' decomposer taxa                 | SRF            | =   | 4       |
| Percentage of 'foul' decomposer taxa             | %SRF           | -   | 3       |
| Number of 'foul' decomposer individuals          | NRF            | _   | 4       |
| Remonstrate of /foul/ decomposer individuals     | SNDF           | _   | 2       |
| Index of diversity of decomposer norrenent       |                | _   | 20      |
| Index of diversity of decomposer component       | CD alpha DD    | _   | 20      |
| Standard error                                   | SE alpha RT    | =   | 5       |
| Number of individuals of grain pests             | NG             | =   | 0       |
| Percentage of individuals of grain pests         | *NG            | =   | 0       |
| Number of individuals of grain pests             | NG             | =   | 0       |
| Number of uncoded taxa                           | SU             | =   | 35      |
| Percentage of uncoded individuals                | PNU            | =   | 23      |

Context: 19 Sample: 9/T

### Taxon

| Apion (Protapion) dissimile Germar          | 13     | 5 | 1      | oa p    |
|---|--------|---|--------|---------|
| Acrotrichis sp.                             | 8      | 3 | 2      | rt      |
| Nargus anisotomoides (Spence)               | 6      | 3 | 3      | u       |
| Aleocharinae sp. D                          | 6      | 3 | 3      | u       |
| Meligethes aeneus (Fabricius)               | 6      | 3 | 3      | oap     |
| Megasternum obscurum (Marsham)              | 5      | 2 | 6      | rt      |
| Atomaria sp. A                              | 5      | 2 | b<br>C | ra      |
| Scolopostethus ?affinis (Schilling)         | 5      | 2 | 6      | oa p    |
| Ochthebius minimus (Fabricius)              | 3      | 1 | 9      | oa w    |
| Micropeplus staphylinoides (Marsham)        | 3      | 1 | 9      | rt      |
| Tachinus corticinus Gravenhorst             | 3      | 1 | 9      | u<br>va |
| Atomaria sp. B                              | 3      | 1 | 2      | rd      |
| Lathridius minutus group                    | 3      | 1 | 9      |         |
| Phyllotreta sp.                             | ວ<br>າ | 1 | 9      |         |
| Gymnetron ?pascuorum (Gyllennal)            | 3      | 1 | 9      | oa p    |
| Auchenorhyncha sp. D                        | ່<br>ງ | 1 | 17     |         |
| Dyschirius globosus (Herdst)                | 2      | 1 | 17     | 02      |
| Trechus obtusus or quadristriatus           | 2      | 1 | 17     | oa w    |
| Limnebius sp. A                             | 2      | 1 | 17     | 0a w    |
| Nargus velox (Spence)                       | 2      | 1 | 17     | u<br>11 |
| Metopsia retusa (Stephens)                  | 2      | 1 | 17     | u<br>02 |
| Anthobium atrocephalum (Gyllennal)          | 2      | 1 | 17     | oa d    |
| Lesteva longoelytrata (Goeze)               | 2      | 1 | 17     |         |
| Syntomium aeneum (Muller)                   | 2      | 1 | 17     | oa d    |
| Carpelimus elongatulus (Erichson)           | 2      | 1 | 17     | rt d    |
| Anotylus nitidulus (Gravennorst)            | 2      | 1 | 17     | rt      |
| Anotylus rugosus (Fabricius)                | 2      | 1 | 17     | rt      |
| Anotylus tetracarinatus (Block)             | 2      | 1 | 17     | 11      |
| Lathropium sp.                              | 2      | 1 | 17     | oa d    |
| Erichsonius cinerascens (Gravenhorst)       | 2      | 1 | 17     | 11      |
| Tachinus signatus Gravennoist               | 2      | ĩ | 17     | ŭ       |
| Aleocharinae sp. C                          | 2      | 1 | 17     | 13      |
| Aleocharinae sp. E                          | 2      | 1 | 17     |         |
| Aleocharinae sp. G                          | 2      | 1 | 17     | ob      |
| Elateridae Sp. B                            | 2      | 1 | 17     | rt      |
| Corticaria sp.                              | 2      | 1 | 17     | oa p    |
| Crepidodera leiluginea (Scopoli)            | 2      | 1 | 17     | oap     |
| Apion sp. B                                 | 2      | 1 | 17     | q so    |
| Apion Sp. E<br>Manuarhurus lemnae (Pavkull) | 2      | 1 | 17     | oawp    |
| Cidnorhinus quadrimaculatus (Linnaeus)      | 2      | 1 | 17     | oap     |
| Coutorhynchus contractus (Marsham)          | 2      | 1 | 17     | oap     |
| Approdes sp.                                | 2      | 1 | 17     | oap     |
| Auchenorhyncha sp. C                        | 2      | 1 | 17     | oap     |
| Blethisa multipunctata (Linnaeus)           | 1      | 0 | 45     | oad     |
| Beenhidion sp. A                            | 1      | 0 | 45     | oa      |
| Bembidion sp. B                             | 1      | 0 | 45     | oa      |
| Pterostichus melanarius (Illiger)           | 1      | 0 | 45     | ob      |
| Pterostichus (Poecilus) sp.                 | 1      | 0 | 45     | oa      |
| Calathus fuscipes (Goeze)                   | 1      | 0 | 45     | oa      |
| Calathus ?melanocephalus (Linnaeus)         | 1      | 0 | 45     | oa      |
| Amara sp.                                   | 1      | 0 | 45     | oa      |
| Badister ?sodalis (Duftschmid)              | 1      | 0 | 45     | oa d    |
| Carabidae sp.                               | 1      | 0 | 45     | ob      |
| Helophorus aquaticus or grandis             | 1      | 0 | 45     | oa w    |
| Helophorus sp. A                            | 1      | 0 | 45     | oa w    |
| Helophorus sp. R                            | 1      | 0 | 45     | oa      |
| - ·   |        |   |        |         |

Number % Rank Ecodes

| Hydrophilinae sp.                        | 1 | 0 | 45          | oa       | w      |
|--|---|---|-------------|----------|--------|
| Limpebius sp B                           | 1 | ñ | 45          | 0.8      | ω      |
| Silphidaa an                             | 1 | 0 | 45          | .,       |        |
| Mignenenlus fuluus (Enisheen)            | 1 | 0 | 15          | u<br>~+  |        |
| Micropepius luivus (Erichson)            | 1 | 0 | 40          | ТĻ.      |        |
| Micropepius porcatus (Paykuii)           | 1 | 0 | 40          | rτ       |        |
| Omalium sp. A                            | 1 | 0 | 45          | rt       |        |
| Omalium sp. B                            | 1 | 0 | 45          | rt       |        |
| Omaliinae sp.                            | 1 | 0 | 45          | u        |        |
| Bledius sp.                              | 1 | 0 | 45          | oa       | d      |
| Carpelimus ?corticinus (Gravenhorst)     | 1 | 0 | 45          | oa       | d      |
| Carpelimus bilineatus/rivularis          | 1 | 0 | 45          | u        |        |
| Aploderus caelatus (Gravenhorst)         | 1 | 0 | 45          | rt       |        |
| Platystethus alutaceus (Thomson)         | 1 | 0 | 45          | oa       | d      |
| Platystethus cornutus group              | 1 | Ō | 45          | 0a       | d      |
| Platystethus nitens (Sahlberg)           | 1 | ñ | 45          | 02       | Å      |
| Apotulue sculpturatus group              | 1 | ñ | 15          | rt       | u      |
| Anocytus sculpturatus group              | 1 | 0 | 45          | 10       | 4      |
| oxyterus rurvipes Erichson               | 1 | 0 | 45          | oa       | α      |
| Stenus sp.                               | 1 | 0 | 45          | u .      |        |
| Xantholinus longiventris Heer            | 1 | 0 | 45          | rt       |        |
| Philonthus or Gabrius sp.                | 1 | 0 | 45          | u        |        |
| Staphylinus ?aeneocephalus Degeer        | 1 | 0 | 45          | u        |        |
| Staphylininae sp. A                      | 1 | 0 | 45          | u        |        |
| Staphylininae sp. B                      | 1 | 0 | 45          | u        |        |
| Staphylininae sp. C                      | 1 | 0 | 45          | u        |        |
| Mycetoporus sp.                          | 1 | 0 | 45          | u        |        |
| Sepedophilus nigripennis or pedicularius | 1 | 0 | 45          | 11       |        |
| Sepedophilus an                          | 1 | Ň | 45          | ,,<br>,, |        |
| Tachuparug obtuque (Lippoque)            | 1 | õ | 15          |          |        |
| Tachyporus obcusus (binnaeus)            | 1 | 0 | 45          | u        |        |
| Tachyporus sp. A                         | 1 | 0 | 4.5         | u        |        |
| Tachyporus sp. B                         | 1 | 0 | 45          | u        |        |
| Tachinus laticollis or margineilus       | 1 | 0 | 45          | u        |        |
| Falagria or Cordalia sp.                 | 1 | 0 | 45          | rt       |        |
| Aleocharinae sp. A                       | 1 | 0 | 45          | u        |        |
| Aleocharinae sp. B                       | 1 | 0 | 45          | u        |        |
| Aleocharinae sp. F                       | 1 | 0 | 45          | u        |        |
| Aleocharinae sp. H                       | 1 | 0 | 45          | u        |        |
| Pselaphidae sp.                          | 1 | 0 | 45          | u        |        |
| Geotrupes sp.                            | 1 | 0 | 45          | oa       | rf     |
| Aphodius contaminatus (Herbst)           | 1 | 0 | 45          | oa       | rf     |
| Aphodius sp. A                           | 1 | Ó | 45          | ob       | rf     |
| Aphodius en B                            | 1 | ñ | 45          | ob       | rf     |
| Nenlia mhilanthua Illigar                | 1 | ñ | лы<br>Лы    | 0.0      |        |
| Dhallarautha hauticala (Liznacua)        | 1 | õ | -1-J<br>4 E | 0a       | ~      |
| Phyllopertha norticola (Linnaeus)        | 1 | 0 | 40          | Qa       | P      |
| Cypnon sp.                               | 1 | 0 | 40          | oa       | α      |
| Simplocaria semistriata (Fabricius)      | 1 | 0 | 45          | oa       | р      |
| Agrypnus murinus (Linnaeus)              | 1 | 0 | 45          | oa       | р      |
| Adrastus pallens (Fabricius)             | 1 | 0 | 45          | oa       | р      |
| Elateridae sp. A                         | 1 | 0 | 45          | ob       |        |
| Cantharis or Rhagonycha sp.              | 1 | 0 | 45          | ob       |        |
| Cantharidae sp.                          | 1 | 0 | 45          | ob       |        |
| Anobium ?punctatum (Degeer)              | 1 | 0 | 45          | 1        |        |
| Malachius sp.                            | 1 | 0 | 45          | u        |        |
| Brachypterus sp.                         | 1 | 0 | 45          | oa       | ŋ      |
| Meligethes sn                            | 1 | ñ | 45          | 0.8      | ົກ     |
| Alibrue en                               | 1 | ñ | 45          | 0.2      | r<br>n |
| Outbrus sp.                              | 1 | õ | 15          | ~+       | ٢      |
| Orthoperus sp.                           | + | v | 13          | 16       |        |
| Subcoccinella viginciquatcuorpunceata    | 1 | • | A E         |          |        |
| (Linnaeus)                               | 1 | 0 | 40          | oa       | þ      |
| Stephostethus Lardarius (Degeer)         | 1 | U | 40          | rτ       |        |
| Enicmus sp.                              | Ţ | υ | 45          | rt       |        |
| Gastrophysa viridula (Degeer)            | 1 | 0 | 45          | oa       | р      |
| Longitarsus sp.                          | 1 | 0 | 45          | oa       | р      |
| Hippuriphila modeeri (Linnaeus)          | 1 | 0 | 45          | oa       | рd     |

| Chaetocnema concinna (Marsham)       | 1 | 0 | 45 | oa p |
|--------------------------------------|---|---|----|------|
| Sphaeroderma ?testaceum              | 1 | 0 | 45 | oap  |
| Apion sp. A                          | 1 | 0 | 45 | oa p |
| Apion sp. C                          | 1 | 0 | 45 | oap  |
| Apion sp. D                          | 1 | 0 | 45 | oap  |
| Apion sp. F                          | 1 | 0 | 45 | oap  |
| Otiorhynchus ovatus (Linnaeus)       | 1 | 0 | 45 | oap  |
| Phyllobius pomaceus Gyllenhal        | 1 | 0 | 45 | oap  |
| Phyllobius viridiaeris (Laicharting) | 1 | 0 | 45 | oap  |
| ?Barypeithes sp.                     | 1 | 0 | 45 | oap  |
| Sitona humeralis Stephens            | 1 | 0 | 45 | oa p |
| Ceutorhynchus sp.                    | 1 | 0 | 45 | oa p |
| ?Rhinoncus sp.                       | 1 | 0 | 45 | oa p |
| Ceuthorhynchinae sp.                 | 1 | 0 | 45 | oa p |
| Curculionidae sp.                    | 1 | 0 | 45 | oa   |
| Leperisinus ?varius (Fabricius)      | 1 | 0 | 45 | l    |
| Peritrechus ?lundi (Gmelin)          | 1 | 0 | 45 | oa p |
| Stygnocoris pedestris (Fallen)       | 1 | 0 | 45 | oa p |
| Berytinus sp.                        | 1 | 0 | 45 | oap  |
| Tingidae sp.                         | 1 | 0 | 45 | u    |
| Cimicidae sp.                        | 1 | 0 | 45 | u    |
| Heteroptera sp.                      | 1 | 0 | 45 | u    |
| Aphrodes flavostriatus (Donovan)     | 1 | 0 | 45 | oapd |
| Auchenorhyncha sp. A                 | 1 | 0 | 45 | oa p |
| Auchenorhyncha sp. B                 | 1 | 0 | 45 | oa p |
| Auchenorhyncha sp. E                 | 1 | 0 | 45 | oa p |
| Auchenorhyncha sp. F                 | 1 | 0 | 45 | oa p |
| Auchenorhyncha sp. G                 | 1 | 0 | 45 | oa p |
| Auchenorhyncha sp. H                 | 1 | 0 | 45 | oa p |

Context: 19 Sample: 10/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as                  | N        | = | 198 |
|---|----------|---|-----|
| Number of taxa                                      | S        | = | 129 |
| Index of diversity (alpha)                          | alpha    | = | 160 |
| Standard error of alpha                             | SE alpha | = | 22  |
| Number of 'certain' outdoor taxa                    | SOA      | = | 71  |
| Percentage of 'certain' outdoor taxa                | *SOA     | = | 55  |
| Number of 'certain' outdoor individuals             | NOA      | = | 112 |
| Percentage of 'certain' outdoor individuals         | %NOA     | = | 57  |
| Number of 'certain' and probable outdoor taxa       | SOB      | = | 78  |
| Percentage of 'certain' and probable outdoor taxa   | &SOB     | - | 60  |
| Number of 'certain' and probable outdoor individual | s NOB    | = | 120 |
| Percentage 'certain' and probable outdoor individua | ls %NOB  | = | 61  |
| Index of diversity of outdoor component             | alpha OB | = | 96  |
| Standard error SE                                   | alpha OB | = | 17  |
| Number of aquatic taxa                              | SW       | = | 6   |
| Percentage of aquatic taxa                          | 8SW      | Ħ | 5   |
| Number of aquatic individuals                       | NW       | = | 9   |
| Percentage of aquatic individuals                   | 8NW      | = | 5   |
| Number of damp ground/waterside taxa                | SD       | = | 8   |
| Percentage of damp ground/waterside taxa            | *SD      | ₩ | 6   |
| Number of damp ground/waterside individuals         | ND       | = | 14  |
| Percentage of damp ground/waterside individuals     | &ND      | = | 7   |
| Number of strongly plant-associated taxa            | SP       | = | 49  |
| Percentage of strongly plant-associated taxa        | %SP      | = | 38  |
| Number of strongly plant-associated individuals     | NP       | = | 85  |
| Percentage of strongly plant-associated individuals | s %NP    | = | 43  |
| Number of heathland/moorland taxa                   | SM       | = | 0   |
|   |          |   |     |

| Number of heathland/moorland individuals     | NM          | =  | 0  |
|--|-------------|----|----|
| Percentage of heathland/moorland individuals | %NM         | =  | 0  |
| Number of wood-associated taxa               | SL          | =  | 3  |
| Number of wood-associated individuals        | NL          | =  | 3  |
| Percentage of wood-associated individuals    | %NL         | =  | 2  |
| Number of decomposer taxa                    | SRT         | =  | 24 |
| Percentage of decomposer taxa                | &SRT        | =  | 19 |
| Number of decomposer individuals             | NRT         | == | 41 |
| Percentage of decomposer individuals         | *NRT        | =  | 21 |
| Number of 'dry' decomposer taxa              | SRD         | =  | 2  |
| Percentage of 'dry'decomposer taxa           | &SRD        | =  | 2  |
| Number of 'dry' decomposer individuals       | NRD         | =  | 6  |
| Percentage of 'dry'decomposer individuals    | \$NRD       | =  | 3  |
| Number of 'foul' decomposer taxa             | SRF         | =  | 4  |
| Percentage of 'foul' decomposer taxa         | %SRF        | =  | 3  |
| Number of 'foul' decomposer individuals      | NRF         | =  | 4  |
| Percentage of 'foul' decomposer individuals  | %NRF        | =  | 2  |
| Index of diversity of decomposer component   | alpha RT    | =  | 25 |
| Standard error                               | SE alpha RT | =  | 7  |
| Number of individuals of grain pests         | NG          | =  | 0  |
| Percentage of individuals of grain pests     | *NG         | =  | 0  |
| Number of individuals of grain pests         | NG          | =  | 0  |
| Number of uncoded taxa                       | SU          | =  | 27 |
| Percentage of uncoded individuals            | PNU         | =  | 19 |

