Channel Tunnel Rail Link

London and Continental Railways

Oxford Wessex Archaeology Joint Venture

The charred plant remains from Mersham, Kent

by Chris Stevens

CTRL Specialist Report Series

2006

TABLE OF CONTENTS

1 INTRODUCTION 3

2 METHODS 3

3 RESULTS 3

3.1 The charred plant remains 3
3.2 Note on the mineralised remains 4

4 DISCUSSION 4

5 BIBLIOGRAPHY 6

LIST OF TABLES

Table 1: The charred plant remains from Mersham 9

1 INTRODUCTION

One hundred and two samples were taken from the excavation at Mersham (ARC MSH98). Forty-eight of these were processed and nine assessed for charred plant remains. Only seven of these nine samples produced charred plant remains, although all were analysed. In addition two samples from pits 38 and 151 produced mineralised remains from the residue and these were also analysed. All came from early medieval features, apart from one from post-medieval ditch, 186.

2 METHODS

Samples of 10 to 40 litres were processed by bucket flotation and the flots collected onto 0.5mm mesh sieves. Flots were air dried slowly prior to a rapid visual assessment of nine of them. The flot was dried as with the smaller fractions of the residues sorted for plant material using a low-powered binocular microscope. Plant macrofossils were then extracted, identified and quantified. The plant taxa identified from each sample are shown in Table 1 following the nomenclature of Stace (1997). Table 1 can be found at the end of the report.

3 RESULTS

3.1 The charred plant remains

A variety of carbonised remains from cultivated species and wild species were recovered from five of the samples. Within these samples cereal grains always far outnumber those of seeds of wild species. A further four samples produced little to no remains, two from early medieval pits, 49 and 26, a third from ditch 130, a fourth from post-medieval ditch 186.

The predominant cereal grains present were free-threshing wheat (*Triticum aestivum sl*) and hulled barley. Several rachis fragments of free-threshing wheat were recovered from pit 228, containing an animal burial. None were identifiable as either hexaploid or tetraploid. It is probable that oats (*Avena* sp.) were also cultivated at the site, although no identifiable floret bases were recovered. Several larger grains indicative of cultivated oats (*Avena sativa*) were recovered from the sample, although many may also be of the wild variety (*Avena fatua*). Only a single grain of rye (*Secale cereale*) was recovered. This cereal was quite prevalent at North of Westernhanger Castle, but appears to be almost absent at Mersham. More curious were several grains of what appeared to be spelt wheat (*Triticum spelta*), (also noted in the assessment Pelling 2001), although no chaff was present.

Several other crop species were also found, including beetroot (*Beta vulgaris*), broad bean (*Vicia faba*), plum (*Prunus domestica*), flax (*Linum usitatissimum*) and possibly lentil (*Lens culinaris*) although the size of this one seed may be suggestive of an immature seed of vetch, pea or bean (*Vicia* sp.). The other food remain present was hazelnut (*Corylus avellana*).

Many of the seeds of wild species identified are recorded as common crop weeds by Gerard (Woodwood 1998), most of them being large seeded. For example, corncockle (*Agrostemma githago*), vetch/wild pea (*Vicia/Lathyrus*), cleavers (*Galium aparine*), plantain (*Plantago lanceolata*), brome grass (*Bromus* sp.) and oats (*Avena* sp.) although some of these oat grains may be of the cultivated variety. Other species including clover (*Trifolium* sp.), sedge (*Carex* sp.) and dock, probably predominately curled-leaved dock (*Rumex crispus*) were also present.

Two of the species, corncockle (*Agrostemma githago*) and hemlock (*Conium maculatum*) are Roman introductions that seem to have become increasingly common weeds during the medieval period.

