

Ancient Monuments Laboratory  
Report 19/86

PLANT REMAINS FROM SHACKERLEY MOUND

J R A Greig

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Summary

Plant remains from the Shackerley Moats, perhaps early 13th - mid 14th century, were investigated. Most of the plants were aquatics which would have grown in the moat or plants of damp banksides which would have grown around it. There were also cornfield weeds, ruderal (wayside) plants and some signs of scrub or hedgerow. Crop plants found include flax, wheat, rye and damson. The floras investigated were small.

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# PLANT REMAINS FROM SHACKERLEY MOUND

1

by JAMES GREIG

During the excavation a number of samples for botanical analysis were taken by the excavators and by Sue Colledge (formerly of the Dept Plant Biology, University of Birmingham). Of these, 5 samples were studied, four from the silts that filled the second moat and one (context 140) from the first moat.

The samples were disaggregated using hydrogen peroxide and then sieved through a stack of sieves (smallest mesh size - 300 microns). The plant remains identified are listed in taxonomic order (table \_\_).

## RESULTS

The various floras from the samples have elements of the following main kinds of vegetation: aquatic, marsh/bankside, grassland, annual weeds, cornfield weeds, ruderal vegetation, woodland/scrub and crops.

Aquatic vegetation needs water in which to float and this provides an indication that the moat was filled with water during the time the deposit was laid down. The main taxa concerned are Apium inundatum, Alisma sp., Potamogeton sp. and Lemna sp. The latter was numerous in context 30, otherwise there is no great concentration. Context 119 contained the aquatic snails Bithynia, Lymnaea and Planorbis, so there is a certain amount of evidence that the moat started off filled with water, but otherwise it is not clear what it was like.

Marshland and bankside vegetation needs damp conditions, and would be expected to grow at the edge of a moat. There is a fair range of taxa, and some of the seeds were very numerous. Ranunculus sceleratus, Lychnis flos-cuculi, Stellaria alsine, Polygonum hydropiper, Lycopus europaeus, Eleocharis uniglumis/palustris and the Carices are the main such taxa. Contexts 5 and 140 show great numbers of some of these seeds, which would accumulate either near the plants, or where their generally corky seeds would have settled. Accumulations of these would therefore indicate pool edge conditions. There is no general trend of increase to show a drying-out or overgrowth of the moat (hydrosere).

Grassland plants are a little hard to be certain about, as many of them also grow as marshland plants, weeds, in woodland or in other habitats. There is a number of such records, such as those of Ranunculus cf. acris, Cerastium holosteoides, Prunella vulgaris, Leontodon autumnalis and a range of grasses, but this cannot be taken as a great indication of grassland.

The annual weeds (Polygono-Chenopodietae) are ubiquitous in archaeological material, and they are present here, with records of taxa such as: Ranunculus sardous, Fumaria sp., Viola sp., Stellaria media, Chenopodium album, Atriplex sp., Polygonum aviculare agg., Urtica urens, Solanum nigrum, Galeopsis tetrahit/speciosa and the Sonchus thistles.

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1 Most of the samples were processed by Joy Ede, Central Excavation Unit. Further processing, and identification of waterlogged material was carried out by James Greig. Lisa Moffet identified the carbonised remains.

The cornfield weeds (Secalinetea) are a fairly distinct group, some of which are nowadays rather rare, others still common. Papaver argemone (poppy) is found, especially on light soils, as are Spergula arvensis (corn spurrey), Scleranthus annuus (knawel), Aphanes arvensis (parsley piert), Chrysanthemum segetum (corn marigold) and Centaurea cyanus (cornflower). Some of these are also indicative of acid soils, such as spurrey and corn marigold. Other cornfield weeds such as Agrostemma githago (corn cockle) are less soil-specific, or indicate rather different conditions, such as Anthemis cotula (stinking mayweed) which is most characteristic of heavy soils, sometimes calcicolous (base-rich), and Valerianella dentata (cornsalad), which is also more characteristic of calcicolous soils. Such a range of weeds is typical of a medieval site, and they could probably have all grown in the local fields. It is most likely that these plants were deposited in the moat in the form of remains from agricultural produce and waste products. Grain at various stages of processing, and straw would have been present in most farming settlements. The straw was used for feeding oxen (Tusser 1580), and perhaps also for roofing and animal bedding. Neither straw nor cereal remains survive well in waterlogged conditions, however the Secalinetea weeds (cornfield weeds) do. These weeds are a little difficult to study as they hardly occur in cornfields now. The medieval selection seen here has characteristics which appear to develop fully after 1200 AD or so, with cornflower a particular indicator. The reasons why are not understood, but appear to have something to do with the method of agriculture, the three field system.

Ruderal vegetation is distinguished by needing more than one season to become established (as in the case of the Chenopodietea and Secalinietea weed communities). There are not very great signs of the 'wayside' vegetation here; a small record of Malva (mallow), Conium maculatum (hemlock), various species of Rumex (dock), Urtica dioica (common nettle), Arctium sp. (burdock) and Cirsium (thistle). This is not unexpected from this kind of site.