Context: 19 Sample: 10/T

Taxon

| Apion (Protapion) dissimile Germar   | 9 | 5 | 1  | oa p |
|--------------------------------------|---|---|----|------|
| Corticaria sp.                       | 6 | 3 | 2  | rt - |
| Meligethes aeneus (Fabricius)        | 5 | 3 | 3  | oa p |
| Aleocharinae sp. B                   | 4 | 2 | 4  | u    |
| Atomaria sp.                         | 4 | 2 | 4  | rd   |
| Gymnetron ?labile (Herbst)           | 4 | 2 | 4  | oa p |
| Agallia brachyptera (Boheman)        | 4 | 2 | 4  | oapd |
| Megasternum obscurum (Marsham)       | 3 | 2 | 8  | rt   |
| Ochthebius minimus (Fabricius)       | 3 | 2 | 8  | oa w |
| Acrotrichis sp.                      | 3 | 2 | 8  | rt   |
| Nargus anisotomoides (Spence)        | 3 | 2 | 8  | u    |
| Tachinus corticinus Gravenhorst      | 3 | 2 | 8  | u    |
| Phyllotreta nemorum group            | 3 | 2 | 8  | oa p |
| Apion sp. C                          | 3 | 2 | 8  | oa p |
| Ceutorhynchus contractus (Marsham)   | 3 | 2 | 8  | oa p |
| Scolopostethus sp.                   | 3 | 2 | 8  | oa p |
| Aphrodes sp.                         | 3 | 2 | 8  | oa p |
| Pterostichus melanarius (Illiger)    | 2 | 1 | 18 | ob   |
| Calathus mollis (Marsham)            | 2 | 1 | 18 | oa   |
| Helophorus sp.                       | 2 | 1 | 18 | oa w |
| Micropeplus staphylinoides (Marsham) | 2 | 1 | 18 | rt   |
| Omalium sp.                          | 2 | 1 | 18 | rt   |
| Platystethus nitens (Sahlberg)       | 2 | 1 | 18 | oa d |
| Anotylus nitidulus (Gravenhorst)     | 2 | 1 | 18 | rt d |
| Mycetoporus sp.                      | 2 | 1 | 18 | u    |
| Tachinus signatus Gravenhorst        | 2 | 1 | 18 | u    |
| Aleocharinae sp. C                   | 2 | 1 | 18 | u    |
| Oxyomus sylvestris (Scopoli)         | 2 | 1 | 18 | rt   |
| Kateretes rufilabris (Latreille)     | 2 | 1 | 18 | oapd |
| Brachypterus glaber (Stephens)       | 2 | 1 | 18 | oa p |
| Lathridius minutus group             | 2 | 1 | 18 | rd   |
|                                      |   |   |    |      |

Number % Rank Ecodes

| Phyllotreta sp.                        | 2      | 1      | 18  | oa p     |
|--|--------|--------|-----|----------|
| Longitarsus sp.                        | 2      | 1      | 18  | oap      |
| Cidnorhinus guadrimaculatus (Linnaeus) | 2      | 1      | 18  | oa p     |
| 2Tychiinae sp                          | 2      | 1      | 1.0 | 02 2     |
| Neophilaonus campostris (Eallon)       | 2      | 1      | 10  | oa p     |
| Neophiliaenus campestils (railen)      | 2      | 1      | 10  | oa p     |
| Auchenornyncha sp. B                   | 2      | T      | 18  | oa p     |
| Dyschirius globosus (Herbst)           | 1      | 1      | 38  | oa       |
| Trechus obtusus Erichson               | 1      | 1      | 38  | oa       |
| Pterostichus niger (Schaller)          | 1      | 1      | 38  | oa       |
| Pterostichus (Poecilus) sp.            | 1      | 1      | 38  | 0.3      |
| Calathus fuscipes (Goeze)              | 1      | 1      | 30  | 0.2      |
| Carachus ruscipes (GOEZE)              | 1      | -      | 20  | Ua       |
| Amara sp.                              | 1      | 1      | 38  | oa       |
| Dromius linearis (Olivier)             | 1      | 1      | 38  | oa       |
| Agabus bipustulatus (Linnaeus)         | 1      | 1      | 38  | oa w     |
| Colymbetinae sp.                       | 1      | 1      | 38  | oa w     |
| Helophorus sp. R                       | 1      | 1      | 38  | oa       |
| Cercyon sp                             | - 1    | 1      | 38  | 11       |
| Chaotarthria cominulum (Narbat)        |        |        | 20  | u<br>    |
| Underskiliser en                       | +      | 1      | 20  | oa w     |
| Hydrophilinae sp.                      | 1      | 1      | 38  | 0a w     |
| Catopinae sp.                          | 1      | 1      | 38  | u        |
| Silpha ?tristis Illiger                | 1      | 1      | 38  | u        |
| Cypha sp.                              | 1      | 1      | 38  | rt       |
| Metopsia retusa (Stephens)             | 1      | 1      | 38  | 11       |
| Apthobium atrocephalum (Gullophal)     | 1      | 1      | 20  | <u>~</u> |
| Lostowa longoolutuota (Conne)          | 1      | 4      | 20  | Ua J     |
| Lesteva longoelytrata (Goeze)          | 1      | 1      | 38  | oara     |
| Omalium ?rivulare (Paykull)            | 1      | 1      | 38  | rt       |
| Syntomium aeneum (Muller)              | 1      | 1      | 38  | oa       |
| Aploderus caelatus (Gravenhorst)       | 1      | 1      | 38  | rt       |
| Platystethus arenarius (Fourcroy)      | 1      | 1      | 38  | rf       |
| Anotylus rugosus (Fabricius)           | 1      | 1      | 38  | rt       |
| Anotylus sculpturatus group            | - 1    | 1      | 38  | rt       |
| Stenus sp                              | 1      | 1      | 20  | 11       |
| Northelinus linearie many (Olimitus)   | 1      | 1      | 20  | u        |
| Xantholinus linearis group (Olivier)   | 1<br>- | T      | 38  | rt       |
| Erichsonius ?cinerascens (Gravenhorst) | 1      | 1      | 38  | oa d     |
| Philonthus or Gabrius sp.              | 1      | 1      | 38  | u        |
| Staphylininae sp. A                    | 1      | 1      | 38  | u        |
| Staphylininae sp. B                    | 1      | 1      | 38  | น        |
| Staphylininae sp. C                    | 1      | 1      | 38  | 11       |
| Senedonhilus ?marshami (Stenhens)      | 1      | 1      | 30  |          |
| Techunomia an A                        | 1      | 1<br>1 | 20  | u        |
| Tachyporus sp. A                       | 1      | T      | 38  | u        |
| Tachyporus sp. B                       | 1      | 1      | 38  | u        |
| Tachinus laticollis or marginellus     | 1      | 1      | 38  | u        |
| Falagria or Cordalia sp.               | 1      | 1      | 38  | rt       |
| Aleocharinae sp. A                     | 1      | 1      | 38  | u        |
| Aleocharinae sp. D                     | 1      | 1      | 38  | 11       |
| Aleocharinae en F                      | 1      | 1      | 20  |          |
| Aleocharinae sp. E                     | 1      | 1      | 20  | u        |
| Aleocharinae sp. F                     | 1      | T      | 38  | u        |
| Aleocharinae sp. G                     | 1      | 1      | 38  | u        |
| Pselaphidae sp.                        | 1      | 1      | 38  | u        |
| Geotrupes sp.                          | 1      | 1      | 38  | oa rf    |
| Aphodius sp. A                         | 1      | 1      | 38  | ob rf    |
| Aphodius sp. B                         | 1      | 1      | 38  | ob rf    |
| Series brunnes (Linnseus)              | 1      | 1      | 30  | 00 TT    |
| OBhallanautha hautianla (Linnaus)      | 1      | 1      | 20  | oa p     |
| (Phyllopertna norticola (Linnaeus)     | 1      | T      | 38  | oa p     |
| Melolonthinae/Rutelinae/Cetoninae sp.  | 1      | 1      | 38  | oa p     |
| Adrastus pallens (Fabricius)           | 1      | 1      | 38  | oa p     |
| Elateridae sp. A                       | 1      | 1      | 38  | ob       |
| Elateridae sp. B                       | 1      | 1      | 38  | ob       |
| Elateridae sp. C                       | 1      | 1      | 38  | ob       |
| Cantharis sp.                          | 1      | 1      | 38  | ob       |
| Anchium 2nunctatum (Dogoor)            | 4      | -<br>1 | 20  | 1        |
| Deilinus sectioicarda (Deyeer)         | 1      | ,<br>T | 20  | 1<br>1   |
| rtiinus pectinicornis (Linnaeus)       | Ţ      | 1      | 38  | T        |
| Meligethes sp.                         | 1      | 1      | 38  | oa p     |

| Olibrus sp.                         | 1 | 1 | 38 | oa p | )        |
|-------------------------------------|---|---|----|------|----------|
| Orthoperus sp.                      | 1 | 1 | 38 | rt   |          |
| Coccinellidae sp.                   | 1 | 1 | 38 | oa p | >        |
| Stephostethus lardarius (Degeer)    | 1 | 1 | 38 | rt   |          |
| Enicmus sp.                         | 1 | 1 | 38 | rt   |          |
| Anthicus sp.                        | 1 | 1 | 38 | rt   |          |
| Chrysolina staphylaea (Linnaeus)    | 1 | 1 | 38 | oa p | >        |
| Chrysomelinae sp.                   | 1 | 1 | 38 | oa p | )        |
| Crepidodera ferruginea (Scopoli)    | 1 | 1 | 38 | oa p | <b>`</b> |
| Halticinae sp.                      | 1 | 1 | 38 | oa p | )        |
| Apion (Pirapion) sp.                | 1 | 1 | 38 | oa p | ,        |
| Apion (Oxystoma) craccae (Linnaeus) | 1 | 1 | 38 | oa p | )        |
| Apion sp. A                         | 1 | 1 | 38 | oa p | >        |
| Apion sp. B                         | 1 | 1 | 38 | oa p | >        |
| Phyllobius pomaceus Gyllenhal       | 1 | 1 | 38 | oa p | )        |
| Sitona sp. A                        | 1 | 1 | 38 | oa p | )        |
| Sitona sp. B                        | 1 | 1 | 38 | oa p | )        |
| Ceutorhynchus sp.                   | 1 | 1 | 38 | oa p | )        |
| Gymnetron pascuorum (Gyllenhal)     | 1 | 1 | 38 | oa p | •        |
| Leperisinus ?varius (Fabricius)     | 1 | 1 | 38 | 1    |          |
| Coleoptera sp.                      | 1 | 1 | 38 | u    |          |
| Sehirus bicolor (Linnaeus)          | 1 | 1 | 38 | oa p | )        |
| Lygaeidae sp.                       | 1 | 1 | 38 | oa p | )        |
| Berytinus sp.                       | 1 | 1 | 38 | oa p | >        |
| Acalypta sp.                        | 1 | 1 | 38 | oa p | <b>,</b> |
| Cimicidae sp.                       | 1 | 1 | 38 | u    |          |
| Saldidae sp.                        | 1 | 1 | 38 | oa d | l        |
| Aphrodes flavostriatus (Donovan)    | 1 | 1 | 38 | oa p | ) d      |
| Auchenorhyncha sp. A                | 1 | 1 | 38 | oa p | )        |
| Auchenorhyncha sp. C                | 1 | 1 | 38 | oa p | )        |
| Auchenorhyncha sp. D                | 1 | 1 | 38 | oa p | )        |
| Auchenorhyncha sp. E                | 1 | 1 | 38 | oa p | )        |
| Auchenorhyncha sp. F                | 1 | 1 | 38 | oa p | <b>)</b> |
| Auchenorhyncha sp. G                | 1 | 1 | 38 | oa p | <b>)</b> |
| Auchenorhyncha sp. H                | 1 | 1 | 38 | oa p | )        |

Context: 19 Sample: 11/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

| Number of individuals estimated as                  | N        | = | 106 |
|---|----------|---|-----|
| Number of taxa                                      | S        | = | 80  |
| Index of diversity (alpha)                          | alpha    | = | 148 |
| Standard error of alpha                             | SE alpha | = | 32  |
| Number of 'certain' outdoor taxa                    | SOA      | = | 48  |
| Percentage of 'certain' outdoor taxa                | %SOA     | = | 60  |
| Number of 'certain' outdoor individuals             | NOA      | = | 66  |
| Percentage of 'certain' outdoor individuals         | \$NOA    | = | 62  |
| Number of 'certain' and probable outdoor taxa       | SOB      | = | 51  |
| Percentage of 'certain' and probable outdoor taxa   | %SOB     | = | 64  |
| Number of 'certain' and probable outdoor individua. | ls NOB   | = | 69  |
| Percentage 'certain' and probable outdoor individua | als %NOB | - | 65  |
| Index of diversity of outdoor component             | alpha OB | Ħ | 88  |
| Standard error SE                                   | alpha OB | = | 23  |
| Number of aquatic taxa                              | SW       | ≐ | 8   |
| Percentage of aquatic taxa                          | %SW      | = | 10  |
| Number of aquatic individuals                       | NW       | = | 9   |
| Percentage of aquatic individuals                   | %NW      | - | 8   |
| Number of damp ground/waterside taxa                | SD       | Ħ | 6   |
|   |          |   |     |

| Percentage of damp ground/waterside taxa   | %SD             | =           | 8  |
|--|-----------------|-------------|----|
| Number of damp ground/waterside individuals  | ND              | =           | 16 |
| Percentage of damp ground/waterside individuals  | %ND             | =           | 15 |
| Number of strongly plant-associated taxa   | SP              | =           | 26 |
| Percentage of strongly plant-associated taxa   | %SP             | =           | 33 |
| Number of strongly plant-associated individuals  | NP              | =           | 42 |
| Percentage of strongly plant-associated individua  | als %NP         | =           | 40 |
| Number of heathland/moorland taxa  | SM              | Ξ           | 0  |
| Number of heathland/moorland individuals   | NM              | #           | 0  |
| Percentage of heathland/moorland individuals   | &NM             | <u></u>     | 0  |
| Number of wood-associated taxa   | SL              | =           | 1  |
| Number of wood-associated individuals  | NL              | =           | 1  |
| Percentage of wood-associated individuals  | %NL             | =           | 1  |
| Number of decomposer taxa  | SRT             | #           | 18 |
| Percentage of decomposer taxa  | <b>%</b> SRT    | =           | 23 |
| Number of decomposer individuals   | NRT             | =           | 21 |
| Percentage of decomposer individuals   | %NRT            | =           | 20 |
| Number of 'dry' decomposer taxa  | SRD             | <b>***</b>  | 3  |
| Percentage of 'dry'decomposer taxa   | %SRD            | =           | 4  |
| Number of 'dry' decomposer individuals   | NRD             | =           | 4  |
| Percentage of 'dry'decomposer individuals  | %NRD            | =           | 4  |
| Number of 'foul' decomposer taxa   | SRF             | <b>200</b>  | 2  |
| Percentage of 'foul' decomposer taxa   | %SRF            | =           | 3  |
| Number of 'foul' decomposer individuals  | NRF             | =           | 2  |
| Percentage of 'foul' decomposer individuals  | %NRF            | E           | 2  |
| Index of diversity of decomposer component   | alpha RT        | =           | 58 |
| Standard error Standard Stan | SE alpha RT     | ***         | 34 |
| Number of individuals of grain pests   | NG              | =           | 0  |
| Percentage of individuals of grain pests   | <del>የ</del> NG | =           | 0  |
| Number of individuals of grain pests   | NG              |             | 0  |
| Number of uncoded taxa   | SU              | =           | 11 |
| Percentage of uncoded individuals  | PNU             | <u>****</u> | 15 |

