

ANCIENT MONUMENTS LABORATORY

REPORT

2496

SERIES/No

ENVIRONMENTAL

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TITLE

General environmental investigations:
GLOUCESTER East Gate.

Environmental samples from Gloucester East Gate

A number of deposits on this site contained organic material. Some of these had been treated by simple water flotation and the flotants collected on site. Untreated soil samples had also been collected from certain deposits. Some of the flotants were examined in the Ancient Monuments Laboratory. For comparison, a few soil samples were sieved (minimum sieve size 425 microns) and the residue sorted with a low power binocular microscope. This was intended to provide an approximate indication of the materials in the samples, and did not represent a full analysis of the deposits concerned. The samples examined and their contents are listed below.

157

These samples came from the base of a large pit in The East Gate tower. The fill was thought to be 18th century, possibly dating from the use of the area as a prison. SS2 and SS3 came from the same layer.

SS2 - Flotant sample. Contained a few seeds (see Table I).

SS3 - Soil sample, weight 95 grams. Contained plant material and a few arthropod remains (Staphylinidae indet.(1), and Scarabaeidae indet. (1) legs and underside segments.)

Flotant sample. Contained a few unidentifiable seeds.

SS3 Also contained material resembling straw. This could possibly represent flooring or bedding, but the identifiable remains are too few to allow any conclusions to be made.

III F351

This was a square pit of uncertain date (C4th - C16th;- possibly late Roman). It contained a large quantity of organic material including seeds, fly pupae, grass, feathers, wood and leather.

SS24, (427) - Soil sample, weight 73 grams, from towards the top of the pit.

Contained seeds (Table I), leather (?), charcoal, unidentifiable plant remains and remains of one arthropod (Staphylinidae indet. head, thorax, left and right elytra, and underside fragments).*

SS31, (433) - Flotant sample from layer below (427). Contained seeds (see Table I).

(431) - Flotant sample from the "contents" of a wooden bowl near the bottom of the pit. Contained seeds (see Table I) and fly pupae.

Some of the seeds present in these samples (eg Rubus spp.) could be of dietary origin but this is difficult to establish with certainty. Some of the identified seeds represent weeds which could have grown in the vicinity of the pit, but many seeds could have been transported to the site. Numbers of seeds (with the exception of Rubus spp) are in any case very low. There is no indication that the seeds in sample (431) are related to the original contents of the bowl. It is more likely that this is part of the pit fill.

III F352 (437) SS40

Soil sample, weight 53 grams. Contained a few seeds (see Table I), charcoal, and one mollusc shell.

III (105)

This sample was from a 16th century deposit behind the wall. It was very mixed and therefore it is difficult to interpret the results.

Flotant sample. Contained seeds (see Table I)

The dominance of Sambucus nigra L. seeds in this (and the preceding) sample could possibly be due to differential preservation.

Comments

The samples examined from this site were too small for satisfactory analysis.

Results of this kind are difficult to interpret in any case because there are many different sources of organic material on an urban site. Although numbers of disseminules are given in Table I, it must be stressed that these may not be meaningful because of differential seed production and preservation.

*Identified by M. Girling

- Carole A. Keepax

Gloucester East Gate. Seed identifications by P.J. Paradine.

		III F351	III F352	III F353	III F354	III F355
		SS2	427	433	431	437
RANUNCULACEAE						
<u>Ranunculus acris</u> L.	Meadow buttercup	1				
PAPAVERACEAE						
<u>Papaver</u> sp.	Poppy			1		
CARYOPHYLLACEAE					1	
ROSACEAE						
<u>Rubus</u> spp.	Blackberries etc		636*	7		
<u>Prunus spinosa</u> L.	Sloe		11			
<u>Malus sylvestris</u> Mill.	Crab apple		18+frs	frs	2	
POLYGONACEAE						
<u>Polygonum</u> sp.	Persicarias	f				
<u>P.persicaria</u> L.	Pale persicaria		1			
LABIATAE						
<u>Lycopus europaeus</u> L.	Gipsywort				2	
<u>Betonica officinalis</u> L.	Betony					1
syn. <u>Stachys officinalis</u> (L) Trevisan						
CAPRIFOLIACEAE						
<u>Sambucus nigra</u> L.	Elderberry					3
COMPOSITAE						
<u>Chrysanthemum segetum</u> L.	Corn marigold				1	
<u>Leontodon autumnalis</u> L.	Autumn hawkbit			f		
CYPERACEAE						
<u>Eleocharis palustris</u> (L) (Roem. & Schult).	Common spike-rush			1**		
<u>Carex</u> sp. (most likely <u>C.hirta</u> L.)	Hairy sedge			2		

Key: f = fragment,
frs = fragments.

*Rubus is an extremely polymorphic plant. The seeds also exhibit this characteristic and are thus not always readily identifiable. This is an admixture containing seeds of R.idaeus L. (Raspberry), R.caesius L. (Dewberry) and at least one other species of blackberry. An accurate assessment of the percentages of species present is difficult, but there is at least 20% R.idaeus.

**Possibly modern.

Classification following Clapham, A.R., Tutin, T.G., Warburg, E.F., Flora of the British Isles 1962. Cambridge, University Press.

✓ GLOUCESTER

✓ 753161 III (427) Large seeds
Prunus spinosa L. Sloe 11 stones

XX 753161 I (57) SS3
Nil

✓ 753161 (437) F.352 SS40
Sambucus nigra L. Elderberry 3 seeds

✓ 753161 F.351 SS24 III (424) Small seeds
Polygonum persicaria L. Pale persicaria 1 achene
Malus sylvestris Mill. Crab apple 18 seeds and fragments
The seeds are well worn, but on assessment this is the most likely species.
Rubus spp. Blackberries; Raspberries and Dewberries 636 seeds
Rubus is an extremely polymorphic plant and the seeds also exhibit this characteristic and are thus not always readily identifiable. This is an admixture containing seeds of R.idaeus L. (Raspberry); R.caesius L. (Dewberry) and at least one other species of blackberry. I would not like to make an accurate assessment of the percentages of the species present but there is at least 20% of Rubus idaeus present.

✓ Seeds from content of wooden bowl 4/6/74 III F.351 (431)
Malus sylvestris Mill. Crab apple 2 seeds
Lycopus europaeus L. Gipsywort 2 nutlets
Chrysanthemum segetum L. Corn marigold 1 achene from a ray floret
Caryophyllaceae A small seed from this family, too eroded for even a genus level identification, but most likely from either Lychnis or Silene.
Empty insect larvae cases.

✓ 4/6/74 III F.351 (433)
Papaver sp. Poppy 1 seed
Malus sylvestris Mill. Crab apple Pieces of seeds
Rubus sp. Blackberry 7 seeds
Leontodon autumnalis L. Autumn hawkbit 1 broken achene
Carex sp. most likely C.hirta L. Hairy sedge 2 immature fruits
Eleocharis palustris (L) Roem & Schult. Common spike-rush 1 achene (modern)

✓ 4/6/74 I (57) SS2
Ranunculus acris L. Meadow buttercup 1 achene
Polygonum sp. Persicarias fragment

X 4/6/74 I (57) SS3
Some very small seeds which are too eroded to make any identification on, not even at Family level - they look to be very immature.

✓ Glouc. III (105) C.16th. mixed
Sambucus nigra L. Elderberry 117 seeds and fragments
Betonica officinalis L. Betony 1 nutlet
syn. Stachys officinalis (L) Trevisan

Paradine

P.J.Paradine