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PLANT REMAINS FROM CHURCH CHARE, CHESTER-LE-STREET, 1990-91 (CC90)

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Summary

Bulk samples were taken from excavations inside the officers' quarters of the Roman fort of Congangis at Chester-Le-Street, County Durham. Strategic problems with adverse weather led to poor flotation on-site and possible loss of information. Few plant remains were recovered although this is not thought to be primarily a result of those strategic problems. Wheat and barley were used by the Romans but there was no evidence of cereal chaff. The weed seeds were primarily from ruderal species and were considered to represent locally growing vegetation. Waterlogged preservation occurred only in one pit, dated to the 17th century although with some residual Roman pottery. Its assemblage indicated some faecal material but also general deposition of rubbish and possibly, also, a pit that was in the open. This site is compared with others from the same town and found to be very similar.

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Plant remains from Church Chare, Chester-le-Street, 1990-91 (CC90)

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The Roman fort of Congangis at Chester-le-Street, County Durham, lies upon a relatively flat area to the south of, and prominently above, the small valley of the Cong Burn. The main road, the Pons Aelius, to Newcastle upon Tyne passes to the west of the fort. A general location plan and specific site plans may be found in Figure 1.

The area excavated during the winter of 1990 lay within the fort and consisted of two major parts. The first was a section of barrack block with distinct rooms visible. Drains lay under the floor levels and some pits were present. One pit immediately outside and to the north of the barrack block contained organic deposits and was considered to be a possible latrine pit. The second area was a more general road and open, possibly industrial, area to the south and east of the barrack block. During the later stages of excavation an early rampart and ditch defense system within the fort was reached. Although the winter weather did its best in flooding and snow falls the site was not waterlogged other than periodically, consequently only carbonised preservation was expected other than possibly within the one deep pit.

Following the recommendations put forward prior to excavation (Huntley, June 1990) bulk samples were taken from occupation layers, pit and drain fills, and processed on-site. Fifteen 60-litre such samples were processed with a further two from a drain fill left "whole" for parasite and insect work (these were sent to the Environmental Archaeology Unit at York for analysis). In addition further material was taken and kept "whole" from the bulk sampled contexts. As requested the flots were collected over 500μ mesh and the residues over 1mm. The flots, residues and two whole samples were sent to the Durham Bio.Lab. for analysis. They were all from well stratified contexts and can be dated to the late-3rd - early-4th centuries.

The flots were generally small, less than 100ml, and still extremely dirty. They were consequently thoroughly rinsed over 500μ, which often reduced their bulk by nearly a half, and dried. The residues were likewise extremely dirty due to the appalling weather conditions on-site and had to be further washed and dried before sorting. This had the lead-on question as to flot "quality" - what still remained in the residues but should have floated and, more importantly, what had washed through the residue mesh and been lost?

The flots were sorted under a stereoscopic microscope at magnifications of up to x40; seeds were identified by comparison with modern reference material held in the Durham Bio.Lab.; nomenclature follows Clapham, Tutin and Moore (1987).