Woodland, hedge and scrub form a vegetational continuum which is not very well represented by macrofossils, compared with its good pollen record (not available here). There are several taxa represented here, Ilex (holly)(leaf-spines), Crataegus (hawthorn), Prunus insititia (sloe), Alnus (alder), Betula (birch), Quercus (oak)(buds), and Fraxinus (ash)(leaf-scars). In addition, there are some herbs which are rather characteristic of woodland/hedgerow, such as Moehringia trinerva (three-nerved sandwort) and Torilis japonica (upright hedge-parsley). All of these could have arrived in the moat by having fallen in from overhanging vegetation, but the amount suggests that the moat was only moderately overgrown. Alternatively, some of the brushwood could have been deposited in the moat, like the cornfield weeds which seem to have been dumped there.

Crop plants were found, including Linum (flax) capsule fragments and charred wheat and barley grain, and a piece of rye rhachis. The Prunus insititia (sloe) stone could also be from a cultivated plant. This does not amount to much information on medieval farming since the remains are from oddments that fall into the moat.

#### COMPARISON WITH OTHER MOATS

The evidence from Shackerley moat is rather disjointed because it

relies on plant macrofossils alone, from a series of samples taken in a horizontal as well as a vertical succession. It can be compared with those obtained from a moat at Cowick, Humberside (Greig in preparation), a ditch at Nantwich, Cheshire (Colledge 1981), and the results from the post-medieval moat at Birmingham (Greig 1981). The Cowick moat seemed typical of one which started out clean when freshly dug, and gradually accumulated sediment and vegetation until it was completely choked and overgrown. The fewer tree remains in the Shackerley moat shows that it did not become so overgrown, and the records of aquatic plants show that there was probably water in the moat most of the time until it was finally covered over. The evidence of holly is interesting in that there are not a great number of records of this tree. It was present in Roman age deposits at Stourport (Osborne, pers. comm.) and remained rather unimportant in the midlands then, although later it seems to have become more widespread in the medieval period, and was found at Birmingham (seeds).

2

COMMENT (by D D Andrews)

The suggestion that a quantity of the plant remains present in the moat were the result of deliberate dumping is consistent with the archaeological interpretation of the layers of brushwood having been deposited in the moat to help stabilise the silts at a crossing point.

The evidence for holly in the upper levels of the moat silts could be interpreted as indicating that the site may have been surrounded by a holly hedge although it is equally likely that they derived from some other source.

#### REFERENCES

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2 The report on the plant remains arrived too late for the implications of the analysis to be incorporated in the main text of the report