Context: 19 Sample: 11/T

| Taxon                             | Number | <b>%</b> Ra | ink | Ecodes |   |
|-----------------------------------|--------|-------------|-----|--------|---|
| Agallia brachyptera (Boheman)     | 9      | 8           | 1   | oapo   | đ |
| Scolopostethus sp.                | 4      | 4           | 2   | oap    |   |
| Nargus anisotomoides (Spence)     | 3      | 3           | 3   | u      |   |
| Aleocharinae sp. E                | 3      | 3           | 3   | u      |   |
| Harpalus rufipes (Degeer)         | 2      | 2           | 5   | oa     |   |
| Megasternum obscurum (Marsham)    | 2      | 2           | 5   | rt     |   |
| Ochthebius minimus (Fabricius)    | 2      | 2           | 5   | oa w   |   |
| Anotylus nitidulus (Gravenhorst)  | 2      | 2           | 5   | rt d   |   |
| Aleocharinae sp. C                | 2      | 2           | 5   | u      |   |
| Serica brunnea (Linnaeus)         | 2      | 2           | 5   | oa p   |   |
| Lathridius minutus group          | 2      | 2           | 5   | rd     |   |
| Longitarsus sp.                   | 2      | 2           | 5   | oa p   |   |
| Crepidodera ?ferruginea (Scopoli) | 2      | 2           | 5   | oap    |   |
| Aphrodes flavostriatus (Donovan)  | 2      | 2           | 5   | oapo   | d |
| Aphrodes sp.                      | 2      | 2           | 5   | oa p   |   |
| Dyschirius globosus (Herbst)      | 1      | 1           | 16  | oa     |   |
| Trechus obtusus or quadristriatus | 1      | 1           | 16  | oa     |   |
| Asaphidion flavipes (Linnaeus)    | 1      | 1           | 16  | oa     |   |
| Pterostichus niger (Schaller)     | 1      | 1           | 16  | oa     |   |
| Calathus fuscipes (Goeze)         | 1      | 1           | 16  | oa     |   |
| Calathus sp.                      | 1      | 1           | 16  | oa     |   |
| Synuchus nivalis (Panzer)         | 1      | 1           | 16  | oa     |   |
| Amara sp.                         | 1      | 1           | 16  | oa     |   |

| Colymbetinae sp.                                  | 1      | 1      | 16        | oa w     |
|---|--------|--------|-----------|----------|
| Helophorus sp. A                                  | 1      | 1      | 16        | oa w     |
| Helophorus sp. B                                  | 1      | 1      | 16        | oa w     |
| Cercyon terminatus (Marsham)                      | 1      | 1      | 16        | rf       |
| Onthophilus striatus (Forster)                    | 1      | 1      | 16        | rt       |
| Hydraena sp.                                      | 1      | 1      | 16        | oa w     |
| Limnebius sp. A                                   | 1      | 1      | 16        | oa w     |
| Limnebius sp. B                                   | 1      | 1      | 16        | oa w     |
| Silpha sp.  | 1      | 1      | 16        | u        |
| Micropeplus porcatus (Paykull)                    | 1      | 1      | 16        | rt       |
| Micropeplus staphylinoides (Marsham)              | 1      | 1      | 16        | rt       |
| Anthobium atrocephalum (Gyllenhal)                | 1      | 1      | 16        | oa       |
| Omalium sp. A                                     | 1      | 1      | 16        | rt       |
| Omalium sp. B                                     | 1      | 1      | 16        | rt       |
| Syntomium aeneum (Muller)                         | 1      | 1      | 16        | oa       |
| Bledius sp.                                       | 1      | 1      | 16        | oa d     |
| Carpelímus elongatulus (Erichson)                 | 1      | 1      | 16        | oa d     |
| Anotylus rugosus (Fabricius)                      | 1      | 1      | 16        | rt       |
| Anotylus sculpturatus group                       | 1      | 1      | 16        | rt       |
| Anotylus tetracarinatus (Block)                   | 1      | 1      | 16        | rt       |
| Xantholinus sp.                                   | 1      | 1      | 16        | u        |
| Staphylininae sp.                                 | 1      | 1      | 16        | u        |
| Tachinus corticinus Gravenhorst                   | 1      | 1      | 16        | น        |
| Aleocharinae sp. A                                | 1      | 1      | 16        | u        |
| Aleocharinae sp. B                                | 1      | 1      | 16        | u        |
| Aleocharinae sp. D                                | 1      | 1      | 16        | u        |
| Aleocharinae sp. F                                | 1      | 1      | 16        | u        |
| Aphodius sp.                                      | 1      | 1      | 16        | ob rf    |
| Oxyomus sylvestris (Scopoli)                      | 1      | 1      | 16        | rt       |
| Melolonthinae/Rutelinae/Cetoninae sp.             | 1      | 1      | 16        | oa p     |
| Cyphon sp.  | 1      | 1      | $16^{-5}$ | oa d     |
| Athous hirtus (Herbst)                            | 1      | 1      | 16        | oan      |
| Elateridae sp.                                    | 1      | 1      | 16        | 00       |
| Rhagonycha fulva (Scopoli)                        | 1      | 1      | 16        | oh       |
| Apobium ?punctatum (Degeer)                       | 1      | 1      | 16        | ĩ        |
| Ptinus fur (Linnaeus)                             | 1      | ī      | 16        | rd       |
| Meligethes ?aeneus (Fabricius)                    | 1      | ī      | 16        |          |
| Atomaria sp                                       | 1      | 1      | 16        | rd p     |
| Orthoperus sp                                     | 1      | ĩ      | 16        | rt       |
| Corticarijnae sn                                  | 1      | ī      | 16        | ~~<br>~+ |
| Chrysolina Poolita (Linnaeus)                     | 1      | î      | 16        | oa n     |
| Chalcoides sp                                     | 1      | 1      | 16        |          |
| Anion (Protanion) ?dissimile German               | 1      | 1      | 16        |          |
| Apion en A  | 1      | 1      | 16        | oa p     |
| Apion sp. R                                       | ±<br>1 | 1      | 16        | oa p     |
| Apron sp. D<br>Dhullahing an                      | 1      | 1      | 16        | oa p     |
| Choorbinus plumbous (Marsham)                     | 1      | 1      | 16        | oa p     |
| Citora Shumoralia Storborg                        | 1      | 1      | 16        | oa p     |
| Sitona inumeralis Scephens                        | 1      | 1      | 16        | oa p     |
| Cumpethen necessary (Cullenbel)                   | 1      | 1<br>1 | 16        | oa p     |
| 2Physchoonic folionum (Muller)                    | 1      | 1      | 16        | oa p     |
| 2Delugerie begeerum (Lippecus)                    | 1      | 1      | 16        | oa p     |
| (Dolycolls Daccardm (Dimaeus)                     | 1      | 1<br>1 | 16        | oa p     |
| myyaetuae op.                                     | 1      | +<br>1 | 16        | oa p     |
| UNALUSCILLA SP.<br>Auchonorhuncho on A            | 1<br>1 | 1      | 16        | oa w     |
| Auchenornyncha sp. A                              | 1<br>1 | 1      | 10        | va p     |
| Auchenornyncha Sp. B<br>Trioga urtigag (Tippagug) | 1      | 1<br>1 | 10        | oa p     |
| IIIOZA UEUICAE (LIIMAEUS)                         | T      | +      | τ0        | υαp      |
Context: 19 Sample: 12/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

## Erosion = 2 Fragmentation = 3; Weight = 1.000kg

-----

| Number of individuals estimated as                     | N                    | =           | 6  |
|--|----------------------|-------------|----|
| Number of taxa   | S                    | =           | 6  |
| Index of diversity not calculated, $n = s$ or $n < 20$ |                      |             |    |
| Number of 'certain' outdoor taxa                       | SOA                  | =           | 2  |
| Percentage of 'certain' outdoor taxa                   | %SOA                 | =           | 33 |
| Number of 'certain' outdoor individuals                | NOA                  | ***         | 2  |
| Percentage of 'certain' outdoor individuals            | %NOA                 | =           | 33 |
| Number of 'certain' and probable outdoor taxa          | SOB                  | -           | 3  |
| Percentage of 'certain' and probable outdoor taxa      | %SOB                 | =           | 50 |
| Number of 'certain' and probable outdoor individuals   | NOB                  | ±           | 3  |
| Percentage 'certain' and probable outdoor individuals  | %NOB                 | <b>6</b>    | 50 |
| Diversity index for OB not calculated, NOB = SOB or NO | OB < 20              | )           |    |
| Number of aquatic taxa                                 | SW                   | =           | 0  |
| Percentage of aquatic taxa                             | *SW                  | 255         | 0  |
| Number of aquatic individuals                          | NW                   | =           | 0  |
| Percentage of aquatic individuals                      | %NW                  | =           | 0  |
| Number of damp ground/waterside taxa                   | SD                   | =           | 0  |
| Percentage of damp ground/waterside taxa               | %SD                  | =           | 0  |
| Number of damp ground/waterside individuals            | ND                   | =           | 0  |
| Percentage of damp ground/waterside individuals        | %ND                  | -           | 0  |
| Number of strongly plant-associated taxa               | SP                   | =           | 2  |
| Percentage of strongly plant-associated taxa           | %SP                  | =           | 33 |
| Number of strongly plant-associated individuals        | NP                   | <b>77</b> 2 | 2  |
| Percentage of strongly plant-associated individuals    | %NP                  | -           | 33 |
| Number of heathland/moorland taxa                      | SM                   | =           | 0  |
| Number of heathland/moorland individuals               | NM                   | =           | Ő  |
| Percentage of heathland/moorland individuals           | %NM                  | =           | Ō  |
| Number of wood-associated taxa                         | SL                   | =           | 0  |
| Number of wood-associated individuals                  | NL                   | =           | Ő  |
| Percentage of wood-associated individuals              | 8NL                  | ==          | Õ  |
| Number of decomposer taxa                              | SRT                  | -           | 1  |
| Percentage of decomposer taxa                          | <b>%SRT</b>          | =           | 17 |
| Number of decomposer individuals                       | NRT                  | <del></del> | 1  |
| Percentage of decomposer individuals                   | %NRT                 | =           | 17 |
| Number of 'dry' decomposer taxa                        | SRD                  | =           | 0  |
| Percentage of 'dry'decomposer taxa                     | %SRD                 | =           | 0  |
| Number of 'dry' decomposer individuals                 | NRD                  | 80          | Ō  |
| Percentage of 'dry'decomposer individuals              | %NRD                 | _           | Ő  |
| Number of 'foul' decomposer taxa                       | SRF                  | =           | Ō  |
| Percentage of 'foul' decomposer taxa                   | &SRF                 | =           | Ő  |
| Number of 'foul' decomposer individuals                | NRF                  | =           | ō  |
| Percentage of 'foul' decomposer individuals            | %NRF                 | -           | Ő  |
| Diversity index for RT not calculated. NRT = SRT or N  | אדי - 20<br>אדי - 20 | ۱           | Ť  |
| Number of individuals of grain pests                   | NG                   | ,<br>=      | 0  |
| Percentage of individuals of grain pests               | %NG                  | =           | õ  |
| Number of individuals of grain pests                   | NG                   | _           | ດັ |
| Number of uncoded taxa                                 | SU                   | =           | 2  |
| Percentage of uncoded individuals                      | PNII                 | =           | 33 |
| Forestinge of allower successfully                     | ~                    |             | 00 |

## SPECIES LIST IN RANK ORDER

Context: 19 Sample: 12/T

| Taxon                        | Number | 8 | Rank | Ecodes |
|------------------------------|--------|---|------|--------|
| Anotylus rugosus (Fabricius) | 1      | 1 | 71   | rt     |
| Staphylininae sp.            | 1      | 1 | 71   | u      |

| Aleocharinae sp.  | 1 | 17 | 1 | u    |
|-------------------|---|----|---|------|
| Elateridae sp.    | 1 | 17 | 1 | do   |
| Coccinellidae sp. | 1 | 17 | 1 | oa p |
| Apion sp.         | 1 | 17 | 1 | oa p |

Context: 19 Sample: 81/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

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| Number of individuals estimated as                  |        | N              | =        | 200      |
|---|--------|----------------|----------|----------|
| Number of taxa                                      |        | S              | =        | 143      |
| Index of diversity (alpha)                          |        | alpha          | =        | 224      |
| Standard error of alpha                             | SE     | alpha          | #        | 33       |
| Number of 'certain' outdoor taxa                    |        | SOA            | =        | 87       |
| Percentage of 'certain' outdoor taxa                |        | <b>%</b> SOA   | =        | 61       |
| Number of 'certain' outdoor individuals             |        | NOA            | <b>#</b> | 127      |
| Percentage of 'certain' outdoor individuals         |        | %NOA           | =        | 64       |
| Number of 'certain' and probable outdoor taxa       |        | SOB            | =        | 96       |
| Percentage of 'certain' and probable outdoor tax    | (a     | %SOB           | =        | 67       |
| Number of 'certain' and probable outdoor individ    | luals  | NOB            | =        | 136      |
| Percentage 'certain' and probable outdoor indivi    | iduals | %NOB           | =        | 68       |
| Index of diversity of outdoor component             | alp    | ha OB          | =        | 145      |
| Standard error                                      | SE alt | ha OB          | =        | 26       |
| Number of aquatic taxa                              | +      | SW             | =        | 10       |
| Percentage of aguatic taxa                          |        | *SW            | =        | 7        |
| Number of aguatic individuals                       |        | NW             | =        | 14       |
| Percentage of aquatic individuals                   |        | %NW            | #        |          |
| Number of damp ground/waterside taxa                |        | SD             |          | q        |
| Percentage of damp ground/waterside taxa            |        | \$SD           | =        | ĥ        |
| Number of damp ground/waterside individuals         |        | ND             | =        | 13       |
| Percentage of damp ground/waterside individuals     |        | &ND            | _        | +5<br>7  |
| Number of strongly plant-associated taxa            |        | SD<br>SD       | _        | 53       |
| Percentage of strongly plant-associated taxa        |        | 201<br>& CD    | =        | 37       |
| Number of strongly plant-associated individuals     |        | TC 6<br>DIA    | _        | 27<br>21 |
| Percentage of strongly plant-associated individuals |        | SND            | _        | 01<br>A1 |
| Number of besthland/meerland taxa                   | Iaro   | ONE<br>CM      | _        | 41       |
| Number of heathland/moorland individuals            |        | NIM            | _        | 0        |
| Remover of heathland/mooriand individuals           |        | UNIM<br>S.NTM  | _        | 0        |
| Number of wood especiated tows                      |        | SINM           | -        | 0        |
| Number of wood-associated taxa                      |        | 2L<br>2L       | _        | 2        |
| Number of wood-associated individuals               |        | LIVI<br>TVL-9  |          | 2        |
| Number of documents                                 |        | 200<br>11/18   | -        | 1        |
| Number of decomposer taxa                           |        | SKI<br>8.0DM   | -        | 23       |
| Percentage of decomposer taxa                       |        | *SRT           | =        | 10       |
| Number of decomposer individuals                    |        | NRT<br>9.ND/II | =        | 30       |
| Percentage of decomposer individuals                |        | *NRT           | -        | 19       |
| Number of 'dry' decomposer taxa                     |        | SKD            | -        | 4        |
| Percentage of 'dry'decomposer taxa                  |        | *SKD           |          | 3        |
| Number of 'dry' decomposer individuals              |        | NRD            | -        | /        |
| Percentage of 'dry'decomposer individuals           |        | *NRD           | =        | 4        |
| Number of 'foul' decomposer taxa                    |        | SRE            | =        | 5        |
| Percentage of 'foul' decomposer taxa                |        | *SRF           | =        | 2        |
| Number of 'foul' decomposer individuals             |        | NRF            | =        | 8        |
| Percentage of 'foul' decomposer individuals         | _      | *NRF           | =        | 4        |
| Index of diversity of decomposer component          | alp    | ha RT          | =        | 25       |
| Standard error                                      | SE alp | ha RT          | =        | 8        |
| Number of individuals of grain pests                |        | NG             |          | 0        |
| Percentage of individuals of grain pests            |        | %NG            | =        | 0        |
| Number of individuals of grain pests                |        | NG             | -        | 0        |
| Number of uncoded taxa                              |        | SU             | =        | 27       |
| Percentage of uncoded individuals                   |        | PNU            | =        | 16       |