3.2 Note on the mineralised remains

Mineralised remains were recovered from a few of the samples although in most cases these were unidentifiable. However, the sample from pit 68, which was thought to be associated with iron working, produced many fragments of mineralised material. Two further pits (38 and 151), produced identifiable mineralised plant remains in some quantity. Mineralisation by calcium phosphate is often associated with cess type material that may come from human or animal waste. Several of the species recovered are only ever weeds, such as hemlock (*Conium maculatum*) and hedge parsley (*Torilis* sp.) whose seeds no doubt came from locally growing plants. Of more interest was a possible stone of plum (*Prunus domestica*) and many seeds of a Brassicaceae (*Brassica* sp.) species. The latter could be of a turnip, cabbage, oil seed rape, or similar type of plant, or perhaps no more than a weed. Unfortunately the nature of the mineralisation left little surface texture by which any positive or even tentative identifications could be made.

4 DISCUSSION

The range of both cereals and weeds from the Mersham excavations are faily typical of medieval assemblages. Free-threshing wheat often forms the predominant crop of this period, while rye and barley are also common. The findings of spelt type grains could be of some significance. However the absence of any glume remains means that a positive identification cannot be made, and the grain may rather be a variety of free-threshing wheat.

The presence of mainly large weeds and the fact that cereal grains outnumber weed seeds in all the samples indicates that the samples come from later processing stages (Hillman 1981, 1984). These are the final sieving and hand-sorting after the grain has already been threshed, winnowed, coarse and fine-sieved.

Of the wild species present corncockle (*Agrostemma githago*), is quite characteristic of medieval fields. Few of the species present are highly indicative of particular cultivation practices. In terms of soil types, small nettle (*Urtica urens*), ribwort plantain (*Plantago lanceolata*) and brome grass tend to be all associated more commonly with lighter and loamy soils. Sedges (*Carex* sp.) are commonly though not exclusively associated with wetter soils and their presence in the samples may indicate the cultivation of such marginal soils in the past. The high presence of ribwort plantain is an interesting feature of this site. The plant is a perennial species that does not survive well in more intensively cultivated fields subject to mouldboard ploughing and hand weeding.

The presence of seeds of beetroot is of some interest. It is difficult to distinguish seeds from the wild sea beet (*Beta maritima*) from the cultivated form (*Beta vulgaris*). The plant may also be grown and used for its leaf (chard or leaf beet), as well as its root (beetroot or sugar beet).

Seeds of such species are often rare on sites, however this is most probably because they are eaten as a root or a green leafed vegetable with the plant being harvested before it sets seed.

Beetroot as a leaf crop is listed in a decree issued by King Charlemagne of France (*c* 742-815) amongst suitable plants to cultivate within monasteries (Crisp and Childs Paterson 1966). Alexander Neckham, Abbot of Cirencester writing in his *De Naturis Rerum* of the ideal garden, also lists it as a desirable pottage herb along with herb mercury, orach, sorrel and mallows. A point echoed later by Thomas Hill (1652) over 400 years later. It should be noted that the rest of these 'pottage-herbs' (*Mercurialis*, *Atriplex*, *Rumex* sp. and *Malva* sp.), many of which are also listed within Charlemagne's decree, are all likely to be wild rather than of cultivated forms.

However, Green (1984) ascertains that beetroot recovered from medieval Winchester was of the cultivated rather than wild variety. Cultivated beet has also been recorded from medieval Kingston-upon-Hull (Williams 1977). Earlier records for the crop do exist from Roman and Anglo-Saxon York (Hall and Kenward 1990, Kenward and Hall 1995). Here to the cultivated beet, *Beta vulgaris* was identified as opposed to the wild form, *Beta maritima*.

Seeds of flax (*Linum usitatissimum*), a species cultivated for fibre and linseed, were also found and their presence on the site might indicate their association with either or both of these activities. Broad beans (*Vicia faba*) are well known from this and other sites, and may

commonly be dropped or discarded into fires during food preparation. Plum stones (*Prunus domestica*) while commonly found in waterlogged and mineralised deposits are more rarely found in carbonised form. Similarly while hazelnuts (*Corylus avellana*) were a common feature of medieval and later post-medieval diets and are regularly found in waterlogged samples, they are not frequently found in carbonised deposits.

