

Insect Remains from the Annetwell Street Site, Carlisle*

REPORT 9

Miscellaneous Samples from Level VIII,

Level IX, Level X and Period 3

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Date: 29th July 1988

[NB: This report was scanned and reformatted on 16th March 2008. The only changes have been to preserve internal consistency and to correct typographical errors. HK. The original was an archive report deposited at Environmental Archaeology Unit, Carlisle Archaeology Unit and Ancient Monuments Laboratory, and allocated *post hoc* as *Reports from the Environmental Archaeology Unit, York 88/19.*]

* Carlisle Excavation Unit site code: CAR80-84ANN

Summary

The features discussed in this report are represented by samples which mostly had a small insect content and therefore conclusive statements cannot be made about their character.

The drain samples yielded few insects but preservation was good, so loss from decay seems unlikely, suggesting a generally well-kept and clean environment. Of the samples from pits and holes only two gave assemblages permitting interpretation; one may have stood open for several weeks and one may have functioned as some kind of dump. Samples from the roads and miscellaneous locations were of limited interpretable value. Large numbers of fly remains were recovered from the two Period 3 samples.

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1. Introduction

This is the final report on material from the Annetwell Street site, Carlisle, presenting species lists, summary statistics and interpretations. The group of samples discussed here is rather mixed, but they have been organised into level/period order in the first instance and sample number order in the second instance.

Table 1. Annetwell Street, Carlisle. Descriptions of the sample material in sample number order. Water state was moist unless otherwise indicated.

Sample number	Context number	Description
60	1246	Mid red-brown crumbly sandy silt with component of orange/red silty clay.
104	1387	Mid pink/purple brown sandy silt. with a few small stones.
110	1551	Mid-dark grey/brown crumbly, humic, slightly sandy silt. Very small stones common.
115	1633	Mid-dark grey/brown sandy clay silt. Many small stones, some wood fragments.
116	1634	Dark brown crumbly sandy silt. Some small stones and wood.
117	1675	Mid-dark grey/brown crumbly-brittle, humic, slightly sandy silt. Small and very small stones and mortar present.
118	1631.2	Dark grey/brown crumbly sandy clay silt. Small and very small stones, charcoal and wood fragments present. Dry-moist.
120	1723	Dark grey/brown crumbly sandy silt, very slightly paler internally. Small stones common, large stones and plant fragments present.
121	1786	Dark bluish grey crumbly clay fine sand. Small and medium stones, charcoal and tile present.
122	1771	Mid brown slightly sandy clay silt with some yellow/brown components, patches of black silt and yellow flecks. Some visible plant fragments.
140	2078	Dark grey/brown plastic-crumbly clay sandy silt with some paler and redder patches. Small stones and wood fragments and a pink clay lens present.

158	2137	Mid-dark grey/brown sandy silt. Small stones and patches of reddish silt present, many wood fragments.
161	2161	Mid-dark grey-brown plastic clay silt. 1cm mottles common, indications of oxidation/reduction common. Small and very small stones and plant debris present.
167	2179	Dark grey/brown plastic-crumbly silty clay fine sand. Small and very small stones and wood fragments present.
168	2183	Mid-dark grey-brown plastic-crumbly silty clay fine sand. Small stones common. Wet.
174	2205	Very dark brownish black plastic silty coarse sand. Small and very small stones present. Charcoal abundant.
188	2370	Dark grey/brown coarse sandy silt with many small stones.
192	2382	Dark grey/brown sandy clay silt. Concreted in places.
214	2555	Light-mid yellow/brown plastic-crumbly silty clay with abundant mm size mottles.
217	2404	Dark grey crumbly-brittle slightly sandy silt with sandy mottles present. Very small stones and twig fragments present. Dry-moist.
230	2664	Dark grey crumbly sandy silt with components of pink clay. Small and very small stones, twig fragments and tile present.
242	2994	Mid grey/brown crumbly fine sand with abundant small and very small stones. Dry.
247	3111	Mid-dark brown sandy clay silt with many small stones.
252	3239.2	Mid brown crumbly sandy clay silt. Small and medium stones, wood fragments and bone less than 2cm present.
253	3207	Mid-dark grey/brown sandy clay silt with patches of mid pink/brown clay silt. Abundant small stones, some wood fragments. Dry-moist.
254	3240	Mid-dark grey/brown crumbly, humic, slightly sandy silt. Abundant small and very small stones.
255	3207	Mid-dark grey/brown sandy clay silt with some small stones. Dry-moist.
256	3247	Sandy clay silt with patches of pink clay. Many small stones and some wood fragments.
257	2203	Mid-dark grey-brown sandy clay silt with a high organic content. Many small and medium stones and some fine twiggy plant debris.
355	4810	Mid brown slightly sandy silt.

