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EVIDENCE FROM INSECT REMAINS AND PARASITE EGGS FROM THE OLD GRAPES LANE A SITE, THE LANES, CARLISLE

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Summary

Samples from 77 contexts of probable prehistoric to medieval date from the Old Grapes Lane B site, Carlisle, have been examined for insect remains and eggs of parasitic worms. The insect material was prioritised by assessment, 59 groups being scan recorded. Worm eggs were studied using a 'squash technique' and results were compared with the conventional one. Worm eggs were generally rare or absent, occasionally present in modest numbers. Insects were present in most samples of Roman date, and occasionally quite or very abundant. 'Outdoor' forms, including aquatics, were proportionally abundant. 'House fauna' was sometimes clearly present, but may have originated in stables or byres rather than human dwellings. Some surface deposits gave indications of the penning of beasts. One sample included several pig lice. The evidence suggests that the area had a rural character in the Roman period, with a small human population and abundant domestic beasts. Medieval material rarely gave many insects; where assemblages were interpretable, there was evidence from decomposers that decaying matter was abundant. A few samples gave larger numbers of insects, including some with a strong house fauna element from fills of a well.

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Evidence from insect remains and parasite eggs from Old Grapes Lane A, The Lanes, Carlisle: Technical Report

by H. K. Kenward, E. P. Allison, M. Dainton, I. K. Kemenés and J. B. Carrott

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Introduction

This report is an outline of the evidence from studies of the remains of insects (and other arthropods), and of eggs of nematode intestinal parasites, from the Old Grapes Lane A site, Carlisle, site code OGLA CAR 81 (abbreviated to OGLA81 in most EAU records and referred to as OGLA in the series of reports on invertebrates from The Lanes). The work constitutes part of the Lanes Project (1), carried out by the Carlisle Archaeological Unit (CAU) under the direction of M. McCarthy. Most of the material dealt with here is of Roman date, but some of the deposits were perhaps prehistoric and others were medieval.

Companion reports to this one are Kenward *et al.* (1992a; b); together these three reports constitute the entomological and parasitological contributions to the first part of the Lanes project.

Methods

Samples were collected by the excavators. The authors did not see the site during excavation, although HKK visited the lanes area at a late stage of the overall excavation program. The sampling strategy thus involved on-site selection rather than intensive sampling with post-excavation selection, the approach now favoured by the EAU. Samples were prioritised by CAU for biological analysis and subsamples of about 1 kg were provided for insect and parasite egg analysis.

In the laboratory, the subsamples were examined and their sediment type and inclusions recorded using a standard pro-forma. A small amount of sediment was retained for later analysis for eggs of intestinal parasites. All submitted samples were processed.

Insect analysis

'Test' subsamples, normally of 1 kg but in a few cases slightly more, were processed using the methods described by Kenward *et al.* (1980), in a modified form (Kenward *et al.* 1986). In some cases two 'test' subsamples were processed, designated '/T' and '/T2' in the text and archives. The /T subsample has been recorded and forms the basis of the account unless otherwise stated. The flot was examined in one of two ways; *scan-recording*

(now the standard method in the EAU) or *assessment recording* (methods described by Kenward, 1992). In scan recording, an attempt is made to record all arthropod remains to the closest level compatible with rapid working. Adult beetles, and adults of most groups of bugs, are recorded fully quantitatively using a minimum number of individuals (MNI) estimate based on records of identifiable sclerites or parts thereof. Other invertebrates are generally recorded semi-quantitatively on a five point scale. This scale is outlined by Kenward *et al.* (1986); in brief it is 1,2 or 3 individuals, or 'several' (about 4-9) or 'many' (estimated to be over 9). For statistical purposes 'several' is converted to 6 and 'many' to 15. This conversion is discussed further by Kenward (1992).

Samples were sent to the EAU in two batches. Samples in the first group were scan recorded, while samples in the second were initially assessment recorded. Assessment recording is designed to allow the importance of the insect remains in a sample to be determined, and to give a brief, essentially subjective, record of the abundance of the principal ecological groups represented. In the present case, flots which were assessed in this way were assigned 'high', 'medium' or 'low' priority for further work. In general, only those samples given 'high' priority were then scan-recorded, although a few small groups were also scan recorded since this could be done very quickly. While a fuller record of the remainder would have been useful in refining the estimates of main statistics for the site as a whole, or for some periods, it would have been of very limited value in terms of context-by-context interpretation. In total, 92 subsamples from 77 samples were examined for insects; of these 59 were scan recorded and the remainder left at assessment level.

The species lists were entered in shorthand form to a PASCAL system written by HKK, which outputs ordered species lists and a number of 'main statistics' for each subsample assemblage, most of them based on ecological codes assigned to the recorded species. These sample-by-sample main statistics and species lists are summarised in Appendix 1. The methodological details of interpretation - in other words, the extraction of archaeological information - have changed over the years, but the basic approach employed is outlined by Kenward (1978), while more up to date accounts are given by Kenward (1988b) and Hall and Kenward (1990). These methods are applied to assemblages of adult beetles, together with most bugs.

In brief, the ecological groupings recognised are as follows: 'outdoor' taxa, coded oa ('certain') or ob ('probable') and grouped together to give the OB component in statistics; 'aquatics' (coded as w, giving the W group); damp ground/waterside taxa (d, D); plant-associated forms (p, P); moorland/heathland taxa (m, M); those associated with dead wood or moribund trees (l, L); characteristic grain pests (g, G) and 'decomposers'. The last group is subdivided into forms typically associated with relatively dry habitats (rd), with relatively moist, foul habitats (rf), and generalists (rt). From these are calculated statistics for three groups, RD, RF (from the first

two respectively) and RT (the sum of all three 'r' codes). All these ecological groups are usefully expressed as absolute numbers, percentages and concentrations. They are complementary to those used, for example, by Robinson (1981; 1983; 1991) and Hill (forthcoming).

Other parameters calculated as a matter of routine are the minimum number of species (S) and individuals (N) of adult beetles (and those groups of bugs included in the analysis), and an index of diversity, α of Fisher et al. (1943), estimated for the whole assemblage, the 'outdoor' component (α OB) and the decomposer component (α RT). N is a minimum number estimate for the recorded fragments; the real number of individuals contributing remains is likely often to have been higher where there were many taxa represented by more than one fossil. Main statistics for certain phases of the site are given in Table 5.

Important additional information comes from some other insects: fly puparia, insofar as they can yet be identified; fleas, lice and keds; beetle larvae, again to the extent that identification is feasible within most projects; bug nymphs and scale insects; and occasionally other groups, such as honey bees. Among the non-insect arthropods, mites have much potential (see for example Schelvis 1987; 1990), but cannot as yet economically be identified as a matter of routine, while certain water flea resting eggs, ostracods and earthworm egg capsules are useful indicators.

The general nature of the residues from paraffin flotation was recorded, then they were checked under the binocular microscope to monitor the efficiency of insect extraction. As has been noted for certain other groups of samples, the technique was generally very efficient but in some cases extraction had been inexplicably incomplete. In the case of Old Grapes Lane A material, however, several of the residues were rich in remains and they were consequently re-processed, the resultant insects being incorporated into the lists from the first floatation. This is the first time that such a large scale failure has been detected, and it seems likely that a lapse of technique was responsible. The most likely cause was inadequate draining of free water before the addition of paraffin.

Eggs of intestinal parasites

Analysis for the eggs of nematode gut parasites of vertebrates proceeded in two stages. In the first, a rapid semi-quantitative survey of all available samples was carried out using 'squashes' of raw sediment. For this, a small amount of sediment was collected from three separate points within the sampled material and homogenised in a little water. A drop of the resulting mixture was then placed on a 76x26 mm microscope slide and covered with a 22x50 mm cover slip. The whole mount was then scanned rapidly under a transmission microscope, using a magnification of x60, and the abundance of eggs recorded semi-quantitatively using a five point scale: one; trace (estimated

as 2-5); few (6-10); some (11-20); many (probably more than 20). The technique is discussed more fully by Dainton (1992). Seventy-six subsamples were examined *via* 'squashes'.

In the second stage, three groups of samples were examined further: six samples from which no eggs had been recorded in the squashes, six in which small numbers had been noted and six in which they were more numerous. The technique used was essentially the modified Stoll method, based on that recommended by the Ministry of Agriculture, Fisheries and Food (1977) for examination of modern faecal samples, and employed by, for example, Kenward *et al.* (1991) for archaeological material. Briefly, a subsample of 6 g was taken from each of the eighteen samples, and placed in 42 ml of sodium pyrophosphate ($Na_4P_2O_7$) solution, in which it was disaggregated by shaking. The solution was left for two days before pouring through a freshly flamed 250μ sieve to remove coarse particles and adding a further 42ml of water. A 0.15 ml aliquot of the resulting mixture was then placed on a 76x26 mm microscope slide and covered with a 22x50 mm cover slip. The mount was then scanned under a transmission microscope, at a magnification of x60, and all eggs seen were counted and measured using an eyepiece graticule, calibrated to a stage micrometer at a magnification of x240.

The samples and results of the analyses

The analyses carries out on each sample, and the remains recovered, are described below, together with a laboratory description of the sediment. A brief archaeological description and/or interpretation of the context (provided by CAU) is given in brackets. The samples are presented in context order within phases. Within each set of sample results intestinal parasites and insects are dealt with under separate sub-headings. In the case of intestinal parasites, it may be assumed that only a rapid semi-quantitative survey of a 'squash' has been employed unless otherwise stated. All the remains were preserved by so-called 'waterlogging', ie in moist to wet, presumably anoxic, layers. Results of the analyses for parasite eggs are summarised in Table 1. In Table 2, the relationship between results of 'squashes' and the modified Stoll technique is summarised. Measurements of *Trichurus* eggs from selected contexts are given in Table 4. Basic statistics and species lists in rank order for the assemblages of adult beetles and bugs are given as Appendix 1, while main statistics for the combined assemblages from the site as a whole and from those phases represented by more than a few scan-recorded assemblages are given in Table 5. A complete list of invertebrates recorded is presented in Table 6.

It is necessary to discuss the effectiveness of the 'squash' technique for recording parasite ova before proceeding further. The need for rapid recording techniques for biological remains from archaeological sites has become more pressing as funding becomes more limited in relation to volume of work, and as the need for intensive surveys of sites (rather than detailed investigation of one or a few, possibly atypical, contexts) has

become increasingly apparent. Such techniques are now well-established for insects (e.g. Kenward 1992) and plants (Hall and Kenward 1990, Kenward and Hall, forthcoming). The 'squash' technique represents a move towards similar recording of parasite eggs. The justification is that exact numbers are clearly unimportant, given the vagaries of deposit formation; rather, we require a rough idea of whether eggs are (apparently) absent, present in traces of uncertain origin, or numerous enough to demonstrate the presence of faeces as an important component of a deposit. The data in Table 2 suggests that the 'squash' technique is a perfectly adequate one; in no case were significant numbers of eggs found by the modified Stoll method in samples in which they were undetected by the 'squash'. Indeed, where numbers are small, it appears that the former technique is barely better than the squash; eggs may be missed by either. This is not surprising bearing in mind the likely patchy distribution of eggs: indeed, examining a series of squashes may give statistically more valid results than the Stoll method as adapted by Jones and co-workers.

The OGLA deposits lacked layers very rich in worms (only from one layer were more than five eggs recorded using the modified Stoll method). In view of this, some samples from the 16-22 Coppergate, York, site, which were known to be rich in eggs, were examined by 'squashes'. The results are shown in Table 3. From this it appears that the squash and modified Stoll methods are about equivalent in terms of the results obtained. Dainton (1992) discusses these observations in relation to the study of parasite remains from urban deposits (in particular) and concludes that the squash method provides perfectly adequate results which are both more cost-effective and more simply interpretable than those from the modified Stoll technique.

Results sample-by sample

Phase 1A [Prehistoric]

Context 1191 [a depression - ?tree-hole - cutting into 'natural'],

Sample 70

Laboratory description: Two separate subsamples from this sample were examined. *Description 1* (/T) - Mid rusty brown, moist, crumbly, humic silt with patches of orange clay. Very small stones (2-6 mm) were common. *Description 2* ($/T_2$) - Heterogeneous; overall a moist, crumbly, brittle and plastic, ?humic clay silt, with varying colour from pale yellow to dark orange to orange brown, with some pure brown patches. Some patches were more clayey and some more sandy. Small stones (6-20 mm) were common.

Parasite eggs - None found.

Insects - The subsample produced only a trace flot containing a few scraps of insect cuticle, together with fragments of the

large ground beetle *Harpalus rufipes*, in suspiciously good condition and probably modern.

Phase 1C [Prehistoric]

Context 1159 [buried ground surface, cut into 'natural']

Sample 67

Laboratory description - Mid brown, slightly moist, crumbly, ?humic silt. There were no obvious inclusions.

Parasite eggs - None were found in the squashes; however, two *Ascaris* eggs were noted using the modified Stoll technique.

Insects - There were a few scraps of unidentifiable cuticle in the trace flot, in addition to a small group of beetles (N = 11, S = 9, scan recording). These included 'outdoor' forms as well as some species typical of habitats created by human occupation. If this was a prehistoric ground surface, and the insects were contemporaneous with it, then they surely are indicative of human settlement. It is possible, however, that this material represented later contamination of an old horizon by trampling or bioturbation.

Phase 3 [Earliest Roman]

Context 1100 [Gully fill]

Sample 57

Laboratory description - Heterogeneous, consisting of very dark grey, moist, crumbly, (working to just plastic) humic clay silt and light pink-orange, stiff sandy clay. Traces of wood and rotten slate were present.

Parasite eggs - None found.

Insects - The processed subsample gave few insect remains, including *Oryzaephilus surinamensis* and *Sitophilus granarius*, and assorted scraps of cuticle (assessment recording). There was no evidence of autochthones. The material was considered to be only of low priority for further investigation.

Context 1116 [part of a pit fill - see also contexts 1117, 1126]

Sample 59

Laboratory description - Mid to dark grey-brown, moist, crumbly, slightly humic silt. Medium-sized stones (20-60 mm), twig fragments, small patches of light orange-brown clay, and patches of organic material were noted.

Parasite eggs - *Ascaris* was detected in the squash at 'trace' levels. However, the modified Stoll technique did not reveal any further eggs.

Insects - Modest numbers of insect remains were recorded, including fragments of 'many' unidentified larvae. There were 'several' mites. A small assemblage of beetles was present, with 48 individuals of 38 taxa. The material was scan recorded. Diversity was high (α = 83), although the estimate had a large error, and almost half of the individuals and taxa were contributed by 'outdoor' forms. This outdoor component included dung beetles (four individuals of one *Aphodius*, one of a second and a single *Geotrupes*), aquatics (five individuals of four eurytopic taxa) and plant feeders (single individuals of three taxa). There were a few grain beetles. The decomposer component was both absolutely and proportionally small (19 individuals, %N RT = 40), and over a third of it consisted of forms coded rf. These remains perhaps represent insects, alive and dead, present in a surface deposit used to back-fill the pit. They offer no clear evidence for the inclusion of the sort of foul matter a pit may have been dug to dispose of.

Context 1117 [part of a pit fill - see also contexts 1116, 1126]

Sample 60

Laboratory description - Mid to dark brown, moist, crumbly, humic silt. Small stones (6-20 mm), twig fragments and plant detritus were present, while wood fragments were common.

Parasite eggs - None found.

Insects - Insect remains were plentiful in the flot, and there were 'several' mites. 'Several' fly puparia, adult flies and unidentified insect larvae were noted, together with a rather small group of beetles (N = 57, S = 41) and a single nymph of the bug *Craspedolepta nervosa*, associated with yarrow, *Achillea millefolium* L.. The material was scan recorded.

The beetle assemblage was of moderately high diversity (α = 65; SE = 18) and had an appreciable outdoor component (%N OB = 19). Decomposers were relatively poorly represented (when compared with the majority of 'urban' Roman and Anglo-Scandinavian/early Medieval groups seen by HKK), contributing considerably less than half of the individuals. There were a few grain beetles. Assemblages of this kind are difficult to interpret, but this one may have formed in surface deposits dumped into the pit, largely as 'background fauna' but perhaps with a component of invaders of decomposing matter (some of which, including the fly puparia, may have become established) and a few taxa which might have exploited a disturbed open ground surface with scattered litter and perhaps a few plants.

Context 1119 [pit fill]

Sample 61

Laboratory description - Mid brown, moist, plastic to crumbly, humic silt with patches of yellow ?clay.

Parasite eggs - None found.

Insects - The processed subsample gave only a tiny flot containing a small group of insects and 'several' mites (scan recording). There were 21 individuals of 18 beetle taxa. Notable among these was a fragment of *Helophorus tuberculatus*, a terrestrial 'water beetle' (Hansen 1987, 102) which is considered a rarity in Britain at the present day (Balfour-Browne 1958, 95; Kenward 1976; Booth 1981) but which has been found in Roman archaeological deposits at Carlisle (Goodwin *et al* 1991, 23; Allison and Kenward forthcoming a; Kenward 1984a) and York (Kenward 1988a; Hall and Kenward 1990). It would not be reasonable to speculate as to the origin of this group of remains, although it resembles a random extract from Roman assemblages from the site.

Context 1126 [part of a pit fill - see also contexts 1116, 1117]

Sample 62

Laboratory description - Mid brown, moist, crumbly, humic silt. Small stones (6-20 mm) were the only inclusions noted.

Parasite eggs - None found.

Insects - Almost no identifiable insect remains were noted during assessment recording and this material was set aside as of low priority.

Context 1128 [post-pit fill]

Sample 63

Laboratory description - Dark grey-brown, moist, crumbly, humic silt. Lumps of herbaceous detritus were noted as inclusions.

Parasite eggs - None found.

Insects - The flot was very small and included few insect remains. It was scan recorded. There were 'several' fly puparia (which presumably developed from larvae able to exploit the deposit) and a total of eight beetle taxa, a group of no interpretative value.

Context 1136 [post-hole fill]

Sample 65

Laboratory description - Mid brown (with 'rust-coloured' patches), moist, crumbly, humic silt. The sample contained some medium-sized stones (20-60 mm) and patches of dried-out, pale rather orange clay.

Parasite eggs - None found.

Insects - Single individuals of four beetle taxa and a few other scraps of cuticle were present in the trace flot. Scan recorded.

Context 1146 [pit fill]

Sample 66

Laboratory description - Heterogeneous, with two major components - (a) mid brown, humic silt and (b) patches of red brown clay with some yellower areas. Overall the sample was moist and plastic to crumbly in texture. Small stones(6-20 mm) were abundant and there was a little charcoal.

Parasite eggs - None found.

Insects - The flot was minute and included only traces of insect cuticle.

Context 1147 [pit fill]

Sample 64

Laboratory description - Varicoloured, mid brown and light yellowish brown, moist, crumbly clay silt, the yellowish parts appearing more clayey. Some small stones (6-20 mm), charcoal and bone (<2 cm) were noted.

Parasite eggs - One *Ascaris* egg was recorded from the squash.

Insects - The processed subsample gave only a very small flot, consisting mostly of insect remains; there were several fly puparia, single individuals of nine beetle taxa and only a few other fragments. The flies had presumably developed in the deposit, but the beetles may have been background fauna.

Phase 4 [Early Roman]

Context 1097 ['Deposit']

Sample 56

Laboratory description - Mid brown, moist to wet, just plastic,

then crumbly, humic, clay textured, probably amorphous organic matter. Charcoal was present and there were mm-scale paler patches.

Parasite eggs - None found.

Insects - Assessment recording revealed the presence of a small group of insects, including some grain beetles. Subjectively these were considered to have been deposited where there were few autochthones, but the material was regarded as low priority for further work.

Context 1149 [soil deposit; wide channel or flue, perhaps associated with a furnace]

Sample 68

Laboratory description - Two subsamples were examined. *Description 1* (/T) - Mid brown, moist, crumbly, humic, slightly sandy silt. Wood fragments and other plant material were present. *Description 2* (/T2) - Heterogeneous subsample, consisting mainly of dark grey-brown, humic clay silt, but also containing yellowish patches of sand and pinkish patches of clay. Overall the subsample was moist, brittle, becoming crumbly and then plastic when worked. Charcoal and wood fragments were recorded.

Parasite eggs - None found.

Insects - A moderate number of quite well preserved beetles were recovered (N = 92, S = 41), together with 'many' mites and fly puparia and 'several' adult flies, insect larvae, spiders and Hymenoptera Parasitica. There was also a single, tentatively identified, human flea, *Pulex irritans*. The material was scan-recorded. The flot was large, but consisted mostly of centimetre-scale fragments of wood. Diversity of the beetle and bug assemblage was low (α = 29, SE = 5) and the outdoor component only of modest size (%N OB = 16) for the present site. Decomposers, however, were quite well represented (%N RT = 57; well over 70% if some uncoded probable decomposers were included), and this component was of low diversity (α RT = 10, SE = 2, alpha RD = 2, SE = 1). The assemblage included a very distinctive group of 'house fauna' taxa (*sensu* Hall and Kenward 1990, 398-9), with *Cryptophagus scutellatus* (14 individuals, rank 1), a second *Cryptophagus* species (10), and *Xylodromus concinnus* (4) and *Lathridius minutus* group (6). This community, with some of the less numerous taxa, seems likely to have exploited somewhat damp, mouldering plant remains in a protected situation.

The presence of *Mecinus pyraster* and *Apion* and *Sitona* species offered a hint, no more, of the presence of cut vegetation, such as hay, and thus that this deposit *may* have included stable manure. There were a few grain pests, but only in numbers which may have had a 'background' origin (although it might be argued that grain pests were unlikely to have been abundant as background fauna at OGLA, see discussion).

Context 1174.2 [burning: hearth]

Sample 69

Laboratory description - Two separate subsamples from this sample were examined. *Description 1* (/T) - Mid yellow-grey-brown, moist, crumbled, humic, silt. Medium stones (20-60 mm) and wood fragments were present and charcoal, including some fairly large pieces, was also noted. *Description 2* (/T_2) - Mid/dark grey, moist, crumbly, cindery/gritty, fine and coarse sand. Small and very small stones (2-20 mm) and charcoal were common in the sample, and the presence of ash was also suspected.

Parasite eggs - None apparent.

Insects - The flot was minute and contained no identifiable insect remains.

Context 1220 [Gully]

Sample 71

Laboratory description - Dark brown, moist, plastic, crumbly, silty, amorphous organic material with localised grey mottled patches and occasional pale pink-orange patches of silt. This sample had a sweet smell.

Parasite eggs - None apparent.

Insects - The very small flot was scan recorded. In addition to 'several' mites there were small numbers of poorly-preserved beetles (10 individuals of 9 taxa).

Context 1221 [drain fill]

Sample 72

Laboratory description - Two separate subsamples from this sample were examined. *Description 1* (/T) - Dark grey-brown to brown, moist slightly crumbly, laminated, humic silt. Small stones (6-20 mm) were present, and a 'crystalline substance' in veins was noted; herbaceous detritus was abundant. *Description 2* (/T2) - Very dark grey brown, moist, crumbly, brittle, ?clay, silty, compressed amorphous organic material. Small stones (6-20 mm), medium stones (20-60 mm), hard cm-scale nodules (?peat) and mm-scale patches of pale pink-buff clay were present in the sample. This material had a 'sweet' smell.

Parasite eggs - None found.

Insects - Scan recorded, the flot, consisting mostly of plant fibres, was not very rich in insect remains. There were only 31 adult individuals of 21 beetle taxa. It was, however, notable for the presence of quite large numbers of abdominal apices of

Elateridae larvae ('wireworms'). The best match for these found in the available texts (especially Hansen 1966) is in the genus *Athous*, but they appear not to be any of the illustrated species. Alternatively, they may be *Denticollis linearis*, which has a superficially rather similar larval apex. The same type of larval apex has been recorded repeatedly at the present site, but only in small numbers in other samples. Specimens have also been noted from Lewthwaites Lane A (Kenward *et al.* 1992b). It seems likely to be a soil-dwelling form, and to have been introduced to the drain fill in soil or peat. The latter seems possible if the Elateridae larvae are in fact *D. linearis*, for there are indications from the literature that this species is able to develop in peat as well as in dead wood (Luff 1991, 228; Hansen 1966, 96). An origin in cut turf or surface soil is supported by the adult beetles: there were seven individuals of a *Xantholinus* species (*X. linearis* or *gallicus*) and five of *Aphodius ?prodromus*. These insects seem most likely to have come from grazing-land turf. There were also 'many' mites, and 'several' scale insects, Hymenoptera Parasitica and fly puparia. This subsample also gave fragments of black cuticle, bearing delicate, oval, opalescent scales: these seem to be remains of the chafer beetle *Hoplia philanthus*, but this determination requires confirmation.

Phase 5 [Early Roman]

Context 1006 [soil deposit]

Sample 54

Laboratory description - Two subsamples from this sample were examined. *Description 1* (/T) - Mid/dark purple-grey-brown, moist, crumbly, slightly humic silt with patches of amorphic organic material. *Description 2* (/T2): Dark grey-brown, moist, crumbly to brittle to somewhat plastic, humic clay silt. The sample had no obvious inclusions.

Parasite eggs - None found.

Insects - The recorded arthropods included 'several' mites, fly puparia and unidentified insect larvae, together with 44 individuals of 32 beetle taxa (scan recording). The most notable feature of the latter group was a very large proportion of 'outdoor' forms (half of the taxa and over half of the individuals). Predominant among these were two *Aphodius* species, with five and three individuals respectively. These, and much of the remaining fauna, may have been deposited in grazing-land soil (the likely composition of beetle assemblages deposited under grazing is discussed by Kenward 1984b, but this is a topic requiring considerable further research). Some grain beetles were present, suggesting scatter from buildings, unless these remains originated in the dung of animals fed spoiled grain.

Context 1026 [soil deposit, over Context 1006]

Sample 52

Two separate subsamples were examined. *Description 1* (/T) - Mid grey-brown, moist, plastic to crumbly, humic, silt. Medium stones (20-60 mm), charcoal and amorphous organic material were present in the sample. *Description 2* (/T2) - Mid to dark brown, dry to moist, brittle, then crumbly, working to plastic, humic clay silt. Small stones (6-20 mm), charcoal and pale flecks were present.

Parasite eggs - None apparent.

Insects - Modest numbers of insects were present, including 'many' fly puparia, 'several' unidentified larvae and a moth cocoon. Beetles were poorly represented, with only 22 individuals of 21 taxa. Nearly half were outdoor forms, with a total of four individuals of three aquatics. Decomposers were unusually rare, making up under just a quarter of the assemblage. A 'background' origin for many of these remains seems possible, although at least the immatures presumably developed *in situ* or were introduced in dumped material. Possibly there was at least intermittent open water at or close to the point of deposition, to which the aquatics were attracted. See also Context 1055, sample 55.

Context **1044** [soil deposit, similar to Context 1026]

Sample 55

Laboratory description - Two subsamples from this sample were examined. *Description 1* (/T) - Mid grey-brown, moist, crumbly to plastic, humic silt, with some browner patches. Seeds were also noted in this sample. *Description 2* (/T2) - Mid/dark grey-brown, crumbly to plastic and brittle, humic clay. No inclusions were apparent.

Parasite eggs - None found.

Insects - The first subsample was assessment-recorded; it gave a modest group of insects, with several each of *Helophorus* sp. and *Ochthebius* sp., and a helminthid; there were some other outdoor forms and only a small number of decomposers and grain pests. There were 'many' puparia. The presence of so many aquatics in a 'soil deposit' (see also sample 52, context 1026) suggests flooding, waterlogging, importation of an aquatic deposit or open water nearby - but which would be hard to establish. The fact of organic preservation in a presumed open ground surface deposit perhaps suggests waterlogging or sudden sealing.

The second subsample was scan-recorded: the insect assemblage from it was much larger and substantially different. There were 'many' mites, fly pupae and earthworm egg capsules, various other

arthropods including *Daphnia* ephippia, and a rather large group of beetles (N = 136, S = 65). Almost half of the latter were 'outdoor' forms (% N OB = 46), and aquatics were well-represented (% N W = 8). The outdoor component was of low diversity (alpha = 14, SE = 3), indicating that it was at least in part autochthonous. The dominant species was the dung beetle *Aphodius prodromus*, of which there were at least 33. Two other outdoor taxa were represented by seven (*Ochthebius ?minimus*) and two (*Helophorus* sp.) individuals respectively. Both are aquatics. The remaining outdoor forms may have originated, like the more abundant ones, in grazing land with some open water.

The decomposer component was moderate in size, but nearly half of it was made up by dung beetles. Taxa coded 'rf' accounted for nearly two-thirds of the RT component, which was of low diversity (alpha RT = 15, SE = 3). There can be little doubt that this deposit represents a surface in grazing land. Traces of 'house fauna' were present, perhaps from nearby buildings, from scattered rubbish, or introduced in animal feed or droppings. Such may also have been the origin of the grain beetles (there were ten *Oryzaephilus surinamensis*, although no other grain pests were recorded).

These two death assemblages probably represented variations in depositional conditions in a patchy environment, perhaps with puddles or very close to open water. Insects may have been more numerous around tussocks or corpses may have tended to become concentrated (or have been more likely to be preserved) in slightly lower areas.

Phase 5-6 [Early Roman]

Context 1103 ['Deposit']

Sample 58

Laboratory description - Heterogeneous, consisting of mid to dark brown and grey brown, moist, plastic, crumbly, brittle, silty clay and very fine, mid brown sand. Very small (2-6 mm), small (6-20 mm), and medium (20-60 mm) stones were present.

Parasite eggs - None found.

Insects - Arthropod remains were quite abundant in the flot, with 'many' mites and fly puparia and 'several' Hymenoptera Parasitica and oligochaete (earthworm) egg capsules. There were 100 individuals of 66 bug and beetle taxa. Diversity was very high (α = 84, although SE = 16), and a third of the individuals (and two fifths of the taxa) were 'outdoor' forms. Grain pests were rare, and decomposers accounted for under half of the assemblage.

The most numerous species were *Megasternum obscurum* (6 individuals), *Lathridius minutus* group (5), *Cercyon analis* (4) and *Cryptolestes ferrugineus*, the first three being eurytopic

decomposers, and the last a 'grain beetle'. There were indications of the presence of some contribution from human structures, but deposition appears to have been in the open, conceivably on or near a disturbed surface with some decomposing matter and a few weeds; the foul-matter component gave a small hint that dung was present.

Phase 6 [Early Roman, 93-4 AD - dendrochronology date]

Context 658 [internal floor accumulation]

Sample 20

Laboratory description - Heterogeneous, with two main components - (a) moist, brittle, layered, slightly sandy silt and (b) patches of pale brown clay and compressed plant detritus; the overall colour of the sample varied from near black internally to mid to dark brown externally, indicating reduction/oxidation. Very small stones were common in the sample. The sample was described as "looking like material from a floor" (HKK).

Parasite eggs - Single *Trichuris* and *Ascaris* eggs were noted from the squash.

Insects - The large flot, consisting mostly of fibrous plant remains, included numerous insect fragments and seeds. There were 'many' mites and 'several' fly puparia, with unidentified insect larvae, adult flies, and Hymenoptera Parasitica. Preservation was rather good. The material was scan-recorded. A little less than half of the 70 individuals and 50 taxa were outdoor forms, and diversity was high (α = 78, SE = 19). Decomposers were relatively poorly represented (% N RT = 41), and there was only a single grain beetle. The assemblage can be divided into two main components: (a) species likely to have occurred together within a structure (the most abundant being *Ptinus ?fur, Anobium punctatum* and *Lathridius minutus* group); and (b) a variety of phytophages. The latter include *Apion* spp. (five individuals of three species), two *Sitona* species, three halticine species, and some bugs, all likely to have been imported in hay-like cut vegetation (this 'hay' component is discussed by Hall and Kenward 1990, 400-4). This may have been a stable, but in view of the rarity of 'stable manure' decomposers (a group also discussed by Hall and Kenward, loc. cit.) it may equally have been a store, or the floor may have been sweetened with cut vegetation for human use. There were no fleas or lice to support the last hypothesis, however. The locally highly organic, reduced, nature of the sediment perhaps suggests that this *was* something like stable manure, in which a large breeding beetle population failed to develop for some reason, or from which most beetles emigrated.

Context 707 [soil deposit]

Sample 30:

Laboratory description - Mid grey brown (gingery in places) dry, brittle, indurated, homogeneous sandy silt, with surface colour variations. There were no obvious inclusions.

Parasite eggs - None found.

Insects - Insect remains were quite abundant; recording was by scanning. There were 'many' mites and unidentified insect larvae and 'several' fly puparia and Parasitica. A quarter of the 73 beetles and bugs were 'outdoor' forms and diversity was high (α = 101, although SE = 26). Decomposers were poorly represented, forming a little more than a third of the assemblage. There were modest numbers of grain beetles, one of which, *Oryzaephilus surinamensis*, was the most abundant beetle present (5 individuals) The remaining assemblage was mostly a mixture of decomposers, of no definite significance apart from the foul-matter species *Platystethus arenarius* (with four individuals), and plant-feeders, with some ground beetles and aquatics. Almost all the insects contributing to this assemblage, apart from the immatures, may have had a 'background' origin, or have been introduced in non-decomposed organic debris, but *P. arenarius* offers a hint of the presence of foul matter.