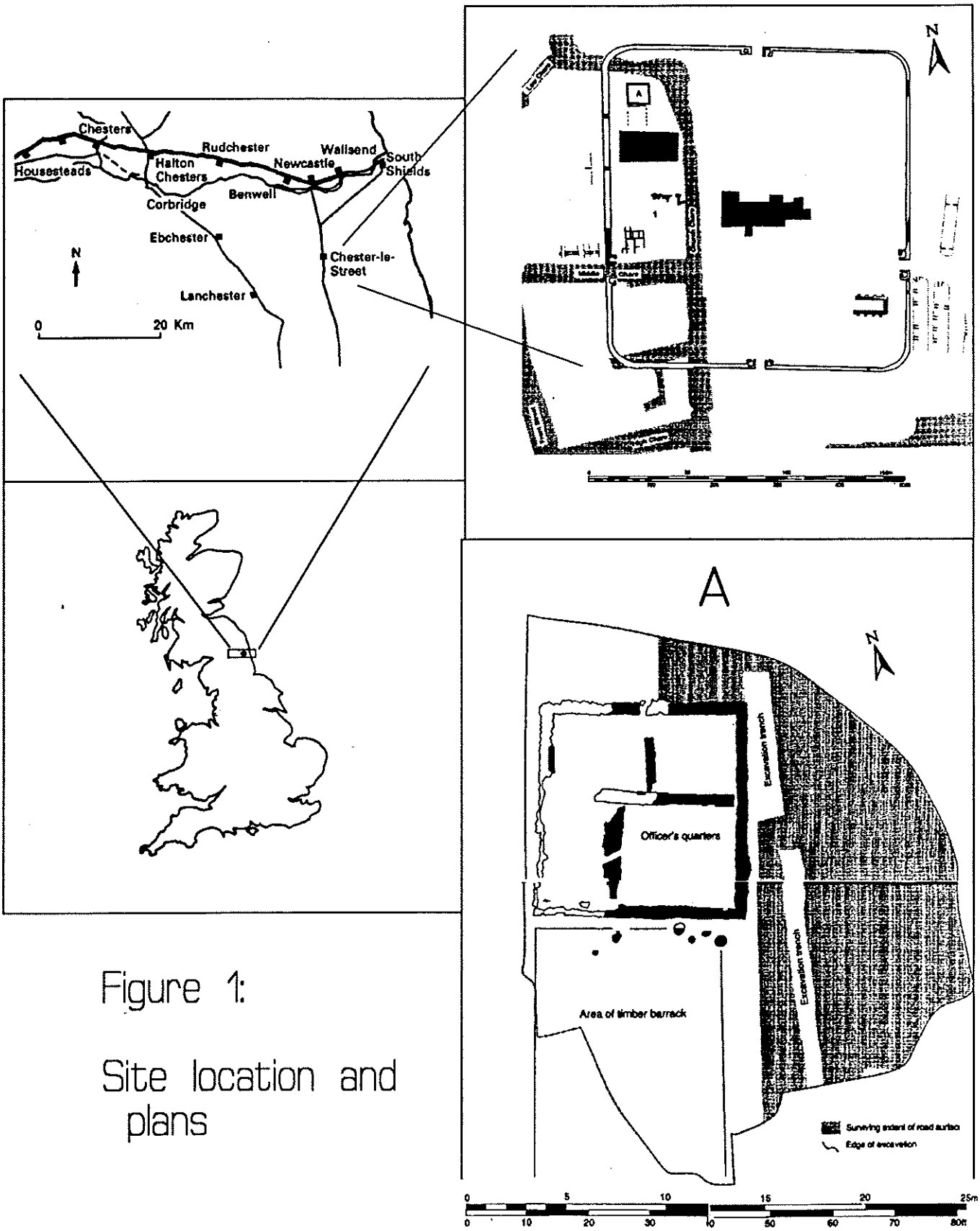

Figure 1:

Site location and plans

The original evaluation for the site asked a wide variety of questions. Following excavation it became apparent that some of these were no longer valid and, given the processing problems and quality of material, the very basic questions of "What cereals were present"? and "What evidence is there for local vegetation"? are about all that should be asked.

Table 1 presents the contextual information for the samples analysed.

Table 1: Contextual details of samples (in phase order)

Context	Sample	Phase	Context type
357	32	1	fill of post-hole
362	35	1	grey, gritty silt packing fill
359	31	1	fill of post-hole
189	36	2	greenish grit, fill
110	3	2	drain fill
110	34	2	drain fill
188	37	3	clay/loam matrix of fill
207	13	4	east-west drain fill
129	22	4	dark loamy-clay+charcoal, fill
76	12	4	greenish collapse east wall
64	2	4	black, organic loam fill
63	5	4	greenish, loose organic fill
62	4	4	dark brown-black clay fill
142	24	6	latest fill of pit 141
253	26	6	fill of pit 252

Table 2 presents the botanical data with the samples arranged in phase order and the taxa within broad ecological category. So few remains were present that it is not possible to offer interpretations of any specific feature. The carbonised material was generally not well preserved which was particularly disappointing given the lack of intrusive material for the site as a whole. Other than pit 252 all of the samples contained only carbonised plant remains. These were mainly from cereal grains although many could not be identified. Of those that could, wheat (*Triticum* sp.) was most common with small amounts each of barley (*Hordeum* sp.) and oats (*Avena* sp.). Some of the wheat had the characteristic shape of the hexaploids and one was clearly from bread wheat. The barley grains were hulled and both twisted and straight embryos occurred thus indicating that at least some of the barley was 6-rowed *Hordeum vulgare*. One grain of rye (*Secale cereale*) was recovered. No chaff from any of the cereals was found.