400	5171	Dark brown slightly sandy silt. Stones present.
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Table 2. Annetwell Street, Carlisle. Descriptions of dry-sorted sample residues in sample number order.

Sample number	Context number	Description
60	1246	Stones and sand with a few fragments of mammal bone.
104	1387	Fine sand and sandstone plus some tiny pieces of charcoal.
110	1551	Some charcoal and two pieces of pottery were present.
115	1633	Largely sand, stones and charcoal with some wood and mammal bone fragments.
116	1634	Sand and stones with some wood, charcoal, one bone fragment and a piece of brick/tile.
117	1675	Some organic material present, wood, charcoal and a piece of bone.
118	1631.2	Mostly wood and charcoal.
120	1723	Very sandy, much charcoal, a few seeds and fragments of wood.
121	1786	Some charcoal and metal were present.
122	1771	A small amount of wood and charcoal.
140	2078	Wood and charcoal were the only significant remains.
158	2137	Mostly sand and stones with some wood and charcoal.
161	2161	Small quantities of wood, charcoal and moss were present, and a piece of bone.
167	2179	Wood and charcoal were predominant, with fragments of nut-shell, moss and bone.
168	2183	Much wood and charcoal plus some brick/tile, nutshell and mammal bone.
174	2205	Mostly charcoal, two pieces of mortar also present.
188	2370	Largely sand and stones with a few fragments of wood and charcoal.
192	2382	Mainly sand and stones, wood present and one piece of nutshell.
214	2555	Small stones and a piece of chalk.
217	2404	A large quantity of charcoal containing wood and mammal

		bone fragments.
230	2664	Mostly sand and small stones with some twigs, charcoal and small eroded fragments of brick/tile.
242	2994	Some wood and charcoal present.
247	3111	Sand and stones with fragments of brick/tile, wood, charcoal and nutshell.
252	3239	Mostly wood fragments.
253	3207.1	Predominantly sand and stones with pieces of wood, charcoal and mammal bone.
254	3240	Basically sand and stones with a fair quantity of wood and charcoal, some seeds and a fragment of bone.
255	3207.2	Mainly sand stones and wood fragments and a few fragments of mammal bone.
256	3247	The greater proportion consisted of sand and stones, with wood and charcoal present
257	2203	Quite organic, but still mostly sand and stones. Some wood, charcoal and mammal bone present.
355	4810	Apart from puparia, the residue contained mostly sand, stones, wood and bone fragments. A piece of pottery was also present.
400	5171	Sand, stones, charred wood and charcoal.

2. Practical Methods

For a detailed description of the methodology employed, refer to Report 2 in this series.

3. Interpretative Methods

Interpretation is discussed by Kenward (1978), Kenward (1982) and Hall *et al.* (1983). The methods are based on (a) species composition (b) main statistics such as concentration, 'diversity' and the proportions of certain ecological groups and (c) population structure, as revealed by rank order and cumulative frequency plots.

4. Results of the Analyses

[Revised 2008. Data for this project can now be viewed in:

Kenward, H. (1999). Data archive: Insect assemblages from Annetwell Street, Carlisle (revised edition). *Reports from the Environmental Archaeology Unit, York* **99/32**, 126 pp.

The original edition of these reports included a large paper data archive. This has been omitted from the present version.]

5. Discussion of the Sample Assemblages

5.1 Sample from Level VIII

5.1.1 Sample 104, Context 1387

No insects were recovered from this sample, which came from a dump.

5.2 Sample from Level IX

5.2.1 Sample 60, Context 1246

No insects were recovered from this soil sample.

5.3 Samples from Drains/Gullies (Level X)

5.3.1 Sample 115, Context 1633

The flot from this sample contained mostly seeds and a small group of beetles (N = 26, S = 23) of a very generalised nature. Puparia were also present: one *Leptocera* sp. and one *Paregle radicum*.

5.3.2 Sample 118, Context 1631.2

This sample was taken from a dump of gulley silt in the E/W road. A very small flot was recovered, containing mites and a modest sized assemblage of beetles and bugs (N = 47, S = 29). Outdoor forms were quite abundant (%N OB = 26) and decomposers not very important. (%N RT = 40). Two of the most abundant taxa were *Carpelimus pusillus* group ('several') and *Anotylus nitidulus*, both of uncertain ecological implications but including waterside mud amongst their habitats. They may however, have had a 'background' origin like the rest of the assemblage.

5.3.3 Sample 121, Context 1786.2

The very small flot yielded only five beetle taxa.