TABLE 00

## SEED LIST

SAMPLE:	5	112	115	119	140	SAMPLE:	5	112	115	119	140
<i>Pteridium aquilinum</i>	1	-	-	-	-	<i>Mentha arvensis/aquaticus</i>	1	-	-	1	24
<i>Ranunculus cf. acris</i>	-	-	-	1	-	<i>Lycopus europaeus</i>	1	-	2	-	380
<i>Ranunculus subg. Ranunc.</i>	-	-	8	1	1	<i>Prunella vulgaris</i>	-	-	3	1	-
<i>Ranunculus sardous</i>	-	1	-	1	-	<i>Stachys sylvatica</i>	-	-	-	1	-
<i>Ranunculus flammula</i>	-	-	1	-	-	<i>Galeopsis tetr./spec.</i>	1	-	-	1	1
<i>Ranunculus sceleratus</i>	=380	-	4	2	7	? <i>Glechoma hederacea</i>	-	-	-	-	2
<i>Fumaria sp.</i>	-	1	-	-	-	<i>Sambucus nigra</i>	5	4	6	5	7
<i>Papaver argemone</i>	2	1	1	1	-	<i>Valerianella dentata</i>	1	-	1	1	-
? <i>Viola sp.</i>	1	-	-	-	-	<i>Dipsacus fullonum</i>	1	-	-	1	-
<i>Lychnis flos-cuculi</i>	+	-	-	-	-	? <i>Senecio aquaticus</i>	-	-	-	2	-
<i>Agrostemma githago</i>	-	-	=1	=2	-	<i>Tripleurospermum inodorum</i>	-	-	1*	1	-
<i>Cerastium holosteoides</i>	-	-	-	4	7	<i>Anthemis cotula</i>	1	1	28	12	-
<i>Cerastium sp.</i>	1	-	-	-	-	<i>Chrysanthemum segetum</i>	-	-	48	20	-
<i>Stellaria media</i>	1	-	-	6	4	<i>Centaurea cyanus</i>	-	-	2	-	-
<i>Stellaria alsine</i>	-	-	-	4	-	<i>Centaurea sp.</i>	-	-	-	1	-
<i>Moehringia trinerva</i>	-	-	-	1	-	<i>Arctium sp.</i>	-	1	-	-	-
<i>Spergula arvensis</i>	1	-	-	-	-	<i>Cirsium sp.</i>	1	-	-	-	9
<i>Scleranthus annuus</i>	1	-	-	1	-	<i>Lapsana communis</i>	-	-	2	2	-
<i>Chenopodium cf. album</i>	-	1	-	1	1	<i>Leontodon autumnalis</i>	-	-	6	-	-
<i>Atriplex sp.</i>	-	1	4	1	-	<i>Sonchus oleraceus</i>	-	-	-	-	1
<i>Malva sp.</i>	-	1	-	2	-	<i>Sonchus asper</i>	1	-	3	1	24
<i>Linum usitatissimum</i>	-	-	-	-	+ capsule fragments	<i>Alismataceae</i>	1	-	11	5	-
<i>Ilex aquifolium</i>	1	-	-	1	1	<i>Juncus sp.</i>	+	1	1	-	2
<i>Rubus fruticosus agg.</i>	1	2	15	-	15	<i>Lemna sp.</i>	55	1	90	-	-
<i>Rubus/Rosa thorns</i>	1	-	-	2	2	<i>Eleocharis uni./pal.</i>	1	-	2	1	149
<i>Potentilla erecta tp.</i>	-	-	1	1	-	<i>Isolepis setacea</i>	1	-	-	1	1
<i>Aphanes arvensis agg.</i>	-	-	-	-	1	<i>Carex cf. flava group</i>	-	-	7	-	-
<i>Crataegus monogyna</i>	-	-	-	1	-	<i>Carex cf. elata</i>	1	-	-	-	-
<i>Prunus/Crataegus thorns</i>	1	-	-	-	-	<i>Carex cf. nigra group</i>	-	-	18	-	-
<i>Prunus insititia</i>	-	-	1	-	6.8 x 5.6mm	<i>Carex cf. flacca</i>	-	-	-	1	-
<i>Epilobium sp.</i>	2	-	-	-	1	<i>Carex cf. disticha</i>	-	-	8	1	-
<i>Conium maculatum</i>	1	1	1	2	10	<i>Carex cf. ovalis</i>	-	-	-	2	-
<i>Apium nodiflorum</i>	1	1	6	2	1	<i>Carex cf. divulsa</i>	-	-	-	2	-
<i>Torilis japonica</i>	-	-	3	-	-	<i>Carex sp.</i>	-	4	5	-	-
<i>Umbelliferae</i>	-	-	-	1	-	<i>Glyceria sp.</i>	-	-	-	-	17
<i>Polygonum aviculare agg.</i>	2	4	-	4	1	? <i>Poa annua</i>	-	-	-	2	-
<i>Polygonum lapathifolium</i>	-	-	3	-	-	? <i>Poa pratensis</i>	-	2*	-	-	-
<i>Polygonum hydropiper</i>	-	-	8	29	324	? <i>Dactylis glomerata</i>	-	-	-	1	-
<i>Rumex acetosella</i>	-	1	23	8	1	? <i>Agropyron sp.</i>	-	-	-	1	-
<i>Rumex cf. longifolius</i>	-	-	-	-	2	? <i>Holcus sp.</i>	-	-	-	4	-
<i>Rumex crispus</i>	1	-	-	7	4	? <i>Agrostis</i>	-	-	-	6	-
<i>Rumex sanguineus</i>	-	-	-	4	-	Gramineae	-	-	+++	-	-
<i>Rumex conglomeratus</i>	2	-	2	8	-	? <i>Secale</i>	-	-	-	1	3*
<i>Rumex sp.</i>	2	23	8	11	26	<i>Triticum sp.</i>	-	2*	-	-	-
<i>Urtica urens</i>	-	-	-	1	-	<i>Hordeum sp.</i>	-	1*	-	-	-
<i>Urtica dioica</i>	8	1	16	100	64	* = charred remains					
<i>Betula sp.</i>	1	-	12	1	-						
<i>Alnus glutinosa</i>	3	1	1	84	1						
<i>Quercus sp. buds</i>	-	-	-	1	-						
<i>Fraxinus excelsior</i>	-	-	-	1	-	leaf abscission pad					
<i>Hyoscyamus niger</i>	-	9	2	4	8						
<i>Solanum dulcamara</i>	1	-	-	-	-	MOLLUSCS					
<i>Solanum nigrum</i>	-	-	-	1	-	? <i>Bithynia tentaculata</i>	-	-	-	-	8
<i>Euphrasia/Odontites</i>	-	-	2	1	-	? <i>Lymnaea tentaculata</i>	-	-	-	-	1
? <i>Rhinanthus sp.</i>	-	-	-	1	-	<i>Planorbis albus</i>	-	-	-	-	4
						<i>Planorbis crista</i>	-	-	-	-	4