Context 718 [bank on property boundary]

Sample 23

Laboratory description - Heterogeneous on a millimetre scale - main matrix very humic sandy silt with other parts more and less humic. Overall dark brown, moist and crumbly to brittle. Very small stones (2-6 mm) were present in the sample, which had a sweet smell.

Parasite eggs - None found.

Insects - The rather large flot, scan recorded, was rich in woody plant detritus. There were abundant fragments of unidentified insect immatures, 'many' mites and 'several' fly puparia. While these presumably developed *in situ* in the deposit (or were introduced in dumped material), the 13 individuals of 13 taxa of beetles and bugs cannot be ascribed any particular origin. None, however, would be considered out of place in a typical assemblage from occupation deposits.

Context 722 ['Deposit']

Sample 25

Laboratory description - Dark, grey with brown tinge internally, oxidising to mid brown externally, moist to wet, plastic,

slightly crumbly and slightly sticky, humic, slightly sandy clay silt. Very small stones (2-6 mm) and assorted plant remains, including wood fragments, were present. The sample had a slightly sulphurous smell when first opened.

Parasite eggs - None found.

Insects - Only a modest group of beetles and bugs was recorded from the flot, but there were various other remains, including 'many' mites and 'several' Parasitica, homopteran nymphs and fly puparia. The last included a rather small fragment which appeared to be of the sheep ked *Melophagus ovinus*. There were also remains of fleas, probably from at least three individuals. The material was scan recorded.

None of the beetles and bugs was particularly abundant, the most numerous being *Oryzaephilus surinamensis* (5) and *Apion* sp. (4). The remainder of the assemblage was varied, and of no clear origin; decomposers were rare. Subjectively, however , this group was a little reminiscent of some interpreted as indicating stable manure at other sites. Various other origins are possible, however.

Context 730 [soil deposit]

Sample 27

Laboratory description - Dark grey-brown, moist, crumbly, compressing to plastic, humic slightly sandy clay silt with traces of pale brown silt. Small and very small stones (2-20 mm) and traces of burnt soil were present.

Parasite eggs - None found.

Insects - Scan recorded. Insects were rather rare, and the flot very small. There were 'several' fly puparia and unidentified larval fragments and 25 individuals of 17 beetle and bug taxa. There were at least six *Oryzaephilus surinamensis*, but only one or two individuals of the remaining species. The record of the bug *Strophingia ericae* is worthy of note: it is a denizen of heath/moor vegetation.

These remains probably represented material accumulated in an essentially random way and offered no positive evidence of conditions at the point of deposition. The grain beetles may have been background fauna, or possible have originated in spoiled grain used, perhaps for animal feed, nearby.

Context 732 [gully - shallow scoop/depression associated with Context 718, bank on property boundary]

Sample 26

Laboratory description - Homogeneous, dark grey-brown, just

moist, crumbly to brittle, very humic silt. There were no inclusions evident.

Parasite eggs - A trace of *Trichuris* and a few *Ascaris* were recorded from the squash. Using the modified Stoll technique, four *Ascaris* eggs were noted, though no *Trichuris* were seen.

Insects - The flot, scan recorded, produced a quite large group of insects, including 113 individuals of 74 bug and beetle taxa. There were various other invertebrates, amongst them being 'several' mites, fly puparia and adults and Parasitica, and 'many' unidentified immature insects. A single scale insect, *Chionaspis salicis*, was recorded. (Although most of the scale insects from this site were not identified for lack of time, all of them appeared also to be *C. salicis*.)

The beetle and bug assemblage upon which the main statistics are based was diverse (α = 93, SE = 17) and rich in outdoor forms (%N OB = 35). Aquatics were quite numerous (seven individuals of three taxa), with three *Ochthebius minimus*, generally found in weedy ponds or slow flowing streams and rivers. These probably lived *in situ*. Decomposers were not very abundant (relative to most occupation-site assemblages) but included four species of dung beetles (three *Aphodius* with 8, 1 and 1 individuals respectively, and a single *Geotrupes*) and there were two *Platystethus arenarius* and *Cercyon haemorrhoidalis* (%N RF = 15). There were thus hints that this may have been a grazing land (or stockyard) deposit, with abundant background fauna from natural and man-made habitats, and perhaps with some open water and invading decomposers.

Context 737 [laminated organic deposit]

Sample 28

Laboratory description - Dark, grey-brown, moist, plastic and slightly sticky, slightly sandy clay silt, with mm-scale mottles, perhaps in part indicative of oxidation/reduction and in part resulting from presence of charcoal and variation in organic content. Fragments of very rotten leather were present.

Parasite eggs - None found.

Insects - The processed subsample gave a tiny flot, consisting mainly of yellowish plant fragments. It was scan recorded. There were 'several' homopteran nymphs, fly puparia and adults and unidentified insect larvae, and a very impoverished group of mostly very fragmented, but otherwise well preserved beetles and bugs (N = 15, S = 13). There was nothing distinctive about this assemblage in the context of the present site.

Context 741 ['Stake']

Sample 44

Laboratory description - Mid orange-brown, moist, crumbly, working to plastic, slightly sandy clay. Small and very small stones (2-20 mm) were noted, and there were abundant pale flecks of ?rotten sandstone along with some unidentified darker flecks.

Parasite eggs - None found.

Insects - The small flot, about half of which was made up by arthropod remains, was assessment-recorded. It contained a small group of insects of typical 'urban' flavour, with some grain pests and decomposers. There were 'many' fly puparia, but no evidence that any other autochthones were present. It was classified as of low priority for further work.

Context 750 [ditch fill - same feature as sample 31]

Sample 29

Laboratory description - Dark grey-brown, moist, plastic, humic, sandy clay silt, with abundant mm-scale mottles (c. 5 mm generally). Present in the sample were very small stones (2-6 mm), twig fragments, plant macrofossils and light brown clay patches.

Parasite eggs - None found.

Insects - The flot was scan-recorded and contained, among others, 'many' fly puparia and unidentified insect larval fragments, 'several' fly pupae and mites, three homopteran nymphs and an unidentified flea. Preservation was quite good. There were some 70 adult beetles and bugs of 37 taxa. This assemblage was of rather low diversity (α = 32, SE = 7) and had a fairly small proportion of outdoor forms (%N OB = 13). These values were distorted by the presence of abundant grain beetles - there were 19 *Oryzaephilus surinamensis* and seven *Cryptolestes ferrugineus*, with two *Palorus ratzeburgi* and a single *Sitophilus granarius*. Removing this component gave a small residual assemblage (41 individuals) of higher diversity, and with a modest component of decomposers, whose significance was unclear. Subjectively, it seems possible that the grain pests strayed from nearby (but see discussion of grain pests as background fauna, below) and that much of the rest of the fauna perhaps also entered accidentally. The grain pests may, however, have come from material dumped into the ditch, with the remaining beetles having assorted origins. The fly immatures may have lived *in situ*.

Context 754 [ditch fill - same cut as sample 29]

Sample 31

Laboratory description - Two subsamples were examined.

Description 1 (/T) - Dark brown, just crumbly, humic, slightly sandy silt, with darker and lighter 1 cm-scale mottles (with hints of grey). The only obvious inclusion was a trace of (probable) charcoal. *Description 2* (/T2) - Mid/dark brown, moist, plastic, humic, slightly sandy clay silt with greyer and browner mm-scale mottles. Bone (<20 mm), small globular sandy clasts and pellets of buff silt or fine sand were present along with a trace of plant detritus.

Parasite eggs - None found.

Insects - The small assemblage of beetles (N = 48, S = 40) was accompanied by 'many' unidentified larval fragments and 'several' mites, fly puparia and adults and Parasitica. The main statistics of the beetle group were undistinguished (bearing in mind its size), and its species composition gave little evidence as to ecological conditions in the surroundings.

Context 777 [soil deposit]

Sample 36

Laboratory description - Two subsamples from this sample were examined. *Description 1* (/T) - Mid brown, wet, sticky to crumbly, humic silt, with grey-brown patches. Wood fragments and seeds were visible. *Description 2* (/T2) - Heterogeneous, with three main components, it was mostly mid-to dark brown sticky, sandy silty clay, but also contained a more humic component and a pale to mid brown ?ashy, sticky, silty clay. Overall the material was moist to wet. Twig fragments were the only inclusions noted.

Parasite eggs - None found.

Insects - The processed subsample gave a large and somewhat unusual assemblage, with 202 individuals of 94 beetle and bug taxa and assorted other remains including 'many' mites and fly puparia and adults, numerous fly pupae, and a human flea. Diversity of the beetles and bugs was high (α = 68, SE = 8), and the outdoor component large (% N OB = 24). Aquatics were represented by nine individuals of four taxa, and decomposers were fairly numerous (% N RT = 56).

Much the most abundant species was *Anotylus tetracarinatus* (27), a very eurytopic decomposer often abundant in dung, followed by *Platystethus arenarius* (indicative of foul matter) and the grain beetle *Oryzaephilus surinamensis* (both with 11 individuals). Other, moderately abundant, taxa were mostly eurytopes, but there were seven individuals of an *Aphodius* (perhaps *A. prodromus*) and three of *A. contaminatus*. This mixture of communities (of grain beetles and other synanthropes with rather generalised, and foul, decomposers) can be seen amongst the less abundant taxa, too. One plausible interpretation is that this material accumulated in a stock enclosure near to buildings, with abundant dung, 'domestics' and grain pests from feed and from the structures, and a rich background fauna. There is nothing in the species list

to suggest the presence of 'hay' in this case, perhaps supporting the 'enclosure' hypothesis rather than the possibility of dumping of stable manure.

Context 783 [Gully]

Sample 37

Laboratory description - Two subsamples from this sample were examined. *Description 1* (/T) - Mid reddish-brown, moist, plastic to crumbly, silt. Very small stones (<2 mm) and patches of mid red-brown clay were present in the sample. *Description 2* (/T2) - Heterogeneous, with three components - a mid brown clay sand, an orange-brown silt (or fine sand) and a darker grey-brown sandy silt, mixed on mm and cm scale. Overall the subsample was moist and brittle to crumbly. Very small stones (2-6 mm) and medium stones (20-60 mm) were noted.

Parasite eggs - None found.

Insects - Scan recorded, this subsample gave a modest number of invertebrates, only fly puparia ('several') being at all abundant apart from the grain beetles *Oryzaephilus surinamensis* (7) and *Cryptolestes ferrugineus* (4). The remaining beetles (all single individuals, N totalling 34, S = 25), had mixed origins but were a range of taxa typical of the present site.

Context 785 [soil deposit]

Sample 34

Laboratory description - Two subsamples were examined. *Description 1* (/T) - Mid orange-brown, moist, crumbly, humic, slightly sandy silt with dark-grey brown patches. Charcoal was present. *Description 2* (/T2) - Heterogeneous subsample, the main component being a brown to grey-brown, moist, crumbly to plastic, sandy clay silt, with a second component of mid brown silt. Small and very small (2-20 mm) stones and very rotten wood fragments were noted.

Parasite eggs - None recorded.

Insects - This material was assessment-recorded. There was a small group of beetles, mostly frequently recorded 'urban' decomposers; there were no obvious ecological implications and the material was assigned medium priority for further investigation.

Context 787 [ditch fill in cut 1029]

Sample 53

Laboratory description - Two subsamples described: *Description*

1 (/T) - Mid dark-dark brown, moist, layered, compressed amorphous organic and herbaceous detritus. Very small stones were also present in the sample, which had the appearance of layered peat. *Description 2* (/T2) - Dark mid/dark, brown, moist, layered, amorphous organic herbaceous detritus. Very small stones (2-6 mm) were the only obvious inclusions.

Parasite eggs - One *Trichuris* egg was noted from the squash.

Insects - Described as coming from a ditch fill, the insect assemblage from this layer was notable for being quite large but being completely lacking in aquatics; indeed, open water was indicated only by a single water flea resting egg (*Daphnia* sp. ephippium). The material was scan-recorded.

Mites, parasitica, fly puparia and insect larvae were all recorded as 'many', with 'several' adult flies and spiders. There were also 'many' *Craspedolepta nervosa* nymphs, indicative of yarrow, and five *Chionaspis salicis*, a scale insect common on a variety of trees. Further notable records were a single louse, *Damalinia bovis*, a parasite of cattle, and a human louse, *Pediculus humanus*. These remains suggest heterogeneous origins for the material, and this is echoed in the adult beetles and bugs. Many of them may have lived by or in a slightly damp ditch, colonising a variety of plants. Two phytophages associated with heathland or moorland vegetation (*Ulopa reticulata* and *Lochmaea suturalis*) may have come to the site in peat. There were also synanthropes, including grain pests and *Tenebrio obscurus*. A plausible depositional environment is thus a 'dry' ditch, damp enough to slow decomposition of organic remains, with some scrubby vegetation along it, and receiving modest quantities of debris from nearby buildings. This, however, is a somewhat subjective reconstruction. Despite the presence of a cattle louse, the rarity of dung beetles leaves no good evidence that the ditch bounded a field of cows!

Context 792 [Gully]

Sample 38

Laboratory description - Two subsamples from this sample were examined. *Description 1* (/T) - Mid brown, moist, crumbly, humic silt with pinkish-brown clay patches. Medium stones (20-60 mm), some 'rusty' and red coloured patches (not clay) and herbaceous detritus (associated with rusty and red colouring) were present. *Description 2* (/T2) - Heterogeneous: mostly light to mid brown silt or fine sand (or a mixture of both) in a thin matrix of humic sandy silt, together with near black patches (?charcoal) and smaller amounts of assorted colours of sandy silt. Overall the subsample was moist and crumbly. Small and very small stones (2-20 mm) and a trace of herbaceous detritus were observed.

Parasite eggs - None apparent.

Insects - The two subsamples, both assessment-recorded,

supposedly taken from this sample gave such radically different assemblages that it seems that a numbering error may have occurred. No further recording was undertaken in view of this.

Context 799 [soil lens]

Sample 35:

Laboratory description - Two subsamples were examined. *Description 1* (/T) - Mid reddish-brown, moist, crumbly, humic slightly sandy silt. Small stones (6-20 mm), twig fragments, herbaceous detritus and patches of light red-brown clay were present. *Description 2* (/T2) - Heterogeneous: dark grey-brown (rubbing strong brown), slightly sandy humic clay silt with patches of amorphous organic matter and patches of light pink-orange clay silt. Overall the subsample was moist and crumbly to plastic. Small and very small stones were common and there was a trace of wood or plant detritus.

Parasite eggs - None found either in the squash or using the modified Stoll technique.

Insects - The /T subsample was scan-recorded. The modest assemblage of beetles (and a single bug, N = 56, S = 33) was accompanied by diverse other invertebrates, notable among which were about 50 fly puparia, 'many' unidentified insect larvae and mites and 'several' Parasitica. There were also 'several' pig lice, *Haematopinus apri*, whose significance is discussed by Allison and Kenward (forthcoming) and a single ?*Damalinia* sp.

The beetles were dominated by grain pests (occupying the first four ranks, accounting for two-fifths of the assemblage). All the remaining taxa were represented by one or two individuals; they constituted a heterogeneous group of species, mostly typical of occupation deposits.

This combination of grain pests and pig lice evokes a picture of pigs feeding on spoiled grain, but restraint is necessary unless corroborative evidence is available.

Context 803 [soil deposit]

Sample 48

Laboratory description - Mid to dark brown, moist, crumbly to plastic, ?humic silt with clay patches. The sample contained organic material and coal fragments.

Parasite eggs - Traces of both *Ascaris* and *Trichuris* were noted from the squash. Using the modified Stoll technique single *Trichuris* and *Ascaris* eggs were seen.

Insects - The quite large flot was rich in insect remains (scan-

recording), including numerous fly pupae (of the order of 100), about 30 fly puparia, and 'many' adult flies and Parasitica. There were also 'several' mites. Other notable records were three *Trioza urticae* nymphs (this bug lives on nettles, *Urtica*), one *Craspedolepta nervosa* (found on yarrow, *Achillea millefolium* L.), and four scale insects, *Chionaspis salicis*, associated with twigs and small branches of many trees, especially *Salix*.

The substantial (N = 198, S = 83) assemblage of beetles and adult bugs was remarkable in its similarity to that from sample 36, context 777 (above). Many of the main statistics were close or identical. *Anotylus tetracarinatus* (18) predominated, while there were numerous *Oryzaephilus surinamensis* and *Platystethus arenarius*. *Aphodius* dung beetles were well represented, and *Falagria* sp. was present in the higher ranks in each case. This similarity extended objectively and subjectively into the lower ranks: some taxa are unusually well represented in both (eg *Phyllopertha horticola*, *Ochthebius minimus*) and where different taxa were present they appear almost to have been sampled randomly from the same population.

Assuming this not to have been a numbering error (so that the two subsamples came from the same original sample) these two contexts must have formed under near-identical conditions, if indeed they were not the same layer? Again, then, this assemblage may indicate a stock enclosure near to buildings.

Context 806 [Gully]

Sample 39

Laboratory description - Two subsamples examined. *Description 1* (/T) - Mid to dark red-brown, moist, crumbly, silty, compressed herbaceous detritus. Shellfish (rotten mussel shell) and seeds were present in the sample. Some of the lumps of sample were superficially slightly mouldy before examination. *Description 2* (/T2) - Dark brown, moist, crumbly, amorphous organic. Stones varying from very small to medium (2-60 mm) were present; other inclusions were patches (streaks) of pale pinkish clay, slimy grey ?ash and ?moss. Unidentified colourless crystals were common.

Parasite eggs - No eggs were found in the squash; however, one *Ascaris* was noted using the modified Stoll technique.

Insects - There were 'several' fly puparia, mites, insect larvae and Parasitica, together with two unidentified elaterid larvae, in the flot, which was scan-recorded. Beetles, however, were extremely abundant (N = 477, S = 41). Almost nine-tenths of these were grain pests, with 277 *Oryzaephilus surinamensis*, 103 *Cryptolestes ferrugineus* and 14 each of *Palorus ratzeburgi* and *Sitophilus granarius*. The only other abundant taxon was *Lathridius minutus* group (30), often abundant in deposits formed in buildings. The remainder of the assemblage included other strongly synanthropic taxa (*Typhaea stercorea*, *Aglenus brunneus*,

Alphitobius diaperinus and *Tenebrio obscurus*), giving the impression that this was a fairly pure assemblage from spoiling grain within a structure.

Context 810 [Surface deposit]

Sample 40

Laboratory description - Two separate subsamples were examined. *Description 1* (/T) - Mid yellow-brown, slightly moist, crumbly, humic, slightly sandy silt. Twig fragments were present and herbaceous detritus abundant (in patches). *Description 2* (/T2) - Dark brown (with a touch of grey), moist, brittle , crumbly, just plastic when worked, humic slightly sandy clay silt. Small and very small stones (6-20 mm), ?wood fragments, patches of pale mid brown silt/fine sand and hazel nut shells were present, there was also a trace of charcoal.

Parasite eggs - None found.

Insects - Scan-recorded. There were 'several' Parasitica, fly puparia and insect larvae, 'many' mites and a single flea. Beetles and bugs were not very abundant, 53 individuals of 42 taxa being recorded. About a third of the individuals were coded as 'outdoor' forms. The more abundant taxa included a small group suggesting an origin in a structure (*Ptinus fur*, 5; *Anobium punctatum*, *Cryptophagus* sp. and *Lathridius minutus* group, all 3), but overall this was a rather heterogeneous assemblage of uncertain origins.

Context 817 [internal floor]

Sample 42

Laboratory description - Mid yellow-brown, moist, crumbly, silt. Patches of herbaceous detritus and obvious insect fragments were present.

Parasite eggs - One *Trichuris* egg was noted from the squash, while no eggs were apparent using the modified Stoll technique.

Insects - There were 'many' mites and several fly puparia and adults, and unidentified insect larvae, a single flea and three *Chionaspis salicis*. Scan-recording gave a list of 46 beetle and bug taxa, with a total of 68 individuals. Diversity was quite high (α = 62, although SE = 15) and almost a third of the assemblage was contributed by outdoor forms. Decomposers were rare (%N RT = 31).

The species list had echoes of that for sample 40, context 810, with some differences. *Anobium punctatum*, the woodworm beetle, was the most abundant species (8 individuals), and there were five *Lathridius minutus* group, four *Oryzaephilus surinamensis* and *Apion* sp., and three *Ptinus fur*. Much of the fauna may have lived

within the structure, which appears to have been clean and dry. The *Apion*, and perhaps some other taxa, *may* have been brought in cut vegetation. There were no more than hints of a community of decaying matter. Perhaps this building was a store, or a stable kept well cleaned out, into whose floor only a few insect remains became trampled.

Context 822 ['Deposit']

Sample 41

Laboratory description - Mid/dark grey-brown, just moist, slightly brittle, then crumbly, then plastic, humic sandy clay silt. Very small stones and mm-scale ?clay patches were present.

Parasite eggs - None found.

Insects - This subsample was scan-recorded; it was notable for the presence of a puparium of the sheep ked *Melophagus ovinus*. There was also an unidentified louse and a flea, 'many' mites, and a various other remains. The beetle assemblage, scan-recorded, was small (N = 39, S = 30) and of limited interpretative significance, although there was a hint of the presence of 'house fauna' (as defined by Hall and Kenward, 1990).

Context 858 [Hearth]

Sample 45

Laboratory description - Mid yellow-grey-brown, dry, crumbly silt with patches of red-brown clay and some burnt material (?soil).

Parasite eggs - None found.

Insects - Scan recorded, the trace flot from the processed subsample gave 'several' mites and single individuals of six beetle taxa.

Context 860 [internal floor]

Sample 47

Laboratory description - Light grey-brown, very dry, 'dusty' ?silt. The sample contained abundant small stones (6-20 mm), and bone (<2 cm) was noted as present, while some patches of burnt sediment were evident in the more coherent lumps (these were perhaps indurated).

Parasite eggs - None found.

Insects - Only a small beetle assemblage was recovered (17 individuals of 11 taxa: scan recording). Other invertebrate

remains were rare. The beetles included three individuals of each of the common grain pests; the remaining taxa were represented by single individuals.

Context 878 [internal floor]

Sample 46

Laboratory description - Mid orange-brown, moist, crumbly, clay silt. Stones (2-20 mm) were abundant and patches of amorphous organic material were recorded.

Parasite eggs - One *Trichuris* was noted from the squash.

Insects - A modest assemblage of insects was scan-recorded; there were also 'many' mites. The 66 individuals of 43 beetle and bug taxa included some grain pests and a modest probable 'house fauna' component. There was no more than a hint of the presence of foul matter, and it is likely that the floor lay in a rather clean, dry structure.

Context 1002 [?Post trench or pit, see also context 1004]

Sample 50

Laboratory description - Mid/dark, moist, plastic to crumbly humic silt, with patches of orange clay and amorphous organic material and veins of blue grey material (perhaps evidence that the deposit was gleyed).

Parasite eggs - None apparent.

Insects - Scan-recording produced a list of 31 beetle taxa (39 individuals) and records of various other invertebrates, among which were 'many' unidentified larval fragments and adult flies, and 'several' mites and fly puparia. Also recorded as 'many' were *Daphnia* ephippia (water flea resting eggs), indicating the incorporation of waterlain deposits. This was supported by the (proportional) abundance of aquatic beetles - four taxa represented by five individuals. Almost half the beetles were 'outdoor' forms, and very few were decomposers (about a quarter). There were six *Oryzaephilus surinamensis* in this assemblage, which seems likely to have formed in the open by fairly random incorporation of insects from varied sources.

Context 1004 [?Post trench or pit, see also context 1002]

Sample 51

Laboratory description - Mid grey brown, moist, plastic to crumbly, almost 'cheesy', humic silt. Small stones (6-20 mm), charcoal and bone (<20 mm) were present.

Parasite eggs - None found.

Insects - Like the subsample from sample 50, context 1002, this material included numerous *Daphnia* ephippia; in this case, about 50 were estimated to be present. Water beetles were somewhat more abundant, too, with eight taxa represented by 15 individuals (about a quarter of the assemblage of 62 individuals of 49 taxa). Almost half of the beetles were 'outdoor' forms and decomposers were (relatively) rare (only about a quarter of the assemblage).

This material appears to have been deposited within a very slow-flowing or static body of water, an interpretation supported by the of the sediment - pond sediments are often 'cheesy' humic silts in texture. The assemblage gave no clear indication of conditions on adjacent surfaces, being very diverse; no non-aquatic taxon was represented by more than two individuals.

Phase 7A [2nd/3rd century]

Context 651 [destruction/ abandonment/ change of use, see also context 672]

Sample 19

Laboratory description - Dark grey-brown internally to mid to dark brown externally, just moist, brittle to crumbly, very humic, silt. The colour variation indicated reduction/oxidation. Plant detritus, including twig fragments, was recorded.

Parasite eggs - None found.

Insects - A quite small group of beetles (N = 45, S = 33) was scan-recorded, together with assorted other invertebrates including 'many' mites and insect larval fragments, 'several' homopteran nymphs, fly puparia and adult flies, a probable louse and two kinds of cladoceran ephippium. Almost a third of the beetles were 'outdoor' forms and about half of the assemblage consisted of decomposers. Ecologically it was a mixed group, with grain pests, probable house fauna and foul decomposers present in small but appreciable numbers. It might be speculated that this material originated in a stable, but the evidence is slender.

Context 672 ['Deposit', equivalent to context 651]

Sample 21

Laboratory description - Dark, greyish brown, just moist, crumbly to brittle, homogeneous, sandy silty well humified organic material. Very small stones(2-6 mm) were common.

Parasite eggs - None found.

Insects - There were only single individuals of seven beetle taxa, 'many' mites, 'several' fly puparia and a few other remains in the flot, which consisted mostly of pale plant fibres.

Phase 7B [2nd/3rd century]

Context 721 ['Deposit']

Sample 24

Laboratory description - Mid to dark orange brown, moist to dry, crumbly (working to plastic when moistened), humic slightly sandy clay silt, with a suspected amorphous organic component. Small stones (6-20 mm) and wood fragments were present.

Parasite eggs - No eggs were noted from the squash, though single *Ascaris* and *Trichuris* eggs were noted using the modified Stoll technique.

Insects - The flot, which was scan-recorded, was quite large and rich in pale plant debris. Earthworm egg capsules were common ('many'), and there were 'several' fly puparia and mites in addition to assorted other remains and a modest group of beetles and bugs (65 individuals of 45 taxa). While outdoor forms were well represented (over a quarter of the individuals), the decomposer group was strong, accounting for about two-thirds of the fauna. *Aphodius prodromus* and a *Falagria* species were the only abundant beetles, with five individuals of each. Subjectively, these and much of the rest of the fauna might have accumulated in a 'soil' with dung, but there were small numbers of synanthropic (domestic/storage) species, perhaps either background fauna or scattered with litter or rubbish, or both.

Phase 7B-8C [2nd/3rd century]

Context 705 [Surface deposit]

Sample 22

Laboratory description - Mid/dark orange-brown, dry, crumbly (plastic when moistened and worked), sand silty clay. Small and very small stones (2-20 mm) were common.

Parasite eggs - None found.

Insects - There were rather few beetles (N = 38, S = 26); only mites were at all abundant ('many'). Some of the remains were very poorly preserved. The most abundant beetles were *Carpelimus bilineatus* (5), *Oryzaephilus surinamensis* (4) and *Cercyon analis* (3); the implications of the assemblage are unclear. The material was scan recorded.

Phase 8C [2nd/3rd century]

Context 459 ['Deposit']

Sample 84

Laboratory description - Heterogeneous, with several main components: Mid orange-brown, with mid grey-brown parts and patches of orange, yellow and black (all mm-scale), generally moist, crumbly working to plastic, sandy clay silt. Small and very small stones (2-20 mm) were present.

Parasite eggs - None found.

Insects - Invertebrate remains were scan-recorded, and were rare. There were 'several' mites and 12 individuals of 10 beetle taxa. Among the latter was a fragment of a beetle identified as probably being an *Alphitobius* species, seemingly not matching *A. diaperinus*, the species usually found in archaeological material from Roman Britain.

Phase 9A-9D [2nd/3rd century]

Context 468 ['Deposit']

Sample 85

Laboratory description - Mid/dark brown, with a greyish cast in places, moist, lightly brittle, then crumbly, humic sandy silty clay. Small and very small stones (2-20 mm) were common.

Parasite eggs - One *Ascaris* egg was recorded from the squash; no eggs were seen using the modified Stoll technique.

Insects - Scan recording produced a list of 25 beetle and bug taxa (34 individuals), 'several' mites and a small range of other remains, including an elaterid larva. Apart from a general affinity with most of the Roman material from this site, the fauna had no special character.

Phase 12-13 [12th-13th century]

Context 308.2 [Well fill]

Sample 80

Laboratory description - Heterogeneous, consisting of two main components: (a) Mid grey-brown and (b) light to mid orange, mixed on the mm to cm scale. Overall the sample was a moist to wet, plastic, slightly sandy clay. There were no inclusions evident.

Parasite eggs - None observed.

Insects - Invertebrates were very rare, with only single individuals of eight beetle taxa (scan-recording).

Context 1237 [Well fill]

Sample 73

Laboratory description - Mid-dark grey, with a hint of brown (rubs slightly brown), moist to wet, plastic, very slightly sandy silty clay. Very small stones (2-6 mm), wood fragments, fine orange-yellow flecks (on mm scale) and orange granular material (on mm scale) were present.

Parasite eggs - None found.

Insects - Scan recorded. There were 'several' mites, fly puparia and earthworm egg capsules, and a small group of beetles and bugs (single individuals of 13 taxa). Of this group, little can be said.

Context 1237.2 [Well fill]

Sample 74

Laboratory description - Mid/dark grey-brown, moist to wet, plastic, slightly sandy silty clay. Small and very small stones (2-20 mm) and wood fragments were present. There were also mm-scale grains of pale to mid orange material and occasional streaks of orange clay.

Parasite eggs - None found.

Insects - Scan recording gave a list of single individuals of nine beetle taxa and a few other invertebrates, none of any special significance.

Context 1237.4B [Well fill]

Sample 76

Laboratory description - Heterogeneous, with two main components: (a) mid-dark brown, moist to wet, plastic and slightly crumbly, humic sandy silty clay, and (b) patches of laminated plant matter. The only obvious inclusions were wood fragments.

Parasite eggs - From the squash a few *Trichuris* eggs and one *Ascaris* egg were noted. No eggs were evident using the modified Stoll technique.

Insects - An assessment record was made. There were 'many' puparia and mites, and about 50 earthworm egg capsules. Beetles were predominantly decomposers, with a distinct 'house fauna' group (Hall and Kenward 1990, 398-9) and hints of somewhat foul

matter. There was a specimen of the spider beetle *Tipnus unicolor*, a species of some interest in archaeology (see for example Allison and Kenward, forthcoming d). The material was regarded as of medium priority for further work.

Context 1237.5B [Well fill]

Sample 77

Laboratory description - Mid-dark brown, moist, brittle, then crumbly, then plastic, very slightly sandy (may be precipitated mineral particles), amorphous organic material. Wood fragments, fragments of herbaceous/plants and grey flecks were present.

Parasite eggs - One *Trichuris* egg was noted from the squash, but no eggs were seen using the modified Stoll technique.

Insects - This subsample gave a rather large beetle assemblage, which will probably stand as an adequate representation of the series of samples from variants of context 1237. The material was scan recorded. There were 131 individuals of 40 beetle taxa. Diversity was low (α = 20, SE = 3), depressed by one very abundant and clearly autochthonous taxon, *Aglenus brunneus* (48 individuals), although this may have been a post-depositional invader (see for example Allison and Kenward forthcoming c). Outdoor forms were absolutely and relatively rare (8 individuals, %N OB = 6). Coded decomposers accounted for 82% of the assemblage, and some uncoded taxa probably belonging to this group would raise the value to over 90%. 'Dry' decomposers were numerous (% N RD = 28) and 'foul' decomposers, unusually at this site were, absent. The diversity of the decomposer component was very low (α RT = 9, SE = 1), again depressed sharply by *A.brunneus*.

A distinct 'house fauna' element was present with, in addition to *A.brunneus*, an *Atomaria* sp. (12), a *Cryptophagus* sp. and *Lathridius minutus* group (8 each), Aleocharinae sp. (probably *Cratarea suturalis*, 'Aleocharinae sp. X' of earlier reports, e.g. Hall and Kenward 1990) and *Atomaria ?nigripennis* (6 each), *Xylodromus concinnus* (4) and *Laemostenus terricola*, *Cryptophagus scutellatus* and *Mycetaea hirta* (one each) the most characteristic of this group. There was also an adult *Blaps* sp. and two larval apices believed to belong to this genus.

The whole assemblage from this subsample was very reminiscent of many 'house fauna' groups from Roman and Anglo-Scandinavian deposits (e.g. Hall and Kenward 1990; Kenward and Hall forthcoming). It surely originated within a building in a layer of mouldering organic matter, not so moist as to be uncomfortable for living. Other remains include a flea and a human louse (*Pediculus humanus*). There were also 'several' beetle larvae, spiders and Parasitica, and 'many' mites. Fly puparia were conspicuously uncommon, supporting the hypothesis that this material came originally from an acceptably dry building, quite possibly domestic.