5.3.4 Sample 158, Context 2137

A single mite and 14 beetle taxa of no special character were recovered from this sample, which was taken from a drain in the N/S minor road.

5.3.5 Sample 188, Context 2370

The drain was situated on the N/3 road, this sample being above the following sample (192). The flot consisted mostly of seeds and plant remains with a small and varied insect assemblage (N = 12, S = 11).

5.3.6 Sample 192, Context 2383

The location of this sample is described above. Some mites and a *Daphnia* sp. were the only invertebrates other than beetles, the latter being represented by 26 individuals of 18 taxa and forming a group of no particular implications.

5.3.7 Sample 247, Context 3111.2

From a drain in the N/S road, this sample yielded a meagre flot containing some mites and a few beetles (N = 19, S = 14) of no special character.

5.3.8 Sample 253, Context 3207.1

Situated in the minor N/S road this drain sample provided a more interesting flot. Apart from beetles, a scale insect, one ant, some mites, a few puparia (*Leptocera* sp. and *Sphaerocera* sp.) and four bugs were recovered.

The assemblage of beetles and bugs amounted to 43 individuals of 37 taxa. Over a quarter were 'outdoor' forms and decomposers were not numerous (%N RT = 37). Inspection of the species list suggests that this was wholly background fauna, much of the kind to be expected in a gradually-accumulating surface deposit.

5.3.9 Sample 254, Context 3240

The sample came from the fill of a drain in the E/W road. Five *Leptocera* sp. puparia and some mites were present in the flot.

There were 29 beetle taxa contributing a total of 38 individuals. The assemblage had no special character, although there was a hint of a group of decomposers which may have originated in nearby mouldering plant, remains.

5.3.10 Sample 255, Context 3207.2

This drain was located in the minor N/S road. Not a very well preserved flot, but with many seeds, an earwig, and ten *Sphaerocera* sp. and one *Leptocera* sp. puparia were recovered with the beetle assemblage (N = 37, S = 27). Although of no clear character there was a hint from this assemblage of nearby mouldering plant remains - indicated particularly by the three *Anthicus floralis* or *formicarius*.

5.3.11 Sample 256, Context 3247

A drain fill in the E/W road provided material for this sample which produced a flot containing some seeds, a *Daphnia* sp. and two *Nemopoda* sp.

There were 25 beetle taxa with 35 individuals. The most abundant species was a *Helophorus* water beetle, and there were three individuals of other eurytopic aquatics. These, together with the *Daphnia* offer evidence that water remained in this drain or a tributary for some time.

5.3.12 Sample 257, Context 2203

From the same place as the previous sample. Some mites and a bug were recovered from the flot as well as beetles (N = 44, S = 26). The latter formed an assemblage of no special character.

It is important to sample for and survey the insect remains from drain fills like those dealt with above. They will often provide rather few remains, as in the present case, but on

many sites drain and gully fills may present the only opportunity to examine surface conditions, albeit indirectly.

The present group of samples gave no striking information – only one sample gave a strong hint for the presence of standing water. Overall, the group of samples gave evidence that the surroundings were not too ill-kept; since remains were preserved in reasonable condition it appears likely that input of insect corpses was limited. There were a few plant-feeders associated with very sparse weed vegetation – plants such as Shepherd's purse (*Capsella bursa-pastoris*) might be envisaged as the only colonisers.

5.4 Samples from Pits/Holes (Level X)

5.4.1 Sample 117, Context, 1675

This pit sample produced a flot containing several mites, many seeds and five *Sphaerocera* sp. Preservation was fairly good.

Beetle numbers were estimated at 77, with 37 taxa. Outdoor forms were rather important (%N OB = 29), and of these nearly half were aquatics. Most of the aquatic component was accounted for by two *Helophorus* species, many of which are very eurytopic, but there was also a single *Riolus* sp., associated with flowing water. The decomposers were not very numerous and of various habitat types. A subjective impression is gained of a pit with open water which remained open over at least several weeks.

5.4.2 Sample 167, Context 2179

This sample was taken from what may have been a post hole. The small flot consisted mostly of plant material with quite a few well preserved seeds, some mites and two *Leptocera* sp. puparia.

The few beetles (N = 21, S = 16) probably re-presented randomly accumulated strays and redeposited corpses.

5.4.3 Sample 168, Context 2183

The fill of a wood-lined hole was the source of this sample, which produced a fairly small flot containing mites.