Context: 19 Sample: 81/T

# Taxon

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| Apion (Protapion) ?dissimile Germar               | 7      | 4      | 1        | oa p       |
|---|--------|--------|----------|------------|
| Brachypterus urticae (Fabricius)                  | 6      | 3      | 2        | oa p       |
| Megasternum obscurum (Marsham)                    | 4      | 2      | 3        | rt         |
| Lesteva longoelytrata (Goeze)                     | 4      | 2      | 3        | oad        |
| Aphodius contaminatus (Herbst)                    | 4      | 2      | 3        | oa rf      |
| Meligethes ?aeneus (Fabricius)                    | 4      | 2      | 3        | oa p       |
| Ochthebius ?minimus (Fabricius)                   | 3      | 2      | 7        | oa w       |
| Xantholinus ?linearis (Olivier)                   | 3      | 2      | 4        | rt         |
| Chruceline polite (Lippeque)                      | Э      | 2      | ,<br>7   | ra<br>en m |
| Current pointa (Linnaeus)                         | ა<br>ა | 2      | -        | oa p       |
| Antheoperic an                                    | 2      | 2      | 7        | oa p       |
| Anchocorrs sp.<br>Ptorostichus 2nigrita (Paukull) | 2      | 2      | 12       | oa d       |
| Harpalus rufines (Degeer)                         | 2      | 1      | 13       | oa u       |
| Helophorus sp                                     | 2      | 1      | 13       | oa w       |
| Limphius sp. A                                    | 2      | 1      | 13       | oa w       |
| Acrotrichis en A                                  | 2      | 1      | 13       | rt va w    |
| Nargus anisotomoides (Spence)                     | 2      | 1      | 13       | 11         |
| Cypha sp  | 2      | 1      | 13       | rt         |
| Micropeplus porcatus (Pavkull)                    | 2      | 1      | 13       | rt         |
| Philonthus sp. A                                  | 2      | î      | 13       | 11         |
| Tachyporus sp.                                    | 2      | 1      | 13       | ŭ          |
| Tachinus laticollis or marginellus                | 2      | 1      | 13       | u          |
| Aleocharinae sp. B                                | 2      | 1      | 13       | u          |
| Athous haemorrhoidalis (Fabricius)                | 2      | 1      | 13       | oap        |
| Atomaria sp. A                                    | 2      | 1      | 13       | rd         |
| Enicmus sp.                                       | 2      | 1      | 13       | rt         |
| Apion sp. C                                       | 2      | 1      | 13       | oa p       |
| Apion sp. F                                       | 2      | 1      | 13       | oa p       |
| Gymnetron labile (Herbst)                         | 2      | 1      | 13       | oa p       |
| Scolopostethus sp.                                | 2      | 1      | 13       | oa p       |
| Neophilaenus campestris (Fallen)                  | 2      | 1      | 13       | oa p       |
| Aphrodes sp.                                      | 2      | 1      | 13       | oa p       |
| Auchenorhyncha sp. F                              | 2      | 1      | 13       | oa p       |
| Loricera pilicornis (Fabricius)                   | 1      | 1      | 35       | oa         |
| Dyschirius globosus (Herbst)                      | 1      | 1      | 35       | oa         |
| Trechus ?obtusus Erichson                         | 1      | 1      | 35       | oa         |
| Trechus obtusus or quadristriatus                 | 1      | 1      | 35       | oa         |
| Bembidion ?guttula (Fabricius)                    | 1      | 1      | 35       | oa         |
| Calathus sp.                                      | 1      | 1      | 35       | oa         |
| Amara sp. A                                       | 1      | 1      | 35       | oa         |
| Amara sp. B                                       | 1      | 1      | 35       | oa         |
| ?Harpalus sp.                                     | 1      | 1      | 35       | oa         |
| Microlestes sp.                                   | 1      | 1      | 35       | oa         |
| Carabidae sp. A                                   | 1      | 1      | 35       | ob         |
| Carabidae sp. B                                   | 1      | 1      | 35       | do         |
| Carabidae sp. C                                   | 1      | 1      | 35       | do         |
| Hydroporinae sp.                                  | 1      | 1      | 35       | oa w       |
| Colymbetinae sp.                                  | 1      | 1      | 35       | oaw        |
| Cercyon sternalis Snarp                           | 1      | 1      | 33<br>25 | oad        |
| Hydrobius ruscipes (Linnaeus)                     | 1      | 1      | 33       | oa w       |
| Hydrophilinae sp. A<br>Nydrophilinae sp. B        | 1      | 1      | 20       | oa w       |
| Nopthepine en                                     | 1<br>1 | 1      | 35       | oa w       |
| John Jack Sp. Timpohing on P                      | ⊥<br>1 | 1<br>1 | 35       | oa w       |
| Jonathiapia an D                                  | 1<br>1 | 1<br>1 | 3 E      | va w<br>rt |
| ACTOUTIONIS SP. D<br>Nexame velou: (Spence)       | 1      | 1      | 35<br>20 | 1 L<br>13  |
| Nargus velox (Spence)                             | T      | T      | 22       | u          |

Number % Rank Ecodes

| Catops sp.   | 1   | 1  | 35  | u   |
|--|---|--|---|---|
| Silpha ?tristis Illiger  | 1   | 1  | 35  | u   |
| ?Scydmaenidae sp.  | 1   | 1  | 35  | u   |
| Micropeplus staphylinoides (Marsham)   | 1   | 1  | 35  | rt  |
| Metopsia retusa (Stephens)   | 1   | 1  | 35  | u   |
| Anthobium atrocephalum (Gyllenhal)   | 1   | 1  | 35  | oa  |
| Syntomium aeneum (Muller)  | 1   | 1  | 35  | oa  |
| Carpelimus elongatulus (Erichson)  | 1   | 1  | 35  | oa d  |
| Aploderus caelatus (Gravenhorst)   | 1   | 1  | 35  | rt  |
| Platystethus arenarius (Fourcroy)  | 1   | 1  | 35  | rf  |
| Platystethus ?nodifrons (Mannerheim)   | 1   | 1  | 35  | oa d  |
| Anotylus sculpturatus group  | 1   | 1  | 35  | rt  |
| Oxytelus fulvipes Erichson   | 1   | 1  | 35  | oa d  |
| Stenus sp. A   | 1   | 1  | 35  | u   |
| Stenus sp. B   | 1   | 1  | 35  | u   |
| Lathrobium sp.   | 1   | 1  | 35  | u   |
| Othius punctulatus (Goeze)   | 1   | 1  | 35  | rt .  |
| Erichsonius cinerascens (Gravenhorst)  | 1   | 1  | 35  | oa d  |
| Philonthus sp. B   | 1   | 1  | 35  | u   |
| Staphylininae sp. A  | 1   | 1  | 35  | u   |
| Staphylininae sp. B  | 1   | 1  | 35  | u   |
| Staphylininae sp. C  | 1   | 1  | 35  | u   |
| Tachinus corticinus Gravenhorst  | 1   | 1  | 35  | u   |
| Tachinus signatus Gravenhorst  | 1   | 1  | 35  | u   |
| Aleocharinae sp. A   | 1   | 1  | 35  | u   |
| Aleocharinae sp. C   | 1   | 1  | 35  | u   |
| Aleocharinae sp. D   | 1   | 1  | 35  | u   |
| Aleocharinae sp. E   | 1   | 1  | 35  | u   |
| Aleocharinae sp. F   | 1   | 1  | 35  | u   |
| Aleocharinae sp. G   | 1   | 1  | 35  | u   |
| Pselaphidae sp.  | 1   | 1  | 35  | u<br>, ,  |
| Apnodius sp. A   | 1   | Ţ  | 35  | opri  |
| Apnodius sp. B   | 1   | 1  | 35  | ob ri   |
| Onthophagus sp.  | 1   | 1  | 35  | oa rf   |
| Serica brunnea (Linnaeus)  | 1   | 1  | 35  | oa p  |
| Phyllopertha norticola (Linnaeus)  | 1   | 1  | 35  | oa p  |
| Melolonthinae/Rutelinae/Cetoninae sp.  | 1   | 1  | 35  | oa p  |
| Agriotes obscurus (Linnaeus)   | 1   | 1  | 35  | oa p  |
| Dalopius marginatus (Linnaeus)   | 1   | 1  | 30  | oap   |
| Adrastus parlens (Fabricius)   | 1   | 1  | 30<br>35  | oap   |
| Cantharis rustica (Fallen)   | 1   | 1  | 30  | dD<br>ab  |
| Destroyable Just - (Melley)  |   |  | 33  | OD  |
|  | 1   | 1  | 25  | ch  |
| Rhagonycha Lutea (Muller)  | 1   | 1  | 35  | ob  |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium 2nunotatum (Dogoon)   | 1<br>1<br>1   | 1 1 1  | 35<br>35<br>25  | ob<br>ob  |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)   | 1<br>1<br>1<br>1  | 1<br>1<br>1<br>1   | 35<br>35<br>35<br>35  | ob<br>ob<br>1   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)   | 1<br>1<br>1<br>1  | 1<br>1<br>1<br>1   | 35<br>35<br>35<br>35<br>35  | ob<br>ob<br>l<br>oa p d   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.   | 1<br>1<br>1<br>1<br>1   | 1<br>1<br>1<br>1<br>1  | 35<br>35<br>35<br>35<br>35<br>35<br>35  | ob<br>ob<br>l<br>oa p d<br>oa p   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistomus globulus (Paukull)  | 1<br>1<br>1<br>1<br>1<br>1  | 1  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35                              | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalagridag sp.   | 1   | 1  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35                        | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthonorus en  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 1  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35                  | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Cortinicara sp.  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>rt   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Purochroa corraticorpis (Scopoli)  | 1   | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>rt<br>rt<br>co l                               |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Castrophysa polygoni (Lippaeus)   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                               | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>rt<br>oa l                                     |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp.  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                                    | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                                    | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>rt<br>oa l<br>oa p                             |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B   | 1   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                               | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>rt<br>oa p<br>oa p<br>oa p                     |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                          | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>rd<br>oa p<br>rt<br>rt<br>oa p<br>oa p<br>oa p<br>oa p                   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.<br>Crepidodera sp.   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                     | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>oa p<br>rt<br>rt<br>rt<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p           |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.<br>Crepidodera sp.<br>Psylliodes sp.   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>oa p<br>rt<br>rt<br>rt<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p   |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.<br>Crepidodera sp.<br>Psylliodes sp.   | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p<br>d<br>oa p<br>rd<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p          |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.<br>Crepidodera sp.<br>Psylliodes sp.<br>Apion (Ceratapion) carduorum Kirby<br>Apion 2(Supapion) ebeninum Kirby | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p d<br>oa p<br>rd<br>oa p<br>rt<br>rt<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p |
| Rhagonycha lutea (Muller)<br>Rhagonycha testacea or femoralis<br>Anobium ?punctatum (Degeer)<br>Kateretes rufilabris (Latreille)<br>Meligethes sp.<br>Atomaria sp. B<br>Ephistemus globulus (Paykull)<br>Phalacridae sp.<br>Orthoperus sp.<br>Cortinicara gibbosa (Herbst)<br>Corticarina or Cortinicara sp.<br>Pyrochroa serraticornis (Scopoli)<br>Gastrophysa polygoni (Linnaeus)<br>Phyllotreta sp. A<br>Phyllotreta sp. B<br>Longitarsus sp.<br>Crepidodera sp.<br>Psylliodes sp.<br>Apion (Ceratapion) carduorum Kirby<br>Apion ?(Synapion) ebeninum Kirby | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 111111111111111111111111111111111111111  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>35<br>3 | ob<br>ob<br>l<br>oa p<br>d<br>oa p<br>rd<br>rd<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p<br>oa p    |

| Apion sp. B                       | 1 | 1 | 35 | oa p   |
|-----------------------------------|---|---|----|--------|
| Apion sp. D                       | 1 | 1 | 35 | oa p   |
| Apion sp. E                       | 1 | 1 | 35 | oa p   |
| Phyllobius pomaceus Gyllenhal     | 1 | 1 | 35 | oa p   |
| Sitona ?lineatus (Linnaeus)       | 1 | 1 | 35 | oa p   |
| Sitona sp.                        | 1 | 1 | 35 | oa p   |
| Ceutorhynchus erysími (Fabricius) | 1 | 1 | 35 | oa p   |
| Ceutorhynchus litura (Fabricius)  | 1 | 1 | 35 | oap    |
| Ceutorhynchus sp. A               | 1 | 1 | 35 | oa p   |
| Ceutorhynchus sp. B               | 1 | 1 | 35 | oa p   |
| Mecinus pyraster (Herbst)         | 1 | 1 | 35 | oa p   |
| Coleoptera sp.                    | 1 | 1 | 35 | u      |
| Picromerus bidens (Linnaeus)      | 1 | 1 | 35 | oa p   |
| ?Stygnocoris sp.                  | 1 | 1 | 35 | oa     |
| Drymus sylvaticus (Fabricius)     | 1 | 1 | 35 | oa p   |
| Lygaeidae sp.                     | 1 | 1 | 35 | oa p   |
| Acalypta sp.                      | 1 | 1 | 35 | oa p   |
| Aphrodes flavostriatus (Donovan)  | 1 | 1 | 35 | oa p d |
| Auchenorhyncha sp. A              | 1 | 1 | 35 | oa p   |
| Auchenorhyncha sp. B              | 1 | 1 | 35 | oa p   |
| Auchenorhyncha sp. C              | 1 | 1 | 35 | oa p   |
| Auchenorhyncha sp. D              | 1 | 1 | 35 | oa p   |
| Auchenorhyncha sp. E              | 1 | 1 | 35 | oa p   |