Context 1237.6B [Well fill]

Sample 78

Laboratory description - Dark grey-brown, moist to wet, crumbly, then plastic, sandy, amorphous organic material. Twig fragments, wood fragments and other plant detritus were present.

Parasite eggs - None seen.

Insects - This subsample was assessment-recorded. There was a small group of beetles, almost all decomposers, resembling those from associated samples. There were several *Oxytelus sculptus* (perhaps suggesting slightly foul conditions), *Aglenus brunneus*, *Atomaria* sp. and *Cryptophagus* sp. It was regarded as of medium priority for future work.

Context 1237.7B [Well fill]

Sample 79:

Laboratory description - Mid-dark yellow-grey-brown, wet, plastic, slightly sticky, humic sandy clay silt. There were no obvious inclusions.

Parasite eggs - None apparent.

Insects - The assessment record shows the presence of a 'house fauna' element like that in sample 77, with various other decomposers. The material was assigned medium priority for further work.

Phase 13 [Medieval]

Context 3 [Fit fill]

Sample 1

Laboratory description - Dark grey-brown, rubbing to distinctly brown, moist, brittle to crumbly, very humic, very slightly sandy silt. Medium stones (20-60 mm), tile/brick fragments, patches of pure brown humic material and white flecks were noted.

Parasite eggs - None found.

Insects - This group was assessment-recorded. There were abundant insect fragments, mostly of decomposers, with hint of a foul element as well as taxa indicating drier conditions. Fly puparia were numerous. There were a few 'natural habitat' insects,

including a *Scolytus* species. The material would be difficult to record more completely because of its poor preservation and was regarded as low priority for listing.

Context 5.1 [Pit fill]

Sample 7

Laboratory description - Mid-dark brownish grey, moist, crumbly, brittle, plastic when worked, humic, very slightly sandy clay silt. Very small stones (2-6 mm) and pale flecks were present; there were also traces of charcoal and wood.

Parasite eggs - *Trichuris* eggs were seen at 'trace' levels in the squash, although no eggs were found using the modified Stoll technique.

Insects - During assessment it was noted that a small insect group, mostly decomposers or uncoded taxa, was present. There was a single *Oryzaephilus surinamensis*. The material was assigned low priority for further work.

Context 5.2 [Pit fill]

Sample 8:

Laboratory description - Dark, grey-brown (rubbing brown), moist, plastic, crumbly, brittle, humic slightly sandy clay silt. Medium stones (20-60 mm) and mm-scale pale flecks were noted.

Parasite eggs - None found.

Insects - The assessment record shows a rather small group of insects to have been present, mostly decomposers, with 'outdoor' forms rare. There were 'many' fly puparia. The assemblage was considered to be of middle priority for further work.

Context 5.3 [Pit fill]

Sample 10

Laboratory description - Dark grey-brown (rubs more distinctly brown), moist to wet, crumbly, brittle, plastic when worked, humic, clay silt. Some parts richer in fine organic detritus. Medium stones (20-60 mm) and wood fragments were present.

Parasite eggs - *Trichuris* eggs were present in the squash at a 'trace' level.

Insects - The assessment revealed a modest-sized group of beetles, including a substantial proportion of decomposers with some foul matter taxa. The proportion of 'outdoor' fauna was small. A specimen of *Aphodius ?equestris* was noted (north of its present range, which runs as far north as Yorkshire according to

Jessop 1986, 23), and there were large numbers of fly puparia. Middle priority for scan recording.

Context 5.5 [Pit fill]

Sample 13

Laboratory description - Heterogeneous, with two major components: (a) mid/dark yellowish-grey matrix and (b) abundant pinkish-yellow patches. Overall, moist, crumbly to plastic, slightly sandy silty clay, perhaps ashy. Medium stones (20-60 mm) were abundant.

Parasite eggs - None found.

Insects - The flot was scan-recorded; there were few arthropods, including single individuals of seven beetle taxa typical of occupation deposits.

Context 5.6 [Pit fill]

Sample 15

Laboratory description - Very dark grey-brown, moist, plastic, probably humic, slightly sandy clay silt, with mm-scale buff clay flecks.

Parasite eggs - One *Trichuris* egg was found in the squash and five were seen using the modified Stoll technique.

Insects - The trace flot, scan recorded, was almost barren; there were only single individuals of three beetle taxa.

Context 5.7 [Pit fill]

Sample 14

Laboratory description - Dark grey-brown, moist, crumbly to plastic, humic slightly sandy clay silt. Wood fragments and orange ?organic flecks were present.

Parasite eggs - One *Trichuris* egg was seen in the squash; 3 were noted using the modified Stoll technique.

Insects - Scan recorded. Arthropod remains included 'several' mites, fly puparia and fly pupae, and a group of 21 beetles representing 21 taxa. Over four-fifths of the beetles were decomposers, but there was no distinct ecological grouping within this component. The most abundant species were *Anotylus complanatus* (5) and *A. nitidulus* (3). This assemblage may have been background fauna, or have included early colonists of

decaying organic matter.

Context 5.8 [Pit fill]

Sample 17

Laboratory description - Heterogeneous, the main component being mid-dark grey-brown, moist, brittle, crumbly (plastic when worked), humic sandy clay silt, but with 2-5 mm scale pale orange through to black clasts; some patches were much sandier than others. Small and very small (2-20 mm) stones and charcoal were present.

Parasite eggs - No eggs were seen either in the squash or using the modified Stoll technique.

Insects - Arthropods were rare; six individuals of five beetle taxa and a few other remains were noted during scan recording.

Context 5.9 [Pit fill]

Sample 18

Laboratory description - Dark grey-brown, moist, crumbly, working to plastic, humic slightly sandy silty clay. Fragments of sandstone (some rotted) and mm-scale pale ?ashy flecks were present.

Parasite eggs - None found.

Insects - There were 'several' mites and fly puparia and three beetles, and a few other remains. Scan-recorded.

Context 7 [Pit fill]

Sample 2

Laboratory description - Dark grey-brown, moist, crumbly, brittle (working to just plastic), very humic slightly sandy silt. Small stones (6-20 mm) were present.

Parasite eggs - One *Trichuris* was seen in the squash.

Insects - Assessment recording; there were abundant insects, with good preservation. Decomposers (of mixed ecological affinities) were predominant, and there was a small proportion of 'outdoor' forms. There were numerous fly puparia, and two elaterid larvae were noted. This group was assigned medium priority for further work.

Context 7.2 [Pit fill]

Sample 6

Laboratory description - Overall, mid/dark grey, moist, crumbly, plastic when worked, humic slightly sandy clay silt, heterogeneous on a mm scale, with mm-scale mottles, paler patches and variations in texture. Very small stones (2-6 mm) and wood fragments were present. The sample had a sweet smell and subjectively had the appearance of trampled earth.

Parasite eggs - None found.

Insects - Assessment revealed rather abundant insects, but with no clear implications. Medium priority for further recording.

Context 9 [Pit fill]

Sample 3

Laboratory description - Mid-dark brownish-grey, moist, plastic, crumbly, humic slightly sandy silty clay, with mm-scale mottles, probably resulting from varying amounts of humic material. The sample contained brown humic patches and concreted sand or rotten sandstone.

Parasite eggs - In the squash a few *Trichuris* and a trace of *Ascaris* eggs were seen. Using the modified Stoll technique 15 *Trichuris* eggs and one *Ascaris* were noted. Faecal contamination thus appeared likely.

Insects - The material was assessment-recorded; there was a small group of insects, including, 'many' puparia. The assemblage was rather mixed, but consisted primarily of decomposers. It was regarded as low priority for further work.

Context 11 ['Deposit']

Sample 4

Laboratory description - Very dark, brownish grey, moist, crumbly, humic sandy clay. Medium stones (20-60 mm), limestone fragments of various sizes and yellow flecks of ?mortar were present in the sample.

Parasite eggs - None found.

Insects - Scan recording revealed only traces of unidentifiable cuticle in the minute flot.

Context 15.2 [Pit fill]

Sample 5

Laboratory description - Mid-dark grey, moist, brittle and crumbly, plastic when worked, slightly sandy silty clay. Very small (2-6 mm) and medium (20-60 mm) stones were present along with patches of paler sediment.

Parasite eggs - One *Trichuris* egg was found in the squash.

Insects - Assessment showed the flot to contain only a small insect group, predominantly mixed decomposers of little interpretative value, and to be of low priority for further work.

Context 19 [Pit fill]

Sample 12

Laboratory description - Dark grey, with slight brown tinge, moist, crumbly, brittle, slightly sandy clay silt. Very small stones and wood fragments were present and yellow flecks were abundant.

Parasite eggs - None found.

Insects - A modest group of insects was recovered and scan-recorded. There were 'several' Syrphidae sp. larvae (one of the 'rat-tailed maggot' types), Coleoptera larvae, mites and fly puparia, and 33 adult individuals of 25 beetle taxa. They were ecologically mixed and of little interpretative significance.

Context 24 [Pit fill]

Sample 9

Laboratory description - Dark grey-brown, moist, crumbly to just plastic, slightly sandy clay silt. Small and medium stones (6-60 mm) and light pinkish-orange clay patches were noted.

There was evident confusion in the numbering of this material and it has not been recorded.

Context 26 [Pit fill]

Sample 11

Laboratory description - Dark grey, moist, brittle, crumbly, ?slightly humic, slightly sandy clay silt. Charcoal was present in the sample and orange flecks (sub-mm to several mm-scale) were abundant.

Parasite eggs - None apparent.

Insects - The minute flot contained no invertebrate remains.

Context 30 [Pit fill]

Sample 16

Laboratory description - Very dark grey (with a slight brown tinge), moist, crumbly, plastic when worked, probably humic, slightly sandy silty clay. The only inclusions observed were pale orange mm-scale flecks.

Parasite eggs - None observed.

Insects - Scan recorded; there were few insects. 'Several' fly puparia, single individuals of eight beetles, and a few other scraps were noted.

Outline of results phase-by-phase

Parasite eggs were generally rare or absent, with somewhat larger numbers from some *Phase 13* material.

Two contexts from *Phase 1* were examined for insect remains; the sample from one was virtually barren, while the other (from Phase 1c) produced a few insects, including synanthropes. These indicate human settlement, but whether the remains were of prehistoric date, or were Roman insects trampled or carried down into earlier material, is uncertain.

Phase 3 was represented by samples from nine contexts. A gully fill gave rather few insects. Six pit fills were also mostly rather impoverished of remains, and where insects were more numerous they suggested that the fills represented surface deposits used to back-fill the pits. A single post-pit fill also gave few remains.

The samples from *Phase 4* deposits came from five contexts of assorted types. Most gave few insects; one 'soil deposit' (1149) included a 'house fauna' component and weak indications of the presence of hay, while the drain fill 1221 gave abundant 'wireworm' larvae, perhaps of a species able to exploit peat. There were only three contexts of *Phase 5* date represented by the samples, all 'soil deposits', together suggesting grazing land with some open water. A single sampled context of *Phase 5-6* date gave insect remains indicative of a disturbed surface, perhaps with herbivore dung.

Phase 6 was well represented by the samples, with 26 sampled contexts of various kinds. There were four contexts identified as floors. Of these, 658 gave a house fauna group with hints of hay-like cut vegetation; it may have been from a stable.
Two other contexts, 878 and 817, gave less clearly identifiable house fauna groups, the latter including hints of cut vegetation.

The sample from Context 860 gave an insect assemblage rich in grain pests. A series of drain and gully fills of Period 6 date gave varied results on analysis. Context 750 perhaps included dumped organic rubbish, although there may have been contributions to the insect fauna from other sources. Context 787, on the other hand, gave some evidence for deposition in a ditch which was damp but not water-filled. It seems likely that Context 806, whose fauna consisted mostly of grain beetles, may have included dumped spoiled grain or animal feed. 'Soil' and other surface deposits of this phase provided a very heterogeneous set of assemblages, with some hints of stable manure, with or without house fauna, in certain layers. A lens, 799, gave some pig lice, contributing to the overall impression that stock-rearing may have been an important activity at the site. Lastly, two contexts identified as '?post-trench fills' (1002, 1004) gave invertebrate assemblages which included appreciable numbers of water fleas and aquatic beetles.

Phases 7a, 7b, 8c and 9a-d were each represented by one or two samples, none giving very many insect remains. Context 721 (Phase 7b) may have formed where there were grazing animals.

The seven samples of *Phase 12-13* all came from the fills of a well. There were strong indications of house fauna, and at least some of the material seems to have originated in a building with mouldering matter on the floor.

Material from 18 contexts of *Phase 13* material was analysed. All, apart from one 'deposit', were pit fills. Insect remains were generally not very abundant. The assemblages were, however, often rich in decomposers.

General discussion

Throughout recording of this material, the richness and abundance of the 'outdoor' component of the majority of the assemblages was very apparent at a subjective level, often with substantial contributions from aquatic and waterside habitats, herb communities likely to occur in grassland or disturbed places, moorland/heathland, and dung. This subjective impression is strongly supported by the statistics from the scan-recorded samples. The overall proportion of individuals from taxa coded 'oa' or 'ob' (the OB component) in the assemblages from the 58 scan-recorded assemblages was 23%, and that of aquatics over 4%, both high values (Table 5). For the Roman material (45 assemblages) these percentages were 32 and 4 respectively. Values for individual assemblages were often very much greater than this.

Decomposers were generally present in quite small numbers *relative to material from many other sites;* the overall value was 42% (Table 5), only about two thirds of that estimated for some sites, such as Anglo-Scandinavian 16-22 Coppergate, York (Kenward and Hall, forthcoming). For the Roman period, certain phases of the Tanner Row site, York (Hall and Kenward 1990, fig. 75) had

similar values, while others were considerably higher. It should be noted that in terrestrial (as opposed to waterlain) deposits there is likely to be a bias in favour of decomposers, as such taxa are likely to breed in or close to the accumulations of organic matter believed to favour 'anoxic' or 'waterlogged' preservation. At OGLA, however, the RF component was often strongly represented, at a value of 9% for the combined assemblages, and it seems likely that much of this fauna originated in areas where there was dung, in grazing land, paddocks, byres or stables. A single *Damalinia bovis* was recorded. Unfortunately this cannot stand as evidence that cattle were kept in fields bounded by the ditches at the site.

Other remains perhaps originated in stabling for horses, donkeys or mules, although this is by no means as clear as for some other sites (e.g. Annetwell Street Allison, et al. forthcoming a; Tanner Row, Hall and Kenward 1990), and the supposed 'stable manure' insect community (e.g. Hall and Kenward *loc. cit.*, *passim*) was only weakly represented. Insects possibly imported in cut, hay-like, vegetation were occasionally present, but in numbers too small to be clearly significant.

Two puparia of the sheep ked, *Melophagus ovinus*, were recorded; again, these are not strong evidence for the keeping of sheep at the site and, indeed, much larger numbers have been recorded inside buildings at Coppergate, presumably the result of fleece cleaning.

One sample gave somewhat more substantial evidence for the keeping of pigs, as there were 'several' *Haematopinus apri*, the louse of European wild pigs, from one of the subsamples from context 799. This louse, found on wild pigs but not on modern breeds of supposed oriental origin, has been recorded from some other sites, notably the Early Christian Rath at Deer Park Farms, Co. Antrim, N.Ireland (Allison and Kenward, forthcoming c), and at Coppergate.

A further hint that pigs were important at this site comes from the eggs of nematode parasites of vertebrates. *Ascaris*, the maw-worm, was rather better represented in relation to *Trichuris* the whip worm, than normal in assemblages of eggs from deposits containing what is believed to be human excrement. While it is possible that this is an insignificant result of the small numbers of eggs observed, a high relative count for *Ascaris* eggs has been associated with pig faeces. For a more positive identification of the host of these worms much larger numbers of *Trichuris* would be desirable, since the species associated with pigs has slightly larger eggs than that found in human beings (Jones 1982). Some measurements have been taken from the eggs from OGLA recovered using the modified Stoll method, summarised in Table 5. Unfortunately none of the contexts with a high proportion of *Ascaris* eggs contained sufficient well-preserved *Trichuris* to allow any firm conclusions to be drawn. Sample 3 from context 9 gave 15 eggs for which width measurements could be made. The mean was 25.7 microns (SD = 0.86, SE = 0.27). It seems likely that these are eggs of *T. trichiura* (the species

characteristic of *Homo sapiens*) (Jones (1982). No other context gave a useful number of measurements.

A few of the assemblages contained a 'house fauna' component of beetles believed to be typical of deposits formed within humble human dwellings and outhouses including stables. There were a few fleas, some of them tentatively or certainly identified as the human flea, *Pulex irritans*, and at least two human lice (*Pediculus humanus*) were found. These numbers were much smaller than those recorded from some undisputedly identified internal floors, however (at Coppergate and Deer Park Farms in particular) and there is no definite evidence for occupation floors (or ejectamenta from them) from the insects. Floor deposits are often rich in taxa coded 'rd'. At OGLA, the RD component was often clearly present, but the mean value was not very high (11% for all the material, although 19% for Phase 13, c.f. frequent values above 25% at Coppergate and Deer Park Farms); only a few samples had a substantial proportion, for example one from the Phase 13 context 1237.5B . It seems as likely that these taxa originated in outhouses used to shelter animals as in houses *sensu stricto*.

Grain pests were present in small numbers in many samples, but only rarely abundant (e.g. Context 806); this is reflected in the value for the mean percentage of 'g' taxa (13%). It is possible that grain beetles were much less likely to be a major component of background fauna in the Roman period at an apparently 'rural' site such as OGLA than in more built-up areas. Where they were numerous, it appears more likely that the remains arrived through human agency, perhaps *via* animal feed, than by dispersal from a nearby substantial grain store.

There is a remarkable general similarity between groups of insects from 'waterlogged' Roman surface deposits at previously-examined sites at Carlisle, York and, to a lesser extent, London. The material from OGLA continues this trend, and indeed strengthens the impression that Roman activity brought about very similar conditions in many places. Sites at London (Copthall Avenue, de Moulins et al. 1990), York (Tanner Row and Rougier Street, Hall and Kenward 1990) and Carlisle (OGLA) have all revealed deposits associated with ditch systems and many broadly similar groups of insects have been recovered from these sites. (OGLA has been notable for its larger peatland component, but this is hardly surprising considering the likely relative abundance of peatland resources in the catchments of the three towns.) It would be very interesting to discover whether this apparently systematic ditching represented a continuation of widespread native agricultural systems or a Roman imposition. Roman agricultural writers give us clear evidence that field drainage was a common aspect of arable farming (White 1970, 146-50).

The large moorland/heathland component (the two are difficult to disentangle) at OGLA remarked upon above deserves further consideration. The possibility that there was heathland vegetation at the present site of Carlisle, including the Lanes area, must be considered in view of the huge quantities of peat

and/or turf which must have been available. The peat or turf must have been used for something, but exactly what remains unclear. Turf was certainly employed for construction purposes, and 'turves' have been found in Roman deposits at various sites, including Carlisle. Other uses are for burning, for horticulture or for animal bedding.

Charred peat is often found at sites in York at least (e.g. Hall et al. 1980; Hall and Kenward 1990), but whether peat was known as a fuel in Roman culture is uncertain. Given the rarity of peat deposits in southern Europe it is hardly likely to have been well known in the Mediterranean countries, but the practice of peat burning may have been absorbed from native culture in north-west Europe, or have been carried out by natives within the Roman economic system. Turf burning is described by Evans (1957, 81) as 'nowadays an index of isolation and self sufficiency'; for the Roman period a fuel for the lower classes rather than the Roman and Romanised, perhaps? Horticultural uses may appear rather 'modern', although no longer seen as ecologically sound, but P.C.Buckland has pointed out (pers. comm.) that peat or turves have been widely used in animal bedding, then returned to the land enriched with urine and faeces. The use of turves in this way is attested for the pre-Roman Iron Age in the Netherlands at least (Groenman-van Waateringe 1979). In the case of OGLA one is tempted to suggest the possibility that peat/turf was used in this way; the association of peat with likely stable manure containing hay at several other sites of the Roman period, notably Tanner Row, perhaps strengthens this hypothesis. The Romans certainly understood the value of stable manure as a fertiliser (White 1970, 125 ff.).

Several of the samples from OGLA contained considerable numbers of elaterid beetles ('wireworm' larvae of 'click beetles'), represented by the characteristic abdominal apices. These are probably of considerable interpretative importance, but their identification has proved problematic. They were at first thought to be an *Athous* species, or a related genus, as they resemble several of these soil dwelling (and wood feeding??) insects. However certain details of structure most closely resemble the apices of *Denticollis linearis*, and the larvae may in fact be of this species. *D. linearis* is well known as a denizen of rotting wood, but it appears also to be able to develop in peat (Luff 1991, 228; Hansen 1966, 96). While no first hand authentication of these records has as yet been found in the literature, if *D. linearis* is able to breed in peat of some kind, its presence at the Lanes is very much in accord with the abundance of other heathland/moorland indicators typical associates.

In summary, then, the Roman material from OGLA gives the overall impression of an essentially rural way of life, with only limited evidence that human beings lived nearby, but abundant evidence to suggest that large domestic animals were present, probably under cover (in stables, byres or pens) and in open enclosures.

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Table 1. Records of eggs of nematode parasites of the vertebrate gut from OGLA. See text for explanation of methods.

Sample Number	Context Number	Eggs found using squash method	Eggs found using modified Stoll technique
1	3	None found	
2	7	One *Trichuris*	
3	9	Few *Trichuris* Trace *Ascaris*	15 *Trichuris* 1 *Ascaris*
4	11	None found	
5	15.2	None found	
6	7.2	None found	
7	5.1	Trace *Trichuris*	None found
8	5.2	None found	
0	5.3	Trace *Trichuris*	
11	26	None found	
12	19	None found	
13	5.5	None found	
14	5.7	One *Trichuris*	3 *Trichuris*
15	5.6	One *Trichuris*	5 *Trichuris*
16	30	None found	
17	5.8	None found	None found
18	5.9	None found	
19	651	None found	
20	658	One *Trichuris* One *Ascaris*	
21	672	None found	
22	705	None found	
23	718	None found	
24	721	None found	1 *Trichuris* 1 *Ascaris*
25	722	None found	
26	732	Trace *Trichuris* Few *Ascaris*	4 *Ascaris*
27	730	None found	

28	737	None found	
29	750	None found	
30	707	None found	
31	754	None found	
34	785	None found	
35	799	None found	None found
36	777	None found	
37	783	None found	
38	792	None found	
39	806	None found	1 *Ascaris*
40	810	None found	
41	822	None found	
42	817	One *Trichuris*	None found
44	741	None found	
45	858	None found	
46	878	One *Trichuris*	
47	860	None found	
48	803	Trace *Trichuris* Trace *Ascaris*	1 *Trichuris* 1 *Ascaris*
50	1002	None found	4 *Ascaris*
51	1004	None found	
52	1026	None found	
53	787	One *Trichuris*	
54	1006	None found	
55	1044	None found	
56	1097	None found	
57	1100	None found	
58	1103	None found	
59	1116	Trace *Ascaris*	None found
60	1117	None found	
61	1119	None found	
62	1126	None found	
63	1128	None found	

64	1147	One *Ascaris*	One *Trichuris*
65	1136	None found	
66	1146	None found	
67	1159	None found	2 *Ascaris*
68	1149	None found	
69	1174.2	None found	
70	1191	None found	
71	1220	None found	
72	1221	None found	
73	1237.1	None found	
74	1237.2	None found	
76	1237.4B	Few *Trichuris* One *Ascaris*	None found
77	1237.5B	One *Trichuris*	None found
78	1237.6B	None found	
79	1237.7B	None found	
80	308.2	None found	
84	459		
85	468	None found	

Table 2. Eggs of nematode parasites. Comparison of results of rapid recording,('squash') and the modified Stoll method (see text for explanation).

Squash		Modified Stoll	
Trich.	Asc.	Trich.	Asc.
Few	Trace	15	1
Trace	0	0	0
1	0	3	0
1	0	5	0
0	0	0	0
0	0	1	1
Trace	Few	4	0
0	0	0	0
0	0	0	1
1	0	0	0
Trace	Trace	1	1
0	0	4	0
0	Trace	0	0
0	1	1	0
0	0	0	2
Few	1	0	0
1	0	0	0
0	1	0	0

Table 3. Eggs of nematode parasites. Results of 'squashes' for samples rich in parasite eggs from the 16-22 Coppergate site. The original analysis (modified Stoll) were carried out by A.K.G. Jones and others. Note some of the modified Stoll tested samples have two counts, both of which are given in the table below.

Sample	Modified Stoll method		'Squash' method	
	Trich.	Asc.	Trich.	Asc.
1353	25 20	4 5	24 (many)	5 (trace)
2135	469 157	10 12	282 (very many)	16 (some)
1911	142 149	29 21	270 (very many)	41 (many)
3000	117	81	51a (many) 49b (many)	42 (many) 42 (many)
1907	132 131	43 48	105 (very many)	28 (many)
1913	37	0	72 (many)	10 (few)
1732	19	15	28 (many)	19 (some)

Table 4. Measurement of Trichuris *eggs from OGLA. Key: l - total length; l-p - length minus polar plugs (often absent); w - greatest width.*

Context	l	l-p	w
5.7	-	52.7	24.3
5.7	-	52.2	27.1
5.7	-	52.7	27.9
1002	-	45.4	26.3
9	-	52.2	24.7
9	-	45.2	24.7
9	59.1	50.6	26.3
9	-	52.7	25.1
9	-	49.0	25.1
9	52.2	48.2	26.3
9	52.7	49.0	26.3
9	-	46.6	25.5
9	-	48.6	27.5
1147	-	51.4	28.4
5.6	-	45.4	26.3
5.6	-	52.7	25.1
5.6	-	45.4	26.7
5.6	-	51.8	24.3
5.6	-	50.6	24.7

Table 5. Summary of main statistics for the scan-recorded assemblages from OGLA. N, S - means of sample values; PNOB etc. - percentages of main ecological categories (see Hall and Kenward 1990) calculated for the sum of records from all samples (rather than means of sample values); alpha, alpha OB, alpha RT - based on mean of sample values where the standard error is less than the value of alpha, the number of cases meeting this criterion being stated.

Statistic	All samples (58 cases)	Phase 6 (23 cases)	All Roman (45 cases)	Phase 13 = all medieval (13 cases)
N (= concentration by MNI)	50	83.3	60.2	19.2
number of taxa (S)	27.2	40.6	32.5	10.9
alpha	62 (35 cases)	64 (19 cases)	64 (32 cases)	- (3 cases)
PNOB	23.0	20.2	24.3	10.8
Alpha OB	38 (11 cases)	40 (7 cases)	38 (11 cases)	- (0 cases)
PNW	4.1	3.9	4.3	1.2
PND	2.5	2.2	2.4	2.8
PNP	7.3	7.8	7.7	3.6
PNH	0.2	0.2	0.2	0.0
PNL	1.7	2.1	1.8	0.8
PNG	23.3	31.9	25.4	0.4
PNRT	41.7	35.7	39.2	69.6
PNRD	11.2	10.1	10.5	18.8
PNRF	8.8	7.0	9.2	4.4
alpha RT	20 (20 cases)	21 (12 cases)	21 (18 cases)	- (2 cases)

Table 6. Complete list of invertebrate taxa recorded from OGLA. Conventions: 'sp(?).' - indicates probable additional taxon; 'sp(?). indet.' - indicates may be (or include) previously listed taxa. Order and nomenclature for Insecta follows Kloet and Hincks (1964-77).

Annelida

Oligochaeta sp. (egg capsule)

Crustacea: Cladocera

Daphnia sp. (ephippium)
Cladocera sp. (ephippium)

Insecta

Dermaptera

Dermaptera sp.

Thysanoptera

Thysanoptera sp.

Mallophaga

Damalinia bovis (Linnaeus)
?Damalinia sp.

Anoplura

Haematopinus apri Goreau
Pediculus humanus Linnaeus

Louse (s.l.) sp.

Hemiptera

Aneurus sp.
Dolycoris baccarum (Linnaeus)
Pentatomoidea sp.
Stygnocoris pedestris (Fallen)
Drymus sp.
Scolopostethus sp.
Lygaeidae spp. indet.
Berytinus minor (Herrich-Schaeffer)
?Berytinus sp.
Lyctocoris campestris (Fabricius)
Loricula pselaphiformis Curtis
Miridae sp.
Saldidae sp.
Corixidae sp.
Heteroptera sp. indet.

Heteroptera sp. (nymph)
Ulopa reticulata (Fabricius)
Agallia brachyptera (Boheman)
Conomelus anceps (Germar)
Auchenorhyncha spp. indet.
Auchenorhyncha sp. (nymph)
Trioza urticae (Linnaeus)
Trioza urticae (nymph)
Trioza sp. (nymph)
Livia juncorum (Latreille)
Strophingia ericae (Curtis)
Psylloidea sp.
Aphidoidea sp.
Craspedolepta nervosa (Forster) (nymph)
Chionaspis salicis (Linnaeus)
Coccoidea sp.
Hemiptera spp. indet.
Hemiptera sp. (nymph)

Lepidoptera

Lepidoptera sp. (coccoon)

Diptera

Bibionidae sp.
Syrphidae sp. (larva)
Melophagus ovinus (Linnaeus) (puparium)
Diptera spp. (adult)
Diptera spp. (pupa)
Diptera spp. (puparium)

Siphonaptera

Pulex irritans Linnaeus
Siphonaptera sp.

Coleoptera

Carabus sp.
Notiophilus sp.
Dyschirius ?globosus (Herbst)
Dyschirius sp.
Clivina fossor (Linnaeus)
Patrobus ?atrorufus (Strom)
Trechus obtusus Erichson or *quadristriatus* (Schrank)
Trechus micros (Herbst)
Bembidion spp.
Pterostichus melanarius (Illiger)
Pterostichus strenuus (Panzer)
Pterostichus (Poecilus) sp.
Pterostichus spp. indet.
Calathus fuscipes (Goeze)
Calathus ?melanocephalus (Linnaeus)
Calathus sp.
Laemostenus terricola (Herbst)

Agonum sp.
Amara spp.
?Bradycellus sp.
Lebiini sp.
Carabidae spp. indet.
Hydroporinae sp.
?Agabus bipustulatus (Linnaeus)
Gyrinus sp.
Helophorus grandis Illiger
Helophorus tuberculatus Gyllenhal
Helophorus spp.
Sphaeridium bipustulatum Fabricius
Sphaeridium sp. indet.
Cercyon analis (Paykull)
Cercyon atricapillus (Marsham)
Cercyon haemorrhoidalis (Fabricius)
Cercyon terminatus (Marsham)
Cercyon ustulatus (Preyssler)
Cercyon spp. indet.
Megasternum obscurum (Marsham)
Cryptopleurum minutum (Fabricius)
Hydrobius fuscipes (Linnaeus)
?Chaetarthria seminulum (Herbst)
Hydrophilinae sp.
Acritus nigricornis (Hoffmann)
Onthophilus striatus (Forster)
Histerinae sp.
Ochthebius ?bicolon Germar
Ochthebius minimus (Fabricius)
Ochthebius sp. indet.
Hydraena sp.
Limnebius sp.
Ptenidium sp.
Anisotomidae sp.
Aclypea opaca (Linnaeus)
Silphidae sp.
Scydmaenidae sp.
Micropeplus sp.
Megarthrus sp.
Acidota crenata (Fabricius)
Lesteva sp.
Omalium ?rivulare (Paykull)
Omalium sp.
Xylodromus concinnus (Marsham)
Omaliinae spp.
Coprophilus striatulus (Fabricius)
Bledius sp.
Carpelimus ?bilineatus Stephens
Carpelimus pusillus (Gravenhorst) group
Carpelimus sp.
Carpelimus spp. indet.
Aploderus caelatus (Gravenhorst)
Platystethus arenarius (Fourcroy)
Platystethus nitens (Sahlberg)
Anotylus complanatus (Erichson)
Anotylus nitidulus (Gravenhorst)

Anotylus rugosus (Fabricius)
Anotylus sculpturatus (Gravenhorst) group
Anotylus tetracarinatus (Block)
Anotylus sp. indet.
Oxytelus sculptus Gravenhorst
Stenus crassus Stephens
Stenus spp. indet.
Euaesthetus bipunctatus (Ljungh)
Lathrobium sp.
Ochthephilum ?fracticorne (Paykull)
Rugilus sp.
Paederinae sp.
Leptacinus ?pusillus (Stephens)
Leptacinus sp.
Gyrohypnus angustatus Stephens
Gyrohypnus fracticornis (Muller)
Gyrohypnus sp.indet.
Xantholinus gallicus Coiffait or *linearis* (Olivier)
Xantholinus longiventris Heer
Xantholinus sp. indet.
Xantholininae sp. indet.
Neobisnius sp. (probably *villosulus* (Stephens))
Erichsonius sp.
Philonthus politus (Linnaeus)
Philonthus splendens (Fabricius)
Philonthus spp.
Quedius boops (Gravenhorst) group
Quedius spp.
Staphylininae spp. indet.
Mycetoporus sp.
Tachyporus sp.
Tachinus laticollis Gravenhorst or *marginellus* (Fabricius)
Tachinus spp.
Cordalia obscura (Gravenhorst)
Falagria caesa Erichson or *sulcatula* (Gravenhorst)
Falagria sp. indet.
Aleochara spp.
Aleocharinae spp.
Cratarea suturalis (Mannerheim)
(previously listed as Aleocharinae sp. X)
Euplectini sp.
Pselaphidae sp.
Trox scaber (Linnaeus)
Geotrupes sp.
Scarabaeidae sp. indet.
Aphodius contaminatus (Herbst)
Aphodius ?equestris
Aphodius prodromus (Brahm)
Aphodius spp.
?Hoplia philanthus (Fuessly)
Phyllopertha horticola (Linnaeus)
Melolonthinae/Rutelinae/Cetoninae sp. indet.
Clambus sp.
Cyphon sp.
Simplocaria sp.
Dryops sp.

