

LATTON LANDS CHARRED AND WATERLOGGED PLANT REMAINS

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Introduction

Oxford Archaeology undertook four seasons of excavation at the gravel extraction site at Latton Lands. Over this period, 99 soil samples were taken, of which 69 were selected for processing after the exclusion of mixed deposits. The samples were assessed by Sikking (2005) and four were selected for analysis of the plant remains.

Methodology

Sample sizes ranged from 5-40 litres and were processed using a modified Siraf-type machine. Flot was collected onto 250 µm mesh and residue onto 500 µm mesh. Flots were assessed for waterlogged preservation, and if appropriate kept wet. Other flots were air-dried. Material was assessed using a binocular microscope. Four samples were recommended for analysis *ibid*. Plant remains were sorted and identified at x10 and x20 magnification. The identifications were checked by Professor Mark Robinson at the Environmental Archaeology Unit, Oxford University Museum, who also provided support during the analysis of the assemblage.

Results

Charred and waterlogged plant remains recovered are presented in tables * and **. Nomenclature follows Stace (1997).

The waterhole: pit [3786]

Sample 227 (context 3919) originated from a fill of pit [3786] which was interpreted by the excavators as a flax retting pit or a waterhole. The context contained bone, late Bronze Age/middle Iron Age pottery and burnt limestone. The pit was associated with a number of Middle Iron Age enclosures. A small waterlogged flot was produced from the 20 litres processed. A range of waterlogged weed seeds and other macroscopic plant tissues were recovered; no charcoal or charred plant matter was present. The range of taxa present suggests that the assemblage represents ancient conditions and is not the result of contamination or selective preservation.

Nettles, fat-hen, fig-leaved goosefoot and black night-shade are all indicative of the high nutrient levels of the ground surrounding the waterhole. There is also evidence of disturbed or trampled ground from silverweed, greater plantain and chickweed. Meadow/grassland seeds in the flot included the meadow buttercups (*Ranunculus* cf *acris* and *R. repens*), grasses and oxeye daisy. These species probably represent the area immediately surrounding the pit. Damp ground species, presumably from the edge of the pit, include spike rush, true rushes and sedges. The true aquatic, water crow foot buttercup, must originate from the fill of the pit itself. Thorns and seeds from a number of scrubby thorn bushes, probably including blackthorn, hawthorn, dogwood and brambles, were present in the pit.

The absence of flax seeds and capsules from the pit suggests that it was not a retting pit and should be regarded as a waterhole.

The evidence of trampled ground and nitrogen rich soils suggest that stock was kept in the vicinity of the waterhole. This is concurrent with the identification of

enclosures and field systems at the site, as well as with the faunal remains which might also suggest some pastoral activity (see Poole this volume). Also present in the pit is evidence for thorny scrub bushes and shade-loving plants. The presence of the shade loving plants three-nerved sandwort, ground ivy and dog's mercury is interesting. Dog's mercury seeds are quite large making it unlikely that these seeds would be transported over significant distances. It seems most likely that there was quite substantial shady areas in the immediate vicinity of the waterhole. Most likely the shade loving plants and thorny shrubs originate from managed hedging, recently cleared woodland or the survival of woodland in the vicinity of the waterhole. Evidence for hedges probably associated with stock control can be found at Mingies Ditch (Robinson 1993), although in this case the hedging was associated with the enclosure ditch rather than a waterhole. The presence of aquatic species in the waterhole, such as water crowfoot, also suggests it might be poorly maintained, overgrown with plants.

The Iron Age pit: pit [1289]

Samples 158 (context 1290) and 159 (context 1700) represented the fills of a single pit [1289]. This pit appears to have been associated with the eastern terminus of Iron Age enclosure [1258]. The lower fill (1700) is described as a thin lens of charred material, representing a small-scale dump of burnt material. This fill contained four sherds of early or middle Iron Age pottery. A period of silting followed, after which the charcoal rich dump (1290) occurred. This fill contained animal bone and worked flint. Both the fills of this pit represent deliberate dumps of domestic waste.

Sample 159 (context 1700) was the lower fill sampled from the pit. It contained cereal grain dominated by spelt/emmer wheat. Slightly more grains were identified as emmer wheat than spelt, and probable grains of emmer included grains which are shorted than often observed. Hulled barley was also present in the flot, as was a grain of probable oat. The cereal chaff mostly identified as spelt/emmer. Awn fragments of oat were also present in the flot.

Sample 158 (context 1290) contained 6 row hulled barley and spelt/emmer wheat, with a grain each of probable spelt and emmer. An oat grain was also present in this flot. A fragment of hazelnut shell was present and weed seeds were limited to dock, grass seeds and indeterminate weed seeds.