Context: 19 Sample: 86/SPT - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 3 Fragmentation = 4; Weight = 1.000kg

| Number of individuals estimated as                    | N            | =         | 25 |
|---|--------------|-----------|----|
| Number of taxa  | S            | =         | 21 |
| Index of diversity (alpha)                            | alpha        | =         | 60 |
| Standard error of alpha SE                            | alpha        | <b>27</b> | 31 |
| Number of 'certain' outdoor taxa                      | SOA          | =         | 10 |
| Percentage of 'certain' outdoor taxa                  | \$SOA        | =         | 48 |
| Number of 'certain' outdoor individuals               | NOA          | =         | 14 |
| Percentage of 'certain' outdoor individuals           | \$NOA        | =         | 56 |
| Number of 'certain' and probable outdoor taxa         | SOB          | ==        | 14 |
| Percentage of 'certain' and probable outdoor taxa     | %SOB         | =         | 67 |
| Number of 'certain' and probable outdoor individuals  | NOB          | =         | 18 |
| Percentage 'certain' and probable outdoor individuals | <b>%</b> NOB |           | 72 |
| Diversity index for OB not calculated, NOB = SOB or N | OB < 20      | )         |    |
| Number of aquatic taxa                                | SW           | =         | 1  |
| Percentage of aquatic taxa                            | %SW          | =         | 5  |
| Number of aquatic individuals                         | NW           | ***       | 2  |
| Percentage of aquatic individuals                     | 8NW          | =         | 8  |
| Number of damp ground/waterside taxa                  | SD           | =         | 0  |
| Percentage of damp ground/waterside taxa              | %SD          | =         | 0  |
| Number of damp ground/waterside individuals           | ND           | =         | 0  |
| Percentage of damp ground/waterside individuals       | %ND          | =         | 0  |
| Number of strongly plant-associated taxa              | SP           | =         | 5  |
| Percentage of strongly plant-associated taxa          | %S₽          | =         | 24 |
| Number of strongly plant-associated individuals       | NP           | _         | 8  |
| Percentage of strongly plant-associated individuals   | %NP          | =         | 32 |
| Number of heathland/moorland taxa                     | SM           | =         | 0  |
| Number of heathland/moorland individuals              | NM           | ≖         | 0  |
| Percentage of heathland/moorland individuals          | %NM          | =         | 0  |
| Number of wood-associated taxa                        | SL           | =         | 0  |
| Number of wood-associated individuals                 | NL           | =         | 0  |
| Percentage of wood-associated individuals             | %NL          | =         | 0  |
| Number of decomposer taxa                             | SRT          | =         | 5  |
| Percentage of decomposer taxa                         | <b>%</b> SRT | =         | 24 |

| Number of decomposer individuals                    | NRT =    | 5   |
|---|----------|-----|
| Percentage of decomposer individuals                | %NRT =   | 20  |
| Number of 'dry' decomposer taxa                     | SRD =    | 0   |
| Percentage of 'dry'decomposer taxa                  | %SRD =   | 0   |
| Number of 'dry' decomposer individuals              | NRD =    | 0   |
| Percentage of 'dry'decomposer individuals           | %NRD =   | 0   |
| Number of 'foul' decomposer taxa                    | SRF =    | 3   |
| Percentage of 'foul' decomposer taxa                | %SRF =   | 14  |
| Number of 'foul' decomposer individuals             | NRF =    | 3   |
| Percentage of 'foul' decomposer individuals         | %NRF =   | 12  |
| Diversity index for RT not calculated, NRT = SRT or | NRT < 20 |     |
| Number of individuals of grain pests                | NG =     | 0   |
| Percentage of individuals of grain pests            | %NG =    | 0   |
| Number of individuals of grain pests                | NG =     | • 0 |
| Number of uncoded taxa                              | SU =     | - 5 |
| Percentage of uncoded individuals                   | PNU =    | 20  |

Context: 19 Sample: 86/SPT

#### Taxon

| Phyllopertha horticola (Linnaeus) | 4 | 16 | 1 | oa p | þ  |
|-----------------------------------|---|----|---|------|----|
| Agabus bipustulatus (Linnaeus)    | 2 | 8  | 2 | oa v | Ŵ  |
| Dyschirius globosus (Herbst)      | 1 | 4  | 3 | oa   |    |
| Bembidion ?guttula (Fabricius)    | 1 | 4  | 3 | oa   |    |
| ?Pterostichus (Poecilus) sp.      | 1 | 4  | 3 | oa   |    |
| Carabidae sp.                     | 1 | 4  | 3 | ob   |    |
| Megasternum obscurum (Marsham)    | 1 | 4  | 3 | rt   |    |
| Histerinae sp.                    | 1 | 4  | 3 | u    |    |
| Silphidae sp.                     | 1 | 4  | 3 | น    |    |
| Anotylus rugosus (Fabricius)      | 1 | 4  | 3 | rt   |    |
| Stenus sp.                        | 1 | 4  | 3 | u    |    |
| Philonthus sp.                    | 1 | 4  | 3 | u    |    |
| Tachinus ?signatus Gravenhorst    | 1 | 4  | 3 | u    |    |
| Geotrupes sp.                     | 1 | 4  | 3 | oa   | rf |
| Aphodius sp. A                    | 1 | 4  | 3 | ob   | rf |
| Aphodius sp. B                    | 1 | 4  | 3 | ob   | rf |
| Elateridae sp.                    | 1 | 4  | 3 | ob   |    |
| Apion sp.                         | 1 | 4  | 3 | oa   | р  |
| Otiorhynchus ovatus (Linnaeus)    | 1 | 4  | 3 | oaj  | р  |
| Phyllobius or Polydrusus sp.      | 1 | 4  | 3 | oa j | р  |
| Aphrodes sp.                      | 1 | 4  | 3 | oa   | р  |
|                                   |   |    |   |      |    |

Number % Rank Ecodes

ll

Context: 40; Sample: 38/T

NO RECORDS OF BEETLES OR BUGS

Context: 51 Sample: 42/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as     | N   | - | 85 |
|--|-----|---|----|
| Number of taxa                         | S   | = | 60 |
| Index of diversity (alpha) alg         | ha  | = | 90 |
| Standard error of alpha SE alg         | ha  | - | 20 |
| Number of 'certain' outdoor taxa       | SOA | = | 33 |
| Percentage of 'certain' outdoor taxa % | SOA | = | 55 |

| Number of 'certain' outdoor individuals  | NOA         | =  | 46 |
|--|-------------|----|----|
| Percentage of 'certain' outdoor individuals  | %NOA        | =  | 54 |
| Number of 'certain' and probable outdoor taxa  | SOB         |    | 36 |
| Percentage of 'certain' and probable outdoor taxa  | a %SOB      | =  | 60 |
| Number of 'certain' and probable outdoor individu  | als NOB     | =  | 50 |
| Percentage 'certain' and probable outdoor individ  | luals %NOB  | =  | 59 |
| Index of diversity of outdoor component  | alpha OB    | =  | 57 |
| Standard error Standard Stan | SE alpha OB | =  | 17 |
| Number of aquatic taxa   | SW          | =  | 4  |
| Percentage of aquatic taxa   | %SW         | =  | 7  |
| Number of aquatic individuals  | NW          | =  | 4  |
| Percentage of aquatic individuals  | %NW         | =  | 5  |
| Number of damp ground/waterside taxa   | SD          |    | 5  |
| Percentage of damp ground/waterside taxa   | %SD         | ** | 8  |
| Number of damp ground/waterside individuals  | ND          | =  | 10 |
| Percentage of damp ground/waterside individuals  | \$ND        | =  | 12 |
| Number of strongly plant-associated taxa   | SP          | =  | 20 |
| Percentage of strongly plant-associated taxa   | %SP         | =  | 33 |
| Number of strongly plant-associated individuals  | NP          | =  | 26 |
| Percentage of strongly plant-associated individua  | als %NP     | =  | 31 |
| Number of heathland/moorland taxa  | SM          | =  | 0  |
| Number of heathland/moorland individuals   | NM          | =  | 0  |
| Percentage of heathland/moorland individuals   | \$NM        | =  | 0  |
| Number of wood-associated taxa   | SL          | =  | 0  |
| Number of wood-associated individuals  | NL          | =  | 0  |
| Percentage of wood-associated individuals  | &NL         | =  | 0  |
| Number of decomposer taxa  | SRT         | =  | 17 |
| Percentage of decomposer taxa  | %SRT        | =  | 28 |
| Number of decomposer individuals   | NRT         | =  | 28 |
| Percentage of decomposer individuals   | %NRT        | =  | 33 |
| Number of 'dry' decomposer taxa  | SRD         | =  | 2  |
| Percentage of 'dry'decomposer taxa   | &SRD        | =  | 3  |
| Number of 'dry' decomposer individuals   | NRD         | =  | 3  |
| Percentage of 'dry'decomposer individuals  | %NRD        | =  | 4  |
| Number of 'foul' decomposer taxa   | SRF         | =  | 4  |
| Percentage of 'foul' decomposer taxa   | &SRF        | =  | 7  |
| Number of 'foul' decomposer individuals  | NRF         | ×  | 5  |
| Percentage of 'foul' decomposer individuals  | %NRF        | =  | 6  |
| Index of diversity of decomposer component   | alpha RT    |    | 19 |
| Standard error   | SE alpha RT | =  | 7  |
| Number of individuals of grain pests   | NG          | == | 0  |
| Percentage of individuals of grain pests   | %NG         | =  | 0  |
| Number of individuals of grain pests   | NG          | =  | 0  |
| Number of uncoded taxa   | SU          |    | 11 |
| Percentage of uncoded individuals  | PNU         | -  | 14 |

| CONCERC: OF OWNERC: 72/3 | Context: | 51 | Sample: | 42/ | т |
|--------------------------|----------|----|---------|-----|---|
|--------------------------|----------|----|---------|-----|---|

| Taxon                            | Number | 8 | Rank | Ecodes |    |
|----------------------------------|--------|---|------|--------|----|
| Anotylus nitidulus (Gravenhorst) | 6      |   | 71   | rt     | d  |
| Amara apricaria (Paykull)        | 5      | ( | 62   | oa     |    |
| Calathus fuscipes (Goeze)        | 3      | 4 | 43   | oa     |    |
| Longitarsus sp.                  | 3      | 4 | 43   | oa     | Р  |
| Dyschirius globosus (Herbst)     | 2      | : | 25   | oa     |    |
| Anotylus sculpturatus group      | 2      |   | 25   | rt     |    |
| Stenus sp. B                     | 2      | : | 25   | u      |    |
| Gyrohypnus sp.                   | 2      |   | 25   | rt     |    |
| Xantholinus linearis (Olivier)   | 2      |   | 25   | rt     |    |
| Aphodius granarius (Linnaeus)    | 2      | : | 25   | ob     | rf |

| Oxyomus sylvestris (Scopoli)          | 2      | 2      | 5  | rt      |
|---------------------------------------|--------|--------|----|---------|
| Lathridius minutus group              | 2      | 2      | 5  | rd      |
| Halticinae sp. A                      | 2      | 2      | 5  | oa p    |
| Halticinae sp. B                      | 2      | 2      | 5  | oa p    |
| Aphrodes sp. A                        | 2      | 2      | 5  | oa p    |
| Auchenorhyncha sp. C                  | 2      | 2      | 5  | oa p    |
| Bembidion sp.                         | 1      | 1      | 17 | oa      |
| Pterostichus cupreus (Linnaeus)       | 1      | 1      | 17 | oa      |
| Carabidae sp.                         | 1      | 1      | 17 | ob      |
| Helophorus aguaticus or grandis       | 1      | 1      | 17 | oa w    |
| Helophorus sp.                        | 1      | 1      | 17 | oa w    |
| Cercyon ?analis (Paykull)             | 1      | 1      | 17 | rt      |
| Megasternum obscurum (Marsham)        | 1      | 1      | 17 | rt      |
| Opthophilus striatus (Forster)        | 1      | 1      | 17 | rt.     |
| Achthebius sp                         | - 1    | ĩ      | 17 | oa w    |
| Limpohius sp.                         | 1      | 1      | 17 | 0a w    |
| Losteva longoolutrata (Coeze)         | 1      | 1      | 17 | oa d    |
| Desteva longoerytrata (Goeze)         | 1      | 1      | 17 | oa d    |
| Platystetnus cornutus group           | 1      | 1      | 17 | rt      |
| Anotylus tetracarinatus (Biock)       | 1      | 1      | 17 | 1 C     |
| Stenus sp. A                          | 1      | 1      | 17 | u<br>11 |
| Philonthus sp.                        | 1      | 1      | 17 | u<br>N  |
| Philonthus or Gabrius sp.             | 1      | 1      | 17 | u       |
| Tachyporus sp.                        | 1      | 1      | 17 | u       |
| Aleocharinae sp. A                    | 1      | Ţ      | 17 | u       |
| Aleocharinae sp. B                    | 1      | 1      | 1/ | u       |
| Aleocharinae sp. C                    | 1      | 1      | 17 | u       |
| Aleocharinae sp. D                    | 1      | 1      | 17 | u       |
| Aleocharinae sp. E                    | 1      | 1      | 17 | u       |
| Aleocharinae sp. F                    | 1      | 1      | 17 | u       |
| Geotrupes sp.                         | 1      | 1      | 17 | oa rf   |
| Aphodius contaminatus (Herbst)        | 1      | 1      | 17 | oa rf   |
| Aphodius prodromus (Brahm)            | 1      | 1      | 17 | ob rf   |
| Agriotes sp.                          | 1      | 1      | 17 | oa p    |
| ?Kateretes rufilabris (Latreille)     | 1      | 1      | 17 | oapd    |
| Meligethes sp.                        | 1      | 1      | 17 | oa p    |
| Cryptophagus sp.                      | 1      | 1      | 17 | rd      |
| Orthoperus sp.                        | 1      | 1      | 17 | rt      |
| Subcoccinella vigintiquattuorpunctata |        |        |    |         |
| (Linnaeus)                            | 1      | 1      | 17 | oa p    |
| Corticaria sp.                        | 1      | 1      | 17 | rt      |
| Apion sp.                             | 1      | 1      | 17 | oap     |
| Centorbynchus ?ervsimi (Fabricius)    | 1      | 1      | 17 | oap     |
| Centorhynchus sp                      | 1      | 1      | 17 | oap     |
| Ceuthorbunchinge sn A                 | 1      | 1      | 17 | oap     |
| Couthorhynchinge sp B                 | 1      | 1      | 17 | oap     |
| Anthocoris sn                         | 1      | 1      | 17 | oap     |
| Miridaa sp.                           | 1      | 1      | 17 | oap     |
| Anhrodon flavostriatus (Donovan)      | 1      | 1      | 17 | oand    |
| Aburdes travoscitarus (Douovau)       | 1      | 1      | 17 | oa n    |
| Approved Sp.                          | 1<br>1 | 1      | 17 | 09 0    |
| Auchenornyncha sp. A                  | 1<br>1 | ⊥<br>1 | 17 | 02 2    |
| Auchenornyncha sp. B                  | ĩ      | ĩ      | 11 | Ua P    |

Context: 51 Sample: 43/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as | N =        | 36  |
|------------------------------------|------------|-----|
| Number of taxa                     | S =        | 32  |
| Index of diversity (alpha)         | alpha =    | 135 |
| Standard error of alpha            | SE alpha = | 69  |
| Number of 'certain' outdoor taxa   | SOA =      | 16  |

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| Cercyon sp.                           | 1 | 3 | 4 | u     |
|---------------------------------------|---|---|---|-------|
| Lesteva longoelytrata (Goeze)         | 1 | 3 | 4 | oa d  |
| Anotylus sculpturatus group           | 1 | 3 | 4 | rt    |
| Stenus sp. A                          | 1 | 3 | 4 | u     |
| Stenus sp. B                          | 1 | 3 | 4 | u     |
| Philonthus sp.                        | 1 | 3 | 4 | u     |
| Geotrupes sp.                         | 1 | 3 | 4 | oa rf |
| Aphodius sp. A                        | 1 | 3 | 4 | ob rf |
| Aphodius sp. B                        | 1 | 3 | 4 | ob rf |
| ?Oxyomus sylvestris (Scopoli)         | 1 | 3 | 4 | rt    |
| Heterocerus sp.                       | 1 | 3 | 4 | oa d  |
| Anobium ?punctatum (Degeer)           | 1 | 3 | 4 | 1     |
| Omosita discoidea (Fabricius)         | 1 | 3 | 4 | rt    |
| Cryptophagus sp.                      | 1 | 3 | 4 | rd    |
| Ephistemus globulus (Paykull)         | 1 | 3 | 4 | rd    |
| Subcoccinella vigintiquattuorpunctata |   |   |   |       |
| (Linnaeus)                            | 1 | 3 | 4 | oa p  |
| Chrysomelinae sp.                     | 1 | 3 | 4 | oap   |
| Longitarsus sp.                       | 1 | 3 | 4 | oap   |
| Apion sp.                             | 1 | 3 | 4 | oap   |
| Ceutorhynchus sp.                     | 1 | 3 | 4 | oap   |
| Ceuthorhynchinae sp.                  | 1 | 3 | 4 | oap   |
| Auchenorhyncha sp.                    | 1 | 3 | 4 | oap   |