Oulimnius sp.
Ctenicera cuprea (Fabricius)
Elateridae spp. indet.
Elateridae sp. (larva)
Cantharidae sp.
Anobium punctatum (Degeer)
Anobiidae sp. indet.
Ptinus fur (Linnaeus)
Ptinus sp. indet.
Tipnus unicolor
Ptinidae sp. indet.
Lyctus linearis (Goeze)
Brachypterus sp.
Meligethes sp.
Omosita sp.
Rhizophagus sp.
Monotoma ?bicolor Villa
Monotoma longicollis Gyllenhal
Monotoma picipes Herbst
Monotoma sp. indet.
Cryptolestes ferrugineus (Stephens)
Oryzaephilus surinamensis (Linnaeus)
Cryptophagus scutellatus Newman
Cryptophagus spp.
Atomaria ?nigripennis (Kugelann)
Atomaria spp.
Ephistemus globulus (Paykull)
Phalacridae sp.
Orthoperus sp.
Mycetaea hirta (Marsham)
Stephostethus lardarius (Degeer)
Lathridius minutus (Linnaeus) group
Enicmus sp.
Dienerella sp.
Corticaria ?elongata (Gyllenhal)
Corticaria spp.
Corticarina ?fuscula (Gyllenhal)
Corticarina sp. indet.
Cortinicara gibbosa (Herbst)
Corticariinae spp. indet.
Typhaea stercorea (Linnaeus)
Aglenus brunneus (Gyllenhal)
Blaps sp.
?Blaps sp. (larva)
Palorus ratzeburgi (Wissmann)
Alphitobius diaperinus (Panzer)
?Alphitobius sp.
Tenebrio obscurus Fabricius
Anthicus formicarius (Goeze)
Anthicus sp. indet.
Gastrophysa viridula (Degeer)
Hydrothassa sp.
Chrysomelinae sp.
Galerucella sp.
Lochmaea suturalis (Thomson)
Phyllotreta nemorum (Linnaeus) group

Phyllotreta sp.
Longitarsus sp.
Chaetocnema arida (Foudras) group
Chaetocnema concinna (Marsham)
Chaetocnema sp. indet.
?Psylliodes sp.
Halticinae spp. indet.
Chrysomelidae sp.
Apion spp.
Phyllobius or *Polydrusus* sp.
Sitona lepidus Gyllenhal
Sitona sulcifrons (Thunberg)
Sitona spp. indet.
Sitophilus granarius (Linnaeus)
Notaris acridulus (Linnaeus)
Cidnorhinus quadrimaculatus (Linnaeus)
Ceutorhynchus sp.
Ceuthorhynchinae sp.
Curculio (*Balanobius*) sp.
Mecinus pyraster (Herbst)
Gymnetron sp.
Curculionidae spp. indet.
Scolytus sp.
Coleoptera spp.
Coleoptera sp. (larva)

Hymenoptera

Chalcidoidea sp.
Proctotrupoidea sp.
Hymenoptera Parasitica sp.
Formicidae sp.
Hymenoptera sp.

Insecta sp. (larva)

Arachnida

Opiliones sp.
Acarina sp.
Aranae sp.
Pseudoscorpiones sp.

Appendix: Main statistics and lists in rank order for the scan-recorded assemblages of adult beetles and bugs from the Old Grapes Lane A site, Carlisle.

The material is listed in sample number order. Main statistics are given in full for assemblages with ten or more adult Coleoptera and Hemiptera of the groups used in preparing statistics. Number - minimum number of individuals; % - percentage for that taxon in the assemblage; Rank - rank position in the assemblage; Ecodes - ecological codes assigned to the taxon for the purposes of computing assemblage statistics. Erosion and fragmentation are on five point scales, with 1 = very well preserved through to 5 = very poorly preserved.

Where a sample is recorded as having 'no records of beetles and bugs' this may be because none were present or because the material was assessment-recorded. See text for further information.

Site: OGLA81 Context: 3 Sample: 1/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as N = 3
Number of taxa S = 3

Site: OGLA81 Context: 3 Sample: 1/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Bembidion sp.	1	33	1	oa
Ptinus sp.	1	33	1	rd
Scolytus sp.	1	33	1	l

Site: OGLA81 Context: 7; Sample: 2/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 9; Sample: 3/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 11; Sample: 4/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 15.2 Sample: 5/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as N = 1
Number of taxa S = 1

Site: OGLA81 Context: 15.2 Sample: 5/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	1	100	1	g

Site: OGLA81 Context: 7.2; Sample: 6/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 5.1 Sample: 7/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as N = 1
Number of taxa S = 1

Site: OGLA81 Context: 5.1 Sample: 7/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	1	100	1	g

Site: OGLA81 Context: 5.2 Sample: 8/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	2
Number of taxa	S =	1

Site: OGLA81 Context: 5.2 Sample: 8/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Ptinus sp.	2	100	1	rd

Site: OGLA81 Context: 5.3 Sample: 10/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 2; Weight = 1.000kg

Number of individuals estimated as	N =	1
Number of taxa	S =	1

Site: OGLA81 Context: 5.3 Sample: 10/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aphodius ?equestris (Panzer)	1	100	1	oa rf

Site: OGLA81 Context: 26; Sample: 11/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 19 Sample: 12/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	33
Number of taxa	S =	25
Index of diversity (alpha)	alpha =	48
Standard error of alpha	SE alpha =	19
Number of 'certain' outdoor taxa	SOA =	4
Percentage of 'certain' outdoor taxa	%SOA =	16
Number of 'certain' outdoor individuals	NOA =	4
Percentage of 'certain' outdoor individuals	%NOA =	12
Number of 'certain' and probable outdoor taxa	SOB =	5
Percentage of 'certain' and probable outdoor taxa	%SOB =	20
Number of 'certain' and probable outdoor individuals	NOB =	5
Percentage 'certain' and probable outdoor individuals	%NOB =	15
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	1
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	4
Percentage of strongly plant-associated taxa	%SP =	16
Number of strongly plant-associated individuals	NP =	4
Percentage of strongly plant-associated individuals	%NP =	12
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 =	12
Percentage of decomposer taxa	%SRT =	48
Number of decomposer individuals	NRT =	15
Percentage of decomposer individuals	%NRT =	45
Number of 'dry' decomposer taxa	SRD =	1
Percentage of 'dry'decomposer taxa	%SRD =	4
Number of 'dry' decomposer individuals	NRD =	1
Percentage of 'dry'decomposer individuals	%NRD =	3
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	8
Number of 'foul' decomposer individuals	NRF =	2
Percentage of 'foul' decomposer individuals	%NRF =	6
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 =	9
Percentage of uncoded individuals	PNU =	42

Site: OGLA81 Context: 19 Sample: 12/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus rugosus (Fabricius)	4	12	1	rt
Philonthus sp. A	3	9	2	u
Aleocharinae sp. A	3	9	2	u
Aleochara sp.	2	6	4	u
Auchenorhyncha sp.	1	3	5	oa p
Trechus ?micros (Herbst)	1	3	5	u
Cercyon sp.	1	3	5	u
Omalium ?rivulare (Paykull)	1	3	5	rt
Coprophilus striatulus (Fabricius)	1	3	5	rt
Platystethus arenarius (Fourcroy)	1	3	5	rf
Anotylus complanatus (Erichson)	1	3	5	rt
Anotylus nitidulus (Gravenhorst)	1	3	5	rt d
Leptacinus sp.	1	3	5	rt
Gyrohypnus angustatus Stephens	1	3	5	rt
Gyrohypnus fracticornis (Muller)	1	3	5	rt
Philonthus sp. B	1	3	5	u
Tachinus sp.	1	3	5	u
Aleocharinae sp. B	1	3	5	u

Aleocharinae sp. C	1	3	5	u
Aphodius sp.	1	3	5	ob rf
Omosita sp.	1	3	5	rt
Lathridius minutus group	1	3	5	rd
Chaetocnema sp.	1	3	5	oa p
Ceutorhynchus sp.	1	3	5	oa p
Ceuthorhynchinae sp.	1	3	5	oa p

Site: OGLA81 Context: 5.5 Sample: 13/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	7
Number of taxa	S =	7

Site: OGLA81 Context: 5.5 Sample: 13/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Omalium ?rivulare (Paykull)	1	14	1	rt
Platystethus arenarius (Fourcroy)	1	14	1	rf
Anotylus nitidulus (Gravenhorst)	1	14	1	rt d
Staphylininae sp.	1	14	1	u
Cryptophagus sp.	1	14	1	rd
Atomaria sp.	1	14	1	rd
Lathridius minutus group	1	14	1	rd

Site: OGLA81 Context: 5.7 Sample: 14/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	29
Number of taxa	S =	21
Index of diversity (alpha)	alpha =	35
Standard error of alpha	SE alpha =	14
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	5
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	3
Number of 'certain' and probable outdoor taxa	SOB =	3
Percentage of 'certain' and probable outdoor taxa	%SOB =	14
Number of 'certain' and probable outdoor individuals	NOB =	3
Percentage 'certain' and probable outdoor individuals	%NOB =	10
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	1
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	10
Number of strongly plant-associated taxa	SP =	1
Percentage of strongly plant-associated taxa	%SP =	5
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	3

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 =	16
Percentage of decomposer taxa	%SRT =	76
Number of decomposer individuals	NRT =	24
Percentage of decomposer individuals	%NRT =	83
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	14
Number of 'dry' decomposer individuals	NRD =	4
Percentage of 'dry'decomposer individuals	%NRD =	14
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 =	10
Index of diversity of decomposer component	alpha RT =	21
Standard error	SE alpha RT =	9
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 =	3
Percentage of uncoded individuals	PNU =	10

Site: OGLA81 Context: 5.7 Sample: 14/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus complanatus (Erichson)	5	17	1	rt
Anotylus nitidulus (Gravenhorst)	3	10	2	rt d
Cercyon analis (Paykull)	2	7	3	rt
Cryptophagus sp.	2	7	3	rd
Carabidae sp.	1	3	5	ob
Cercyon terminatus (Marsham)	1	3	5	rf
Megasternum obscurum (Marsham)	1	3	5	rt
Megarthrus sp.	1	3	5	rt
Omalium ?rivulare (Paykull)	1	3	5	rt
Xylodromus concinnus (Marsham)	1	3	5	rt
Coprophilus striatulus (Fabricius)	1	3	5	rt
Platystethus arenarius (Fourcroy)	1	3	5	rf
Anotylus rugosus (Fabricius)	1	3	5	rt
Philonthus sp.	1	3	5	u
Falagria or Cordalia sp.	1	3	5	rt
Aleocharinae sp. A	1	3	5	u
Aleocharinae sp. B	1	3	5	u
Aphodius sp.	1	3	5	ob rf
Atomaria sp.	1	3	5	rd
Lathridius minutus group	1	3	5	rd
Ceuthorhynchinae sp.	1	3	5	oa p

Site: OGLA81 Context: 5.6 Sample: 15/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N = 3
Number of taxa	S = 3

Site: OGLA81 Context: 5.6 Sample: 15/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Carpelimus sp.	1	33	1	u
Cryptophagus sp.	1	33	1	rd
Coleoptera sp.	1	33	1	u

Site: OGLA81 Context: 30 Sample: 16/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N = 8
Number of taxa	S = 8

Site: OGLA81 Context: 30 Sample: 16/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Trechus micros (Herbst)	1	13	1	u
Cercyon analis (Paykull)	1	13	1	rt
Megarthrus sp.	1	13	1	rt
Coprophilus striatulus (Fabricius)	1	13	1	rt
Xantholininae sp.	1	13	1	u
Aleocharinae sp.	1	13	1	u
Ceuthorhynchinae sp.	1	13	1	oa p
Coleoptera sp.	1	13	1	u

Site: OGLA81 Context: 5.8 Sample: 17/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N = 6
Number of taxa	S = 5

Site: OGLA81 Context: 5.8 Sample: 17/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus rugosus (Fabricius)	2	33	1	rt
Platystethus arenarius (Fourcroy)	1	17	2	rf
Philonthus or Quedius sp.	1	17	2	u
Aleocharinae sp.	1	17	2	u
Oryzaephilus surinamensis (Linnaeus)	1	17	2	g

Site: OGLA81 Context: 5.9 Sample: 18/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	3
Number of taxa	S =	3

Site: OGLA81 Context: 5.9 Sample: 18/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Platystethus arenarius (Fourcroy)	1	33	1	rf
Philonthus or Quedius sp.	1	33	1	u
Aphodius sp.	1	33	1	ob rf

Site: OGLA81 Context: 651 Sample: 19/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	45
Number of taxa	S =	33
Index of diversity (alpha)	alpha =	55
Standard error of alpha	SE alpha =	18
Number of 'certain' outdoor taxa	SOA =	8
Percentage of 'certain' outdoor taxa	%SOA =	24
Number of 'certain' outdoor individuals	NOA =	8
Percentage of 'certain' outdoor individuals	%NOA =	18
Number of 'certain' and probable outdoor taxa	SOB =	13
Percentage of 'certain' and probable outdoor taxa	%SOB =	39
Number of 'certain' and probable outdoor individuals	NOB =	14
Percentage 'certain' and probable outdoor individuals	%NOB =	31
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	2
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	2
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 individuals	%NP =	9
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 =	2
Percentage of wood-associated individuals	%NL =	4
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	48
Number of decomposer individuals	NRT =	22
Percentage of decomposer individuals	%NRT =	49
Number of 'dry' decomposer taxa	SRD =	6
Percentage of 'dry'decomposer taxa	%SRD =	18

Number of 'dry' decomposer individuals	NRD =	11
Percentage of 'dry'decomposer individuals	%NRD =	24
Number of 'foul' decomposer taxa	SRF =	6
Percentage of 'foul' decomposer taxa	%SRF =	18
Number of 'foul' decomposer individuals	NRF =	7
Percentage of 'foul' decomposer individuals	%NRF =	16
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	13
Number of individuals of grain pests	NG =	5
Percentage of individuals of grain pests	%NG =	11
Number of individuals of grain pests	NG =	5
Number of uncoded taxa	SU =	5
Percentage of uncoded individuals	PNU =	16

Site: OGLA81 Context: 651 Sample: 19/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	4	9	1	g
Carpelimus sp.	3	7	2	u
Lathridius minutus group	3	7	2	rd
Aphodius sp. A	2	4	4	ob rf
Anobium punctatum (Degeer)	2	4	4	l
Ptinidae sp.	2	4	4	rd
Cryptophagus sp. A	2	4	4	rd
Atomaria sp.	2	4	4	rd
Hemiptera sp.	1	2	9	u
Dyschirius sp.	1	2	9	oa
Trechus obtusus or quadristriatus	1	2	9	oa
Lebiini sp.	1	2	9	u
Helophorus sp.	1	2	9	oa w
Cercyon haemorrhoidalis (Fabricius)	1	2	9	rf
Megasternum obscurum (Marsham)	1	2	9	rt
Xylodromus concinnus (Marsham)	1	2	9	rt
Platystethus arenarius (Fourcroy)	1	2	9	rf
Anotylus nitidulus (Gravenhorst)	1	2	9	rt d
Aleocharinae sp. A	1	2	9	u
Aleocharinae sp. B	1	2	9	u
Aphodius sp. B	1	2	9	ob rf
Aphodius sp. C	1	2	9	ob rf
Aphodius sp. D	1	2	9	ob rf
Phyllopertha horticola (Linnaeus)	1	2	9	oa p
Elateridae sp.	1	2	9	ob
Cryptolestes ferrugineus (Stephens)	1	2	9	g
Cryptophagus sp. B	1	2	9	rd
Corticarina sp.	1	2	9	rt
Typhaea stercorea (Linnaeus)	1	2	9	rd
Chrysomelidae sp.	1	2	9	oa p
Apion sp. A	1	2	9	oa p
Apion sp. B	1	2	9	oa p
Curculionidae sp.	1	2	9	oa

Site: OGLA81 Context: 658 Sample: 20/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	70
Number of taxa	S =	50
Index of diversity (alpha)	alpha =	78
Standard error of alpha	SE alpha =	19
Number of 'certain' outdoor taxa	SOA =	18
Percentage of 'certain' outdoor taxa	%SOA =	36
Number of 'certain' outdoor individuals	NOA =	24
Percentage of 'certain' outdoor individuals	%NOA =	34
Number of 'certain' and probable outdoor taxa	SOB =	23
Percentage of 'certain' and probable outdoor taxa	%SOB =	46
Number of 'certain' and probable outdoor individuals	NOB =	31
Percentage 'certain' and probable outdoor individuals	%NOB =	44
Index of diversity of outdoor component	alpha OB =	41
Standard error	SE alpha OB =	17
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	4
Percentage of aquatic individuals	%NW =	6
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	4
Number of strongly plant-associated taxa	SP =	14
Percentage of strongly plant-associated taxa	%SP =	28
Number of strongly plant-associated individuals	NP =	18
Percentage of strongly plant-associated individuals	%NP =	26
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 =	2
Number of wood-associated individuals	NL =	5
Percentage of wood-associated individuals	%NL =	7
Number of decomposer taxa	SRT =	19
Percentage of decomposer taxa	%SRT =	38
Number of decomposer individuals	NRT =	29
Percentage of decomposer individuals	%NRT =	41
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	10
Number of 'dry' decomposer individuals	NRD =	13
Percentage of 'dry'decomposer individuals	%NRD =	19
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	8
Number of 'foul' decomposer individuals	NRF =	6
Percentage of 'foul' decomposer individuals	%NRF =	9
Index of diversity of decomposer component	alpha RT =	24
Standard error	SE alpha RT =	9
Number of individuals of grain pests	NG =	1
Percentage of individuals of grain pests	%NG =	1
Number of individuals of grain pests	NG =	1
Number of uncoded taxa	SU =	11
Percentage of uncoded individuals	PNU =	17

Site: OGLA81 Context: 658 Sample: 20/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Ptinus ?fur (Linnaeus)	6	9	1	rd
Anobium punctatum (Degeer)	4	6	2	l
Aphodius sp. A	3	4	3	ob rf
Lathridius minutus group	3	4	3	rd
Agallia brachyptera (Boheman)	2	3	5	oa p d
Hemiptera sp.	2	3	5	u
Helophorus sp. A	2	3	5	oa w
Helophorus sp. B	2	3	5	oa w
Cryptophagus sp. A	2	3	5	rd
Apion sp. B	2	3	5	oa p
Apion sp. C	2	3	5	oa p
Sitona sp.	2	3	5	oa p
Lygaeidae sp.	1	1	13	oa p
Berytinus minor (Herrich-Schaffer)	1	1	13	oa p
Loricula pselaphiformis Curtis	1	1	13	oa l
Auchenorhyncha sp.	1	1	13	oa p
Carabidae sp.	1	1	13	ob
Cercyon sp. A	1	1	13	u
Cercyon sp. B	1	1	13	u
Aclypea opaca (Linnaeus)	1	1	13	ob rt
Xylodromus concinnus (Marsham)	1	1	13	rt
Carpelimus sp.	1	1	13	u
Anotylus nitidulus (Gravenhorst)	1	1	13	rt d
Anotylus tetracarinatus (Block)	1	1	13	rt
Rugilus sp.	1	1	13	rt
Philonthus politus (Linnaeus)	1	1	13	u
Philonthus sp.	1	1	13	u
Staphylininae sp.	1	1	13	u
Tachyporus sp.	1	1	13	u
Aleochara sp.	1	1	13	u
Aleocharinae sp.	1	1	13	u
Geotrupes sp.	1	1	13	oa rf
Aphodius sp. B	1	1	13	ob rf
Aphodius sp. C	1	1	13	ob rf
Phyllopertha horticola (Linnaeus)	1	1	13	oa p
Monotoma ?bicolor Villa	1	1	13	rt
Oryzaephilus surinamensis (Linnaeus)	1	1	13	g
Cryptophagus sp. B	1	1	13	rd
Atomaria sp.	1	1	13	rd
Orthoperus sp.	1	1	13	rt
Corticaria sp.	1	1	13	rt
Corticarina or Cortinicara sp.	1	1	13	rt
Anthicus sp.	1	1	13	rt
Chrysomelinae sp.	1	1	13	oa p
Halticinae sp. A	1	1	13	oa p
Halticinae sp. B	1	1	13	oa p
Halticinae sp. C	1	1	13	oa p
Apion sp. A	1	1	13	oa p
Sitona ?lepidus Gyllenhal	1	1	13	oa p
Coleoptera sp.	1	1	13	u

Site: OGLA81 Context: 672 Sample: 21/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	7
Number of taxa	S =	7

Site: OGLA81 Context: 672 Sample: 21/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Helophorus sp.	1	14	1	oa w
Cercyon sp.	1	14	1	u
Aleocharinae sp.	1	14	1	u
Aphodius sp.	1	14	1	ob rf
Anobiidae sp.	1	14	1	l
Cryptophagus sp.	1	14	1	rd
Chrysomelinae sp.	1	14	1	oa p

Site: OGLA81 Context: 705 Sample: 22/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	38
Number of taxa	S =	26
Index of diversity (alpha)	alpha =	37
Standard error of alpha	SE alpha =	12
Number of 'certain' outdoor taxa	SOA =	3
Percentage of 'certain' outdoor taxa	%SOA =	12
Number of 'certain' outdoor individuals	NOA =	3
Percentage of 'certain' outdoor individuals	%NOA =	8
Number of 'certain' and probable outdoor taxa	SOB =	6
Percentage of 'certain' and probable outdoor taxa	%SOB =	23
Number of 'certain' and probable outdoor individuals	NOB =	6
Percentage 'certain' and probable outdoor individuals	%NOB =	16
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	3
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	2
Percentage of strongly plant-associated taxa	%SP =	8
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	5
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	%NL =	3
Number of decomposer taxa	SRT =	11
Percentage of decomposer taxa	%SRT =	42

Number of decomposer individuals	NRT =	17
Percentage of decomposer individuals	%NRT =	45
Number of 'dry' decomposer taxa	SRD =	1
Percentage of 'dry'decomposer taxa	%SRD =	4
Number of 'dry' decomposer individuals	NRD =	1
Percentage of 'dry'decomposer individuals	%NRD =	3
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	12
Number of 'foul' decomposer individuals	NRF =	3
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 =	7
Percentage of individuals of grain pests	%NG =	18
Number of individuals of grain pests	NG =	7
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	24

Site: OGLA81 Context: 705 Sample: 22/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Carpelimus ?bilineatus Stephens	5	13	1	rt
Oryzaephilus surinamensis (Linnaeus)	4	11	2	g
Cercyon analis (Paykull)	3	8	3	rt
Neobisnius sp.	2	5	4	u
Aleocharinae sp. A	2	5	4	u
Cryptolestes ferrugineus (Stephens)	2	5	4	g
Auchenorhyncha sp.	1	3	7	oa p
Carabidae sp.	1	3	7	ob
Helophorus sp.	1	3	7	oa w
Cercyon sp.	1	3	7	u
Platystethus arenarius (Fourcroy)	1	3	7	rf
Anotylus nitidulus (Gravenhorst)	1	3	7	rt d
Oxytelus sculptus Gravenhorst	1	3	7	rt
Stenus sp.	1	3	7	u
Leptacinus sp.	1	3	7	rt
Staphylininae sp.	1	3	7	u
Falagria or Cordalia sp.	1	3	7	rt
Aleochara sp.	1	3	7	u
Aleocharinae sp. B	1	3	7	u
Aphodius sp. A	1	3	7	ob rf
Aphodius sp. B	1	3	7	ob rf
Anobiidae sp.	1	3	7	l
Monotoma longicollis (Gyllenhall)	1	3	7	rt
Lathridius minutus group	1	3	7	rd
Palorus ratzeburgi (Wissman)	1	3	7	g
Sitona sp.	1	3	7	oa p

Site: OGLA81 Context: 718 Sample: 23/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 0; 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 =	2

Percentage of 'certain' outdoor taxa	%SOA =	15
Number of 'certain' outdoor individuals	NOA =	2
Percentage of 'certain' outdoor individuals	%NOA =	15
Number of 'certain' and probable outdoor taxa	SOB =	3
Percentage of 'certain' and probable outdoor taxa	%SOB =	23
Number of 'certain' and probable outdoor individuals	NOB =	3
Percentage 'certain' and probable outdoor individuals	%NOB =	23
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	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	%SP =	8
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	8
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	%NL =	8
Number of decomposer taxa	SRT =	8
Percentage of decomposer taxa	%SRT =	62
Number of decomposer individuals	NRT =	8
Percentage of decomposer individuals	%NRT =	62
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	23
Number of 'dry' decomposer individuals	NRD =	3
Percentage of 'dry'decomposer individuals	%NRD =	23
Number of 'foul' decomposer taxa	SRF =	1
Percentage of 'foul' decomposer taxa	%SRF =	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 =	0
Number of uncoded taxa	SU =	2
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 718 Sample: 23/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Lygaeidae sp.	1	8	1	oa p
Trechus obtusus or quadristriatus	1	8	1	oa
Onthophilus ?striatus (Forster)	1	8	1	rt
Micropeplus sp.	1	8	1	rt
Carpelimus ?bilineatus Stephens	1	8	1	rt
Falagria or Cordalia sp.	1	8	1	rt
Aleocharinae sp. A	1	8	1	u

Aphodius sp.	1	8	1	ob rf
Anobiidae sp.	1	8	1	l
Ptinus sp.	1	8	1	rd
Cryptophagus sp.	1	8	1	rd
Atomaria sp.	1	8	1	rd
Coleoptera sp.	1	8	1	u

Site: OGLA81 Context: 721 Sample: 24/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	65
Number of taxa	S =	45
Index of diversity (alpha)	alpha =	64
Standard error of alpha	SE alpha =	16
Number of 'certain' outdoor taxa	SOA =	10
Percentage of 'certain' outdoor taxa	%SOA =	22
Number of 'certain' outdoor individuals	NOA =	12
Percentage of 'certain' outdoor individuals	%NOA =	18
Number of 'certain' and probable outdoor taxa	SOB =	12
Percentage of 'certain' and probable outdoor taxa	%SOB =	27
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	28
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	5
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	2
Number of strongly plant-associated taxa	SP =	6
Percentage of strongly plant-associated taxa	%SP =	13
Number of strongly plant-associated individuals	NP =	6
Percentage of strongly plant-associated individuals	%NP =	9
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 =	25
Percentage of decomposer taxa	%SRT =	56
Number of decomposer individuals	NRT =	40
Percentage of decomposer individuals	%NRT =	62
Number of 'dry' decomposer taxa	SRD =	4
Percentage of 'dry'decomposer taxa	%SRD =	9
Number of 'dry' decomposer individuals	NRD =	5
Percentage of 'dry'decomposer individuals	%NRD =	8
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	7
Percentage of 'foul' decomposer individuals	%NRF =	11
Index of diversity of decomposer component	alpha RT =	29
Standard error	SE alpha RT =	9

Number of individuals of grain pests	NG =	3
Percentage of individuals of grain pests	%NG =	5
Number of individuals of grain pests	NG =	3
Number of uncoded taxa	SU =	8
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 721 Sample: 24/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Falagria caesa or sulcatula	5	8	1	rt
Aphodius prodromus (Brahm)	5	8	1	ob rf
Trechus obtusus or quadristriatus	2	3	3	oa
Helophorus grandis Illiger	2	3	3	oa w
Cercyon analis (Paykull)	2	3	3	rt
Megasternum obscurum (Marsham)	2	3	3	rt
Anotylus complanatus (Erichson)	2	3	3	rt
Anotylus rugosus (Fabricius)	2	3	3	rt
Anotylus tetracarinatus (Block)	2	3	3	rt
Stenus sp.	2	3	3	u
Gyrohypnus fracticornis (Muller)	2	3	3	rt
Philonthus sp.	2	3	3	u
Cryptolestes ferrugineus (Stephens)	2	3	3	g
Cryptophagus sp.	2	3	3	rd
Auchenorhyncha sp.	1	2	15	oa p
Cryptopleurum minutum (Fabricius)	1	2	15	rf
Hydrobius fuscipes (Linnaeus)	1	2	15	oa w
Ptenidium sp.	1	2	15	rt
Megarthrus sp.	1	2	15	rt
Omalium sp.	1	2	15	rt
Carpelimus ?bilineatus Stephens	1	2	15	rt
Anotylus nitidulus (Gravenhorst)	1	2	15	rt d
Leptacinus sp.	1	2	15	rt
Xantholinus sp.	1	2	15	u
Neobisnius sp.	1	2	15	u
Tachyporus sp.	1	2	15	u
Cordalia obscura (Gravenhorst)	1	2	15	rt
Aleochara sp.	1	2	15	u
Aleocharinae sp. A	1	2	15	u
Aleocharinae sp. B	1	2	15	u
Aphodius sp.	1	2	15	ob rf
Ptinus sp.	1	2	15	rd
Oryzaephilus surinamensis (Linnaeus)	1	2	15	g
Cryptophagus ?scutellatus Newman	1	2	15	rd
Atomaria sp.	1	2	15	rd
Corticaria sp.	1	2	15	rt
Corticarina or Cortinicara sp.	1	2	15	rt
Aglenus brunneus (Gyllenhal)	1	2	15	rt
Anthicus formicarius (Goeze)	1	2	15	rt
?Gastrophysa viridula (Degeer)	1	2	15	oa p
Chaetocnema concinna (Marsham)	1	2	15	oa p
?Sitona sp.	1	2	15	oa p
Ceuthorhynchinae sp.	1	2	15	oa p
?Gymnetron sp.	1	2	15	oa p
Curculionidae sp.	1	2	15	oa

Site: OGLA81 Context: 722 Sample: 25/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	53
Number of taxa	S =	40
Index of diversity (alpha)	alpha =	74
Standard error of alpha	SE alpha =	22
Number of 'certain' outdoor taxa	SOA =	13
Percentage of 'certain' outdoor taxa	%SOA =	33
Number of 'certain' outdoor individuals	NOA =	16
Percentage of 'certain' outdoor individuals	%NOA =	30
Number of 'certain' and probable outdoor taxa	SOB =	15
Percentage of 'certain' and probable outdoor taxa	%SOB =	38
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	34
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	5
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	4
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	4
Number of strongly plant-associated taxa	SP =	10
Percentage of strongly plant-associated taxa	%SP =	25
Number of strongly plant-associated individuals	NP =	13
Percentage of strongly plant-associated individuals	%NP =	25
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	%NL =	2
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	40
Number of decomposer individuals	NRT =	18
Percentage of decomposer individuals	%NRT =	34
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	18
Number of 'dry' decomposer individuals	NRD =	8
Percentage of 'dry'decomposer individuals	%NRD =	15
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	5
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 =	8
Percentage of individuals of grain pests	%NG =	15
NB - over 10% grain pests and n > 50: for corrected re-run see over.		
Number of individuals of grain pests	NG =	8
Number of uncoded taxa	SU =	6
Percentage of uncoded individuals	PNU =	19

Site: OGLA81 Context: 722 Sample: 25/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	45
Number of taxa	S =	36
Index of diversity (alpha)	alpha =	82
Standard error of alpha	SE alpha =	30
Number of 'certain' outdoor taxa	SOA =	13
Percentage of 'certain' outdoor taxa	%SOA =	36
Number of 'certain' outdoor individuals	NOA =	16
Percentage of 'certain' outdoor individuals	%NOA =	36
Number of 'certain' and probable outdoor taxa	SOB =	15
Percentage of 'certain' and probable outdoor taxa	%SOB =	42
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	40
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	6
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	4
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	6
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	4
Number of strongly plant-associated taxa	SP =	10
Percentage of strongly plant-associated taxa	%SP =	28
Number of strongly plant-associated individuals	NP =	13
Percentage of strongly plant-associated individuals	%NP =	29
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	%NL =	2
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	44
Number of decomposer individuals	NRT =	18
Percentage of decomposer individuals	%NRT =	40
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	19
Number of 'dry' decomposer individuals	NRD =	8
Percentage of 'dry'decomposer individuals	%NRD =	18
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	6
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 =	8
Number of uncoded taxa	SU =	6
Percentage of uncoded individuals	PNU =	22