There are indications of slightly more dependence on emmer, including short grain emmer, in the lower sample from this feature. The lower sample is also richer in cereals generally (though this cannot be used to deduce the relative dependence on cultivated plants given that both deposits probably represent dumping of waste from very specific events). Given the limited volumes of cereal chaff, both deposits probably represent accidental burning of cereal either as part of the parching or another aspect of the crop processing (Nesbitt and Samuel 1996). The short emmer grains were perhaps a distinct variety of the crop. The upper fill (1290) contained more evidence for barley.

While these deposits are relatively rich in cereal remains, overall the site has scant evidence for cereal crop exploitation. The presence of middle Iron Age cereal crops in these quantities is in contrast to large complex sites such as Danebury, but might be viewed as analogous to a series of sites in the Thames Valley such as Thornhill Farm

(Robinson 2004) which demonstrate 'household' production/consumption *sensu* Stevens (2003).

The Iron Age ring gully: group number [1277], pit [1131]

A number of features were cut into the middle Iron Age ring gully [1277], these included pit [1131]. Sample 151 (context 1130) originated from the single fill of pit 1131, a silty domestic dump deposit, contain burnt and unburnt animal bone, and middle Iron Age pottery. Wheat cereal glume bases dominated the charred assemblage. The majority of these were spelt wheat or spelt/emmer wheat, while there was one potential item of emmer wheat. Only three cereal grains were present in the assemblage, but one short grain of spelt wheat might be indicative of adverse growing conditions.

The weed seeds include many grass seeds and seeds of plants of damp ground as well as some usual weeds of cultivation. It is possible that the coarse vegetation in the assemblage was cut as animal fodder or bedding.

The predominance of glume bases and absence of grain suggests that this assemblage is probably the by-product of cereal processing. Subsequently the chaff might have been used as a fuel source. Evidence of hawthorn may also be indicative of domestic waste from a hearth or the fuel from the cereal processing itself.

Summary

Other than the assemblages analysed here, the rest of the samples had very limited cereal grain or weed seeds. Generally the other samples contained 5 or fewer individual weed seeds or cereal grains and were subsequently not selected for analysis.

The evidence for cereals at the site is limited. Although cereal crops were recovered from and could have been grown locally, there is no evidence for large-scale cereal production or processing. The percentages of grain and chaff in the samples analysed here probably indicates localised domestic dumps from 'household' consumption.

Recently Stevens (2003) has noted the problems of interpretation of Iron Age arable subsistence strategies. The organisation of production and consumption of cereal crops should be regarded as site specific and can be as much influenced by available workers and social organisation as soil and growing conditions.

The presence of water tolerant plants (such as spike rush and sedges) in the charred assemblage suggest cultivation of wet or damp, seasonally flooded arable farmland. Because of the low levels of cereal remains, and the potential for distinct varieties of cereal grains (as exemplified by the short grained emmer wheat) it is likely that arable farming was a limited part of the Iron Age economies of Latton Lands. The presence of a distinct variety of cereal crop might also support the notion of 'household' levels of production; a small seed stock might result in distinct varieties of grain produced from a very localised crop economy. The exploitation of wet ground might indicate that marginal areas were exploited for crops, while the main focus of subsistence was pastoral. There is good evidence for pastoral economies at Latton, including exploitation of horse. A community specialising in (potentially specific) faunal resources, perhaps seasonally, and only 'household' use of cereal resources, would be

concurrent with other Iron Age specialist pastoral settlements occupying flood plains as reviewed by Stevens (2003).