Context: 55 Sample: 46/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as                     | N             | =  | 5  |
|--|---------------|----|----|
| Number of taxa   | S             | =  | 5  |
| Index of diversity not calculated, n = s or n < 20     |               |    |    |
| Number of 'certain' outdoor taxa                       | SOA           | =  | 3  |
| Percentage of 'certain' outdoor taxa                   | %soa          | =  | 60 |
| Number of 'certain' outdoor individuals                | NOA           | =  | 3  |
| Percentage of 'certain' outdoor individuals            | %NOA          | H  | 60 |
| Number of 'certain' and probable outdoor taxa          | SOB           | H  | 3  |
| Percentage of 'certain' and probable outdoor taxa      | %SOB          | =  | 60 |
| Number of 'certain' and probable outdoor individuals   | NOB           | == | 3  |
| Percentage 'certain' and probable outdoor individuals  | %NOB          | =  | 60 |
| Diversity index for OB not calculated, NOB = SOB or No | OB < 20       | )  |    |
| Number of aquatic taxa                                 | SW            | =  | 0  |
| Percentage of aquatic taxa                             | %SW           | =  | 0  |
| Number of aquatic individuals                          | NW            | =  | 0  |
| Percentage of aquatic individuals                      | %NW           | =  | 0  |
| Number of damp ground/waterside taxa                   | SD            | =  | 0  |
| Percentage of damp ground/waterside taxa               | %SD           | m  | 0  |
| Number of damp ground/waterside individuals            | ND            | =  | 0  |
| Percentage of damp ground/waterside individuals        | %ND           | =  | 0  |
| Number of strongly plant-associated taxa               | SP            | =  | 2  |
| Percentage of strongly plant-associated taxa           | %SP           | =  | 40 |
| Number of strongly plant-associated individuals        | NP            | =  | 2  |
| Percentage of strongly plant-associated individuals    | %NP           | =  | 40 |
| Number of heathland/moorland taxa                      | SM            | =  | 0  |
| Number of heathland/moorland individuals               | NM            | =  | 0  |
| Percentage of heathland/moorland individuals           | %NM           | =  | 0  |
| Number of wood-associated taxa                         | SL            | æ  | 0  |
| Number of wood-associated individuals                  | $\mathbf{NL}$ | =  | 0  |
| Percentage of wood-associated individuals              | %NL           | =  | 0  |
| Number of decomposer taxa                              | SRT           | =  | 1  |
| Percentage of decomposer taxa                          | <b>%</b> SRT  | =  | 20 |
| Number of decomposer individuals                       | NRT           | =  | 1  |

| Percentage of decomposer individuals                | %NRT       | = 20 |
|---|------------|------|
| Number of 'dry' decomposer taxa                     | SRD        | = 0  |
| Percentage of 'dry'decomposer taxa                  | %SRD       | = 0  |
| Number of 'dry' decomposer individuals              | NRD        | = 0  |
| Percentage of 'dry'decomposer individuals           | %NRD       | = 0  |
| Number of 'foul' decomposer taxa                    | SRF        | = 0  |
| Percentage of 'foul' decomposer taxa                | &SRF       | - 0  |
| Number of 'foul' decomposer individuals             | NRF        | = 0  |
| Percentage of 'foul' decomposer individuals         | %NRF       | = 0  |
| Diversity index for RT not calculated, NRT = SRT of | r NRT < 20 |      |
| Number of individuals of grain pests                | NG         | = 0  |
| Percentage of individuals of grain pests            | %NG        | = 0  |
| Number of individuals of grain pests                | NG         | = 0  |
| Number of uncoded taxa                              | SU         | - 1  |
| Percentage of uncoded individuals                   | PNU        | = 20 |

Context: 55 Sample: 46/T

| Taxon                          | Number | ક  | Rank | Ecodes |
|--------------------------------|--------|----|------|--------|
| Xantholinus linearis (Olivier) | 1      | 20 | 1    | rt     |
| Staphylininae sp.              | 1      | 20 | ) 1  | u      |
| Ceutorhynchus sp. A            | 1      | 20 | ) 1  | oa p   |
| Ceutorhynchus sp. B            | 1      | 20 | ) 1  | oa p   |
| Curculionidae sp.              | 1      | 20 | ) 1  | oa     |

Context: 56 Sample: 51/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

| Number of individuals estimated as                    | N            | =   | 30  |
|---|--------------|-----|-----|
| Number of taxa  | S            | =   | 29  |
| Index of diversity (alpha)                            | alpha        | Ħ   | 389 |
| Standard error of alpha SI                            | E alpha      | =   | 347 |
| Number of 'certain' outdoor taxa                      | SOA          | -   | 11  |
| Percentage of 'certain' outdoor taxa                  | <b>%</b> SOA | Ξ   | 38  |
| Number of 'certain' outdoor individuals               | NOA          | =   | 12  |
| Percentage of 'certain' outdoor individuals           | %NOA         | =   | 40  |
| Number of 'certain' and probable outdoor taxa         | SOB          | Ħ   | 15  |
| Percentage of 'certain' and probable outdoor taxa     | %SOB         | =   | 52  |
| Number of 'certain' and probable outdoor individuals  | NOB          | =   | 16  |
| Percentage 'certain' and probable outdoor individuals | s %NOB       | =   | 53  |
| Diversity index for OB not calculated, NOB = SOB or N | NOB < 20     | )   |     |
| Number of aquatic taxa                                | SW           | =   | 2   |
| Percentage of aquatic taxa                            | *SW          | =   | 7   |
| Number of aquatic individuals                         | NW           | =   | 2   |
| Percentage of aquatic individuals                     | %NW          | =   | 7   |
| Number of damp ground/waterside taxa                  | SD           | H   | 1   |
| Percentage of damp ground/waterside taxa              | %SD          | =   | 3   |
| Number of damp ground/waterside individuals           | ND           | =   | 1   |
| Percentage of damp ground/waterside individuals       | %ND          | =   | 3   |
| Number of strongly plant-associated taxa              | SP           | Ξ   | 3   |
| Percentage of strongly plant-associated taxa          | %SP          | #   | 10  |
| Number of strongly plant-associated individuals       | NP           | =   | 3   |
| Percentage of strongly plant-associated individuals   | %NP          | *** | 10  |
| Number of heathland/moorland taxa                     | SM           | =   | 0   |
| Number of heathland/moorland individuals              | NM           | =   | 0   |
| Percentage of heathland/moorland individuals          | %NM          | ==  | 0   |

| Number of wood-associated taxa                     | SL           |   | 0  |
|--|--------------|---|----|
| Number of wood-associated individuals              | NL           | - | 0  |
| Percentage of wood-associated individuals          | %NL          | = | 0  |
| Number of decomposer taxa                          | SRT          | = | 13 |
| Percentage of decomposer taxa                      | &SRT         | = | 45 |
| Number of decomposer individuals                   | NRT          | = | 13 |
| Percentage of decomposer individuals               | %NRT         | = | 43 |
| Number of 'dry' decomposer taxa                    | SRD          | = | 2  |
| Percentage of 'dry'decomposer taxa                 | %SRD         | = | 7  |
| Number of 'dry' decomposer individuals             | NRD          | = | 2  |
| Percentage of 'dry'decomposer individuals          | %NRD         | = | 7  |
| Number of 'foul' decomposer taxa                   | SRF          | = | 6  |
| Percentage of 'foul' decomposer taxa               | <b>%</b> SRF | = | 21 |
| Number of 'foul' decomposer individuals            | NRF          | = | 6  |
| Percentage of 'foul' decomposer individuals        | %NRF         | = | 20 |
| Diversity index for RT not calculated, NRT = SRT o | r NRT < 20   |   |    |
| Number of individuals of grain pests               | NG           | # | 0  |
| Percentage of individuals of grain pests           | %NG          | Ħ | 0  |
| Number of individuals of grain pests               | NG           | × | 0  |
| Number of uncoded taxa                             | SU           | = | 5  |
| Percentage of uncoded individuals                  | PNU          | = | 17 |
|  |              |   |    |

Context: 56 Sample: 51/T

| Taxon                                | Number | ક | Rank | Eco           | des |
|--------------------------------------|--------|---|------|---------------|-----|
| Calathus fuscipes (Goeze)            | 2      |   | 1    | oa            |     |
| Dyschirius globosus (Herbst)         | 1      |   | 3 2  | oa            |     |
| ?Amara sp.                           | 1      |   | 3 2  | oa            |     |
| Carabidae sp.                        | 1      |   | 32   | ob            |     |
| Helophorus aquaticus or grandis      | 1      | : | 3 2  | oa            | W   |
| Helophorus sp.                       | 1      |   | 32   | oa            | w   |
| Cercyon analis (Paykull)             | 1      |   | 3 2  | rt            |     |
| Cercyon atricapillus (Marsham)       | 1      |   | 3 2  | rf            |     |
| Cercyon ?terminatus (Marsham)        | 1      |   | 3 2  | rf            |     |
| Acritus nigricornis (Hoffmann)       | 1      | 3 | 32   | rt            |     |
| Anotylus nitidulus (Gravenhorst)     | 1      | 3 | 3 2  | rt            | d   |
| Stenus sp.                           | 1      |   | 3 2  | u             |     |
| Xantholinus sp.                      | 1      |   | 3 2  | u             |     |
| Falagria sp.                         | 1      |   | 3 2  | rt            |     |
| Aleocharinae sp. A                   | 1      | 3 | 3 2  | u             |     |
| Aleocharinae sp. B                   | 1      |   | 3 2  | u             |     |
| Aleocharinae sp. C                   | 1      |   | 3 2  | u             |     |
| Geotrupes sp.                        | 1      | 3 | 3 2  | oa            | rf  |
| Aphodius sp.                         | 1      | 3 | 3 2  | ob            | rf  |
| Aphodius sp. A                       | 1      |   | 3 2  | do            | rf  |
| Aphodius sp. B                       | 1      | 3 | 3 2  | ob            | rf  |
| Simplocaria ?semistriata (Fabricius) | 1      | 3 | \$ 2 | oa            | р   |
| Ptinus fur (Linnaeus)                | 1      | 3 | \$ 2 | rd            |     |
| Monotoma sp.                         | 1      | 3 | 3 2  | rt            |     |
| Cryptophagus sp.                     | 1      | 3 | 3 2  | $\mathbf{rd}$ |     |
| Ceuthorhynchinae sp.                 | 1      | 3 | \$ 2 | oa            | р   |
| Curculionidae sp. A                  | 1      | 3 | 3 2  | oa            |     |
| Curculionidae sp. B                  | 1      | 3 | \$ 2 | oa            |     |
| Aphrodes sp.                         | 1      | 3 | \$ 2 | oa            | р   |

Context: 57 Sample: 53/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

#### Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as N == 47 Number of taxa S = 38 Index of diversity (alpha) alpha = 91 Standard error of alpha SE alpha = 33 Number of 'certain' outdoor taxa SOA = 20 Percentage of 'certain' outdoor taxa %SOA = 53 Number of 'certain' outdoor individuals NOA = 21 Percentage of 'certain' outdoor individuals %NOA = 45 Number of 'certain' and probable outdoor taxa SOB = 24 Percentage of 'certain' and probable outdoor taxa %SOB = 63 Number of 'certain' and probable outdoor individuals NOB = 25 Percentage 'certain' and probable outdoor individuals %NOB = 53 Index of diversity of outdoor component alpha OB = 268 Standard error SE alpha OB = 239 Number of aquatic taxa SW =3 Percentage of aquatic taxa %S₩ = 8 Number of aquatic individuals NW =4 Percentage of aquatic individuals 9 8NW = Number of damp ground/waterside taxa SD = 3 Percentage of damp ground/waterside taxa %SD = 8 Number of damp ground/waterside individuals ND = 9 Percentage of damp ground/waterside individuals %ND = 19 Number of strongly plant-associated taxa SP = 10 Percentage of strongly plant-associated taxa %SP = 26 NP == 10 Number of strongly plant-associated individuals %NP = Percentage of strongly plant-associated individuals 21 Number of heathland/moorland taxa SM =0 Number of heathland/moorland individuals NM =0 Percentage of heathland/moorland individuals %NM = 0 Number of wood-associated taxa SL =1 Number of wood-associated individuals NL = 1 Percentage of wood-associated individuals 8NL = 2 Number of decomposer taxa SRT = 8 %SRT = Percentage of decomposer taxa 21 NRT = Number of decomposer individuals 15 Percentage of decomposer individuals %NRT = 32 Number of 'dry' decomposer taxa SRD = 0 Percentage of 'dry'decomposer taxa %SRD = 0 Number of 'dry' decomposer individuals NRD = 0 Percentage of 'dry'decomposer individuals %NRD = 0 Number of 'foul' decomposer taxa SRF =5 Percentage of 'foul' decomposer taxa %SRF = 13 NRF = Number of 'foul' decomposer individuals - 5 Percentage of 'foul' decomposer individuals %NRF = 11 Diversity index for RT not calculated, NRT = SRT or NRT < 20 Number of individuals of grain pests NG = 0 Percentage of individuals of grain pests %NG = 0 Number of individuals of grain pests NG = 0 Number of uncoded taxa SU = 8 PNU = Percentage of uncoded individuals 19

Context: 57 Sample: 53/T

#### Taxon

| Anotylus nitidulus (Gravenhorst)  | 7 | 15 | 1 | rt | d  |
|-----------------------------------|---|----|---|----|----|
| Helophorus sp.                    | 2 | 4  | 2 | oa | W  |
| Anotylus rugosus (Fabricius)      | 2 | 4  | 2 | rt |    |
| Aleocharinae sp. B                | 2 | 4  | 2 | u  |    |
| Dyschirius globosus (Herbst)      | 1 | 2  | 5 | oa |    |
| Bembidion lampros or properans    | 1 | 2  | 5 | oa |    |
| Pterostichus nigrita (Paykull)    | 1 | 2  | 5 | oa | d  |
| Calathus fuscipes (Goeze)         | 1 | 2  | 5 | oa |    |
| Carabidae sp.                     | 1 | 2  | 5 | ob |    |
| Cercyon terminatus (Marsham)      | 1 | 2  | 5 | rf |    |
| Cercyon sp.                       | 1 | 2  | 5 | u  |    |
| Hydrobius fuscipes (Linnaeus)     | 1 | 2  | 5 | oa | W  |
| Hydrophilinae sp.                 | 1 | 2  | 5 | oa | W  |
| Dropephylla sp.                   | 1 | 2  | 5 | u  |    |
| Bledius sp.                       | 1 | 2  | 5 | oa | d  |
| Platystethus arenarius (Fourcroy) | 1 | 2  | 5 | rf |    |
| Anotylus tetracarinatus (Block)   | 1 | 2  | 5 | rt |    |
| Stenus sp.                        | 1 | 2  | 5 | u  |    |
| Lathrobium sp.                    | 1 | 2  | 5 | u  |    |
| Tachyporus sp.                    | 1 | 2  | 5 | u  |    |
| Aleocharinae sp. A                | 1 | 2  | 5 | u  |    |
| Geotrupes sp.                     | 1 | 2  | 5 | oa | rf |
| Aphodius sp. A                    | 1 | 2  | 5 | ob | rf |
| Aphodius sp. B                    | 1 | 2  | 5 | ob | rf |
| Phyllopertha horticola (Linnaeus) | 1 | 2  | 5 | oa | р  |
| Elateridae sp.                    | 1 | 2  | 5 | ob |    |
| Anobiidae sp.                     | 1 | 2  | 5 | 1  |    |
| Phyllotreta sp.                   | 1 | 2  | 5 | oa | р  |
| Longitarsus sp.                   | 1 | 2  | 5 | oa | р  |
| Crepidodera sp.                   | 1 | 2  | 5 | oa | р  |
| Phyllobius sp.                    | 1 | 2  | 5 | oa | p  |
| Ceutorhynchus sp. A               | 1 | 2  | 5 | oa | p  |
| Ceutorhynchus sp. B               | 1 | 2  | 5 | oa | р  |
| Curculionidae sp.                 | 1 | 2  | 5 | oa |    |
| Coleoptera sp.                    | 1 | 2  | 5 | u  |    |
| Dolycoris baccarum (Linnaeus)     | 1 | 2  | 5 | oa | р  |
| Stygnocoris ?rusticus (Fallen)    | 1 | 2  | 5 | oa | р  |
| ?Scolopostethus sp.               | 1 | 2  | 5 | oa | р  |
|                                   |   |    |   |    |    |