Site: OGLA81 Context: 722 Sample: 25/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	5	9	1	g
Apion sp.	4	8	2	oa p
Anotylus rugosus (Fabricius)	2	4	3	rt
Neobisnius sp.	2	4	3	u
Philonthus sp.	2	4	3	u
Aleocharinae sp. B	2	4	3	u
Aleocharinae sp. C	2	4	3	u
Lathridius minutus group	2	4	3	rd
Scolopostethus sp.	1	2	9	oa p
Conomelus anceps (Germar)	1	2	9	oa p
Auchenorhyncha sp.	1	2	9	oa p
Clivina fossor (Linnaeus)	1	2	9	oa
Helophorus sp.	1	2	9	oa w
Megasternum obscurum (Marsham)	1	2	9	rt
Histerinae sp.	1	2	9	u
Hydraena sp.	1	2	9	oa w
Xylodromus concinnus (Marsham)	1	2	9	rt
Anotylus nitidulus (Gravenhorst)	1	2	9	rt d
Anotylus tetracarinatus (Block)	1	2	9	rt
Gyrohypnus sp.	1	2	9	rt
Aleocharinae sp. A	1	2	9	u
Aphodius prodromus (Brahm)	1	2	9	ob rf
Aphodius sp.	1	2	9	ob rf
Phyllopertha horticola (Linnaeus)	1	2	9	oa p
Anobium punctatum (Degeer)	1	2	9	l
Ptinus sp.	1	2	9	rd
Cryptolestes ferrugineus (Stephens)	1	2	9	g
Cryptophagus scutellatus Newman	1	2	9	rd
Cryptophagus sp.	1	2	9	rd
Atomaria sp.	1	2	9	rd
Ephistemus globulus (Paykull)	1	2	9	rd
Enicmus sp.	1	2	9	rt
Dienerella sp.	1	2	9	rd
Palorus ratzeburgi (Wissman)	1	2	9	g
Hydrothassa sp.	1	2	9	oa p
Chrysomelinae sp.	1	2	9	oa p
Halticinae sp.	1	2	9	oa p
Sitona sp.	1	2	9	oa p
Sitophilus granarius (Linnaeus)	1	2	9	g
Notaris acridulus (Linnaeus)	1	2	9	oa d p

Site: OGLA81 Context: 732 Sample: 26/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	113
Number of taxa	S =	74
Index of diversity (alpha)	alpha =	93
Standard error of alpha	SE alpha =	17
Number of 'certain' outdoor taxa	SOA =	21
Percentage of 'certain' outdoor taxa	%SOA =	28
Number of 'certain' outdoor individuals	NOA =	26

Percentage of 'certain' outdoor individuals	%NOA =	23
Number of 'certain' and probable outdoor taxa	SOB =	28
Percentage of 'certain' and probable outdoor taxa	%SOB =	38
Number of 'certain' and probable outdoor individuals	NOB =	40
Percentage 'certain' and probable outdoor individuals	%NOB =	35
Index of diversity of outdoor component	alpha OB =	42
Standard error	SE alpha OB =	14
Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	7
Percentage of aquatic individuals	%NW =	6
Number of damp ground/waterside taxa	SD =	3
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	6
Percentage of damp ground/waterside individuals	%ND =	5
Number of strongly plant-associated taxa	SP =	12
Percentage of strongly plant-associated taxa	%SP =	16
Number of strongly plant-associated individuals	NP =	13
Percentage of strongly plant-associated individuals	%NP =	12
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 =	2
Number of wood-associated individuals	NL =	3
Percentage of wood-associated individuals	%NL =	3
Number of decomposer taxa	SRT =	28
Percentage of decomposer taxa	%SRT =	38
Number of decomposer individuals	NRT =	51
Percentage of decomposer individuals	%NRT =	45
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 =	3
Number of 'foul' decomposer taxa	SRF =	8
Percentage of 'foul' decomposer taxa	%SRF =	11
Number of 'foul' decomposer individuals	NRF =	17
Percentage of 'foul' decomposer individuals	%NRF =	15
Index of diversity of decomposer component	alpha RT =	26
Standard error	SE alpha RT =	6
Number of individuals of grain pests	NG =	8
Percentage of individuals of grain pests	%NG =	7
Number of individuals of grain pests	NG =	8
Number of uncoded taxa	SU =	18
Percentage of uncoded individuals	PNU =	19

Site: OGLA81 Context: 732 Sample: 26/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aphodius sp. A	8	7	1	ob rf
Oryzaephilus surinamensis (Linnaeus)	5	4	2	g
Anotylus nitidulus (Gravenhorst)	4	4	3	rt d
Ochthebius minimus (Fabricius)	3	3	4	oa w
Carpelimus ?bilineatus Stephens	3	3	4	rt
Anotylus tetracarinatus (Block)	3	3	4	rt
Falagria sp.	3	3	4	rt

Aleocharinae sp. A	3	3	4	u
Cryptolestes ferrugineus (Stephens)	3	3	4	g
Helophorus sp. A	2	2	10	oa w
Helophorus sp. B	2	2	10	oa w
Cercyon analis (Paykull)	2	2	10	rt
Cercyon haemorrhoidalis (Fabricius)	2	2	10	rf
Megasternum obscurum (Marsham)	2	2	10	rt
Carpelimus sp.	2	2	10	u
Platystethus arenarius (Fourcroy)	2	2	10	rf
Anotylus rugosus (Fabricius)	2	2	10	rt
Tachyporus sp.	2	2	10	u
Anobium punctatum (Degeer)	2	2	10	l
Brachypterus sp.	2	2	10	oa p
Monotoma picipes Herbst	2	2	10	rt
Lathridius minutus group	2	2	10	rd
Aneurus sp.	1	1	23	l
Scolopostethus sp.	1	1	23	oa p
Trioza urticae (Linnaeus)	1	1	23	oa p
Clivina fossor (Linnaeus)	1	1	23	oa
Trechus obtusus or quadristriatus	1	1	23	oa
Pterostichus (Poecilus) sp.	1	1	23	oa
Pterostichus sp.	1	1	23	ob
Amara sp.	1	1	23	oa
Carabidae sp. A	1	1	23	ob
Carabidae sp. B	1	1	23	ob
Sphaeridium bipustulatum Fabricius	1	1	23	rf
Cercyon atricapillus (Marsham)	1	1	23	rf
Cercyon sp.	1	1	23	u
Onthophilus striatus (Forster)	1	1	23	rt
Histerinae sp.	1	1	23	u
Lesteva sp.	1	1	23	oa d
Omalium ?rivulare (Paykull)	1	1	23	rt
Omalium sp.	1	1	23	rt
Xylodromus concinnus (Marsham)	1	1	23	rt
Anotylus sculpturatus group	1	1	23	rt
Oxytelus sculptus Gravenhorst	1	1	23	rt
Stenus crassus Stephens	1	1	23	rt
Stenus sp.	1	1	23	u
Gyrohypnus fracticornis (Muller)	1	1	23	rt
Staphylininae sp. A	1	1	23	u
Staphylininae sp. B	1	1	23	u
Tachinus laticollis or marginellus	1	1	23	u
Cordalia obscura (Gravenhorst)	1	1	23	rt
Aleochara sp.	1	1	23	u
Aleocharinae sp. B	1	1	23	u
Aleocharinae sp. C	1	1	23	u
Aleocharinae sp. D	1	1	23	u
Aleocharinae sp. E	1	1	23	u
Aleocharinae sp. F	1	1	23	u
Aleocharinae sp. G	1	1	23	u
Aleocharinae sp. H	1	1	23	u
Aleocharinae sp. I	1	1	23	u
?Geotrupes sp.	1	1	23	oa rf
Aphodius sp. B	1	1	23	ob rf
Aphodius sp. C	1	1	23	ob rf
Phyllopertha horticola (Linnaeus)	1	1	23	oa p

Ctenicera cuprea (Fabricius)	1	1	23	oa p
Elateridae sp.	1	1	23	ob
Meligethes sp.	1	1	23	oa p
Monotoma longicollis (Gyllenhall)	1	1	23	rt
Atomaria sp.	1	1	23	rd
Gastrophysa viridula (Degeer)	1	1	23	oa p
Longitarsus sp.	1	1	23	oa p
Chaetocnema concinna (Marsham)	1	1	23	oa p
?Psylliodes sp.	1	1	23	oa p
Apion sp.	1	1	23	oa p
Notaris acridulus (Linnaeus)	1	1	23	oa d p

Site: OGLA81 Context: 730 Sample: 27/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	25
Number of taxa	S =	17
Index of diversity (alpha)	alpha =	24
Standard error of alpha	SE alpha =	10
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	6
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	4
Number of 'certain' and probable outdoor taxa	SOB =	2
Percentage of 'certain' and probable outdoor taxa	%SOB =	12
Number of 'certain' and probable outdoor individuals	NOB =	2
Percentage 'certain' and probable outdoor individuals	%NOB =	8
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	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	%SP =	6
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	4
Number of heathland/moorland taxa	SM =	1
Number of heathland/moorland individuals	NM =	1
Percentage of heathland/moorland individuals	%NM =	4
Number of wood-associated taxa	SL =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	4
Number of decomposer taxa	SRT =	8
Percentage of decomposer taxa	%SRT =	47
Number of decomposer individuals	NRT =	10
Percentage of decomposer individuals	%NRT =	40
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	18
Number of 'dry' decomposer individuals	NRD =	3
Percentage of 'dry'decomposer individuals	%NRD =	12
Number of 'foul' decomposer taxa	SRF =	1

Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	1
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 =	9
Percentage of individuals of grain pests	%NG =	36
Number of individuals of grain pests	NG =	9
Number of uncoded taxa	SU =	4
Percentage of uncoded individuals	PNU =	16

Site: OGLA81 Context: 730 Sample: 27/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	6	24	1	g
Carpelimus ?bilineatus Stephens	2	8	2	rt
Falagria sp.	2	8	2	rt
Cryptolestes ferrugineus (Stephens)	2	8	2	g
Strophingia ericae (Curtis)	1	4	5	oa p m
Acritus nigricornis (Hoffmann)	1	4	5	rt
Neobisnius sp.	1	4	5	u
Aleocharinae sp.	1	4	5	u
Trox scaber (Linnaeus)	1	4	5	rt
Aphodius sp.	1	4	5	ob rf
Anobium punctatum (Degeer)	1	4	5	l
Ptinus sp.	1	4	5	rd
Cryptophagus sp.	1	4	5	rd
Typhaea stercorea (Linnaeus)	1	4	5	rd
Sitophilus granarius (Linnaeus)	1	4	5	g
Coleoptera sp. A	1	4	5	u
Coleoptera sp. B	1	4	5	u

Site: OGLA81 Context: 737 Sample: 28/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	15
Number of taxa	S =	13
Index of diversity not calculated, n = s or n < 20		
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	8
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	7
Number of 'certain' and probable outdoor taxa	SOB =	2
Percentage of 'certain' and probable outdoor taxa	%SOB =	15
Number of 'certain' and probable outdoor individuals	NOB =	2
Percentage 'certain' and probable outdoor individuals	%NOB =	13
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	8
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	7
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	%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 =	0
Number of decomposer taxa	SRT =	3
Percentage of decomposer taxa	%SRT =	23
Number of decomposer individuals	NRT =	3
Percentage of decomposer individuals	%NRT =	20
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	15
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	13
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 NRT < 20

Number of individuals of grain pests	NG =	4
Percentage of individuals of grain pests	%NG =	27
Number of individuals of grain pests	NG =	4
Number of uncoded taxa	SU =	6
Percentage of uncoded individuals	PNU =	40

Site: OGLA81 Context: 737 Sample: 28/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	3	20	1	g
Hemiptera sp.	1	7	2	u
Carabidae sp.	1	7	2	ob
Cercyon sp.	1	7	2	u
Hydrophilinae sp.	1	7	2	oa w
Acritus nigricornis (Hoffmann)	1	7	2	rt
Carpelimus sp.	1	7	2	u
Aleocharinae sp.	1	7	2	u
Ptinidae sp.	1	7	2	rd
Oryzaephilus surinamensis (Linnaeus)	1	7	2	g
Lathridius minutus group	1	7	2	rd
Coleoptera sp. A	1	7	2	u
Coleoptera sp. B	1	7	2	u

Site: OGLA81 Context: 750 Sample: 29/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	70
Number of taxa	S =	37
Index of diversity (alpha)	alpha =	32
Standard error of alpha	SE alpha =	7
Number of 'certain' outdoor taxa	SOA =	3

Percentage of 'certain' outdoor taxa	%SOA =	8
Number of 'certain' outdoor individuals	NOA =	3
Percentage of 'certain' outdoor individuals	%NOA =	4
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	24
Number of 'certain' and probable outdoor individuals	NOB =	9
Percentage 'certain' and probable outdoor individuals	%NOB =	13
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	1
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 =	5
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	3
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 =	2
Percentage of wood-associated individuals	%NL =	3
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	43
Number of decomposer individuals	NRT =	22
Percentage of decomposer individuals	%NRT =	31
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	5
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	3
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	11
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	7
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	13
Number of individuals of grain pests	NG =	29
Percentage of individuals of grain pests	%NG =	41
NB - over 10% grain pests and n > 50: for corrected re-run see over.		
Number of individuals of grain pests	NG =	29
Number of uncoded taxa	SU =	10
Percentage of uncoded individuals	PNU =	16

Site: OGLA81 Context: 750 Sample: 29/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	41
Number of taxa	S =	33
Index of diversity (alpha)	alpha =	77
Standard error of alpha	SE alpha =	29

Number of 'certain' outdoor taxa	SOA =	3
Percentage of 'certain' outdoor taxa	%SOA =	9
Number of 'certain' outdoor individuals	NOA =	3
Percentage of 'certain' outdoor individuals	%NOA =	7
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	27
Number of 'certain' and probable outdoor individuals	NOB =	9
Percentage 'certain' and probable outdoor individuals	%NOB =	22
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	2
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 =	6
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	5
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 =	2
Percentage of wood-associated individuals	%NL =	5
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	48
Number of decomposer individuals	NRT =	22
Percentage of decomposer individuals	%NRT =	54
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	6
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	5
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	12
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	12
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	13
Number of individuals of grain pests	NG =	29
Number of uncoded taxa	SU =	10
Percentage of uncoded individuals	PNU =	27

Site: OGLA81 Context: 750 Sample: 29/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	19	27	1	g
Cryptolestes ferrugineus (Stephens)	7	10	2	g
Falagria sp.	4	6	3	rt
Platystethus arenarius (Fourcroy)	2	3	4	rf
Anotylus rugosus (Fabricius)	2	3	4	rt
Anotylus tetracarinatus (Block)	2	3	4	rt
Aleocharinae sp. A	2	3	4	u

Anobium punctatum (Degeer)	2	3	4	l
Palorus ratzeburgi (Wissman)	2	3	4	g
Auchenorhyncha sp.	1	1	10	oa p
Carabidae sp. A	1	1	10	ob
Carabidae sp. B	1	1	10	ob
Carabidae sp. C	1	1	10	ob
Helophorus sp.	1	1	10	oa w
Cercyon sp.	1	1	10	u
Megasternum obscurum (Marsham)	1	1	10	rt
Omalium sp.	1	1	10	rt
Carpelimus sp. A	1	1	10	u
Carpelimus sp. B	1	1	10	u
Oxytelus sculptus Gravenhorst	1	1	10	rt
Stenus sp.	1	1	10	u
Leptacinus sp.	1	1	10	rt
Gyrohypnus sp.	1	1	10	rt
Staphylininae sp. A	1	1	10	u
Staphylininae sp. B	1	1	10	u
Aleocharinae sp. B	1	1	10	u
Aleocharinae sp. C	1	1	10	u
Aphodius sp. A	1	1	10	ob rf
Aphodius sp. B	1	1	10	ob rf
Aphodius sp. C	1	1	10	ob rf
Atomaria sp.	1	1	10	rd
Lathridius minutus group	1	1	10	rd
Enicmus sp.	1	1	10	rt
Tenebrio obscurus Fabricius	1	1	10	rt
Chrysomelinae sp.	1	1	10	oa p
Sitophilus granarius (Linnaeus)	1	1	10	g
Coleoptera sp.	1	1	10	u

Site: OGLA81 Context: 707 Sample: 30/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	73
Number of taxa	S =	55
Index of diversity (alpha)	alpha =	101
Standard error of alpha	SE alpha =	26
Number of 'certain' outdoor taxa	SOA =	12
Percentage of 'certain' outdoor taxa	%SOA =	22
Number of 'certain' outdoor individuals	NOA =	12
Percentage of 'certain' outdoor individuals	%NOA =	16
Number of 'certain' and probable outdoor taxa	SOB =	17
Percentage of 'certain' and probable outdoor taxa	%SOB =	31
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	25
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	3
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	4

Number of strongly plant-associated taxa	SP =	7
Percentage of strongly plant-associated taxa	%SP =	13
Number of strongly plant-associated individuals	NP =	7
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 =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	1
Number of decomposer taxa	SRT =	19
Percentage of decomposer taxa	%SRT =	35
Number of decomposer individuals	NRT =	28
Percentage of decomposer individuals	%NRT =	38
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	9
Number of 'dry' decomposer individuals	NRD =	8
Percentage of 'dry'decomposer individuals	%NRD =	11
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	8
Percentage of 'foul' decomposer individuals	%NRF =	11
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	10
Number of individuals of grain pests	NG =	9
Percentage of individuals of grain pests	%NG =	12

NB - over 10% grain pests and n > 50: for corrected re-run see over.

Number of individuals of grain pests	NG =	9
Number of uncoded taxa	SU =	18
Percentage of uncoded individuals	PNU =	29

Site: OGLA81 Context: 707 Sample: 30/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	64
Number of taxa	S =	52
Index of diversity (alpha)	alpha =	128
Standard error of alpha	SE alpha =	40
Number of 'certain' outdoor taxa	SOA =	12
Percentage of 'certain' outdoor taxa	%SOA =	23
Number of 'certain' outdoor individuals	NOA =	12
Percentage of 'certain' outdoor individuals	%NOA =	19
Number of 'certain' and probable outdoor taxa	SOB =	17
Percentage of 'certain' and probable outdoor taxa	%SOB =	33
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	28

Diversity index for OB not calculated, NOB = SOB or NOB < 20

Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	3
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	3

Percentage of damp ground/waterside individuals	%ND =	5
Number of strongly plant-associated taxa	SP =	7
Percentage of strongly plant-associated taxa	%SP =	13
Number of strongly plant-associated individuals	NP =	7
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 =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	2
Number of decomposer taxa	SRT =	19
Percentage of decomposer taxa	%SRT =	37
Number of decomposer individuals	NRT =	28
Percentage of decomposer individuals	%NRT =	44
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	10
Number of 'dry' decomposer individuals	NRD =	8
Percentage of 'dry'decomposer individuals	%NRD =	13
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	8
Number of 'foul' decomposer individuals	NRF =	8
Percentage of 'foul' decomposer individuals	%NRF =	13
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	10
Number of individuals of grain pests	NG =	9
Number of uncoded taxa	SU =	18
Percentage of uncoded individuals	PNU =	33

Site: OGLA81 Context: 707 Sample: 30/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	5	7	1	g
Platystethus arenarius (Fourcroy)	4	5	2	rf
Lathridius minutus group	4	5	2	rd
Anotylus nitidulus (Gravenhorst)	3	4	4	rt d
Cryptolestes ferrugineus (Stephens)	3	4	4	g
Staphylininae sp. A	2	3	6	u
Aleocharinae sp. A	2	3	6	u
Aleocharinae sp. B	2	3	6	u
Aphodius sp. A	2	3	6	ob rf
Auchenorhyncha sp.	1	1	10	oa p
Hemiptera sp.	1	1	10	u
Notiophilus sp.	1	1	10	oa
Bembidion sp.	1	1	10	oa
Pterostichus melanarius (Illiger)	1	1	10	ob
Carabidae sp.	1	1	10	ob
Helophorus sp.	1	1	10	oa w
Cercyon analis (Paykull)	1	1	10	rt
Megasternum obscurum (Marsham)	1	1	10	rt
Histerinae sp.	1	1	10	u
Ochthebius minimus (Fabricius)	1	1	10	oa w
Omalium sp.	1	1	10	rt
Omaliinae sp.	1	1	10	u
Carpelimus sp.	1	1	10	u

Anotylus rugosus (Fabricius)	1	1	10	rt
Anotylus tetracarinatus (Block)	1	1	10	rt
Oxytelus sculptus Gravenhorst	1	1	10	rt
Stenus sp. A	1	1	10	u
Stenus sp. B	1	1	10	u
Lathrobium sp.	1	1	10	u
Falagria sp.	1	1	10	rt
Aleochara sp.	1	1	10	u
Aleocharinae sp. C	1	1	10	u
Aleocharinae sp. D	1	1	10	u
Aleocharinae sp. E	1	1	10	u
Aleocharinae sp. F	1	1	10	u
Aleocharinae sp. G	1	1	10	u
Pselaphidae sp.	1	1	10	u
Aphodius sp. B	1	1	10	ob rf
Aphodius sp. C	1	1	10	ob rf
Phyllopertha horticola (Linnaeus)	1	1	10	oa p
Clambus sp.	1	1	10	rt
Anobium punctatum (Degeer)	1	1	10	l
Ptinidae sp.	1	1	10	rd
Cryptophagus sp.	1	1	10	rd
Atomaria sp.	1	1	10	rd
Ephistemus globulus (Paykull)	1	1	10	rd
Corticarina or Cortinicara sp.	1	1	10	rt
Chrysomelinae sp.	1	1	10	oa p
Halticinae sp. A	1	1	10	oa p
Halticinae sp. B	1	1	10	oa p
Sitona lepidus Gyllenhal	1	1	10	oa p
Sitophilus granarius (Linnaeus)	1	1	10	g
Cidnorhinus quadrimaculatus (Linnaeus)	1	1	10	oa p
Curculionidae sp.	1	1	10	oa
Coleoptera sp.	1	1	10	u

Site: OGLA81 Context: 754 Sample: 31/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	48
Number of taxa	S =	40
Index of diversity (alpha)	alpha =	111
Standard error of alpha	SE alpha =	42
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	15
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	13
Number of 'certain' and probable outdoor taxa	SOB =	8
Percentage of 'certain' and probable outdoor taxa	%SOB =	20
Number of 'certain' and probable outdoor individuals	NOB =	9
Percentage 'certain' and probable outdoor individuals	%NOB =	19
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	2
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3

Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	6
Number of strongly plant-associated taxa	SP =	3
Percentage of strongly plant-associated taxa	%SP =	8
Number of strongly plant-associated individuals	NP =	3
Percentage of strongly plant-associated individuals	%NP =	6
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	%NL =	2
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	40
Number of decomposer individuals	NRT =	22
Percentage of decomposer individuals	%NRT =	46
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	13
Number of 'dry' decomposer individuals	NRD =	5
Percentage of 'dry'decomposer individuals	%NRD =	10
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	5
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	6
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	13
Number of individuals of grain pests	NG =	6
Percentage of individuals of grain pests	%NG =	13
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	12
Percentage of uncoded individuals	PNU =	25

Site: OGLA81 Context: 754 Sample: 31/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus nitidulus (Gravenhorst)	3	6	1	rt d
Anotylus tetracarinatus (Block)	3	6	1	rt
Cryptolestes ferrugineus (Stephens)	3	6	1	g
Cercyon analis (Paykull)	2	4	4	rt
Aphodius sp.	2	4	4	ob rf
Heteroptera sp.	1	2	6	u
Trechus obtusus or quadristriatus	1	2	6	oa
Bembidion sp.	1	2	6	oa
Carabidae sp.	1	2	6	ob
Helophorus sp.	1	2	6	oa w
Cercyon ?haemorrhoidalis (Fabricius)	1	2	6	rf
Xylodromus concinnus (Marsham)	1	2	6	rt
Carpelimus ?bilineatus Stephens	1	2	6	rt
Carpelimus sp.	1	2	6	u
Anotylus rugosus (Fabricius)	1	2	6	rt
Stenus sp.	1	2	6	u
Xantholininae sp.	1	2	6	u
Neobisnius sp.	1	2	6	u
Quedius sp.	1	2	6	u
Staphylininae sp.	1	2	6	u

Falagria or Cordalia sp.	1	2	6	rt
Aleocharinae sp. A	1	2	6	u
Aleocharinae sp. B	1	2	6	u
Aleocharinae sp. C	1	2	6	u
Aleocharinae sp. D	1	2	6	u
?Phyllopertha horticola (Linnaeus)	1	2	6	oa p
Anobium punctatum (Degeer)	1	2	6	l
Ptinus sp.	1	2	6	rd
Oryzaephilus surinamensis (Linnaeus)	1	2	6	g
Atomaria sp.	1	2	6	rd
Ephistemus globulus (Paykull)	1	2	6	rd
Lathridius minutus group	1	2	6	rd
Corticaria sp.	1	2	6	rt
Typhaea stercorea (Linnaeus)	1	2	6	rd
Palorus ratzeburgi (Wissman)	1	2	6	g
Anthicus sp.	1	2	6	rt
Longitarsus sp.	1	2	6	oa p
?Chaetocnema concinna (Marsham)	1	2	6	oa p
Sitophilus granarius (Linnaeus)	1	2	6	g
Coleoptera sp.	1	2	6	u

Site: OGLA81 Context: 785 Sample: 34/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	5
Number of taxa	S =	2

Site: OGLA81 Context: 785 Sample: 34/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	3	60	1	g
Cryptolestes ferrugineus (Stephens)	2	40	2	g

Site: OGLA81 Context: 799 Sample: 35/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	56
Number of taxa	S =	33
Index of diversity (alpha)	alpha =	34
Standard error of alpha	SE alpha =	8
Number of 'certain' outdoor taxa	SOA =	3
Percentage of 'certain' outdoor taxa	%SOA =	9
Number of 'certain' outdoor individuals	NOA =	3
Percentage of 'certain' outdoor individuals	%NOA =	5
Number of 'certain' and probable outdoor taxa	SOB =	6
Percentage of 'certain' and probable outdoor taxa	%SOB =	18
Number of 'certain' and probable outdoor individuals	NOB =	7
Percentage 'certain' and probable outdoor individuals	%NOB =	13
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	2

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	%SP =	3
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	2
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 =	18
Percentage of decomposer taxa	%SRT =	55
Number of decomposer individuals	NRT =	20
Percentage of decomposer individuals	%NRT =	36
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	9
Number of 'dry' decomposer individuals	NRD =	4
Percentage of 'dry'decomposer individuals	%NRD =	7
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 =	7
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	24
Percentage of individuals of grain pests	%NG =	43
NB - over 10% grain pests and n > 50: for corrected re-run see over.		
Number of individuals of grain pests	NG =	24
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	14

Site: OGLA81 Context: 799 Sample: 35/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	32
Number of taxa	S =	29
Index of diversity (alpha)	alpha =	144
Standard error of alpha	SE alpha =	83
Number of 'certain' outdoor taxa	SOA =	3
Percentage of 'certain' outdoor taxa	%SOA =	10
Number of 'certain' outdoor individuals	NOA =	3
Percentage of 'certain' outdoor individuals	%NOA =	9
Number of 'certain' and probable outdoor taxa	SOB =	6
Percentage of 'certain' and probable outdoor taxa	%SOB =	21
Number of 'certain' and probable outdoor individuals	NOB =	7
Percentage 'certain' and probable outdoor individuals	%NOB =	22
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	3

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	%SP =	3
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	3
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 =	18
Percentage of decomposer taxa	%SRT =	62
Number of decomposer individuals	NRT =	20
Percentage of decomposer individuals	%NRT =	63
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	10
Number of 'dry' decomposer individuals	NRD =	4
Percentage of 'dry'decomposer individuals	%NRD =	13
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	10
Number of 'foul' decomposer individuals	NRF =	4
Percentage of 'foul' decomposer individuals	%NRF =	13
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	24
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	25

Site: OGLA81 Context: 799 Sample: 35/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	10	18	1	g
Oryzaephilus surinamensis (Linnaeus)	5	9	2	g
Palorus ratzeburgi (Wissman)	5	9	2	g
Sitophilus granarius (Linnaeus)	4	7	4	g
Aleocharinae sp. A	2	4	5	u
Aphodius sp. A	2	4	5	ob rf
Lathridius minutus group	2	4	5	rd
Corixidae sp.	1	2	8	oa w
?Bradycellus sp.	1	2	8	oa
Cercyon analis (Paykull)	1	2	8	rt
Cercyon sp.	1	2	8	u
Megasternum obscurum (Marsham)	1	2	8	rt
Acritus nigricornis (Hoffmann)	1	2	8	rt
Xylodromus concinnus (Marsham)	1	2	8	rt
Carpelimus ?bilineatus Stephens	1	2	8	rt
Carpelimus sp.	1	2	8	u
Platystethus arenarius (Fourcroy)	1	2	8	rf
Anotylus tetracarinatus (Block)	1	2	8	rt
Leptacinus sp.	1	2	8	rt
Gyrohypnus angustatus Stephens	1	2	8	rt
Neobisnius sp.	1	2	8	u

Philonthus sp.	1	2	8	u
Staphylininae sp.	1	2	8	u
Falagria sp.	1	2	8	rt
Aleocharinae sp. B	1	2	8	u
Aphodius sp. B	1	2	8	ob rf
Phyllopertha horticola (Linnaeus)	1	2	8	oa p
Elateridae sp.	1	2	8	ob
Omosita sp.	1	2	8	rt
Cryptophagus sp.	1	2	8	rd
Ephistemus globulus (Paykull)	1	2	8	rd
Corticaria sp.	1	2	8	rt
Corticarina ?fuscula (Gyllenhal)	1	2	8	rt

Site: OGLA81 Context: 777 Sample: 36/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	202
Number of taxa	S =	94
Index of diversity (alpha)	alpha =	68
Standard error of alpha	SE alpha =	8
Number of 'certain' outdoor taxa	SOA =	25
Percentage of 'certain' outdoor taxa	%SOA =	27
Number of 'certain' outdoor individuals	NOA =	35
Percentage of 'certain' outdoor individuals	%NOA =	17
Number of 'certain' and probable outdoor taxa	SOB =	31
Percentage of 'certain' and probable outdoor taxa	%SOB =	33
Number of 'certain' and probable outdoor individuals	NOB =	48
Percentage 'certain' and probable outdoor individuals	%NOB =	24
Index of diversity of outdoor component	alpha OB =	38
Standard error	SE alpha OB =	11
Number of aquatic taxa	SW =	4
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	9
Percentage of aquatic individuals	%NW =	4
Number of damp ground/waterside taxa	SD =	5
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	11
Percentage of damp ground/waterside individuals	%ND =	5
Number of strongly plant-associated taxa	SP =	6
Percentage of strongly plant-associated taxa	%SP =	6
Number of strongly plant-associated individuals	NP =	8
Percentage of strongly plant-associated individuals	%NP =	4
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	%NL =	0
Number of decomposer taxa	SRT =	37
Percentage of decomposer taxa	%SRT =	39
Number of decomposer individuals	NRT =	113
Percentage of decomposer individuals	%NRT =	56
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	7
Number of 'dry' decomposer individuals	NRD =	11

Percentage of 'dry'decomposer individuals	%NRD =	5
Number of 'foul' decomposer taxa	SRF =	6
Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	26
Percentage of 'foul' decomposer individuals	%NRF =	13
Index of diversity of decomposer component	alpha RT =	19
Standard error	SE alpha RT =	3
Number of individuals of grain pests	NG =	17
Percentage of individuals of grain pests	%NG =	8
Number of individuals of grain pests	NG =	17
Number of uncoded taxa	SU =	27
Percentage of uncoded individuals	PNU =	18

Site: OGLA81 Context: 777 Sample: 36/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus tetracarinatus (Block)	27	13	1	rt
Platystethus arenarius (Fourcroy)	11	5	2	rf
Oryzaephilus surinamensis (Linnaeus)	11	5	2	g
Falagria sp.	8	4	4	rt
Anotylus nitidulus (Gravenhorst)	7	3	5	rt d
Aphodius sp. A	7	3	5	ob rf
Carpelimus ?bilineatus Stephens	6	3	7	rt
Cryptolestes ferrugineus (Stephens)	5	2	8	g
Lathridius minutus group	5	2	8	rd
Anotylus rugosus (Fabricius)	4	2	10	rt
Aleocharinae sp. C	4	2	10	u
Helophorus grandis Illiger	3	1	12	oa w
Helophorus sp. A	3	1	12	oa w
Megasternum obscurum (Marsham)	3	1	12	rt
Stenus sp. A	3	1	12	u
Aleocharinae sp. D	3	1	12	u
Aphodius contaminatus (Herbst)	3	1	12	oa rf
Phyllopertha horticola (Linnaeus)	3	1	12	oa p
Bembidion sp. B	2	1	19	oa
Cercyon analis (Paykull)	2	1	19	rt
Cercyon haemorrhoidalis (Fabricius)	2	1	19	rf
Ochthebius minimus (Fabricius)	2	1	19	oa w
Omalium sp.	2	1	19	rt
Gyrohypnus angustatus Stephens	2	1	19	rt
Staphylininae sp. B	2	1	19	u
Aleocharinae sp. E	2	1	19	u
Aleocharinae sp. F	2	1	19	u
Aphodius sp. B	2	1	19	ob rf
Auchenorhyncha sp.	1	0	29	oa p
Carabus sp.	1	0	29	oa
Trechus obtusus or quadristriatus	1	0	29	oa
Bembidion sp. A	1	0	29	oa
Pterostichus sp.	1	0	29	ob
Calathus fuscipes (Goeze)	1	0	29	oa
Calathus sp.	1	0	29	oa
Agonum sp.	1	0	29	oa
Helophorus sp. B	1	0	29	oa w
Cercyon ustulatus (Preyssler)	1	0	29	oa d
Acritus nigricornis (Hoffmann)	1	0	29	rt