The impression given by the appearance of these species in carbonised form, across relatively few samples is that they formed a more substantial part of the diet of the occupants of this site than perhaps seen for medieval sites in general. While none necessarily indicate a high status for the site, the site's inhabitants do appear to have a greater access to a broader arrange of plant foods than the average medieval peasant. The presence of cereals and weeds while not indicative that the site's inhabitants necessarily took part in agriculture testify that they at least stored and processed their own grain upon the site.

5 BIBLIOGRAPHY

ADS, 2006 CTRL digital archive, Archaeology Data Service, http://ads.ahds.ac.uk/catalogue/projArch/ctrl

Green , F J, 1984 The archaeological and documentary evidence for plants from the medieval period in England, in *Plants and ancient man: studies in palaeoethnobotany* (eds W van Zeist and W A Casparie), Proceedings of the 6th Symposium of the IWGP, Rotterdam, 99-144

Hall, A R, and Kenward, H K, 1990 Environmental evidence from the Colonia: General Accident and Rougier Street, *The Archaeology of York AY 14(6), CBA, 289-434 and fiche 1-9*

Kenward, H K, and Hall, A R, 1995 Biological evidence from Anglo-Scandinavian deposits at 16-22 Coppergate, *The Archaeology of York AY 14(7), CBA*

Crisp, F, and Childs Paterson, C, 1966 *Mediaeval gardens; flowery medes and other arrangements of herbs, flowers, and shrubs grown in the Middle Ages, with some account of Tudor, Elizabethan, and Stuart gardens,* New York

Hill, T, 1987 [1652] *The Gardener's Labyrinth: The First English Book on Gardening* (ed and introduction by R Mabey), Originally published 1577, this edition based on the 1652 ed

Hillman, G C, 1981 Reconstructing crop husbandry practices from charred remains of crops, in *Farming Practice in British Prehistory* (ed R J Mercer), Edinburgh, 123-162

Hillman, G, 1984 Interpretation of archaeological plant remains, The application of ethnographic from Turkey, in *Plants and Ancient man: Studies in the palaeoethnobotany* (eds W van Zeist and W A Casparie), Proceedings of the 6 th symposium of the international work group for Palaeobotanists, Rotterdam, 1-42

Pelling, R, 2001 Assessment of the Plant Remains, in URS, Merhsam, Kent (ARC MSH98): Detailed archaeological works assessment report, unpubl. report prepared by CAT for Union Railways (South) Limited, in ADS 2006

Stace, C, 1997 *New Flora of the British Isles* 2nd edition, Cambridge

Williams, D, 1977 The plant macrofossil content of medieval pits at Sewer Lane, Hull, in Armstrong, P, Excavations in Sewer Lane Hull 1974, *East Riding Archaeol 3, Hull Old Town Report Series,* Humberside, 18-32