Number % Rank Ecodes

Context: 57 Sample: 55/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

# Erosion = 4 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as                    | N     | = | 42 |
|---|-------|---|----|
| Number of taxa  | S     | = | 34 |
| Index of diversity (alpha)                            | alpha | = | 82 |
| Standard error of alpha SE                            | alpha | = | 31 |
| Number of 'certain' outdoor taxa                      | SOA   | = | 15 |
| Percentage of 'certain' outdoor taxa                  | *SOA  | = | 44 |
| Number of 'certain' outdoor individuals               | NOA   | = | 18 |
| Percentage of 'certain' outdoor individuals           | %NOA  | = | 43 |
| Number of 'certain' and probable outdoor taxa         | SOB   | = | 19 |
| Percentage of 'certain' and probable outdoor taxa     | %SOB  | = | 56 |
| Number of 'certain' and probable outdoor individuals  | NOB   | = | 23 |
| Percentage 'certain' and probable outdoor individuals | %NOB  | # | 55 |

| Index of diversity of outdoor component           |     | alpha OB        | =           | 50 |
|---|-----|-----------------|-------------|----|
| Standard error                                    | SE  | alpha OB        | ==          | 26 |
| Number of aquatic taxa                            |     | ŚW              | _           | 5  |
| Percentage of aquatic taxa                        |     | *SW             | _           | 15 |
| Number of aquatic individuals                     |     | NW              | -           | 7  |
| Percentage of aquatic individuals                 |     | %NW             |             | 17 |
| Number of damp ground/waterside taxa              |     | SD              | <b>5</b> 22 | 4  |
| Percentage of damp ground/waterside taxa          |     | %SD             | =           | 12 |
| Number of damp ground/waterside individuals       |     | ND              | -           | 6  |
| Percentage of damp ground/waterside individuals   |     | %ND             | -           | 14 |
| Number of strongly plant-associated taxa          |     | SP              | _           | 4  |
| Percentage of strongly plant-associated taxa      |     | %SP             | =           | 12 |
| Number of strongly plant-associated individuals   |     | NP              |             | 4  |
| Percentage of strongly plant-associated individu. | als | s %NP           | H           | 10 |
| Number of heathland/moorland taxa                 |     | SM              | =           | 0  |
| Number of heathland/moorland individuals          |     | NM              | =           | 0  |
| Percentage of heathland/moorland individuals      |     | 8nm             | =           | 0  |
| Number of wood-associated taxa                    |     | SL              | =           | 0  |
| Number of wood-associated individuals             |     | NL              | =           | 0  |
| Percentage of wood-associated individuals         |     | %NL             | =           | 0  |
| Number of decomposer taxa                         |     | SRT             | =           | 10 |
| Percentage of decomposer taxa                     |     | %SRT            | =           | 29 |
| Number of decomposer individuals                  |     | NRT             | =           | 15 |
| Percentage of decomposer individuals              |     | %NRT            | ==          | 36 |
| Number of 'dry' decomposer taxa                   |     | SRD             |             | 0  |
| Percentage of 'dry'decomposer taxa                |     | %SRD            | =           | 0  |
| Number of 'dry' decomposer individuals            |     | NRD             | -           | 0  |
| Percentage of 'dry'decomposer individuals         |     | %NRD            | =           | 0  |
| Number of 'foul' decomposer taxa                  |     | SRF             | =           | 3  |
| Percentage of 'foul' decomposer taxa              |     | &SRF            | =           | 9  |
| Number of 'foul' decomposer individuals           |     | NRF             | =           | 4  |
| Percentage of 'foul' decomposer individuals       |     | %NRF            | =           | 10 |
| Diversity index for RT not calculated, NRT = SRT  | or  | NRT < 2         | 0           |    |
| Number of individuals of grain pests              |     | NG              |             | 0  |
| Percentage of individuals of grain pests          |     | <del>ዩ</del> NG | =           | 0  |
| Number of individuals of grain pests              |     | NG              | =           | 0  |
| Number of uncoded taxa                            |     | SU              | =           | 8  |
| Percentage of uncoded individuals                 |     | PNU             | =           | 19 |

Context: 57 Sample: 55/T

| Taxon                              | Number | ક | Rank | Eco | des |
|------------------------------------|--------|---|------|-----|-----|
| Helophorus sp. B                   | 3      | - | 1    | oa  | w   |
| Anotylus nitidulus (Gravenhorst)   | 3      | 7 | ' 1  | rt  | d   |
| Calathus fuscipes (Goeze)          | 2      | 5 | 3    | oa  |     |
| Xantholinus linearis (Olivier)     | 2      | 5 | ; 3  | rt  |     |
| Aphodius granarius (Linnaeus)      | 2      | 5 | 5 3  | do  | rf  |
| Enicmus sp.                        | 2      | 5 | 5 3  | rt  |     |
| Carabidae sp.                      | 1      | 2 | . 7  | ob  |     |
| Colymbetinae sp.                   | 1      | 2 | . 7  | oa  | w   |
| Helophorus sp. A                   | 1      | 2 | : 7  | oa  | W   |
| Cercyon ?melanocephalus (Linnaeus) | 1      | 2 | : 7  | rt  |     |
| Cercyon sp.                        | 1      | 2 | . 7  | u   |     |
| Megasternum obscurum (Marsham)     | 1      | 2 | : 7  | rt  |     |
| Hydrobius fuscipes (Linnaeus)      | 1      | 2 | : 7  | oa  | w   |
| Histerinae sp.                     | 1      | 2 | 7    | u   |     |
| Ochthebius sp.                     | 1      | 2 | 7    | oa  | W   |
| Lesteva longoelytrata (Goeze)      | 1      | 2 | : 7  | oa  | d   |
| ?Bledius sp.                       | 1      | 2 | 7    | oa  | d   |

| Aploderus caelatus (Gravenhorst)   | 1 | 2 | 7 | rt    |
|------------------------------------|---|---|---|-------|
| Platystethus cornutus group        | 1 | 2 | 7 | oa d  |
| Oxytelus sculptus Gravenhorst      | 1 | 2 | 7 | rt    |
| Stenus sp.                         | 1 | 2 | 7 | u     |
| Paederinae sp.                     | 1 | 2 | 7 | u     |
| Philonthus sp.                     | 1 | 2 | 7 | u     |
| Tachyporus sp.                     | 1 | 2 | 7 | u     |
| Tachinus signatus Gravenhorst      | 1 | 2 | 7 | u     |
| Aleocharinae sp.                   | 1 | 2 | 7 | u     |
| Geotrupes sp.                      | 1 | 2 | 7 | oa rf |
| Aphodius sp.                       | 1 | 2 | 7 | ob rf |
| ?Phyllopertha horticola (Linnaeus) | 1 | 2 | 7 | oa p  |
| Elateridae sp.                     | 1 | 2 | 7 | do    |
| Brachypterus sp.                   | 1 | 2 | 7 | oa p  |
| Ceutorhynchus sp.                  | 1 | 2 | 7 | oa p  |
| Curculionidae sp.                  | 1 | 2 | 7 | oa    |
| ?Lygaeidae sp.                     | 1 | 2 | 7 | oa p  |
|                                    |   |   |   |       |

Context: 69 Sample: 57/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as                   | N           | _  | 67         |
|--|-------------|----|------------|
| Number of taxa                                       | N<br>Q      | _  | 47         |
| Index of diversity (alpha)                           | alnha       | _  | 125        |
| Standard error of alpha                              | SE alpha    | _  | 50         |
| Number of 'certain' outdoor taxa                     | sup arbug   | _  | 10         |
| Percentage of 'certain' outdoor taxa                 | A02&        | =  | 48         |
| Number of (certain) outdoor individuals              | NOA         | _  | 20         |
| Percentage of 'certain' outdoor individuals          | &NOA        | =  | 2.0<br>4.3 |
| Number of 'certain' and probable outdoor taxa        | SOB         | -  | 22         |
| Percentage of 'certain' and probable outdoor taxa    | 800<br>802& | =  | 55         |
| Number of 'certain' and probable outdoor individual  | s NOB       | _  | 24         |
| Percentage (certain) and probable outdoor individual | le &NOB     | _  | 51         |
| Index of diversity of outdoor component              | alpha OB    | _  | 121        |
| Standard error SE                                    | alpha OB    | _  | 83         |
| Number of aquatic taxa                               | SW          | == | 5          |
| Percentage of aguatic taxa                           | 9-SW        | =  | 13         |
| Number of aquatic individuals                        | NW          | =  | 5          |
| Percentage of aquatic individuals                    | %NW         | =  | 11         |
| Number of damp ground/waterside taxa                 | SD          | =  | 3          |
| Percentage of damp ground/waterside taxa             | 8.SD        | =  | 8          |
| Number of damp ground/waterside individuals          | ND          | =  | 7          |
| Percentage of damp ground/waterside individuals      | *ND         | -  | 15         |
| Number of strongly plant-associated taxa             | SP          | =  | 6          |
| Percentage of strongly plant-associated taxa         | &SP         | =  | 15         |
| Number of strongly plant-associated individuals      | NP          | =  |            |
| Percentage of strongly plant-associated individuals  | %NP         | _  | 15         |
| Number of heathland/moorland taxa                    | SM          | =  | -0         |
| Number of heathland/moorland individuals             | NM          | =  | Ő          |
| Percentage of heathland/moorland individuals         | %NM         | =  | 0          |
| Number of wood-associated taxa                       | SL          | =  | 1          |
| Number of wood-associated individuals                | NL          | =  | 1          |
| Percentage of wood-associated individuals            | %NL         | =  | 2          |
| Number of decomposer taxa                            | SRT         | -  | 8          |
| Percentage of decomposer taxa                        | *SRT        | =  | 20         |
| Number of decomposer individuals                     | NRT         | =  | 14         |
| Percentage of decomposer individuals                 | %NRT        | _  | 30         |
| Number of 'dry' decomposer taxa                      | SRD         | -  | 2          |
| Percentage of 'dry'decomposer taxa                   | \$SRD       | =  | 5          |
| Number of 'dry' decomposer individuals               | NRD         | =  | 3          |
|  |             |    | -          |

| Percentage of 'dry'decomposer individuals           | %NRD =   | 6  |
|---|----------|----|
| Number of 'foul' decomposer taxa                    | SRF =    | 1  |
| Percentage of 'foul' decomposer taxa                | %SRF =   | 3  |
| Number of 'foul' decomposer individuals             | NRF =    | 2  |
| Percentage of 'foul' decomposer individuals         | %NRF =   | 4  |
| Diversity index for RT not calculated, NRT = SRT or | NRT < 20 |    |
| Number of individuals of grain pests                | NG =     | 0  |
| Percentage of individuals of grain pests            | %NG =    | 0  |
| Number of individuals of grain pests                | NG =     | 0  |
| Number of uncoded taxa                              | SU =     | 10 |
| Percentage of uncoded individuals                   | PNU =    | 21 |

Context: 69 Sample: 57/T

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. .

| Taxon                               | Number | 8  | Rank | Eco | des |
|-------------------------------------|--------|----|------|-----|-----|
| Anotylus nitidulus (Gravenhorst)    | 5      | 11 | . 1  | rt  | d   |
| Aphodius sp.                        | 2      | 4  | 2    | ob  | rf  |
| Lathridius minutus group            | 2      | 4  | 2    | rd  |     |
| Ceutorhynchus ?contractus (Marsham) | 2      | 4  | 2    | oa  | р   |
| Notiophilus sp.                     | 1      | 2  | : 5  | oa  |     |
| Dyschirius globosus (Herbst)        | 1      | 2  | : 5  | oa  |     |
| Bembidion sp.                       | 1      | 2  | 5    | oa  |     |
| Calathus fuscipes (Goeze)           | 1      | 2  | 5    | oa  |     |
| Harpalus sp.                        | 1      | 2  | : 5  | oa  |     |
| Carabidae sp.                       | 1      | 2  | : 5  | ob  |     |
| Georissus crenulatus (Rossi)        | 1      | 2  | 5    | oa  | W   |
| Helophorus aquaticus or grandis     | 1      | 2  | : 5  | oa  | W   |
| Helophorus sp. A                    | 1      | 2  | 5    | oa  | W   |
| Helophorus sp. B                    | 1      | 2  | : 5  | oa  | W   |
| Megasternum obscurum (Marsham)      | 1      | 2  | 5    | rt  |     |
| Onthophilus ?striatus (Forster)     | 1      | 2  | 5    | rt  |     |
| Ochthebius sp.                      | 1      | 2  | : 5  | oa  | W   |
| ?Lesteva sp.                        | 1      | 2  | : 5  | oa  | d   |
| Carpelimus sp.                      | 1      | 2  | 5    | u   |     |
| Anotylus rugosus (Fabricius)        | 1      | 2  | 5    | rt  |     |
| Anotylus sculpturatus group         | 1      | 2  | 5    | rt  |     |
| Stenus sp.                          | 1      | 2  | 5    | u   |     |
| Xantholinus sp.                     | 1      | 2  | 5    | u   |     |
| Staphylininae sp.                   | 1      | 2  | 5    | u   |     |
| Tachyporus ?hypnorum (Fabricius)    | 1      | 2  | 5    | u   |     |
| Tachinus ?signatus Gravenhorst      | 1      | 2  | 5    | u   |     |
| Aleocharinae sp. A                  | 1      | 2  | : 5  | u   |     |
| Aleocharinae sp. B                  | 1      | 2  | 5    | u   |     |
| Phyllopertha horticola (Linnaeus)   | 1      | 2  | 5    | oa  | р   |
| Agrypnus murinus (Linnaeus)         | 1      | 2  | 5    | oa  | р   |
| ?Elateridae sp.                     | 1      | 2  | 5    | ob  |     |
| Anobium ?punctatum (Degeer)         | 1      | 2  | 5    | 1   |     |
| Ephistemus globulus (Paykull)       | 1      | 2  | 5    | rd  |     |
| ?Psylliodes sp.                     | 1      | 2  | 5    | oa  | р   |
| Halticinae sp.                      | 1      | 2  | 5    | oa  | р   |
| Hypera punctata (Fabricius)         | 1      | 2  | 5    | oa  | р   |
| Curculionidae sp.                   | 1      | 2  | 5    | oa  |     |
| Coleoptera sp. A                    | 1      | 2  | 5    | u   |     |
| Coleoptera sp. B                    | 1      | 2  | 5    | u   |     |
| Saldidae sp.                        | 1      | 2  | 5    | oa  | d   |