Onthophilus striatus (Forster)	1	0	29	rt
Histerinae sp.	1	0	29	u
Aclypea opaca (Linnaeus)	1	0	29	ob rt
Scydmaenidae sp.	1	0	29	u
Megarthrus sp.	1	0	29	rt
Lesteva sp.	1	0	29	oa d
Xylodromus concinnus (Marsham)	1	0	29	rt
Bledius sp.	1	0	29	oa d
Platystethus nitens (Sahlberg)	1	0	29	oa d
Anotylus sculpturatus group	1	0	29	rt
Oxytelus sculptus Gravenhorst	1	0	29	rt
Stenus sp. B	1	0	29	u
Gyrohypnus fracticornis (Muller)	1	0	29	rt
Xantholinus longiventris Heer	1	0	29	rt
Xantholininae sp.	1	0	29	u
Philonthus sp. A	1	0	29	u
Philonthus sp. B	1	0	29	u
Philonthus sp. C	1	0	29	u
Quedius sp.	1	0	29	u
Staphylininae sp. A	1	0	29	u
Staphylininae sp. C	1	0	29	u
Cordalia obscura (Gravenhorst)	1	0	29	rt
Aleocharinae sp. A	1	0	29	u
Aleocharinae sp. B	1	0	29	u
Aleocharinae sp. G	1	0	29	u
Aleocharinae sp. H	1	0	29	u
Aleocharinae sp. I	1	0	29	u
Aleocharinae sp. J	1	0	29	u
Aleocharinae sp. K	1	0	29	u
Aleocharinae sp. L	1	0	29	u
Aleocharinae sp. M	1	0	29	u
Aleocharinae sp. N	1	0	29	u
Scarabaeidae sp.	1	0	29	u
Aphodius sp. C	1	0	29	ob rf
Cantharidae sp.	1	0	29	ob
Anobium punctatum (Degeer)	1	0	29	l
Ptinus sp.	1	0	29	rd
Ptinidae sp.	1	0	29	rd
Brachypterus sp.	1	0	29	oa p
Meligethes sp.	1	0	29	oa p
Cryptophagus sp.	1	0	29	rd
Atomaria sp.	1	0	29	rd
Ephistemus globulus (Paykull)	1	0	29	rd
Phalacridae sp.	1	0	29	oa p
Enicmus sp.	1	0	29	rt
Corticaria sp. A	1	0	29	rt
Corticaria sp. B	1	0	29	rt
Corticariinae sp.	1	0	29	rt
Typhaea stercorea (Linnaeus)	1	0	29	rd
Tenebrio obscurus Fabricius	1	0	29	rt
Halticinae sp.	1	0	29	oa p
Sitophilus granarius (Linnaeus)	1	0	29	g
Curculionidae sp.	1	0	29	oa
Curculionidae sp. B	1	0	29	oa
Curculionidae sp. C	1	0	29	oa

Site: OGLA81 Context: 783 Sample: 37/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	34
Number of taxa	S =	25
Index of diversity (alpha)	alpha =	43
Standard error of alpha	SE alpha =	16
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	20
Number of 'certain' outdoor individuals	NOA =	5
Percentage of 'certain' outdoor individuals	%NOA =	15
Number of 'certain' and probable outdoor taxa	SOB =	10
Percentage of 'certain' and probable outdoor taxa	%SOB =	40
Number of 'certain' and probable outdoor individuals	NOB =	10
Percentage 'certain' and probable outdoor individuals	%NOB =	29
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	12
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	9
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 =	8
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	6
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	%NL =	3
Number of decomposer taxa	SRT =	9
Percentage of decomposer taxa	%SRT =	36
Number of decomposer individuals	NRT =	9
Percentage of decomposer individuals	%NRT =	26
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	12
Number of 'dry' decomposer individuals	NRD =	3
Percentage of 'dry'decomposer individuals	%NRD =	9
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	8
Number of 'foul' decomposer individuals	NRF =	2
Percentage of 'foul' decomposer individuals	%NRF =	6
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	12
Percentage of individuals of grain pests	%NG =	35
Number of individuals of grain pests	NG =	12
Number of uncoded taxa	SU =	4
Percentage of uncoded individuals	PNU =	12

Site: OGLA81 Context: 783 Sample: 37/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	7	21	1	g
Cryptolestes ferrugineus (Stephens)	4	12	2	g
Carabidae sp. A	1	3	3	ob
Carabidae sp. B	1	3	3	ob
Carabidae sp. C	1	3	3	ob
Helophorus sp. A	1	3	3	oa w
Helophorus sp. B	1	3	3	oa w
Cercyon sp.	1	3	3	u
Ochthebius sp.	1	3	3	oa w
Ptenidium sp.	1	3	3	rt
Carpelimus sp.	1	3	3	u
Oxytelus sculptus Gravenhorst	1	3	3	rt
Falagria sp.	1	3	3	rt
Aleocharinae sp.	1	3	3	u
Aphodius sp. A	1	3	3	ob rf
Aphodius sp. B	1	3	3	ob rf
Anobium punctatum (Degeer)	1	3	3	l
Ptinidae sp.	1	3	3	rd
Cryptophagus sp.	1	3	3	rd
Lathridius minutus group	1	3	3	rd
Anthicus sp.	1	3	3	rt
Halticinae sp.	1	3	3	oa p
Apion sp.	1	3	3	oa p
Sitophilus granarius (Linnaeus)	1	3	3	g
Coleoptera sp.	1	3	3	u

Site: OGLA81 Context: 792; Sample: 38/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 806 Sample: 39/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	477
Number of taxa	S =	41
Index of diversity (alpha)	alpha =	11
Standard error of alpha	SE alpha =	1
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	12
Number of 'certain' outdoor individuals	NOA =	5
Percentage of 'certain' outdoor individuals	%NOA =	1
Number of 'certain' and probable outdoor taxa	SOB =	11
Percentage of 'certain' and probable outdoor taxa	%SOB =	27
Number of 'certain' and probable outdoor individuals	NOB =	11
Percentage 'certain' and probable outdoor individuals	%NOB =	2
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	5
Number of aquatic individuals	NW =	2
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 =	3
Percentage of strongly plant-associated taxa	%SP =	7
Number of strongly plant-associated individuals	NP =	3
Percentage of strongly plant-associated individuals	%NP =	1
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	%NL =	0
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	39
Number of decomposer individuals	NRT =	48
Percentage of decomposer individuals	%NRT =	10
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	12
Number of 'dry' decomposer individuals	NRD =	35
Percentage of 'dry'decomposer individuals	%NRD =	7
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	1
Index of diversity of decomposer component	alpha RT =	9
Standard error	SE alpha RT =	2
Number of individuals of grain pests	NG =	408
Percentage of individuals of grain pests	%NG =	86

NB - over 10% grain pests and n > 50: for corrected re-run see over.

Number of individuals of grain pests	NG =	408
Number of uncoded taxa	SU =	11
Percentage of uncoded individuals	PNU =	2

Site: OGLA81 Context: 806 Sample: 39/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	69
Number of taxa	S =	37
Index of diversity (alpha)	alpha =	33
Standard error of alpha	SE alpha =	7
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	14
Number of 'certain' outdoor individuals	NOA =	5
Percentage of 'certain' outdoor individuals	%NOA =	7
Number of 'certain' and probable outdoor taxa	SOB =	11
Percentage of 'certain' and probable outdoor taxa	%SOB =	30
Number of 'certain' and probable outdoor individuals	NOB =	11
Percentage 'certain' and probable outdoor individuals	%NOB =	16

Diversity index for OB not calculated, NOB = SOB or NOB < 20

Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	5
Number of aquatic individuals	NW =	2

Percentage of aquatic individuals	%NW =	3
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 =	3
Percentage of strongly plant-associated taxa	%SP =	8
Number of strongly plant-associated individuals	NP =	3
Percentage of strongly plant-associated individuals	%NP =	4
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	%NL =	1
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	43
Number of decomposer individuals	NRT =	48
Percentage of decomposer individuals	%NRT =	70
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	14
Number of 'dry' decomposer individuals	NRD =	35
Percentage of 'dry'decomposer individuals	%NRD =	51
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	8
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	4
Index of diversity of decomposer component	alpha RT =	9
Standard error	SE alpha RT =	2
Number of individuals of grain pests	NG =	408
Number of uncoded taxa	SU =	11
Percentage of uncoded individuals	PNU =	16

Site: OGLA81 Context: 806 Sample: 39/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	277	58	1	g
Cryptolestes ferrugineus (Stephens)	103	22	2	g
Lathridius minutus group	30	6	3	rd
Palorus ratzeburgi (Wissman)	14	3	4	g
Sitophilus granarius (Linnaeus)	14	3	4	g
Oxytelus sculptus Gravenhorst	2	0	6	rt
Typhaea stercorea (Linnaeus)	2	0	6	rd
Aglenus brunneus (Gyllenhal)	2	0	6	rt
Auchenorhyncha sp. A	1	0	9	oa p
Auchenorhyncha sp. B	1	0	9	oa p
Pterostichus sp.	1	0	9	ob
Carabidae sp. A	1	0	9	ob
Carabidae sp. B	1	0	9	ob
Carabidae sp. C	1	0	9	ob
Hydroporinae sp.	1	0	9	oa w
Cercyon sp.	1	0	9	u
Hydrophilinae sp.	1	0	9	oa w
Acritus nigricornis (Hoffmann)	1	0	9	rt

Carpelimus sp.	1	0	9	u
Platystethus arenarius (Fourcroy)	1	0	9	rf
Lathrobium sp.	1	0	9	u
Staphylininae sp. A	1	0	9	u
Staphylininae sp. B	1	0	9	u
Falagria or Cordalia sp.	1	0	9	rt
Aleocharinae sp. A	1	0	9	u
Aleocharinae sp. B	1	0	9	u
Aleocharinae sp. C	1	0	9	u
Aleocharinae sp. D	1	0	9	u
Aphodius sp. A	1	0	9	ob rf
Aphodius sp. B	1	0	9	ob rf
Melolonthinae/Rutelinae/Cetoninae sp.	1	0	9	oa p
Anobium punctatum (Degeer)	1	0	9	l
Ptinus sp.	1	0	9	rd
Monotoma sp.	1	0	9	rt
Cryptophagus sp.	1	0	9	rd
Atomaria sp.	1	0	9	rd
Corticariinae sp.	1	0	9	rt
Alphitobius diaperinus (Panzer)	1	0	9	rt
Tenebrio obscurus Fabricius	1	0	9	rt
Coleoptera sp. A	1	0	9	u
Coleoptera sp. B	1	0	9	u

Site: OGLA81 Context: 810 Sample: 40/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	53
Number of taxa	S =	42
Index of diversity (alpha)	alpha =	93
Standard error of alpha	SE alpha =	30
Number of 'certain' outdoor taxa	SOA =	11
Percentage of 'certain' outdoor taxa	%SOA =	26
Number of 'certain' outdoor individuals	NOA =	11
Percentage of 'certain' outdoor individuals	%NOA =	21
Number of 'certain' and probable outdoor taxa	SOB =	16
Percentage of 'certain' and probable outdoor taxa	%SOB =	38
Number of 'certain' and probable outdoor individuals	NOB =	17
Percentage 'certain' and probable outdoor individuals	%NOB =	32
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	7
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	6
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	2
Number of strongly plant-associated taxa	SP =	7
Percentage of strongly plant-associated taxa	%SP =	17
Number of strongly plant-associated individuals	NP =	7
Percentage of strongly plant-associated individuals	%NP =	13
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 =	2
Number of wood-associated individuals	NL =	4
Percentage of wood-associated individuals	%NL =	8
Number of decomposer taxa	SRT =	16
Percentage of decomposer taxa	%SRT =	38
Number of decomposer individuals	NRT =	25
Percentage of decomposer individuals	%NRT =	47
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	12
Number of 'dry' decomposer individuals	NRD =	13
Percentage of 'dry'decomposer individuals	%NRD =	25
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	10
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	9
Index of diversity of decomposer component	alpha RT =	20
Standard error	SE alpha RT =	8
Number of individuals of grain pests	NG =	1
Percentage of individuals of grain pests	%NG =	2
Number of individuals of grain pests	NG =	1
Number of uncoded taxa	SU =	9
Percentage of uncoded individuals	PNU =	17

Site: OGLA81 Context: 810 Sample: 40/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Ptinus fur (Linnaeus)	5	9	1	rd
Anobium punctatum (Degeer)	3	6	2	l
Cryptophagus sp. A	3	6	2	rd
Lathridius minutus group	3	6	2	rd
Aphodius sp. A	2	4	5	ob rf
Auchenorhyncha sp.	1	2	6	oa p
Carabidae sp. A	1	2	6	ob
Carabidae sp. B	1	2	6	ob
Helophorus sp. A	1	2	6	oa w
Helophorus sp. B	1	2	6	oa w
Helophorus sp. C	1	2	6	oa w
Sphaeridium sp.	1	2	6	rf
Cercyon sp.	1	2	6	u
Megasternum obscurum (Marsham)	1	2	6	rt
Anisotomidae sp.	1	2	6	u
Platystethus arenarius (Fourcroy)	1	2	6	rf
Anotylus nitidulus (Gravenhorst)	1	2	6	rt d
Anotylus sculpturatus group	1	2	6	rt
Oxytelus sculptus Gravenhorst	1	2	6	rt
Rugilus sp.	1	2	6	rt
Staphylininae sp.	1	2	6	u
Aleochara sp.	1	2	6	u
Aleocharinae sp.	1	2	6	u
Scarabaeidae sp.	1	2	6	u
Aphodius sp. B	1	2	6	ob rf
Phyllopertha horticola (Linnaeus)	1	2	6	oa p
Elateridae sp.	1	2	6	ob
Lyctus linearis (Goeze)	1	2	6	l

Meligethes sp.	1	2	6	oa p
Cryptolestes ferrugineus (Stephens)	1	2	6	g
Cryptophagus sp. B	1	2	6	rd
Cryptophagus sp. C	1	2	6	rd
?Enicmus sp.	1	2	6	rt
Corticariinae sp.	1	2	6	rt
Gastrophysa viridula (Degeer)	1	2	6	oa p
Halticinae sp.	1	2	6	oa p
Sitona ?lepidus Gyllenhal	1	2	6	oa p
Mecinus pyraster (Herbst)	1	2	6	oa p
Curculionidae sp.	1	2	6	oa
Coleoptera sp. A	1	2	6	u
Coleoptera sp. B	1	2	6	u
Coleoptera sp. C	1	2	6	u

Site: OGLA81 Context: 822 Sample: 41/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	39
Number of taxa	S =	30
Index of diversity (alpha)	alpha =	59
Standard error of alpha	SE alpha =	21
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	17
Number of 'certain' outdoor individuals	NOA =	5
Percentage of 'certain' outdoor individuals	%NOA =	13
Number of 'certain' and probable outdoor taxa	SOB =	7
Percentage of 'certain' and probable outdoor taxa	%SOB =	23
Number of 'certain' and probable outdoor individuals	NOB =	8
Percentage 'certain' and probable outdoor individuals	%NOB =	21
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	3
Number of damp ground/waterside taxa	SD =	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 =	3
Percentage of strongly plant-associated taxa	%SP =	10
Number of strongly plant-associated individuals	NP =	3
Percentage of strongly plant-associated individuals	%NP =	8
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 =	3
Percentage of wood-associated individuals	%NL =	8
Number of decomposer taxa	SRT =	15
Percentage of decomposer taxa	%SRT =	50
Number of decomposer individuals	NRT =	18
Percentage of decomposer individuals	%NRT =	46
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	17

Number of 'dry' decomposer individuals	NRD =	7
Percentage of 'dry'decomposer individuals	%NRD =	18
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	3
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 =	6
Percentage of individuals of grain pests	%NG =	15
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	5
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 822 Sample: 41/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anobium punctatum (Degeer)	3	8	1	l
Ptinus fur (Linnaeus)	3	8	1	rd
Aleocharinae sp. A	2	5	3	u
Aphodius sp.	2	5	3	ob rf
Cryptolestes ferrugineus (Stephens)	2	5	3	g
Oryzaephilus surinamensis (Linnaeus)	2	5	3	g
Sitophilus granarius (Linnaeus)	2	5	3	g
Bembidion sp.	1	3	8	oa
Carabidae sp.	1	3	8	ob
Helophorus sp.	1	3	8	oa w
Cercyon ?analis (Paykull)	1	3	8	rt
Megasternum obscurum (Marsham)	1	3	8	rt
Ptenidium sp.	1	3	8	rt
Omalium ?rivulare (Paykull)	1	3	8	rt
Xylodromus concinnus (Marsham)	1	3	8	rt
Omaliinae sp.	1	3	8	u
Platystethus arenarius (Fourcroy)	1	3	8	rf
Anotylus nitidulus (Gravenhorst)	1	3	8	rt d
Anotylus tetracarinatus (Block)	1	3	8	rt
Quedius sp.	1	3	8	u
Tachinus sp.	1	3	8	u
Falagria or Cordalia sp.	1	3	8	rt
Aleocharinae sp.	1	3	8	u
?Phyllopertha horticola (Linnaeus)	1	3	8	oa p
Cryptophagus scutellatus Newman	1	3	8	rd
Cryptophagus sp.	1	3	8	rd
Atomaria sp.	1	3	8	rd
Lathridius minutus group	1	3	8	rd
Apion sp.	1	3	8	oa p
Sitona ?lepidus Gyllenhal	1	3	8	oa p

Site: OGLA81 Context: 817 Sample: 42/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	68
Number of taxa	S =	46
Index of diversity (alpha)	alpha =	62

Standard error of alpha	SE alpha =	15
Number of 'certain' outdoor taxa	SOA =	12
Percentage of 'certain' outdoor taxa	%SOA =	26
Number of 'certain' outdoor individuals	NOA =	15
Percentage of 'certain' outdoor individuals	%NOA =	22
Number of 'certain' and probable outdoor taxa	SOB =	18
Percentage of 'certain' and probable outdoor taxa	%SOB =	39
Number of 'certain' and probable outdoor individuals	NOB =	21
Percentage 'certain' and probable outdoor individuals	%NOB =	31
Index of diversity of outdoor component	alpha OB =	58
Standard error	SE alpha OB =	34
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	4
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	3
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 =	8
Percentage of strongly plant-associated taxa	%SP =	17
Number of strongly plant-associated individuals	NP =	11
Percentage of strongly plant-associated individuals	%NP =	16
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 =	2
Number of wood-associated individuals	NL =	9
Percentage of wood-associated individuals	%NL =	13
Number of decomposer taxa	SRT =	15
Percentage of decomposer taxa	%SRT =	33
Number of decomposer individuals	NRT =	21
Percentage of decomposer individuals	%NRT =	31
Number of 'dry' decomposer taxa	SRD =	6
Percentage of 'dry'decomposer taxa	%SRD =	13
Number of 'dry' decomposer individuals	NRD =	12
Percentage of 'dry'decomposer individuals	%NRD =	18
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	9
Number of 'foul' decomposer individuals	NRF =	4
Percentage of 'foul' decomposer individuals	%NRF =	6
Index of diversity of decomposer component	alpha RT =	24
Standard error	SE alpha RT =	11
Number of individuals of grain pests	NG =	6
Percentage of individuals of grain pests	%NG =	9
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	12
Percentage of uncoded individuals	PNU =	21

Site: OGLA81 Context: 817 Sample: 42/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anobium punctatum (Degeer)	8	12	1	l
Lathridius minutus group	5	7	2	rd

Oryzaephilus surinamensis (Linnaeus)	4	6	3	g
Apion sp.	4	6	3	oa p
Aleocharinae sp. A	3	4	5	u
Ptinus ?fur (Linnaeus)	3	4	5	rd
Cryptolestes ferrugineus (Stephens)	2	3	7	g
Hemiptera sp. A	1	1	8	u
Hemiptera sp. B	1	1	8	u
Clivina sp.	1	1	8	oa
Bembidion sp.	1	1	8	oa
Carabidae sp. A	1	1	8	ob
Carabidae sp. B	1	1	8	ob
Carabidae sp. C	1	1	8	ob
Helophorus sp.	1	1	8	oa w
Cercyon sp.	1	1	8	u
Ochthebius sp.	1	1	8	oa w
Scydmaenidae sp.	1	1	8	u
Omalium sp.	1	1	8	rt
Platystethus arenarius (Fourcroy)	1	1	8	rf
Anotylus tetracarinatus (Block)	1	1	8	rt
Oxytelus sculptus Gravenhorst	1	1	8	rt
Gyrohypnus fracticornis (Muller)	1	1	8	rt
Philonthus sp.	1	1	8	u
Staphylininae sp.	1	1	8	u
Aleocharinae sp. B	1	1	8	u
Aleocharinae sp. C	1	1	8	u
Aleocharinae sp. D	1	1	8	u
Aleocharinae sp. E	1	1	8	u
Aleocharinae sp. F	1	1	8	u
Aphodius sp. A	1	1	8	ob rf
Aphodius sp. B	1	1	8	ob rf
Aphodius sp. C	1	1	8	ob rf
Phyllopertha horticola (Linnaeus)	1	1	8	oa p
Simplocaria sp.	1	1	8	oa p
Lyctus linearis (Goeze)	1	1	8	l
Meligethes sp.	1	1	8	oa p
Cryptophagus sp.	1	1	8	rd
Atomaria sp.	1	1	8	rd
Ephistemus globulus (Paykull)	1	1	8	rd
Dienerella sp.	1	1	8	rd
Corticariinae sp.	1	1	8	rt
Phyllotreta sp.	1	1	8	oa p
Halticinae sp. A	1	1	8	oa p
Halticinae sp. B	1	1	8	oa p
Ceutorhynchus sp.	1	1	8	oa p

Site: OGLA81 Context: 741; Sample: 44/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 858 Sample: 45/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as N = 6
Number of taxa S = 6

Site: OGLA81 Context: 858 Sample: 45/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Omaliinae sp.	1	17	1	u
Anotylus tetracarinatus (Block)	1	17	1	rt
Aphodius sp.	1	17	1	ob rf
Cryptolestes ferrugineus (Stephens)	1	17	1	g
Oryzaephilus surinamensis (Linnaeus)	1	17	1	g
Coleoptera sp.	1	17	1	u

Site: OGLA81 Context: 878 Sample: 46/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	66
Number of taxa	S =	43
Index of diversity (alpha)	alpha =	53
Standard error of alpha	SE alpha =	13
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	14
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	9
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	21
Number of 'certain' and probable outdoor individuals	NOB =	10
Percentage 'certain' and probable outdoor individuals	%NOB =	15
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	5
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	3
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	4
Percentage of strongly plant-associated taxa	%SP =	9
Number of strongly plant-associated individuals	NP =	4
Percentage of strongly plant-associated individuals	%NP =	6
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 =	2
Percentage of wood-associated individuals	%NL =	3
Number of decomposer taxa	SRT =	21
Percentage of decomposer taxa	%SRT =	49
Number of decomposer individuals	NRT =	39
Percentage of decomposer individuals	%NRT =	59
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	16
Number of 'dry' decomposer individuals	NRD =	17
Percentage of 'dry'decomposer individuals	%NRD =	26
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	5

Number of 'foul' decomposer individuals	NRF =	4
Percentage of 'foul' decomposer individuals	%NRF =	6
Index of diversity of decomposer component	alpha RT =	19
Standard error	SE alpha RT =	5
Number of individuals of grain pests	NG =	6
Percentage of individuals of grain pests	%NG =	9
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	10
Percentage of uncoded individuals	PNU =	17

Site: OGLA81 Context: 878 Sample: 46/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptophagus sp. A	5	8	1	rd
Lathridius minutus group	5	8	1	rd
Anotylus tetracarinatus (Block)	3	5	3	rt
Oryzaephilus surinamensis (Linnaeus)	3	5	3	g
Cercyon analis (Paykull)	2	3	5	rt
Megasternum obscurum (Marsham)	2	3	5	rt
Xylodromus concinnus (Marsham)	2	3	5	rt
Platystethus arenarius (Fourcroy)	2	3	5	rf
Anotylus nitidulus (Gravenhorst)	2	3	5	rt d
Aleocharinae sp. A	2	3	5	u
Aphodius sp.	2	3	5	ob rf
Anobium punctatum (Degeer)	2	3	5	l
Ptinus fur (Linnaeus)	2	3	5	rd
Cryptolestes ferrugineus (Stephens)	2	3	5	g
Atomaria sp.	2	3	5	rd
Lyctocoris campestris (Fabricius)	1	2	16	rd
Pterostichus sp.	1	2	16	ob
Carabidae sp.	1	2	16	ob
Helophorus sp. A	1	2	16	oa w
Helophorus sp. B	1	2	16	oa w
Omalium ?rivulare (Paykull)	1	2	16	rt
Omalium sp.	1	2	16	rt
Carpelimus sp.	1	2	16	u
Aploderus caelatus (Gravenhorst)	1	2	16	rt
Oxytelus sculptus Gravenhorst	1	2	16	rt
Stenus crassus Stephens	1	2	16	rt
Tachinus sp.	1	2	16	u
Cordalia obscura (Gravenhorst)	1	2	16	rt
Aleocharinae sp. B	1	2	16	u
Aleocharinae sp. C	1	2	16	u
Aleocharinae sp. D	1	2	16	u
Aleocharinae sp. E	1	2	16	u
Aleocharinae sp. F	1	2	16	u
Aleocharinae sp. G	1	2	16	u
Aleocharinae sp. H	1	2	16	u
Phyllopertha horticola (Linnaeus)	1	2	16	oa p
Cryptophagus sp. B	1	2	16	rd
Corticaria sp.	1	2	16	rt
?Typhaea stercorea (Linnaeus)	1	2	16	rd
Palorus ratzeburgi (Wissman)	1	2	16	g
Phyllotreta nemorum group	1	2	16	oa p

Chaetocnema concinna (Marsham)	1	2	16	oa p
Apion sp.	1	2	16	oa p

Site: OGLA81 Context: 860 Sample: 47/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	17
Number of taxa	S =	11
Index of diversity not calculated, n = s or n < 20		
Number of 'certain' outdoor taxa	SOA =	4
Percentage of 'certain' outdoor taxa	%SOA =	36
Number of 'certain' outdoor individuals	NOA =	4
Percentage of 'certain' outdoor individuals	%NOA =	24
Number of 'certain' and probable outdoor taxa	SOB =	4
Percentage of 'certain' and probable outdoor taxa	%SOB =	36
Number of 'certain' and probable outdoor individuals	NOB =	4
Percentage 'certain' and probable outdoor individuals	%NOB =	24
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	9
Number of aquatic individuals	NW =	1
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 =	2
Percentage of strongly plant-associated taxa	%SP =	18
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	12
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 =	3
Percentage of decomposer taxa	%SRT =	27
Number of decomposer individuals	NRT =	3
Percentage of decomposer individuals	%NRT =	18
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	18
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	12
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 NRT < 20		
Number of individuals of grain pests	NG =	9
Percentage of individuals of grain pests	%NG =	53
Number of individuals of grain pests	NG =	9
Number of uncoded taxa	SU =	1
Percentage of uncoded individuals	PNU =	6

Site: OGLA81 Context: 860 Sample: 47/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	3	18	1	g
Oryzaephilus surinamensis (Linnaeus)	3	18	1	g
Sitophilus granarius (Linnaeus)	3	18	1	g
Helophorus sp.	1	6	4	oa w
Anotylus sp.	1	6	4	rt
Atomaria sp.	1	6	4	rd
Lathridius minutus group	1	6	4	rd
Galerucella sp.	1	6	4	oa p
Halticinae sp.	1	6	4	oa p
Curculionidae sp.	1	6	4	oa
Coleoptera sp.	1	6	4	u

Site: OGLA81 Context: 803 Sample: 48/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	198
Number of taxa	S =	83
Index of diversity (alpha)	alpha =	54
Standard error of alpha	SE alpha =	6
Number of 'certain' outdoor taxa	SOA =	18
Percentage of 'certain' outdoor taxa	%SOA =	22
Number of 'certain' outdoor individuals	NOA =	29
Percentage of 'certain' outdoor individuals	%NOA =	15
Number of 'certain' and probable outdoor taxa	SOB =	27
Percentage of 'certain' and probable outdoor taxa	%SOB =	33
Number of 'certain' and probable outdoor individuals	NOB =	47
Percentage 'certain' and probable outdoor individuals	%NOB =	24
Index of diversity of outdoor component	alpha OB =	27
Standard error	SE alpha OB =	7
Number of aquatic taxa	SW =	6
Percentage of aquatic taxa	%SW =	7
Number of aquatic individuals	NW =	13
Percentage of aquatic individuals	%NW =	7
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	5
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	11
Percentage of strongly plant-associated taxa	%SP =	13
Number of strongly plant-associated individuals	NP =	15
Percentage of strongly plant-associated individuals	%NP =	8
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 =	2
Percentage of wood-associated individuals	%NL =	1
Number of decomposer taxa	SRT =	37
Percentage of decomposer taxa	%SRT =	45
Number of decomposer individuals	NRT =	110
Percentage of decomposer individuals	%NRT =	56

Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	8
Number of 'dry' decomposer individuals	NRD =	16
Percentage of 'dry'decomposer individuals	%NRD =	8
Number of 'foul' decomposer taxa	SRF =	5
Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	26
Percentage of 'foul' decomposer individuals	%NRF =	13
Index of diversity of decomposer component	alpha RT =	20
Standard error	SE alpha RT =	3
Number of individuals of grain pests	NG =	26
Percentage of individuals of grain pests	%NG =	13

NB - over 10% grain pests and n > 50: for corrected re-run see over.