Table *: Waterlogged plant remains from Latton Lands

Sample	227
Context	3919
Phase	LBA/MIA
Feature type	Pit 3786
Floated volume (litres)	20
Number of waterlogged items	845
No. of waterlogged items/litre	42.25
<i>Ranunculs cf acris</i> L.	Meadow buttercup 3
<i>R..cf. repens</i> L.	Creeping buttercup 9
<i>R. subgen. Batrachium</i> sp. (A. Gray)	Water crowfoot 11
<i>Papaver rhoeas</i> L.	Common poppy 8
<i>P. argemone</i> L.	Prickly poppy 3
<i>Urtica dioica</i> L.	Common nettle 74
<i>U. urens</i> L.	Small nettle 76
<i>Corylus</i> sp L.	Hazel nut shell 1
<i>Chenopodium ficifolium</i> Sm.	Fig-leaved goosefoot/Many-seeded goosefoot 2
<i>C. album</i> L.	Fat-hen 39
<i>Atriplex</i> spp. L.	Orache 6
<i>Moehringia trinevia</i> L. (Clairv)	Three-nerved Sandwort 9
<i>Stellaria media</i> gp. (L.) Vill.	Common chick weed 102
<i>S. graminea</i> L.	Lesser Stitchwort 6
<i>Cerastium cf. Fontanum</i> Baumg.	Common mouse-ear 2
<i>Rumex</i> sp.	Golden dock/Clustered dock 92
<i>Rubus fruticosus</i> L.agg.	Brambles 164
<i>Rubus</i> sp. L	Brambles 2
<i>Rubus</i> sp prickles	Brambles 3
<i>Potentilla anserina</i> L.	Silverweed 1
<i>P.cf. reptans</i> L.	Creeping cinquefoil 13
<i>Prunus spinosa</i> L.	Blackthorn 1
<i>Prunus/Crataegus</i> thorns	3
<i>Crataegus cf monogyna</i> Jacq.	Hawthorn 1
<i>Cornus sanguinea</i> L.	Dogwood 1
<i>Mercurialis perenis</i> L.	Dog's Mercury 3
<i>Solanum cf. nigrum</i> L.	Black nightshade 1
<i>Stachys</i> sp	Woundwort 32
<i>Glechoma hederacea</i> L.	Ground ivy 22
<i>Prunella vulgaris</i> L.	Selfheal 3
<i>Lycopus europaeus</i> L.	Gypsywort 1
<i>Plantago major</i> L	Greater plantain 1
<i>Sambucus nigra</i> L.	Elder 96
<i>Carduus L./Cirsium</i> Mill.	Thistles 8
<i>Sonchus asper</i> (L.) Hill	Prickly sow-thistle 1
<i>Leucanthemum vulgari</i> Mill.	Oxeye Daisy 2
<i>Juncus bufonius</i> grp	Toad rush 59
<i>J. articulatus</i> grp	Jointed rush 11
<i>J. effuseus</i> grp	Soft-rush 22
<i>Juncus</i> sp L.	Rush 4
<i>Eleocharis S. palustres</i> sp. (L.) Roem. & Schult.	Spike rush 2
<i>Carex</i> spp. L.	Sedges 6
Poaceae	Grasses 7
Leaf abscission pads	3
Buds and scales	5
Total weed seeds:	845

Table** : Charred plant remains from Latton Lands excluding charcoal

Sample	158	159	151
Context	1290	1700	1130
Phase	MIA	E/M IA	Middle IA
Feature type	Pit 1289	Pit 1289	?rubbish pit 1131 located in ring gully 1277
Floated volume (litres)	40	30	10
Total number of charred items:	117	159	204
No. of charred items/litre	2.9	5.3	20.4

CEREAL GRAIN

<i>Triticum dicoccum</i> (Schrank) Schulbl.	Emmer wheat		5	
<i>T. cf dicoccum</i> (Schrank) Schulbl.	Emmer wheat	2	13	
<i>T. cf dicoccum</i> short grains (Schrank) Schulbl.	Emmer wheat		5	
<i>T. dicoccum/spelta</i>	Emmer/spelt wheat	9	66	
	Spelt wheat		6	
<i>T. spelta</i> L.				
<i>T. cf spelta</i> L.	Spelt wheat	1		
<i>T. spelta</i> L. short grains	Spelt wheat			1
<i>Triticum</i> sp.	Wheat	6	1	
<i>Hordeum vulgare</i> L. hulled lateral	6 row barley	1		
<i>Hordeum</i> sp.-hulled	Barely		4	
<i>Hordeum</i> sp.	Barley	12	4	
Cereal indet	Cereal	49		
Poaceae indet	Grasses	3	5	23
Total grain		80	104	1

CEREAL CHAFF

<i>Triticum spelta</i> L. glume base	Spelt wheat	1	3	80
<i>T. dicoccum</i> (Schrank) Schulbl.	Emmer wheat	1	3	
<i>Cf T. dicoccum</i> (Schrank) Schulbl.				1
<i>T. dicoccum/spelta</i> glume base	Emmer/spelt wheat	20	18	65
<i>Avena</i> sp. awn fragments	Oat		2	
Total chaff		22	26	146

OTHER SEEDS

<i>Corylus avellana</i> L.	Hazelnut shell frag.	1		
<i>Chenopodium album</i> l.	Fat-hen			7
<i>Rumex</i> sp.	Docks	2	4	
<i>Crataegus</i> L. sp	Hawthorn			1
<i>Vicia/Lathyrus</i> L. sp.			2	1

Cf <i>Medicago lupulina</i>	Black medick			1
<i>Mentha</i> L. sp	Mint			1
<i>Vallerianella dentate</i> L.	Narrow-fruited cornsalad			1
<i>Eleocharis S. palustris</i> sp. L.	Tussock rush			1
<i>Carex</i> spp.	Sedges			4
<i>Bromus</i> cf <i>seculinus</i> L.	Chess	1		
Cf <i>B. seculinus</i> L.	Chess			2
Cf <i>Bromus</i> L sp.	Brome grass		5	
<i>Avena</i> sp L.	Oats	1		
Cf <i>Avena</i> sp L.	Oats		1	
Weed seed indet		7	12	15
Total weed seeds		72	41	72

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