Context: 69 Sample: 97/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

## Erosion = 0 Fragmentation = 0; Weight = 1.000kg

| Number of individuals estimated as  | N               | = 1        |
|---|-----------------|------------|
| Number of taxa Index of diversity not colculated $n = n \text{ or } n < 20$ | 5               | = 1        |
| Number of (certain) outdoor taxa  | 502             | = 0        |
| Percentage of (certain) outdoor taxa  | 30A<br>&SUA     | - 0        |
| Number of (certain) outdoor individuals                                     | AOGo<br>KOK     | - 0<br>- 0 |
| Remember of Certain Outdoor individuals                                     | SNOA            | - 0        |
| Number of (cortain) and probable outdoor tava                               | SNOA<br>COP     | - 0        |
| Remember of certain and probable outdoor taxa                               | SOB<br>SCDB     | - 0        |
| Number of (contain) and probable outdoor taxa                               | 10D             | = 0        |
| Number of certain and probable outdoor individuals                          | NOD<br>SNOD     | - 0        |
| Diversity index for OP not coloulated MOP = SOP or N                        |                 | - 0        |
| Number of equatic taxe  |                 | - 0        |
| Remoentage of aquatic taxa  | 5W<br>9-C14     | - 0        |
| Number of aquatic individuals   | 10.0W           | - 0        |
| Number of aquatic individuals   | IN IN<br>SUNTUT | - 0        |
| Number of down ground (uptonside tous                                       | 75 IN 177       | = 0        |
| Remonstrate of damp ground/waterside taxa                                   | 20<br>800       | - 0        |
| Number of down ground/unterside individuals                                 | 35U<br>010      | - 0        |
| Number of damp ground/waterside individuals                                 | ND<br>ND        | = 0        |
| Percentage of damp ground/waterside individuals                             | DNS             | = 0        |
| Number of strongly plant-associated taxa                                    | SP              | = U        |
| Percentage of strongly plant-associated taxa                                | *SP             | = 0        |
| Number of strongly plant-associated individuals                             | NP              | = 0        |
| Percentage of strongly plant-associated individuals                         | *NP             | = 0        |
| Number of heathland/moorland taxa   | SM              | = 0        |
| Number of heathland/moorland individuals                                    | NM              | = 0        |
| Percentage of heathland/moorland individuals                                | *NM             | = 0        |
| Number of wood-associated taxa  | SL              | = 0        |
| Number of wood-associated individuals                                       | NL              | = 0        |
| Percentage of wood-associated individuals                                   | %NL             | = U        |
| Number of decomposer taxa   | SRT             | = 0        |
| Percentage of decomposer taxa   | *SRT            | = 0        |
| Number of decomposer individuals  | NRT             | - 0        |
| Percentage of decomposer individuals  | *NRT            | = 0        |
| Number of 'dry' decomposer taxa   | SRD             | = 0        |
| Percentage of 'dry'decomposer taxa  | %SRD            | = 0        |
| Number of 'dry' decomposer individuals                                      | NRD             | = 0        |
| Percentage of 'dry'decomposer individuals                                   | %NRD ∶          | = 0        |
| Number of 'foul' decomposer taxa  | SRF             | = 0        |
| Percentage of 'foul' decomposer taxa  | %SRF            | = 0        |
| Number of 'foul' decomposer individuals                                     | NRF             | = 0        |
| Percentage of 'foul' decomposer individuals                                 | %NRF            | = 0        |
| Diversity index for RT not calculated, NRT = SRT or N                       | irt < 20        | _          |
| Number of individuals of grain pests  | NG              | = 0        |
| Percentage of individuals of grain pests                                    | %NG :           | = 0        |
| Number of individuals of grain pests  | NG              | = 0        |
| Number of uncoded taxa  | SU              | = 1        |
| Percentage of uncoded individuals   | PNU             | = 100      |

SPECIES LIST IN RANK ORDER

Context: 69 Sample: 97/T

TaxonNumber % Rank EcodesColeoptera sp.1 100 1 u

123

1. 2

Context: 102 Sample: 62/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

#### Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as N =22 Number of taxa S = 18 Index of diversity (alpha) alpha = 48 Standard error of alpha SE alpha = 27 Number of 'certain' outdoor taxa SOA = -5 Percentage of 'certain' outdoor taxa %SOA = 28 Number of 'certain' outdoor individuals NOA = -5 Percentage of 'certain' outdoor individuals %NOA = 23 SOB = Number of 'certain' and probable outdoor taxa 8 Percentage of 'certain' and probable outdoor taxa %SOB ≍ 44 Number of 'certain' and probable outdoor individuals NOB = 9 Percentage 'certain' and probable outdoor individuals %NOB = 41 Diversity index for OB not calculated, NOB = SOB or NOB < 20 Number of aquatic taxa SW = 3 Percentage of aquatic taxa %S₩ = 17 Number of aquatic individuals NW =3 Percentage of aquatic individuals 8NW =14 Number of damp ground/waterside taxa SD = 1 Percentage of damp ground/waterside taxa %SD = 6 ND = Number of damp ground/waterside individuals 3 Percentage of damp ground/waterside individuals %ND = 14 Number of strongly plant-associated taxa SP =1 Percentage of strongly plant-associated taxa %SP = 6 Number of strongly plant-associated individuals NP =1 %NP = 5 Percentage of strongly plant-associated individuals SM = 0 Number of heathland/moorland taxa Number of heathland/moorland individuals NM =0 Percentage of heathland/moorland individuals %NM = 0 Number of wood-associated taxa SL =0 Number of wood-associated individuals NL =0 Percentage of wood-associated individuals %NL ≕ 0 7 Number of decomposer taxa SRT = Percentage of decomposer taxa SRT = 39 Number of decomposer individuals NRT = 11 %NRT = Percentage of decomposer individuals 50 Number of 'dry' decomposer taxa SRD = 2 Percentage of 'dry'decomposer taxa %SRD = 11 Number of 'dry' decomposer individuals NRD = 2 Percentage of 'dry'decomposer individuals %NRD = 9 Number of 'foul' decomposer taxa SRF = 2 Percentage of 'foul' decomposer taxa %SRF ≍ 11 Number of 'foul' decomposer individuals NRF =3 %NRF = Percentage of 'foul' decomposer individuals 14 Diversity index for RT not calculated, NRT = SRT or NRT < 20 0 Number of individuals of grain pests NG =Percentage of individuals of grain pests %NG = Ω Number of individuals of grain pests NG =0 SU = 5 Number of uncoded taxa Percentage of uncoded individuals PNU = 23

SPECIES LIST IN RANK ORDER

Context: 102 Sample: 62/T

| Taxon              |               | Number | ş | Rank | Ecodes |
|--------------------|---------------|--------|---|------|--------|
| Anotylus nitidulus | (Gravenhorst) | 3      | 1 | 4 1  | rt d   |

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| Xantholinus linearis (Olivier) | 2   | 9 | 2 | rt    |
|--------------------------------|-----|---|---|-------|
| Aphodius sp. A                 | 2   | 9 | 2 | ob rf |
| Carabidae sp.                  | 1   | 5 | 4 | do    |
| Colymbetes fuscus (Linnaeus)   | 1   | 5 | 4 | oa w  |
| Helophorus sp.                 | 1   | 5 | 4 | oa w  |
| ?Limnebius sp.                 | 1   | 5 | 4 | oa w  |
| Carpelimus bilineatus Stephens | 1   | 5 | 4 | rt    |
| Neobisnius sp.                 | 1   | 5 | 4 | u     |
| Staphylininae sp.              | 1   | 5 | 4 | u     |
| Aleocharinae sp. A             | 1   | 5 | 4 | u     |
| Aleocharinae sp. B             | 1   | 5 | 4 | u     |
| Aphodius sp. B                 | 1   | 5 | 4 | ob rf |
| Ptinus fur (Linnaeus)          | 1   | 5 | 4 | rd    |
| Cryptophagus sp.               | 1   | 5 | 4 | rd    |
| ?Phyllotreta sp.               | 1   | 5 | 4 | oa p  |
| ?Stygnocoris sp.               | 1 · | 5 | 4 | oa    |
| Hemiptera sp.                  | 1   | 5 | 4 | u     |

Context: 102 Sample: 63/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

| Number of individuals estimated as                     | N            | =        | 35  |
|--|--------------|----------|-----|
| Number of taxa   | S            | =        | 32  |
| Index of diversity (alpha)                             | alpha        | Ξ        | 175 |
| Standard error of alpha SE                             | alpha        | =        | 100 |
| Number of 'certain' outdoor taxa                       | SOA          | E        | 10  |
| Percentage of 'certain' outdoor taxa                   | %SOA         | _        | 31  |
| Number of 'certain' outdoor individuals                | NOA          | <b>#</b> | 10  |
| Percentage of 'certain' outdoor individuals            | %NOA         | =        | 29  |
| Number of 'certain' and probable outdoor taxa          | SOB          | =        | 14  |
| Percentage of 'certain' and probable outdoor taxa      | %SOB         | =        | 44  |
| Number of 'certain' and probable outdoor individuals   | NOB          | =        | 15  |
| Percentage 'certain' and probable outdoor individuals  | %NOB         | =        | 43  |
| Diversity index for OB not calculated, NOB = SOB or NO | )B < 20      | )        |     |
| Number of aquatic taxa                                 | SW           | =        | 2   |
| Percentage of aquatic taxa                             | *SW          | -        | 6   |
| Number of aquatic individuals                          | NW           | =        | 2   |
| Percentage of aquatic individuals                      | %NW          | -        | 6   |
| Number of damp ground/waterside taxa                   | SD           | =        | 0   |
| Percentage of damp ground/waterside taxa               | %SD          | =        | 0   |
| Number of damp ground/waterside individuals            | ND           | =        | 0   |
| Percentage of damp ground/waterside individuals        | %ND          | =        | 0   |
| Number of strongly plant-associated taxa               | SP           | =        | 6   |
| Percentage of strongly plant-associated taxa           | &SP          | =        | 19  |
| Number of strongly plant-associated individuals        | NP           | -        | 6   |
| Percentage of strongly plant-associated individuals    | <b>%N</b> ₽  | =        | 17  |
| Number of heathland/moorland taxa                      | SM           | =        | 0   |
| Number of heathland/moorland individuals               | NM           | ×        | 0   |
| Percentage of heathland/moorland individuals           | %NM          | =        | 0   |
| Number of wood-associated taxa                         | SL           | =        | 0   |
| Number of wood-associated individuals                  | NL           | =        | 0   |
| Percentage of wood-associated individuals              | %NL          | =        | 0   |
| Number of decomposer taxa                              | SRT          |          | 10  |
| Percentage of decomposer taxa                          | <b>%</b> SRT | =        | 31  |
| Number of decomposer individuals                       | NRT          | Ħ        | 12  |
| Percentage of decomposer individuals                   | %NRT         | =        | 34  |
| Number of 'dry' decomposer taxa                        | SRD          | Ħ        | 3   |
| Percentage of 'dry'decomposer taxa                     | %SRD         | -        | 9   |
| Number of 'dry' decomposer individuals                 | NRD          | Ħ        | 3   |
| Percentage of 'dry'decomposer individuals              | %NRD         | =        | 9   |

Context: 335; Sample: 90/T

NO RECORDS OF BEETLES OR BUGS

Context: 343 Sample: 92/T - STATISTICS FOR BEETLES AND BUGS Fully quantitative (or estimates for very large numbers only).

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

| Number of individuals estimated as                            | N        | =           | 1   |
|---|----------|-------------|-----|
| Number of taxa  | S        | -           | 1   |
| Index of diversity not calculated, $n = s \text{ or } n < 20$ |          |             |     |
| Number of 'certain' outdoor taxa                              | SOA      | =           | 0   |
| Percentage of 'certain' outdoor taxa                          | %SOA     | =           | 0   |
| Number of 'certain' outdoor individuals                       | NOA      | =           | 0   |
| Percentage of 'certain' outdoor individuals                   | %NOA     | =           | 0   |
| Number of 'certain' and probable outdoor taxa                 | SOB      | <b>7</b> 22 | 0   |
| Percentage of 'certain' and probable outdoor taxa             | &SOB     | =           | 0   |
| Number of 'certain' and probable outdoor individuals          | NOB      | =           | 0   |
| Percentage 'certain' and probable outdoor individual          | s %NOB   | =           | 0   |
| Diversity index for OB not calculated, NOB = SOB or           | NOB < 20 | l.          |     |
| Number of aquatic taxa  | SW       | =           | 0   |
| Percentage of aquatic taxa                                    | 8SW      | =           | 0   |
| Number of aquatic individuals                                 | NW       | =           | 0   |
| Percentage of aquatic individuals                             | %NW      | =           | 0   |
| Number of damp ground/waterside taxa                          | SD       | =           | 0   |
| Percentage of damp ground/waterside taxa                      | %SD      | =           | 0   |
| Number of damp ground/waterside individuals                   | ND       | =           | 0   |
| Percentage of damp ground/waterside individuals               | %ND      | =           | 0   |
| Number of strongly plant-associated taxa                      | SP       | =           | 0   |
| Percentage of strongly plant-associated taxa                  | ۶SP      | -           | 0   |
| Number of strongly plant-associated individuals               | NP       | =           | 0   |
| Percentage of strongly plant-associated individuals           | %NP      |             | 0   |
| Number of heathland/moorland taxa                             | SM       | -           | 0   |
| Number of heathland/moorland individuals                      | NM       | =           | 0   |
| Percentage of heathland/moorland individuals                  | %NM      | 1           | 0   |
| Number of wood-associated taxa                                | SL       | -           | 0   |
| Number of wood-associated individuals                         | NL       | =           | 0   |
| Percentage of wood-associated individuals                     | %NL      | =           | 0   |
| Number of decomposer taxa                                     | SRT      | =           | 0   |
| Percentage of decomposer taxa                                 | *SRT     | <b>**</b>   | 0   |
| Number of decomposer individuals                              | NRT      |             | 0   |
| Percentage of decomposer individuals                          | %NRT     |             | 0   |
| Number of 'dry' decomposer taxa                               | SRD      | =           | 0   |
| Percentage of 'dry'decomposer taxa                            | %SRD     | -           | 0   |
| Number of 'dry' decomposer individuals                        | NRD      | =           | 0   |
| Percentage of 'dry'decomposer individuals                     | \$NRD    | =           | 0   |
| Number of 'foul' decomposer taxa                              | SRF      | -           | 0   |
| Percentage of 'foul' decomposer taxa                          | %SRF     | =           | 0   |
| Number of 'foul' decomposer individuals                       | NRF      | =           | 0   |
| Percentage of 'foul' decomposer individuals                   | %NRF     | =           | 0   |
| Diversity index for RT not calculated, NRT = SRT or 3         | NRT < 20 |             |     |
| Number of individuals of grain pests                          | NG       | **          | 0   |
| Percentage of individuals of grain pests                      | %NG      | =           | 0   |
| Number of individuals of grain pests                          | NG       | =           | 0   |
| Number of uncoded taxa  | SU       | =           | 1   |
| Percentage of uncoded individuals                             | PNU      | =           | 100 |

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Context: 343 Sample: 92/T

TaxonNumber % RankEcodesColeoptera sp.11001

Appendix 4

| Context/Samp  | le   | Identification  | Comments  |
|---|--|---|---|
| Unphased  |  |   |   |
| 345<br>396  | BII<br>BTA   | NI<br>ALNUS   | TOO DECAYED   |
| Phase 1   |  |   |   |
| 51<br>51<br>51<br>51<br>51<br>51<br>51<br>57<br>57<br>57<br>57<br>100<br>100<br>100<br>100<br>100<br>100<br>100<br>10 | FC<br>FD<br>FFE<br>FF<br>FF<br>FS<br>IZ<br>MP<br>MQ<br>MQ<br>MQ<br>MQ<br>MMT<br>MV<br>MX<br>MY<br>NB<br>NB<br>NB<br>ATU<br>AUX | QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>NI<br>NI<br>CORYLUS<br>BARK<br>PINUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>QUERCUS<br>ALNUS<br>QUERCUS<br>ALNUS<br>QUERCUS<br>ALNUS<br>NI | PROBABLY ROOT WOOD<br>YOUNG TWIGS<br>TWO PIECES<br>PART-CHARRED<br>STRIP<br>STEP OF ?2 OX COLLARS<br>SHAPED SUPPORTING STAKE FOR ?STEP<br>PIECES CONNECTED WITH ?HARROW FGT<br>SLOTTED WOOD, ?HARROW FGT<br>PEG<br>WEDGE/PEG RELATING TO MQ<br>SHAPED SPATULA<br>DOWEL<br>PIECES OF MQ<br>STAKE, PART OF MQ<br>OBJECT, PART OF MQ<br>PART OF MQ<br>SEVERAL PIECES; ASSOCD WITH MQ<br>OBJECT ASSOCD WITH MQ<br>50CM BRANCH TO MAX 7CM DIAMETER<br>KNOT |
| Phase 2   |  |   |   |
| 12 1<br>12 1<br>14 1<br>14 1<br>14 1<br>14 1  | EP<br>ND<br>RB<br>RC<br>RD<br>VV   | ALNUS<br>POMOIDEAE<br>SALIX<br>SALIX<br>NI<br>SALIX   | TO 33MM DIAM TWIGS WITH BARK<br>15MM TWIGS WITH BARK<br>TOO DECAYED<br>VERY DECAYED FGTS  |
| Phase 3   |  |   |   |
| 320 I<br>417 I  | BUC  | SALIX<br>SAMBUCUS   | 2.5CM DIAM STEM   |
| Phase 4   |  |   |   |
| 311 2<br>311 2<br>311 2<br>311 2<br>337 1   | AUQ<br>AUQ<br>AUQ<br>BCC   | CORYLUS<br>SALIX<br>SAMBUCUS<br>ALNUS   | LARGE TWIGS<br>LARGE TWIGS<br>LARGE BRANCH FGT AND TWIGS  |

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130 1 . ,