Number of individuals of grain pests	NG =	26
Number of uncoded taxa	SU =	19
Percentage of uncoded individuals	PNU =	13

Site: OGLA81 Context: 803 Sample: 48/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	172
Number of taxa	S =	80
Index of diversity (alpha)	alpha =	58
Standard error of alpha	SE alpha =	7
Number of 'certain' outdoor taxa	SOA =	18
Percentage of 'certain' outdoor taxa	%SOA =	23
Number of 'certain' outdoor individuals	NOA =	29
Percentage of 'certain' outdoor individuals	%NOA =	17
Number of 'certain' and probable outdoor taxa	SOB =	27
Percentage of 'certain' and probable outdoor taxa	%SOB =	34
Number of 'certain' and probable outdoor individuals	NOB =	47
Percentage 'certain' and probable outdoor individuals	%NOB =	27
Index of diversity of outdoor component	alpha OB =	27
Standard error	SE alpha OB =	7
Number of aquatic taxa	SW =	6
Percentage of aquatic taxa	%SW =	8
Number of aquatic individuals	NW =	13
Percentage of aquatic individuals	%NW =	8
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	5
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	11
Percentage of strongly plant-associated taxa	%SP =	14
Number of strongly plant-associated individuals	NP =	15
Percentage of strongly plant-associated individuals	%NP =	9
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 =	2
Percentage of wood-associated individuals	%NL =	1
Number of decomposer taxa	SRT =	37
Percentage of decomposer taxa	%SRT =	46

Number of decomposer individuals	NRT =	110
Percentage of decomposer individuals	%NRT =	64
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	9
Number of 'dry' decomposer individuals	NRD =	16
Percentage of 'dry'decomposer individuals	%NRD =	9
Number of 'foul' decomposer taxa	SRF =	5
Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	26
Percentage of 'foul' decomposer individuals	%NRF =	15
Index of diversity of decomposer component	alpha RT =	20
Standard error	SE alpha RT =	3
Number of individuals of grain pests	NG =	26
Number of uncoded taxa	SU =	19
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 803 Sample: 48/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus tetracarinatus (Block)	18	9	1	rt
Oryzaephilus surinamensis (Linnaeus)	15	8	2	g
Platystethus arenarius (Fourcroy)	13	7	3	rf
Falagria caesa or sulcatula	9	5	4	rt
Aphodius sp. A	8	4	5	ob rf
Cryptolestes ferrugineus (Stephens)	7	4	6	g
Lathridius minutus group	7	4	6	rd
Carpelimus ?bilineatus Stephens	5	3	8	rt
Ochthebius minimus (Fabricius)	4	2	9	oa w
Anotylus nitidulus (Gravenhorst)	4	2	9	rt d
Oxytelus sculptus Gravenhorst	4	2	9	rt
Phyllopertha horticola (Linnaeus)	4	2	9	oa p
Sitophilus granarius (Linnaeus)	4	2	9	g
Helophorus sp. A	3	2	14	oa w
Omalium ?rivulare (Paykull)	3	2	14	rt
Anotylus rugosus (Fabricius)	3	2	14	rt
Aleocharinae sp. C	3	2	14	u
Atomaria sp. A	3	2	14	rd
Helophorus sp. B	2	1	19	oa w
Cercyon analis (Paykull)	2	1	19	rt
Megasternum obscurum (Marsham)	2	1	19	rt
Onthophilus striatus (Forster)	2	1	19	rt
Ochthebius ?bicolon Germar	2	1	19	oa w
Stenus sp. A	2	1	19	u
Stenus sp. B	2	1	19	u
Philonthus sp. A	2	1	19	u
Aleochara sp.	2	1	19	u
Aleocharinae sp. F	2	1	19	u
Aphodius sp. B	2	1	19	ob rf
Aphodius sp. C	2	1	19	ob rf
Anobium punctatum (Degeer)	2	1	19	l
Meligethes sp.	2	1	19	oa p
Atomaria sp. B	2	1	19	rd
?Enicmus sp.	2	1	19	rt
Drymus sp.	1	1	35	oa p

Scolopostethus sp.	1	1	35	oa	p
Saldidae sp.	1	1	35	oa	d
Auchenorhyncha sp. A	1	1	35	oa	p
Auchenorhyncha sp. B	1	1	35	oa	p
Trioza urticae (Linnaeus)	1	1	35	oa	p
Psylloidea sp.	1	1	35	oa	p
Pterostichus sp.	1	1	35	ob	
Carabidae sp. A	1	1	35	ob	
Carabidae sp. B	1	1	35	ob	
Carabidae sp. C	1	1	35	ob	
Helophorus sp. C	1	1	35	oa	w
Cercyon haemorrhoidalis (Fabricius)	1	1	35	rf	
Hydrobius fuscipes (Linnaeus)	1	1	35	oa	w
Acritus nigricornis (Hoffmann)	1	1	35	rt	
Histerinae sp.	1	1	35	u	
Ptenidium sp.	1	1	35	rt	
Aclypea opaca (Linnaeus)	1	1	35	ob	rt
Megarthrus sp.	1	1	35	rt	
Omalium sp.	1	1	35	rt	
Xylodromus concinnus (Marsham)	1	1	35	rt	
Stenus sp. C	1	1	35	u	
Gyrohypnus sp.	1	1	35	rt	
Philonthus sp. B	1	1	35	u	
Tachyporus sp.	1	1	35	u	
Tachinus laticollis or marginellus	1	1	35	u	
Aleocharinae sp. A	1	1	35	u	
Aleocharinae sp. B	1	1	35	u	
Aleocharinae sp. D	1	1	35	u	
Aleocharinae sp. E	1	1	35	u	
Aleocharinae sp. G	1	1	35	u	
Aleocharinae sp. H	1	1	35	u	
Aleocharinae sp. I	1	1	35	u	
Elateridae sp.	1	1	35	ob	
Ptinus fur (Linnaeus)	1	1	35	rd	
Rhizophagus sp.	1	1	35	u	
Monotoma ?longicollis (Gyllenhall)	1	1	35	rt	
Cryptophagus sp. A	1	1	35	rd	
Cryptophagus sp. B	1	1	35	rd	
Cryptophagus sp. C	1	1	35	rd	
Stephostethus lardarius (Degeer)	1	1	35	rt	
Corticaria sp. A	1	1	35	rt	
Corticaria sp. B	1	1	35	rt	
Cortinicara gibbosa (Herbst)	1	1	35	rt	
Aglenus brunneus (Gyllenhal)	1	1	35	rt	
Anthicus sp.	1	1	35	rt	
Halticinae sp. A	1	1	35	oa	p
Halticinae sp. B	1	1	35	oa	p
Gymnetron sp.	1	1	35	oa	p

Site: OGLA81 Context: 1002 Sample: 50/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 5; Weight = 1.000kg

Number of individuals estimated as	N = 39
Number of taxa	S = 31
Index of diversity (alpha)	alpha = 69

Standard error of alpha	SE alpha =	26
Number of 'certain' outdoor taxa	SOA =	8
Percentage of 'certain' outdoor taxa	%SOA =	26
Number of 'certain' outdoor individuals	NOA =	9
Percentage of 'certain' outdoor individuals	%NOA =	23
Number of 'certain' and probable outdoor taxa	SOB =	17
Percentage of 'certain' and probable outdoor taxa	%SOB =	55
Number of 'certain' and probable outdoor individuals	NOB =	18
Percentage 'certain' and probable outdoor individuals	%NOB =	46
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	4
Percentage of aquatic taxa	%SW =	13
Number of aquatic individuals	NW =	5
Percentage of aquatic individuals	%NW =	13
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 =	6
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	5
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	%SRT =	32
Number of decomposer individuals	NRT =	10
Percentage of decomposer individuals	%NRT =	26
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	6
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	5
Number of 'foul' decomposer taxa	SRF =	5
Percentage of 'foul' decomposer taxa	%SRF =	16
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	13
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	6
Percentage of individuals of grain pests	%NG =	15
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	23

Site: OGLA81 Context: 1002 Sample: 50/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	6	15	1	g
Ochthebius sp.	2	5	2	oa w
Carpelimus sp.	2	5	2	u
Aleocharinae sp. A	2	5	2	u

?Pterostichus sp.	1	3	5	ob
Carabidae sp. A	1	3	5	ob
Carabidae sp. B	1	3	5	ob
Carabidae sp. C	1	3	5	ob
Carabidae sp. D	1	3	5	ob
Helophorus sp. A	1	3	5	oa w
Helophorus sp. B	1	3	5	oa w
Helophorus sp. C	1	3	5	oa w
Sphaeridiinae sp.	1	3	5	u
Omalium sp.	1	3	5	rt
Platystethus arenarius (Fourcroy)	1	3	5	rf
Anotylus tetracarinatus (Block)	1	3	5	rt
Stenus sp.	1	3	5	u
Falagria or Cordalia sp.	1	3	5	rt
Aleocharinae sp. B	1	3	5	u
Aleocharinae sp. C	1	3	5	u
Geotrupes sp.	1	3	5	oa rf
Aphodius sp. A	1	3	5	ob rf
Aphodius sp. B	1	3	5	ob rf
Aphodius sp. C	1	3	5	ob rf
Phyllopertha horticola (Linnaeus)	1	3	5	oa p
Elateridae sp.	1	3	5	ob
Atomaria sp.	1	3	5	rd
Lathridius minutus group	1	3	5	rd
Phyllobius or Polydrusus sp.	1	3	5	oa p
Curculionidae sp.	1	3	5	oa
Coleoptera sp.	1	3	5	u

Site: OGLA81 Context: 1004 Sample: 51/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	62
Number of taxa	S =	49
Index of diversity (alpha)	alpha =	107
Standard error of alpha	SE alpha =	32
Number of 'certain' outdoor taxa	SOA =	17
Percentage of 'certain' outdoor taxa	%SOA =	35
Number of 'certain' outdoor individuals	NOA =	24
Percentage of 'certain' outdoor individuals	%NOA =	39
Number of 'certain' and probable outdoor taxa	SOB =	22
Percentage of 'certain' and probable outdoor taxa	%SOB =	45
Number of 'certain' and probable outdoor individuals	NOB =	30
Percentage 'certain' and probable outdoor individuals	%NOB =	48
Index of diversity of outdoor component	alpha OB =	38
Standard error	SE alpha OB =	15
Number of aquatic taxa	SW =	8
Percentage of aquatic taxa	%SW =	16
Number of aquatic individuals	NW =	15
Percentage of aquatic individuals	%NW =	24
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	5
Percentage of strongly plant-associated taxa	%SP =	10

Number of strongly plant-associated individuals	NP =	5
Percentage of strongly plant-associated individuals	%NP =	8
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	%NL =	2
Number of decomposer taxa	SRT =	14
Percentage of decomposer taxa	%SRT =	29
Number of decomposer individuals	NRT =	17
Percentage of decomposer individuals	%NRT =	27
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	6
Number of 'dry' decomposer individuals	NRD =	3
Percentage of 'dry'decomposer individuals	%NRD =	5
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	5
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 =	3
Percentage of individuals of grain pests	%NG =	5
Number of individuals of grain pests	NG =	3
Number of uncoded taxa	SU =	12
Percentage of uncoded individuals	PNU =	23

Site: OGLA81 Context: 1004 Sample: 51/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Ochthebius minimus (Fabricius)	7	11	1	oa w
Helophorus sp. A	2	3	2	oa w
Platystethus arenarius (Fourcroy)	2	3	2	rf
Stenus sp. A	2	3	2	u
Gyrohypnus fracticornis (Muller)	2	3	2	rt
Aleocharinae sp. A	2	3	2	u
Aphodius sp. A	2	3	2	ob rf
Oryzaephilus surinamensis (Linnaeus)	2	3	2	g
Saldidae sp.	1	2	9	oa d
Auchenorhyncha sp.	1	2	9	oa p
Patrobus ?atrorufus (Strom)	1	2	9	oa
Bembidion sp. A	1	2	9	oa
Bembidion sp. B	1	2	9	oa
Carabidae sp. A	1	2	9	ob
Carabidae sp. B	1	2	9	ob
Hydroporinae sp.	1	2	9	oa w
?Agabus bipustulatus (Linnaeus)	1	2	9	oa w
Helophorus sp. B	1	2	9	oa w
Helophorus sp. C	1	2	9	oa w
Cercyon analis (Paykull)	1	2	9	rt
Megasternum obscurum (Marsham)	1	2	9	rt
Acritus nigricornis (Hoffmann)	1	2	9	rt
Onthophilus striatus (Forster)	1	2	9	rt
Limnebius sp.	1	2	9	oa w

Carpelimus ?bilineatus Stephens	1	2	9	rt
Carpelimus pusillus group	1	2	9	u
Carpelimus sp.	1	2	9	u
Anotylus rugosus (Fabricius)	1	2	9	rt
Stenus sp. B	1	2	9	u
?Erichsonius sp.	1	2	9	u
Staphylininae sp.	1	2	9	u
Tachinus laticollis or marginellus	1	2	9	u
Falagria or Cordalia sp.	1	2	9	rt
Aleocharinae sp. B	1	2	9	u
Aleocharinae sp. C	1	2	9	u
Aphodius sp. B	1	2	9	ob rf
Phyllopertha horticola (Linnaeus)	1	2	9	oa p
Simplocaria sp.	1	2	9	oa p
Oulimnius sp.	1	2	9	oa w
Elateridae sp.	1	2	9	ob
Anobium punctatum (Degeer)	1	2	9	l
Ptinus sp.	1	2	9	rd
Cryptolestes ferrugineus (Stephens)	1	2	9	g
Cryptophagus sp.	1	2	9	rd
Lathridius minutus group	1	2	9	rd
Chrysomelinae sp.	1	2	9	oa p
Notaris ?acridulus (Linnaeus)	1	2	9	oa d p
Coleoptera sp. A	1	2	9	u
Coleoptera sp. B	1	2	9	u

Site: OGLA81 Context: 1026 Sample: 52/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	22
Number of taxa	S =	21
Index of diversity (alpha)	alpha =	206
Standard error of alpha	SE alpha =	184
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	24
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	27
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	43
Number of 'certain' and probable outdoor individuals	NOB =	10
Percentage 'certain' and probable outdoor individuals	%NOB =	45
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	14
Number of aquatic individuals	NW =	4
Percentage of aquatic individuals	%NW =	18
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	%SP =	5
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	5
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	%SRT =	24
Number of decomposer individuals	NRT =	5
Percentage of decomposer individuals	%NRT =	23
Number of 'dry' decomposer taxa	SRD =	1
Percentage of 'dry'decomposer taxa	%SRD =	5
Number of 'dry' decomposer individuals	NRD =	1
Percentage of 'dry'decomposer individuals	%NRD =	5
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	10
Number of 'foul' decomposer individuals	NRF =	2
Percentage of 'foul' decomposer individuals	%NRF =	9
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	2
Percentage of individuals of grain pests	%NG =	9
Number of individuals of grain pests	NG =	2
Number of uncoded taxa	SU =	6
Percentage of uncoded individuals	PNU =	27

Site: OGLA81 Context: 1026 Sample: 52/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Helophorus sp.	2	9	1	oa w
Carabidae sp.	1	5	2	ob
Carabidae sp. A	1	5	2	ob
Carabidae sp. B	1	5	2	ob
Cercyon sp.	1	5	2	u
Hydrobius fuscipes (Linnaeus)	1	5	2	oa w
Ochthebius sp.	1	5	2	oa w
Platystethus arenarius (Fourcroy)	1	5	2	rf
Anotylus rugosus (Fabricius)	1	5	2	rt
Stenus sp.	1	5	2	u
Euaesthetus bipunctatus (Ljungh)	1	5	2	oa
Gyrohypnus angustatus Stephens	1	5	2	rt
Aleocharinae sp. A	1	5	2	u
Aleocharinae sp. B	1	5	2	u
Aleocharinae sp. C	1	5	2	u
Aphodius sp.	1	5	2	ob rf
Phyllopertha horticola (Linnaeus)	1	5	2	oa p
Cryptolestes ferrugineus (Stephens)	1	5	2	g
Oryzaephilus surinamensis (Linnaeus)	1	5	2	g
Lathridius minutus group	1	5	2	rd
Coleoptera sp.	1	5	2	u

Site: OGLA81 Context: 787 Sample: 53/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	120
Number of taxa	S =	63
Index of diversity (alpha)	alpha =	53
Standard error of alpha	SE alpha =	8
Number of 'certain' outdoor taxa	SOA =	20
Percentage of 'certain' outdoor taxa	%SOA =	32
Number of 'certain' outdoor individuals	NOA =	29
Percentage of 'certain' outdoor individuals	%NOA =	24
Number of 'certain' and probable outdoor taxa	SOB =	23
Percentage of 'certain' and probable outdoor taxa	%SOB =	37
Number of 'certain' and probable outdoor individuals	NOB =	32
Percentage 'certain' and probable outdoor individuals	%NOB =	27
Index of diversity of outdoor component	alpha OB =	37
Standard error	SE alpha OB =	14
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 =	3
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	4
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	19
Percentage of strongly plant-associated taxa	%SP =	30
Number of strongly plant-associated individuals	NP =	28
Percentage of strongly plant-associated individuals	%NP =	23
Number of heathland/moorland taxa	SM =	2
Number of heathland/moorland individuals	NM =	2
Percentage of heathland/moorland individuals	%NM =	2
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 =	23
Percentage of decomposer taxa	%SRT =	37
Number of decomposer individuals	NRT =	58
Percentage of decomposer individuals	%NRT =	48
Number of 'dry' decomposer taxa	SRD =	5
Percentage of 'dry'decomposer taxa	%SRD =	8
Number of 'dry' decomposer individuals	NRD =	21
Percentage of 'dry'decomposer individuals	%NRD =	18
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	5
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	3
Index of diversity of decomposer component	alpha RT =	14
Standard error	SE alpha RT =	3
Number of individuals of grain pests	NG =	12
Percentage of individuals of grain pests	%NG =	10
Number of individuals of grain pests	NG =	12
Number of uncoded taxa	SU =	14
Percentage of uncoded individuals	PNU =	16

Site: OGLA81 Context: 787 Sample: 53/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Lathridius minutus group	14	12	1	rd
Carpelimus ?bilineatus Stephens	7	6	2	rt
Oryzaephilus surinamensis (Linnaeus)	6	5	3	g
Corticaria ?elongata (Gyllenhal)	6	5	3	rt
Carpelimus pusillus group	5	4	5	u
Corticarina ?fuscula (Gyllenhal)	5	4	5	rt
Apion sp.	5	4	5	oa p
Cryptolestes ferrugineus (Stephens)	4	3	8	g
Longitarsus sp.	4	3	8	oa p
Atomaria sp. A	3	3	10	rd
Stygnocoris pedestris (Fallen)	2	2	11	oa p
Agallia brachyptera (Boheman)	2	2	11	oa p d
Xylodromus concinnus (Marsham)	2	2	11	rt
Anotylus rugosus (Fabricius)	2	2	11	rt
Anotylus tetracarinatus (Block)	2	2	11	rt
Falagria or Cordalia sp.	2	2	11	rt
Aleocharinae sp. A	2	2	11	u
Cryptophagus sp.	2	2	11	rd
Aneurus sp.	1	1	19	l
Dolycoris baccarum (Linnaeus)	1	1	19	oa p
Pentatomoidea sp.	1	1	19	oa p
Miridae sp.	1	1	19	oa p
Ulopa reticulata (Fabricius)	1	1	19	oa p m
Auchenorhyncha sp. A	1	1	19	oa p
Auchenorhyncha sp. B	1	1	19	oa p
Auchenorhyncha sp. C	1	1	19	oa p
Livia juncorum (Latreille)	1	1	19	oa p d
Trechus obtusus or quadristriatus	1	1	19	oa
Carabidae sp.	1	1	19	ob
Cercyon sp.	1	1	19	u
Megasternum obscurum (Marsham)	1	1	19	rt
Omalium sp.	1	1	19	rt
Omaliinae sp.	1	1	19	u
Platystethus arenarius (Fourcroy)	1	1	19	rf
Anotylus nitidulus (Gravenhorst)	1	1	19	rt d
Stenus sp. A	1	1	19	u
Stenus sp. B	1	1	19	u
Rugilus sp.	1	1	19	rt
Gyrohypnus fracticornis (Muller)	1	1	19	rt
Staphylininae sp.	1	1	19	u
Tachyporus sp.	1	1	19	u
Aleocharinae sp. B	1	1	19	u
Aleocharinae sp. C	1	1	19	u
Aleocharinae sp. D	1	1	19	u
Aleocharinae sp. E	1	1	19	u
Pselaphidae sp.	1	1	19	u
Aphodius sp. A	1	1	19	ob rf
Aphodius sp. B	1	1	19	ob rf
Brachypterus sp.	1	1	19	oa p
Meligethes sp.	1	1	19	oa p
Atomaria sp. B	1	1	19	rd
Ephistemus globulus (Paykull)	1	1	19	rd

Enicmus sp.	1	1	19	rt
Cortinicara gibbosa (Herbst)	1	1	19	rt
Palorus ratzeburgi (Wissman)	1	1	19	g
Tenebrio obscurus Fabricius	1	1	19	rt
Lochmaea suturalis (Thomson)	1	1	19	oa p m
Chrysomelidae sp.	1	1	19	oa p
Phyllobius or Polydrusus sp.	1	1	19	oa p
Sitona sulcifrons (Thunberg)	1	1	19	oa p
Sitona sp.	1	1	19	oa p
Sitophilus granarius (Linnaeus)	1	1	19	g
Coleoptera sp.	1	1	19	u

Site: OGLA81 Context: 1006 Sample: 54/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	44
Number of taxa	S =	32
Index of diversity (alpha)	alpha =	52
Standard error of alpha	SE alpha =	17
Number of 'certain' outdoor taxa	SOA =	10
Percentage of 'certain' outdoor taxa	%SOA =	31
Number of 'certain' outdoor individuals	NOA =	12
Percentage of 'certain' outdoor individuals	%NOA =	27
Number of 'certain' and probable outdoor taxa	SOB =	16
Percentage of 'certain' and probable outdoor taxa	%SOB =	50
Number of 'certain' and probable outdoor individuals	NOB =	24
Percentage 'certain' and probable outdoor individuals	%NOB =	55
Index of diversity of outdoor component	alpha OB =	21
Standard error	SE alpha OB =	9
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	6
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	7
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	2
Number of strongly plant-associated taxa	SP =	5
Percentage of strongly plant-associated taxa	%SP =	16
Number of strongly plant-associated individuals	NP =	5
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 =	11
Percentage of decomposer taxa	%SRT =	34
Number of decomposer individuals	NRT =	20
Percentage of decomposer individuals	%NRT =	45
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	9
Number of 'dry' decomposer individuals	NRD =	4
Percentage of 'dry'decomposer individuals	%NRD =	9

Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	6
Number of 'foul' decomposer individuals	NRF =	8
Percentage of 'foul' decomposer individuals	%NRF =	18
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	3
Percentage of individuals of grain pests	%NG =	7
Number of individuals of grain pests	NG =	3
Number of uncoded taxa	SU =	5
Percentage of uncoded individuals	PNU =	11

Site: OGLA81 Context: 1006 Sample: 54/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aphodius sp. A	5	11	1	ob rf
Aphodius sp. B	3	7	2	ob rf
Trechus obtusus or quadristriatus	2	5	3	oa
Helophorus sp. A	2	5	3	oa w
Megasternum obscurum (Marsham)	2	5	3	rt
Anotylus rugosus (Fabricius)	2	5	3	rt
Oryzaephilus surinamensis (Linnaeus)	2	5	3	g
Lathridius minutus group	2	5	3	rd
Auchenorhyncha sp.	1	2	9	oa p
Hemiptera sp.	1	2	9	u
Bembidion sp.	1	2	9	oa
Carabidae sp. A	1	2	9	ob
Carabidae sp. B	1	2	9	ob
Carabidae sp. C	1	2	9	ob
Helophorus sp. B	1	2	9	oa w
Cercyon sp.	1	2	9	u
Omalium sp.	1	2	9	rt
Anotylus nitidulus (Gravenhorst)	1	2	9	rt d
Anotylus tetracarinatus (Block)	1	2	9	rt
Aleocharinae sp. A	1	2	9	u
Aleocharinae sp. B	1	2	9	u
Aleocharinae sp. C	1	2	9	u
Phyllopertha horticola (Linnaeus)	1	2	9	oa p
?Elateridae sp.	1	2	9	ob
Ptinidae sp.	1	2	9	rd
Meligethes sp.	1	2	9	oa p
Cryptolestes ferrugineus (Stephens)	1	2	9	g
Cryptophagus sp.	1	2	9	rd
Corticarina sp.	1	2	9	rt
Halticinae sp. A	1	2	9	oa p
Halticinae sp. B	1	2	9	oa p
Curculionidae sp.	1	2	9	oa

Site: OGLA81 Context: 1044; Sample: 55/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1037; Sample: 56/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1100; Sample: 57/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1103 Sample: 58/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	100
Number of taxa	S =	66
Index of diversity (alpha)	alpha =	84
Standard error of alpha	SE alpha =	16
Number of 'certain' outdoor taxa	SOA =	22
Percentage of 'certain' outdoor taxa	%SOA =	33
Number of 'certain' outdoor individuals	NOA =	25
Percentage of 'certain' outdoor individuals	%NOA =	25
Number of 'certain' and probable outdoor taxa	SOB =	26
Percentage of 'certain' and probable outdoor taxa	%SOB =	39
Number of 'certain' and probable outdoor individuals	NOB =	31
Percentage 'certain' and probable outdoor individuals	%NOB =	31
Index of diversity of outdoor component	alpha OB =	74
Standard error	SE alpha OB =	35
Number of aquatic taxa	SW =	4
Percentage of aquatic taxa	%SW =	6
Number of aquatic individuals	NW =	5
Percentage of aquatic individuals	%NW =	5
Number of damp ground/waterside taxa	SD =	3
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	5
Percentage of damp ground/waterside individuals	%ND =	5
Number of strongly plant-associated taxa	SP =	10
Percentage of strongly plant-associated taxa	%SP =	15
Number of strongly plant-associated individuals	NP =	11
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 =	1
Number of wood-associated individuals	NL =	2
Percentage of wood-associated individuals	%NL =	2
Number of decomposer taxa	SRT =	24
Percentage of decomposer taxa	%SRT =	36
Number of decomposer individuals	NRT =	47
Percentage of decomposer individuals	%NRT =	47
Number of 'dry' decomposer taxa	SRD =	4
Percentage of 'dry'decomposer taxa	%SRD =	6
Number of 'dry' decomposer individuals	NRD =	9
Percentage of 'dry'decomposer individuals	%NRD =	9
Number of 'foul' decomposer taxa	SRF =	6
Percentage of 'foul' decomposer taxa	%SRF =	9
Number of 'foul' decomposer individuals	NRF =	10
Percentage of 'foul' decomposer individuals	%NRF =	10
Index of diversity of decomposer component	alpha RT =	20
Standard error	SE alpha RT =	5
Number of individuals of grain pests	NG =	8
Percentage of individuals of grain pests	%NG =	8

Number of individuals of grain pests	NG =	8
Number of uncoded taxa	SU =	15
Percentage of uncoded individuals	PNU =	17

Site: OGLA81 Context: 1103 Sample: 58/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Megasternum obscurum (Marsham)	6	6	1	rt
Lathridius minutus group	5	5	2	rd
Cercyon analis (Paykull)	4	4	3	rt
Cryptolestes ferrugineus (Stephens)	4	4	3	g
Cercyon haemorrhoidalis (Fabricius)	3	3	5	rf
Anotylus nitidulus (Gravenhorst)	3	3	5	rt d
Aphodius sp. A	3	3	5	ob rf
Trechus obtusus or quadristriatus	2	2	8	oa
Helophorus sp. A	2	2	8	oa w
Anotylus sculpturatus group	2	2	8	rt
Anotylus tetracarinatus (Block)	2	2	8	rt
Gyrohypnus angustatus Stephens	2	2	8	rt
Philonthus sp. B	2	2	8	u
Aleocharinae sp. B	2	2	8	u
Anobiidae sp.	2	2	8	l
Meligethes sp.	2	2	8	oa p
Oryzaephilus surinamensis (Linnaeus)	2	2	8	g
Atomaria sp.	2	2	8	rd
Corticaria sp.	2	2	8	rt
Sitophilus granarius (Linnaeus)	2	2	8	g
Auchenorhyncha sp.	1	1	21	oa p
Dyschirius ?globosus (Herbst)	1	1	21	oa
Pterostichus sp.	1	1	21	ob
Amara sp. A	1	1	21	oa
Amara sp. B	1	1	21	oa
Helophorus sp. B	1	1	21	oa w
Cryptopleurum minutum (Fabricius)	1	1	21	rf
?Chaetarthria seminulum (Herbst)	1	1	21	oa w
Hydrophilinae sp.	1	1	21	oa w
Onthophilus striatus (Forster)	1	1	21	rt
Histeridae sp.	1	1	21	u
Silphidae sp.	1	1	21	u
Omalium sp.	1	1	21	rt
Platystethus arenarius (Fourcroy)	1	1	21	rf
Anotylus rugosus (Fabricius)	1	1	21	rt
Stenus sp.	1	1	21	u
Xantholinus gallicus or linearis	1	1	21	rt
Neobisnius sp.	1	1	21	u
Philonthus sp. A	1	1	21	u
Quedius boops group	1	1	21	u
Tachinus sp. A	1	1	21	u
Tachinus sp. B	1	1	21	u
Falagria sp.	1	1	21	rt
Aleochara sp.	1	1	21	u
Aleocharinae sp. A	1	1	21	u
Aleocharinae sp. C	1	1	21	u
?Geotrupes sp.	1	1	21	oa rf

Aphodius sp. B	1	1	21	ob rf
Phyllopertha horticola (Linnaeus)	1	1	21	oa p
Melolonthinae/Rutelinae/Cetoninae sp.	1	1	21	oa p
Cyphon sp.	1	1	21	oa d
Dryops sp.	1	1	21	oa d
Ctenicera cuprea (Fabricius)	1	1	21	oa p
Elateridae sp.	1	1	21	ob
Ptinus sp.	1	1	21	rd
Omosita sp.	1	1	21	rt
Cryptophagus sp.	1	1	21	rd
Corticarina or Cortinicara sp.	1	1	21	rt
Gastrophysa viridula (Degeer)	1	1	21	oa p
Phyllotreta nemorum group	1	1	21	oa p
Longitarsus sp.	1	1	21	oa p
Halticinae sp.	1	1	21	oa p
Ceuthorhynchinae sp.	1	1	21	oa p
Curculionidae sp.	1	1	21	oa
Coleoptera sp. A	1	1	21	u
Coleoptera sp. B	1	1	21	u

Site: OGLA81 Context: 1116 Sample: 59/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	48
Number of taxa	S =	38
Index of diversity (alpha)	alpha =	83
Standard error of alpha	SE alpha =	28
Number of 'certain' outdoor taxa	SOA =	11
Percentage of 'certain' outdoor taxa	%SOA =	29
Number of 'certain' outdoor individuals	NOA =	13
Percentage of 'certain' outdoor individuals	%NOA =	27
Number of 'certain' and probable outdoor taxa	SOB =	17
Percentage of 'certain' and probable outdoor taxa	%SOB =	45
Number of 'certain' and probable outdoor individuals	NOB =	22
Percentage 'certain' and probable outdoor individuals	%NOB =	46
Index of diversity of outdoor component	alpha OB =	35
Standard error	SE alpha OB =	18
Number of aquatic taxa	SW =	4
Percentage of aquatic taxa	%SW =	11
Number of aquatic individuals	NW =	5
Percentage of aquatic individuals	%NW =	10
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	2
Number of strongly plant-associated taxa	SP =	4
Percentage of strongly plant-associated taxa	%SP =	11
Number of strongly plant-associated individuals	NP =	5
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 =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	2

Number of decomposer taxa	SRT =	14
Percentage of decomposer taxa	%SRT =	37
Number of decomposer individuals	NRT =	19
Percentage of decomposer individuals	%NRT =	40
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	5
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	4
Number of 'foul' decomposer taxa	SRF =	4
Percentage of 'foul' decomposer taxa	%SRF =	11
Number of 'foul' decomposer individuals	NRF =	7
Percentage of 'foul' decomposer individuals	%NRF =	15
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	5
Percentage of individuals of grain pests	%NG =	10
Number of individuals of grain pests	NG =	5
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 1116 Sample: 59/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aphodius sp. A	4	8	1	ob rf
Oryzaephilus surinamensis (Linnaeus)	4	8	1	g
Helophorus sp. A	2	4	3	oa w
Megasternum obscurum (Marsham)	2	4	3	rt
Acritus nigricornis (Hoffmann)	2	4	3	rt
Meligethes sp.	2	4	3	oa p
Trechus obtusus or quadristriatus	1	2	7	oa
Bembidion sp.	1	2	7	oa
Pterostichus sp. A	1	2	7	ob
Pterostichus sp. B	1	2	7	ob
Carabidae sp.	1	2	7	ob
Helophorus sp. B	1	2	7	oa w
Helophorus sp. C	1	2	7	oa w
Cercyon analis (Paykull)	1	2	7	rt
Cercyon haemorrhoidalis (Fabricius)	1	2	7	rf
Hydrophilinae sp.	1	2	7	oa w
Omalium sp.	1	2	7	rt
Anotylus nitidulus (Gravenhorst)	1	2	7	rt d
Anotylus tetracarinatus (Block)	1	2	7	rt
Gyrohypnus ?angustatus Stephens	1	2	7	rt
Neobisnius sp.	1	2	7	u
Tachinus sp.	1	2	7	u
Cordalia obscura (Gravenhorst)	1	2	7	rt
Aleocharinae sp. A	1	2	7	u
Aleocharinae sp. B	1	2	7	u
Aleocharinae sp. C	1	2	7	u
Aleocharinae sp. D	1	2	7	u
Aleocharinae sp. E	1	2	7	u
Geotrupes sp.	1	2	7	oa rf
Aphodius sp. B	1	2	7	ob rf
Phyllopertha horticola (Linnaeus)	1	2	7	oa p
Elateridae sp.	1	2	7	ob

Anobium punctatum (Degeer)	1	2	7	l
Cryptolestes ferrugineus (Stephens)	1	2	7	g
Cryptophagus sp.	1	2	7	rd
Lathridius minutus group	1	2	7	rd
Apion sp.	1	2	7	oa p
Curculio (Balanobius) sp.	1	2	7	oa p

Site: OGLA81 Context: 1117 Sample: 60/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	57
Number of taxa	S =	41
Index of diversity (alpha)	alpha =	65
Standard error of alpha	SE alpha =	18
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	15
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	11
Number of 'certain' and probable outdoor taxa	SOB =	11
Percentage of 'certain' and probable outdoor taxa	%SOB =	27
Number of 'certain' and probable outdoor individuals	NOB =	11
Percentage 'certain' and probable outdoor individuals	%NOB =	19
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	7
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	5
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	2
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	4
Number of strongly plant-associated taxa	SP =	1
Percentage of strongly plant-associated taxa	%SP =	2
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	2
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 =	41
Number of decomposer individuals	NRT =	24
Percentage of decomposer individuals	%NRT =	42
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	5
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	4
Number of 'foul' decomposer taxa	SRF =	5
Percentage of 'foul' decomposer taxa	%SRF =	12
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	9
Index of diversity of decomposer component	alpha RT =	27
Standard error	SE alpha RT =	12

Number of individuals of grain pests	NG =	6
Percentage of individuals of grain pests	%NG =	11

NB - over 10% grain pests and n > 50: for corrected re-run see over.

Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	14
Percentage of uncoded individuals	PNU =	33

Site: OGLA81 Context: 1117 Sample: 60/T - beetle/bug main statistics re-run after subtraction of grain pest component

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	51
Number of taxa	S =	39
Index of diversity (alpha)	alpha =	75
Standard error of alpha	SE alpha =	24
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	15
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	12
Number of 'certain' and probable outdoor taxa	SOB =	11
Percentage of 'certain' and probable outdoor taxa	%SOB =	28
Number of 'certain' and probable outdoor individuals	NOB =	11
Percentage 'certain' and probable outdoor individuals	%NOB =	22

Diversity index for OB not calculated, NOB = SOB or NOB < 20

Number of aquatic taxa	SW =	3
Percentage of aquatic taxa	%SW =	8
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	6
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	4
Number of strongly plant-associated taxa	SP =	1
Percentage of strongly plant-associated taxa	%SP =	3
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	2
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 =	44
Number of decomposer individuals	NRT =	24
Percentage of decomposer individuals	%NRT =	47
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	5
Number of 'dry' decomposer individuals	NRD =	2
Percentage of 'dry'decomposer individuals	%NRD =	4
Number of 'foul' decomposer taxa	SRF =	5
Percentage of 'foul' decomposer taxa	%SRF =	13
Number of 'foul' decomposer individuals	NRF =	5
Percentage of 'foul' decomposer individuals	%NRF =	10
Index of diversity of decomposer component	alpha RT =	27

Standard error	SE alpha RT =	12
Number of individuals of grain pests	NG =	6
Number of uncoded taxa	SU =	14
Percentage of uncoded individuals	PNU =	37

Site: OGLA81 Context: 1117 Sample: 60/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Anotylus rugosus (Fabricius)	7	12	1	rt
Aleocharinae sp. A	5	9	2	u
Cryptolestes ferrugineus (Stephens)	4	7	3	g
Carpelimus sp.	2	4	4	u
Anotylus nitidulus (Gravenhorst)	2	4	4	rt d
Oryzaephilus surinamensis (Linnaeus)	2	4	4	g
Trechus obtusus or quadristriatus	1	2	7	oa
Calathus ?melanocephalus (Linnaeus)	1	2	7	oa
Carabidae sp. A	1	2	7	ob
Carabidae sp. B	1	2	7	ob
Gyrinus sp.	1	2	7	oa w
Helophorus sp. A	1	2	7	oa w
Helophorus sp. B	1	2	7	oa w
Cercyon ?analis (Paykull)	1	2	7	rt
Cercyon haemorrhoidalis (Fabricius)	1	2	7	rf
Megasternum obscurum (Marsham)	1	2	7	rt
Onthophilus striatus (Forster)	1	2	7	rt
Omalium sp.	1	2	7	rt
Anotylus tetracarinatus (Block)	1	2	7	rt
Stenus sp.	1	2	7	u
Philonthus splendens (Fabricius)	1	2	7	rf
Philonthus sp. A	1	2	7	u
Philonthus sp. B	1	2	7	u
Staphylininae sp.	1	2	7	u
Tachinus sp.	1	2	7	u
Cordalia obscura (Gravenhorst)	1	2	7	rt
Falagria sp.	1	2	7	rt
Aleocharinae sp. B	1	2	7	u
Aleocharinae sp. C	1	2	7	u
Aleocharinae sp. D	1	2	7	u
Aleocharinae sp. E	1	2	7	u
Aleocharinae sp. F	1	2	7	u
Aleocharinae sp. G	1	2	7	u
Aphodius sp. A	1	2	7	ob rf
Aphodius sp. B	1	2	7	ob rf
Aphodius sp. C	1	2	7	ob rf
Phyllopertha horticola (Linnaeus)	1	2	7	oa p
Ptinidae sp.	1	2	7	rd
Lathridius minutus group	1	2	7	rd
Corticariinae sp.	1	2	7	rt
Coleoptera sp.	1	2	7	u

Site: OGLA81 Context: 1119 Sample: 61/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N =	21
Number of taxa	S =	18
Index of diversity (alpha)	alpha =	58
Standard error of alpha	SE alpha =	34
Number of 'certain' outdoor taxa	SOA =	2
Percentage of 'certain' outdoor taxa	%SOA =	11
Number of 'certain' outdoor individuals	NOA =	2
Percentage of 'certain' outdoor individuals	%NOA =	10
Number of 'certain' and probable outdoor taxa	SOB =	7
Percentage of 'certain' and probable outdoor taxa	%SOB =	39
Number of 'certain' and probable outdoor individuals	NOB =	7
Percentage 'certain' and probable outdoor individuals	%NOB =	33
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	1
Percentage of damp ground/waterside taxa	%SD =	6
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	10
Number of strongly plant-associated taxa	SP =	0
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 =	0
Number of decomposer taxa	SRT =	6
Percentage of decomposer taxa	%SRT =	33
Number of decomposer individuals	NRT =	8
Percentage of decomposer individuals	%NRT =	38
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 =	17
Number of 'foul' decomposer individuals	NRF =	4
Percentage of 'foul' decomposer individuals	%NRF =	19
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	3
Percentage of individuals of grain pests	%NG =	14
Number of individuals of grain pests	NG =	3
Number of uncoded taxa	SU =	5
Percentage of uncoded individuals	PNU =	24

Site: OGLA81 Context: 1119 Sample: 61/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Platystethus arenarius (Fourcroy)	2	10	1	rf
Anotylus nitidulus (Gravenhorst)	2	10	1	rt d
Cryptolestes ferrugineus (Stephens)	2	10	1	g
Pterostichus sp.	1	5	4	ob
Carabidae sp. A	1	5	4	ob
Carabidae sp. B	1	5	4	ob
Helophorus tuberculatus Gyllenhal	1	5	4	oa
Onthophilus striatus (Forster)	1	5	4	rt
Acidota crenata (Fabricius)	1	5	4	oa
Leptacinus sp.	1	5	4	rt
Staphylininae sp.	1	5	4	u
Aleocharinae sp. A	1	5	4	u
Aleocharinae sp. B	1	5	4	u
Aphodius sp. A	1	5	4	ob rf
Aphodius sp. B	1	5	4	ob rf
Oryzaephilus surinamensis (Linnaeus)	1	5	4	g
Coleoptera sp.	1	5	4	u
Coleoptera sp. B	1	5	4	u

Site: OGLA81 Context: 1126; Sample: 62/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1128 Sample: 63/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 5; Weight = 1.000kg

Number of individuals estimated as	N =	9
Number of taxa	S =	8

Site: OGLA81 Context: 1128 Sample: 63/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Paederinae sp.	2	22	1	u
Lygaeidae sp.	1	11	2	oa p
?Carabidae sp.	1	11	2	ob
Anotylus tetracarinatus (Block)	1	11	2	rt
Staphylininae sp.	1	11	2	u
Aleocharinae sp.	1	11	2	u
Coleoptera sp. A	1	11	2	u
Coleoptera sp. B	1	11	2	u

Site: OGLA81 Context: 1147 Sample: 64/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 5; Weight = 1.000kg

Number of individuals estimated as	N =	9
Number of taxa	S =	9

Site: OGLA81 Context: 1147 Sample: 64/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Staphylininae sp.	1	11	1	u
Aphodius sp. A	1	11	1	ob rf
Aphodius sp. B	1	11	1	ob rf
Phyllopertha horticola (Linnaeus)	1	11	1	oa p
Cryptophagus sp.	1	11	1	rd
Atomaria sp.	1	11	1	rd
Corticaria sp.	1	11	1	rt
Chrysomelidae sp.	1	11	1	oa p
Coleoptera sp.	1	11	1	u

Site: OGLA81 Context: 1136 Sample: 65/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

Number of individuals estimated as	N = 4
Number of taxa	S = 4

Site: OGLA81 Context: 1136 Sample: 65/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Helophorus sp.	1	25	1	oa w
Aleocharinae sp.	1	25	1	u
Aphodius sp.	1	25	1	ob rf
Atomaria sp.	1	25	1	rd

Site: OGLA81 Context: 1146; Sample: 66/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1159 Sample: 67/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N = 11
Number of taxa	S = 9

Site: OGLA81 Context: 1159 Sample: 67/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Lathridius minutus group	3	27	1	rd
Cercyon analis (Paykull)	1	9	2	rt
Platystethus arenarius (Fourcroy)	1	9	2	rf
Philonthus sp.	1	9	2	u
Aphodius sp.	1	9	2	ob rf
Phyllopertha horticola (Linnaeus)	1	9	2	oa p
Elateridae sp.	1	9	2	ob
Cryptolestes ferrugineus (Stephens)	1	9	2	g
Cryptophagus scutellatus Newman	1	9	2	rd

Site: OGLA81 Context: 1149 Sample: 68/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	92
Number of taxa	S =	41
Index of diversity (alpha)	alpha =	29
Standard error of alpha	SE alpha =	5
Number of 'certain' outdoor taxa	SOA =	12
Percentage of 'certain' outdoor taxa	%SOA =	29
Number of 'certain' outdoor individuals	NOA =	12
Percentage of 'certain' outdoor individuals	%NOA =	13
Number of 'certain' and probable outdoor taxa	SOB =	15
Percentage of 'certain' and probable outdoor taxa	%SOB =	37
Number of 'certain' and probable outdoor individuals	NOB =	15
Percentage 'certain' and probable outdoor individuals	%NOB =	16
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	2
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	1
Number of damp ground/waterside taxa	SD =	2
Percentage of damp ground/waterside taxa	%SD =	5
Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	3
Number of strongly plant-associated taxa	SP =	10
Percentage of strongly plant-associated taxa	%SP =	24
Number of strongly plant-associated individuals	NP =	10
Percentage of strongly plant-associated individuals	%NP =	11
Number of heathland/moorland taxa	SM =	1
Number of heathland/moorland individuals	NM =	1
Percentage of heathland/moorland individuals	%NM =	1
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 =	18
Percentage of decomposer taxa	%SRT =	44
Number of decomposer individuals	NRT =	52
Percentage of decomposer individuals	%NRT =	57
Number of 'dry' decomposer taxa	SRD =	6
Percentage of 'dry'decomposer taxa	%SRD =	15
Number of 'dry' decomposer individuals	NRD =	35
Percentage of 'dry'decomposer individuals	%NRD =	38
Number of 'foul' decomposer taxa	SRF =	3
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	3
Index of diversity of decomposer component	alpha RT =	10
Standard error	SE alpha RT =	2
Number of individuals of grain pests	NG =	9
Percentage of individuals of grain pests	%NG =	10
Number of individuals of grain pests	NG =	9
Number of uncoded taxa	SU =	7
Percentage of uncoded individuals	PNU =	21

Site: OGLA81 Context: 1149 Sample: 68/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptophagus scutellatus Newman	14	15	1	rd
Aleocharinae sp. A	11	12	2	u
Cryptophagus sp. A	10	11	3	rd
Lathridius minutus group	6	7	4	rd
Xylodromus concinnus (Marsham)	4	4	5	rt
Oryzaephilus surinamensis (Linnaeus)	4	4	5	g
Cryptolestes ferrugineus (Stephens)	3	3	7	g
Onthophilus striatus (Forster)	2	2	8	rt
Anotylus nitidulus (Gravenhorst)	2	2	8	rt d
Aleocharinae sp. B	2	2	8	u
Aleocharinae sp. C	2	2	8	u
Atomaria sp. A	2	2	8	rd
Atomaria sp. B	2	2	8	rd
Ulopa reticulata (Fabricius)	1	1	14	oa p m
Auchenorhyncha sp.	1	1	14	oa p
Helophorus sp.	1	1	14	oa w
Megasternum obscurum (Marsham)	1	1	14	rt
Omalium ?rivulare (Paykull)	1	1	14	rt
Anotylus rugosus (Fabricius)	1	1	14	rt
Leptacinus sp.	1	1	14	rt
Gyrohypnus fracticornis (Muller)	1	1	14	rt
Philonthus sp.	1	1	14	u
Tachinus laticollis or marginellus	1	1	14	u
Aleocharinae sp. D	1	1	14	u
Aleocharinae sp. E	1	1	14	u
Aphodius sp. A	1	1	14	ob rf
Aphodius sp. B	1	1	14	ob rf
Aphodius sp. C	1	1	14	ob rf
Phyllopertha horticola (Linnaeus)	1	1	14	oa p
Cyphon sp.	1	1	14	oa d
Ctenicera cuprea (Fabricius)	1	1	14	oa p
Corticariinae sp.	1	1	14	rt
Typhaea stercorea (Linnaeus)	1	1	14	rd
Palorus ratzeburgi (Wissman)	1	1	14	g
Phyllotreta sp.	1	1	14	oa p
Chaetocnema concinna (Marsham)	1	1	14	oa p
Halticinae sp.	1	1	14	oa p
Apion sp.	1	1	14	oa p
Sitona sp.	1	1	14	oa p
Sitophilus granarius (Linnaeus)	1	1	14	g
Mecinus pyraster (Herbst)	1	1	14	oa p

Site: OGLA81 Context: 1174.2; Sample: 69/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1191; Sample: 70/T

NO RECORDS OF BEETLES OR BUGS

Site: OGLA81 Context: 1220 Sample: 71/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	10
Number of taxa	S =	9
Index of diversity not calculated, n = s or n < 20		
Number of 'certain' outdoor taxa	SOA =	2
Percentage of 'certain' outdoor taxa	%SOA =	22
Number of 'certain' outdoor individuals	NOA =	2
Percentage of 'certain' outdoor individuals	%NOA =	20
Number of 'certain' and probable outdoor taxa	SOB =	4
Percentage of 'certain' and probable outdoor taxa	%SOB =	44
Number of 'certain' and probable outdoor individuals	NOB =	4
Percentage 'certain' and probable outdoor individuals	%NOB =	40
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	1
Percentage of damp ground/waterside taxa	%SD =	11
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	10
Number of strongly plant-associated taxa	SP =	1
Percentage of strongly plant-associated taxa	%SP =	11
Number of strongly plant-associated individuals	NP =	1
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 =	1
Percentage of decomposer taxa	%SRT =	11
Number of decomposer individuals	NRT =	1
Percentage of decomposer individuals	%NRT =	10
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 =	1
Percentage of 'foul' decomposer taxa	%SRF =	11
Number of 'foul' decomposer individuals	NRF =	1
Percentage of 'foul' decomposer individuals	%NRF =	10
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 =	60

Site: OGLA81 Context: 1220 Sample: 71/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aleocharinae sp.	2	20	1	u
Carabidae sp.	1	10	2	ob
Ochthephilum ?fracticorne (Paykull)	1	10	2	oa d
Xantholinus sp.	1	10	2	u
Staphylininae sp.	1	10	2	u
Mycetoporus sp.	1	10	2	u
Aphodius sp.	1	10	2	ob rf
Longitarsus sp.	1	10	2	oa p
Coleoptera sp.	1	10	2	u

Site: OGLA81 Context: 1221 Sample: 72/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	31
Number of taxa	S =	21
Index of diversity (alpha)	alpha =	29
Standard error of alpha	SE alpha =	11
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	29
Number of 'certain' outdoor individuals	NOA =	6
Percentage of 'certain' outdoor individuals	%NOA =	19
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	43
Number of 'certain' and probable outdoor individuals	NOB =	13
Percentage 'certain' and probable outdoor individuals	%NOB =	42
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	5
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	3
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	%SP =	5
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	3
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	%SRT =	24
Number of decomposer individuals	NRT =	15
Percentage of decomposer individuals	%NRT =	48
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 =	7
Percentage of 'foul' decomposer individuals	%NRF =	23
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	1
Percentage of individuals of grain pests	%NG =	3
Number of individuals of grain pests	NG =	1
Number of uncoded taxa	SU =	8
Percentage of uncoded individuals	PNU =	26

Site: OGLA81 Context: 1221 Sample: 72/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Xantholinus gallicus or linearis	7	23	1	rt
Aphodius ?prodromus (Brahm)	5	16	2	ob rf
Dyschirius ?globosus (Herbst)	1	3	3	oa
Pterostichus sp.	1	3	3	ob
Carabidae sp.	1	3	3	ob
Helophorus sp.	1	3	3	oa w
Cryptopleurum minutum (Fabricius)	1	3	3	rf
Acidota crenata (Fabricius)	1	3	3	oa
Anotylus tetracarinatus (Block)	1	3	3	rt
Stenus sp.	1	3	3	u
Lathrobium sp.	1	3	3	u
Neobisnius sp.	1	3	3	u
Staphylininae sp. A	1	3	3	u
Staphylininae sp. B	1	3	3	u
Aleocharinae sp. A	1	3	3	u
Aleocharinae sp. B	1	3	3	u
Pselaphidae sp.	1	3	3	u
Geotrupes sp.	1	3	3	oa rf
?Hoplia philanthus Illiger	1	3	3	oa
Cryptolestes ferrugineus (Stephens)	1	3	3	g
Chaetocnema arida group	1	3	3	oa p

Site: OGLA81 Context: 1237 Sample: 73/T - beetle/bug main statistics

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 =	1
Percentage of 'certain' outdoor taxa	%SOA =	8
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	8
Number of 'certain' and probable outdoor taxa	SOB =	3
Percentage of 'certain' and probable outdoor taxa	%SOB =	23
Number of 'certain' and probable outdoor individuals	NOB =	3
Percentage 'certain' and probable outdoor individuals	%NOB =	23
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	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 =	1
Percentage of strongly plant-associated taxa	%SP =	8
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	8
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	%NL =	8
Number of decomposer taxa	SRT =	7
Percentage of decomposer taxa	%SRT =	54
Number of decomposer individuals	NRT =	7
Percentage of decomposer individuals	%NRT =	54
Number of 'dry' decomposer taxa	SRD =	1
Percentage of 'dry'decomposer taxa	%SRD =	8
Number of 'dry' decomposer individuals	NRD =	1
Percentage of 'dry'decomposer individuals	%NRD =	8
Number of 'foul' decomposer taxa	SRF =	1
Percentage of 'foul' decomposer taxa	%SRF =	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 =	0
Number of uncoded taxa	SU =	3
Percentage of uncoded individuals	PNU =	23

Site: OGLA81 Context: 1237 Sample: 73/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Auchenorhyncha sp.	1	8	1	oa p
Trechus micros (Herbst)	1	8	1	u
Cercyon analis (Paykull)	1	8	1	rt
Carpelimus ?bilineatus Stephens	1	8	1	rt
Anotylus nitidulus (Gravenhorst)	1	8	1	rt d
Anotylus rugosus (Fabricius)	1	8	1	rt
Aleocharinae sp. A	1	8	1	u
Aleocharinae sp. B	1	8	1	u
Aphodius sp.	1	8	1	ob rf
Elateridae sp.	1	8	1	ob
?Anobium sp.	1	8	1	l
Atomaria sp.	1	8	1	rd
Enicmus sp.	1	8	1	rt

Site: OGLA81 Context: 1237.2 Sample: 74/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	9
Number of taxa	S =	9

Site: OGLA81 Context: 1237.2 Sample: 74/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Trechus obtusus or quadristriatus	1	11	1	oa
Cercyon ?analis (Paykull)	1	11	1	rt
Megasternum obscurum (Marsham)	1	11	1	rt
Hydraena sp.	1	11	1	oa w
?Omaliinae sp.	1	11	1	rt
Carpelimus sp.	1	11	1	u
Anotylus rugosus (Fabricius)	1	11	1	rt
Staphylininae sp.	1	11	1	u
Curculionidae sp.	1	11	1	oa

Site: OGLA81 Context: 1237.4B Sample: 76/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	36
Number of taxa	S =	12
Index of diversity (alpha)	alpha =	6
Standard error of alpha	SE alpha =	2
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	8
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	3
Number of 'certain' and probable outdoor taxa	SOB =	2
Percentage of 'certain' and probable outdoor taxa	%SOB =	17
Number of 'certain' and probable outdoor individuals	NOB =	2
Percentage 'certain' and probable outdoor individuals	%NOB =	6
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	8
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	3
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	%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 =	0
Number of decomposer taxa	SRT =	9
Percentage of decomposer taxa	%SRT =	75
Number of decomposer individuals	NRT =	28
Percentage of decomposer individuals	%NRT =	78
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	25
Number of 'dry' decomposer individuals	NRD =	10
Percentage of 'dry'decomposer individuals	%NRD =	28
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	17
Number of 'foul' decomposer individuals	NRF =	2
Percentage of 'foul' decomposer individuals	%NRF =	6
Index of diversity of decomposer component	alpha RT =	5
Standard error	SE alpha RT =	1
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 =	17

Site: OGLA81 Context: 1237.4B Sample: 76/T - species list in rank order

NOTE: this list includes 'semi-quantitative' records, marked by '*' in the first column of the comment following a record.

Taxon	Number	%	Rank	Ecodes
Xylodromus concinnus (Marsham)*	6	17	1	rt
Leptacinus sp. *	6	17	1	rt
Aleocharinae sp. X *	6	17	1	u
Atomaria sp. *	6	17	1	rd
Oxytelus sculptus Gravenhorst	3	8	5	rt
Cryptophagus scutellatus Newman	3	8	5	rd
Carabidae sp.	1	3	7	ob
Cercyon atricapillus (Marsham)	1	3	7	rf
Cercyon terminatus (Marsham)	1	3	7	rf
Ochthebius sp.	1	3	7	oa w
Tipnus unicolor (Piller & Mitterpacher)	1	3	7	rd
Aglenus brunneus (Gyllenhal)	1	3	7	rt

Site: OGLA81 Context: 1237.5B Sample: 77/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 2; Weight = 1.000kg

Number of individuals estimated as	N =	131
Number of taxa	S =	40
Index of diversity (alpha)	alpha =	20
Standard error of alpha	SE alpha =	3
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	15
Number of 'certain' outdoor individuals	NOA =	6

Percentage of 'certain' outdoor individuals	%NOA =	5
Number of 'certain' and probable outdoor taxa	SOB =	8
Percentage of 'certain' and probable outdoor taxa	%SOB =	20
Number of 'certain' and probable outdoor individuals	NOB =	8
Percentage 'certain' and probable outdoor individuals	%NOB =	6
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	1
Percentage of aquatic taxa	%SW =	3
Number of aquatic individuals	NW =	1
Percentage of aquatic individuals	%NW =	1
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	3
Number of damp ground/waterside individuals	ND =	1
Percentage of damp ground/waterside individuals	%ND =	1
Number of strongly plant-associated taxa	SP =	1
Percentage of strongly plant-associated taxa	%SP =	3
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	1
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	%NL =	1
Number of decomposer taxa	SRT =	22
Percentage of decomposer taxa	%SRT =	55
Number of decomposer individuals	NRT =	107
Percentage of decomposer individuals	%NRT =	82
Number of 'dry' decomposer taxa	SRD =	7
Percentage of 'dry'decomposer taxa	%SRD =	18
Number of 'dry' decomposer individuals	NRD =	37
Percentage of 'dry'decomposer individuals	%NRD =	28
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
Index of diversity of decomposer component	alpha RT =	9
Standard error	SE alpha RT =	1
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 =	9
Percentage of uncoded individuals	PNU =	11

Site: OGLA81 Context: 1237.5B Sample: 77/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Aglenus brunneus (Gyllenhal)	48	37	1	rt
Atomaria sp.	12	9	2	rd
Cryptophagus sp.	8	6	3	rd
Lathridius minutus group	8	6	3	rd
Aleocharinae sp. ?X	6	5	5	u
Atomaria ?nigripennis (Kugelann)	6	5	5	rd

Xylodromus concinnus (Marsham)	4	3	7	rt
Acritus nigricornis (Hoffmann)	3	2	8	rt
Leptacinus ?pusillus (Stephens)	3	2	8	rt
Anotylus rugosus (Fabricius)	2	2	10	rt
Euplectini sp.	2	2	10	u
Dyschirius sp.	1	1	12	oa
Trechus obtusus or quadristriatus	1	1	12	oa
Trechus micros (Herbst)	1	1	12	u
Pterostichus strenuus (Panzer)	1	1	12	oa
Laemostenus terricola (Herbst)	1	1	12	u
Carabidae sp. A	1	1	12	ob
Carabidae sp. B	1	1	12	ob
Hydroporinae sp.	1	1	12	oa w
Cercyon analis (Paykull)	1	1	12	rt
Megasternum obscurum (Marsham)	1	1	12	rt
Ptenidium sp.	1	1	12	rt
Anotylus tetracarinatus (Block)	1	1	12	rt
Gyrohypnus sp.	1	1	12	rt
Neobisnius sp.	1	1	12	u
Philonthus sp.	1	1	12	u
Aleocharinae sp. A	1	1	12	u
Aleocharinae sp. B	1	1	12	u
Aleocharinae sp. C	1	1	12	u
Cyphon sp.	1	1	12	oa d
Anobiidae sp.	1	1	12	l
Ptinus sp.	1	1	12	rd
Monotoma sp.	1	1	12	rt
Cryptophagus scutellatus Newman	1	1	12	rd
Orthoperus sp.	1	1	12	rt
Mycetaea hirta (Marsham)	1	1	12	rd
Enicmus sp.	1	1	12	rt
Blaps sp.	1	1	12	rt
Anthicus formicarius (Goeze)	1	1	12	rt
Chrysomelinae sp.	1	1	12	oa p

Site: OGLA81 Context: 1237.6B Sample: 78/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 2; Weight = 1.000kg

Number of individuals estimated as	N =	30
Number of taxa	S =	9
Index of diversity (alpha)	alpha =	4
Standard error of alpha	SE alpha =	1
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	11
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	3
Number of 'certain' and probable outdoor taxa	SOB =	1
Percentage of 'certain' and probable outdoor taxa	%SOB =	11
Number of 'certain' and probable outdoor individuals	NOB =	1
Percentage 'certain' and probable outdoor individuals	%NOB =	3
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	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	%SP =	11
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	3
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 =	7
Percentage of decomposer taxa	%SRT =	78
Number of decomposer individuals	NRT =	28
Percentage of decomposer individuals	%NRT =	93
Number of 'dry' decomposer taxa	SRD =	2
Percentage of 'dry'decomposer taxa	%SRD =	22
Number of 'dry' decomposer individuals	NRD =	12
Percentage of 'dry'decomposer individuals	%NRD =	40
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
Index of diversity of decomposer component	alpha RT =	3
Standard error	SE alpha RT =	1
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 =	3

Site: OGLA81 Context: 1237.6B Sample: 78/T - species list in rank order

NOTE: this list includes 'semi-quantitative' records, marked by '*' in the first column of the comment following a record.

Taxon	Number	%	Rank	Ecodes
Oxytelus sculptus Gravenhorst*	6	20	1	rt
Cryptophagus sp. *	6	20	1	rd
Atomaria sp. *	6	20	1	rd
Aglenus brunneus (Gyllenhal)*	6	20	1	rt
Coprophilus striatulus (Fabricius)	2	7	5	rt
Conomelus anceps (Germar)	1	3	6	oa p
Omalium sp.	1	3	6	rt
Aleocharinae sp.	1	3	6	u
Blaps sp.	1	3	6	rt

Site: OGLA81 Context: 1237.7B Sample: 79/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 2; Weight = 1.000kg

Number of individuals estimated as	N =	35
Number of taxa	S =	13
Index of diversity (alpha)	alpha =	8
Standard error of alpha	SE alpha =	2
Number of 'certain' outdoor taxa	SOA =	1
Percentage of 'certain' outdoor taxa	%SOA =	8
Number of 'certain' outdoor individuals	NOA =	1
Percentage of 'certain' outdoor individuals	%NOA =	3
Number of 'certain' and probable outdoor taxa	SOB =	2
Percentage of 'certain' and probable outdoor taxa	%SOB =	15
Number of 'certain' and probable outdoor individuals	NOB =	2
Percentage 'certain' and probable outdoor individuals	%NOB =	6
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	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	%SP =	8
Number of strongly plant-associated individuals	NP =	1
Percentage of strongly plant-associated individuals	%NP =	3
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 =	9
Percentage of decomposer taxa	%SRT =	69
Number of decomposer individuals	NRT =	31
Percentage of decomposer individuals	%NRT =	89
Number of 'dry' decomposer taxa	SRD =	4
Percentage of 'dry'decomposer taxa	%SRD =	31
Number of 'dry' decomposer individuals	NRD =	19
Percentage of 'dry'decomposer individuals	%NRD =	54
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
Index of diversity of decomposer component	alpha RT =	4
Standard error	SE alpha RT =	1
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 =	2
Percentage of uncoded individuals	PNU =	6

Number of decomposer taxa	SRT =	2
Percentage of decomposer taxa	%SRT =	25
Number of decomposer individuals	NRT =	2
Percentage of decomposer individuals	%NRT =	25
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 =	1
Percentage of 'foul' decomposer taxa	%SRF =	13
Number of 'foul' decomposer individuals	NRF =	1
Percentage of 'foul' decomposer individuals	%NRF =	13
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 =	3
Percentage of uncoded individuals	PNU =	38

Site: OGLA81 Context: 308.2 Sample: 80/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Trechus obtusus or quadristriatus	1	13	1	oa
Helophorus sp.	1	13	1	oa w
Coprophilus striatulus (Fabricius)	1	13	1	rt
Platystethus arenarius (Fourcroy)	1	13	1	rf
Philonthus sp.	1	13	1	u
Aleocharinae sp.	1	13	1	u
Meligethes sp.	1	13	1	oa p
Coleoptera sp.	1	13	1	u

Site: OGLA81 Context: 459 Sample: 84/T - beetle/bug main statistics

Erosion = 4 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	12
Number of taxa	S =	10
Index of diversity not calculated, n = s 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 =	1
Percentage of 'certain' and probable outdoor taxa	%SOB =	10
Number of 'certain' and probable outdoor individuals	NOB =	1
Percentage 'certain' and probable outdoor individuals	%NOB =	8
Diversity index for OB not calculated, NOB = SOB or NOB < 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 =	1
Percentage of damp ground/waterside taxa	%SD =	10
Number of damp ground/waterside individuals	ND =	1

Percentage of damp ground/waterside individuals	%ND =	8
Number of strongly plant-associated taxa	SP =	0
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 =	0
Number of decomposer taxa	SRT =	7
Percentage of decomposer taxa	%SRT =	70
Number of decomposer individuals	NRT =	7
Percentage of decomposer individuals	%NRT =	58
Number of 'dry' decomposer taxa	SRD =	1
Percentage of 'dry'decomposer taxa	%SRD =	10
Number of 'dry' decomposer individuals	NRD =	1
Percentage of 'dry'decomposer individuals	%NRD =	8
Number of 'foul' decomposer taxa	SRF =	1
Percentage of 'foul' decomposer taxa	%SRF =	10
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 =	4
Percentage of individuals of grain pests	%NG =	33
Number of individuals of grain pests	NG =	4
Number of uncoded taxa	SU =	1
Percentage of uncoded individuals	PNU =	8

Site: OGLA81 Context: 459 Sample: 84/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	3	25	1	g
Anotylus nitidulus (Gravenhorst)	1	8	2	rt d
Anotylus rugosus (Fabricius)	1	8	2	rt
Erichsonius sp.	1	8	2	u
Aphodius sp.	1	8	2	ob rf
Cryptophagus sp.	1	8	2	rd
Enicmus sp.	1	8	2	rt
?Alphitobius sp.	1	8	2	rt
Anthicus sp.	1	8	2	rt
Sitophilus granarius (Linnaeus)	1	8	2	g

Site: OGLA81 Context: 468 Sample: 85/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	34
Number of taxa	S =	25
Index of diversity (alpha)	alpha =	43
Standard error of alpha	SE alpha =	16
Number of 'certain' outdoor taxa	SOA =	8
Percentage of 'certain' outdoor taxa	%SOA =	32

Number of 'certain' outdoor individuals	NOA =	8
Percentage of 'certain' outdoor individuals	%NOA =	24
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	36
Number of 'certain' and probable outdoor individuals	NOB =	9
Percentage 'certain' and probable outdoor individuals	%NOB =	26
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	8
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	6
Number of damp ground/waterside taxa	SD =	1
Percentage of damp ground/waterside taxa	%SD =	4
Number of damp ground/waterside individuals	ND =	2
Percentage of damp ground/waterside individuals	%ND =	6
Number of strongly plant-associated taxa	SP =	4
Percentage of strongly plant-associated taxa	%SP =	16
Number of strongly plant-associated individuals	NP =	4
Percentage of strongly plant-associated individuals	%NP =	12
Number of heathland/moorland taxa	SM =	1
Number of heathland/moorland individuals	NM =	1
Percentage of heathland/moorland individuals	%NM =	3
Number of wood-associated taxa	SL =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	3
Number of decomposer taxa	SRT =	9
Percentage of decomposer taxa	%SRT =	36
Number of decomposer individuals	NRT =	13
Percentage of decomposer individuals	%NRT =	38
Number of 'dry' decomposer taxa	SRD =	3
Percentage of 'dry'decomposer taxa	%SRD =	12
Number of 'dry' decomposer individuals	NRD =	4
Percentage of 'dry'decomposer individuals	%NRD =	12
Number of 'foul' decomposer taxa	SRF =	1
Percentage of 'foul' decomposer taxa	%SRF =	4
Number of 'foul' decomposer individuals	NRF =	1
Percentage of 'foul' decomposer individuals	%NRF =	3
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	7
Percentage of individuals of grain pests	%NG =	21
Number of individuals of grain pests	NG =	7
Number of uncoded taxa	SU =	4
Percentage of uncoded individuals	PNU =	15

Site: OGLA81 Context: 468 Sample: 85/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	5	15	1	g
Anotylus nitidulus (Gravenhorst)	2	6	2	rt d
Anotylus rugosus (Fabricius)	2	6	2	rt
Gyrohypnus angustatus Stephens	2	6	2	rt
Aleocharinae sp. A	2	6	2	u
Typhaea stercorea (Linnaeus)	2	6	2	rd
?Berytinus sp.	1	3	7	oa p

Ulopa reticulata (Fabricius)	1	3	7	oa p m
Auchenorhyncha sp.	1	3	7	oa p
Trechus obtusus or quadristriatus	1	3	7	oa
Bembidion sp.	1	3	7	oa
Hydroporinae sp.	1	3	7	oa w
Helophorus sp.	1	3	7	oa w
Leptacinus sp.	1	3	7	rt
Neobisnius sp.	1	3	7	u
Staphylininae sp.	1	3	7	u
Falagria sp.	1	3	7	rt
Aleocharinae sp. B	1	3	7	u
Aphodius sp.	1	3	7	ob rf
Anobium punctatum (Degeer)	1	3	7	l
Oryzaephilus surinamensis (Linnaeus)	1	3	7	g
Cryptophagus sp.	1	3	7	rd
Lathridius minutus group	1	3	7	rd
Phyllotreta nemorum group	1	3	7	oa p
Sitophilus granarius (Linnaeus)	1	3	7	g