Woodward, M, 1998 *Gerard's Herbal*, edited edition, Reading

Table 1: The charred plant remains from Mersham

Phase			**PM**	**EM 1450-1550?!**	**EM 1050-1225**	**EM 1050-1225**	**EM 1050-1225**	**EM 1075-1100/25**	**Med**	**1125-1175/1200**	**EM**	**EM 1050-1225**	**EM 1050-1225**
Feature Type			**Ditch**	**Cess pit**	**Pit animal burial**	**Cess pit**	**Pit**	**Pit - iron w'king?**	**ditch**	**pit -iron w'king pit**	**pit**	**Cess Pit**	**pit**
Sub-Group			**1099**	**1131**	**1129**	**1130**	**1164**	**1146**	**1065**	**1107**	**1111**	**1130**	**1027**
Cut			**186**	**40**	**228**	**38**	**98**	**68**	**130**	**49**	**26**	**38**	**151**
Context			353	383	403	414	440	432	519	567	570	419	366
Sample			1009	1019	1022	1023	1028	1029	1048	1064	1067	1024	1017
Phase			5	3?	3	3	3	3	3	3	3	3	3
Flot Volume (ml)			100	100	200	200	300	200	10	50	50	Mineralised	
Latin name	**common name**	**plant part**											
CEREALS													
Hordeum vulgare L. *sl*	barley	-		7	39	2	14	34			1		
Secale cereale L.	rye	-		1									
Triticum sp. L.	wheat	-		9	2				1				
Triticum cf. *spelta* L.	spelt wheat	-		4	3	3		5					
T. aestivum/spelta short grain	bread/spelt wheat	-						1 tail					
Triticum aestivum sl L.	bread wheat	-		17	94	67	28	54		4			
Triticum aestivum sl L.	bread wheat	-			8								
Cereal indet. (whole grains)	cereal	-			17	18	12	32			4		
Cereal fragments Indet. (est. whole grains)	cereal	-		23	21	17	13	15	3		2		
Cereal	cereal	R						1					
Cereal	cereal	CN					1						
Cereal	cereal	L/BCN			1	1							
Other Crops													
Beta vulgaris L.	beet	-		3									
Prunus domestica L.	wild plum	-				1	3					cf.1min	
Vicia faba var *faba L.*	broad bean	-			3	2		2					
Lens culinaris Medik./Immature Vicia sp.	lentil/vetch	-						1					
Linum usitatissimum L.	flax	-			1								
Species													

Phase			**PM**	**EM 1450-1550?!**	**EM 1050-1225**	**EM 1050-1225**	**EM 1050-1225**	**EM 1075-1100/25**	**Med**	**1125-1175/1200**	**EM**	**EM 1050-1225**	**EM 1050-1225**
Feature Type			**Ditch**	**Cess pit**	**Pit animal burial**	**Cess pit**	**Pit**	**Pit - iron w'king?**	**ditch**	**pit -iron w'king pit**	**pit**	**Cess Pit**	**pit**
Sub-Group			**1099**	**1131**	**1129**	**1130**	**1164**	**1146**	**1065**	**1107**	**1111**	**1130**	**1027**
Ranunculus L. sp. subg *Ranunculus* arb	buttercup	-						1					
Urtica dioica L.	common nettle	-						4					
Urtica urens L.	small nettle	-						2					
Corylus avellana L.	hazel	NS	1	8	24	6	12	35			1		
Agrostemma githago L.	corncockle	-				2		3					
Rumex sp. L.	dock	-			7	2	1	1					
Rumex cf. *crispus* L.	curled dock	-		2	18	2		5					
Brassica sp. L.	cabbage	-											35 min
Crataegus monogyna Jacq.	hawthorn	-					2		1				
Vicia L./*Lathyrus* sp. L.	vetch/pea	-		3	16	13	7	7			1	cf.1 min	
Vicia sativa L.	common vetch	-					1						
Trifolium sp. L.	clover	-		1/med	2		1	2					
Conium maculatum L.	hemlock	-											1 min
Torilis sp. Adans.	hedge parsley	-											1 min
Plantago lanceolata L.	ribwort plantain	-				1		4					
Galium aparine L.	cleavers	-			6		1	3					
Carex sp. L. trigonous	sedge	-			1			1					
Poaceae (mid sized caryopsis)	grasses	-			2			1					
Poaceae	grasses	CN			3	1	1						
Avena sp. L.	oat	-		10	25	10	4	19		1	2		
Avena L./*Bromus* L. sp.	oat/brome	-						2					
Bromus sp. L.	brome	-			1	5	1	1					
Hordeum cf. *murinum L.*	wall barley	-				1							
Seed indet.		-						2 min					
Tuber/fruit parenchyma									9 frgs				
Tuber/Panchyma frgs.					1			4 frgs					
Mineralised matter					2 indet.			+++					
Fish bones + mineralised								++					

Key

-: seed/fruit/grain; CN: culm node; L/BCN: lower/basal culm internode; NS: nutshell fragment; R: rachis fragment