A small beetle assemblage was recovered (S = 24, N = 47), notable for the small proportion of outdoor forms and grain pests (%N OB = 9, %NG = 6) and the relative abundance of decomposers (%N RT = 70). Most of the latter were classified ecologically as Rd, with an estimated 15 *Cryptophagus scutellatus* and 6 *Lathridius minutus* group. There were no more than two individuals of any other taxa. This curious group of beetles is difficult to interpret; probably the Rd component bred in an accumulation of rather dry, mouldy, plant remains or on mouldy wood surfaces, but it is uncertain whether they were autochthonous or were introduced in dumped refuse, perhaps from a building.

5.4.4 Sample 174, Context 2205

This sample came from what was thought, to be a pit. Charcoal formed most of tile flot

and only 5 individuals of beetles of 3 taxa were recovered.

5.5 Samples from Roads (Level X)

Both of these samples were taken from silt in the E/W road.

5.5.1 Sample 110, Context 1551

The flot yielded many seeds, some mites and puparia: five *Leptocera* sp. and many ? *Sphaerocera* sp.

The small beetle assemblage had no special character, although the presence of four individuals of two *Helophorus* species was notable. These beetles often die of dehydration on smooth surfaces, especially shiny ones which they invade, mistaking them for water.

5.5.2 Sample 217, Context 2404

A flea, some mites a single bug and only 9 beetle taxa were recovered from this flot.

5.6 Miscellaneous Samples from Level X

5.6.1 Sample 116, Context 1634

This silt sample came from the base of a fence and produced a flot of average size. Apart from beetles, some seeds, mites and a few Sphaeroceridae sp. puparia were present.

There were 38 beetle taxa and an estimated 57 individuals. Subjectively a little unusual for Roman Carlisle, the assemblage included only two taxa with over three individuals, these being *Carpelimus bilineatus* and *C. pusillus* group. Both are found in waterside mud and in some kinds of decomposer habitats, but in the present case may be background fauna; perhaps settling of flying insects was encouraged by the low pressure downwind of the fence.

5.6.2 Sample 120, Context 1723

A silt dump was the source of this sample. The flot contained mites and a *Leptocera* sp. puparium.

Forty-six beetles were estimated to be present, including 35 taxa. The group had no special character apart from the dominance of Oxytelinae.

5.6.3 Sample 122, Context 1771

Another silt sample producing a flot of few remains - some seeds, mites, one *Leptocera* sp. and 14 individuals of Coleoptera.

5.6.4 Sample 140, Context 2078

Some seeds, charcoal and mites were recovered from the flot of this silt sample.

There were only 20 beetles of 14 taxa. There may have been a small breeding

decomposer community nearby, but the assemblage is uninterpretable.

5.6.5 Sample 161, Context 2161

Apart from beetles, the flot of this silt sample contained seeds and mites.

Coleoptera were represented by an estimated 32 individuals and 26 taxa. Outdoor forms predominated (%N OB = 44) and the remains were probably background fauna.

5.6.6 Sample 214, Context 2555

No insects were recovered from this silty clay sample.

5.6.7 Sample 230, Context 2664

Charcoal and silt from oven debris was the basis of this sample. Some mites and a beetle assemblage of 18 taxa and 19 individuals were produced in the flot. This was probably background fauna.

5.6.8 Sample 242, Context 2994

A small flot was yielded from this cobble/silt sample. Remains included quite a few seeds, some charcoal, mites and four *Leptocera* sp. puparia.

Beetles were rare (S = 12, N = 17). There may have been foul matter nearby, but this assemblage appears to have been background fauna.

5.6.9 Sample 252, Context 3239.2

Taken from an organic layer the sample provided a small reasonably well preserved flot of plant material, mites and 22 individuals of 16 beetle taxa. The assemblage had no special character.

5.7 Samples from Period 3

5.7.1 Sample 355, Context 4810

The material for this sample was taken from the top layer of pit A4779. Although the pit itself is assumed to belong to period pre-3, this particular layer was probably from the destruction of period 3B/2. The entire 900 gram sample was processed for puparia, the wet residue being sorted by Professor John Phipps. It was composed of a mass of waterlogged wood fragments and finely divided plant material containing large numbers of *Musca domestica*. There were no other insects.

5.7.2 Sample 400, Context 5171

The sample was located within Structure A4857, belonging to period 3A/2. An occupation deposit of highly organic silt existed during phase 2 of the structure and was the source of the sample material. As above, the sample (1.7 kg) was processed for puparia. Several hundred *Musca domestica* and one *Nemopoda* sp. were present. No other insects were recorded.

6. Acknowledgements

The authors are grateful to Ian Caruana and Mike McCarthy for providing archaeological information, to Simon Pearsall and John Pickering for assistance with sample processing and sorting of dry residues and to John Phipps for identification of fly remains.

7. References

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