Table 2: Botanical data

Bio.Lab. code number	10981099	11001090	10911095	10941088	10861087	10891092	10961093	1097
Context number	359	362	357	110	110	189	188	64	62	63	76	129	207	142	253
Sample number	31	35	32	34	3	36	37	2	4	5	12	22	13	24	26
Phase	1	1	1	2	2	2	3	4	4	4	4	4	4	6	6
ccAvena grain									1				4	1	2
ccCerealia undiff.				1	1			1		3	3	4	6	1	1
ccHordeum hulled										3		1			1
ccHordeum indet.												2	1		
ccHordeum straight hulled										1					
ccHordeum twisted hulled										1					
ccSecale cereale grain															1
ccTriticum (hexaploid)								1				1		6	
ccTriticum aestivum grain														1	
ccTriticum sp(p). grain									5	1	1	4	6	1	2
cgPlantago lanceolata												3			
chCalluna vulgaris flowers										1	1				
chSieglingia decumbens												1			
crGalium aparine											1				
crRumex obtusifolius-type												1			
csCulm nodes												1			
ctCorylus avellana nut frag.								1	2			1	4	1	
cwCarex (trigonous)											2		1		
cwEleocharis sp(p).										1					
cxGramineae <2mm								2				1		1	
cxLegume <4mm												1			
cxLegume >4mm											1		1		
wcbran fragments															9
weFicus carica															1
wgRumex acetosa															2
wrConium maculatum															9
wrUrtica dioica															9
wtRubus fruticosus															99
wtSambucus nigra															1
wtStachys sylvatica															1
wwCarex (trigonous)															2
wxChenopodiaceae undiff.															999

c/w carbonised/waterlogged: c - cereal, g - grassland, h - heathland, r - ruderal,
t - wood/scrub, s - cereal chaff/straw, w - wet ground, x - unclassified, e - exotic

Few other seeds were recovered. Those that were indicated ruderal communities and some grassland, with species such as ribwort plantain (*Plantago lanceolata*), docks (*Rumex obtusifolius*-type) and small vetches present. Burnt fragments of hazelnut shells (*Corylus avellana*) probably represent food and a few burnt sedge (*Carex* sp. and *Eleocharis* sp.) nutlets suggest wet ground communities also in the area. The heather (*Calluna vulgaris*) flowers probably are remnants of bedding or roofing material.

The fill of pit 252 contained waterlogged material as well as the one carbonised rye grain found. Its assemblage was dominated by seeds of orache / goosefoot species (Chenopodiaceae undiff.) with considerable numbers of blackberry pips (*Rubus fruticosus*) too. Bran fragments were present and one fig pip (*Ficus carica*) was noted. Nettle (*Urtica dioica*) seeds were common. The indications are that some of this material was probably faecal in origin; the blackberries, fig and bran almost certainly having been eaten. The nettles indicate high levels of nutrient closeby. Whether the vast numbers of Chenopodiaceae seeds represent food, since they do contain large amounts of starch, or a few plants growing opportunistically in an alleyway for example, is more difficult to determine. If they had been part

of the diet they may be expected to have been broken or at least partially fragmented. They are, therefore, probably representative of local vegetation. This would be in accord with the henbane (*Conium maculatum*) which, although a drug plant, also grows as a ruderal in "waste" ground. It is therefore suggested that this pit was probably a latrine although it also seems to have been in receipt of rubbish or it may have been in the open thus allowing seeds from adjacent plants to fall in.

Although some seeds were almost certainly lost through poor flotation due to the bad weather conditions on-site they are not considered likely to have made interpretation any clearer, particularly since so few seeds overall were recovered. There was only the ocassional cereal grain in the re-washed residues.

Given such few remains in total little may be said of differences between phases of activity with any certainty. However, there are no seeds from the early timber fort phase. This may reflect short-term use of such a fort with little burnt material ever being produced. Only two unidentifiable cereal grains were recovered from phase 2, the preliminary period of construction of the second fort. The majority of seeds were from phase 4 samples and from pit fills. This was a period during which the officers' quarters were initially still occupied but with evidence for demolition towards the end of the phase. The waterlogged seeds came from the ?17th century pit which, although containing 16th and 17th century pottery close to its base also contained some Roman material. The pit was clearly in receipt of some faecal material.

In summary, this extremely small assemblage of plants shows that wheat and barley were being used by the Romans at Congangis with, perhaps, oats although they may have been weeds alone. There is no evidence for cereal chaff. The locally occurring vegetation seems to have been a mix of ruderals and grassland with little wet ground. This is similar to the results of Donaldson (1979) whose data came from the inner fort ditch excavated at Middle Chare although she recorded large numbers of seeds from a variety of aquatic plants. These, she concluded, were extremely locally growing, probably within the ditch itself. It seems highly likely that the Church Chare material also represents very local vegetation - perhaps with weeds growing in less used areas behind buildings *etc*.. The early modern pit was probably used in part as a cess pit although other rubbish was apparently deposited within it or it was in the open.

Acknowledgements:

I would like to thank Mike Bishop, the site director, for the samples taken under such adverse weather conditions, and for promptly providing phasing, site matrix and structural report. I am also grateful to Shaun Doran, the laboratory technician, for wading through wet and muddy heaps of gravel and converting them into clean residues which he then sorted.

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