

Archaeology on the A303 Stonehenge Improvement

Appendix 4: Charred plant remains
by Chris J. Stevens



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Appendix 4: Charred Plant Remains

Chris J. Stevens

Introduction

Samples were examined from three sites: one from Middle Bronze Age pit 131003 from WA52246 in Area P; two from Late Bronze Age pit 4103 from WA 50252 in Area C; and a total of eight samples from site WA 50157 in Area C, of which five from three Iron Age (327, 514, and 527) and one Late Iron Age/Romano-British (434) pits were analysed in full for charred plant remains.

Methods

The bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh and the residues fractionated into 5.6 mm, 2 mm, and 1 mm fractions and dried. The fractions from the analysed samples were all sorted for charred plant remains before being discarded. The flots were sorted under a x10 – x40 stereo-binocular microscope and charred remains extracted, identified and quantified. Identifications follow the nomenclature of Stace (1997).

Results

The samples from the Iron Age features were generally much richer than those from the Bronze Age features (Table 1).

The Middle Bronze Age pit 131003 at site 52246 contained relatively few cereal remains comprising some grains of barley (*Hordeum vulgare* s.l), most probably hulled barley and some identified cereal remains. Only a single glume of either emmer or spelt wheat (*Triticum dicoccum/spelta*) was seen.

There were relatively few weed seeds in this sample and none were identifiable beyond family. The sample also had a thorn of either sloe (*Prunus spinosa*) or hawthorn (*Crataegus monogyna*), as well as a stone of hawthorn and one probably of sloe. Finally a tuber of false-oat grass (*Arrhenatherum elatius* var. *bulbosum*) was also recovered.

The two samples from site 50252, pit 4103, were generally slightly richer in particular that from the lower of the two fills, context 4106. As with the Middle Bronze Age sample while most of the grains were identifiable barley was more prevalent. A single wheat grain was seen along with a glume of spelt wheat (*Triticum spelta*),

Weed seeds which mainly came from the lower fill were on the whole from larger seeded common arable species including cleavers (*Galium aparine* or *G. tricornatum*), buttercup (*Ranunculus acris/repens/bulbosus*), black bindweed (*Fallopia convolvulus*), field madder (*Sherardia arvensis*), and possibly fool's parsley (*Aethusa cynapium*). There were also a number of seeds of species that often stay with the grain by virtue of appendages, for example, black medick (*Medicago lupulina*), docks (*Rumex* sp.), and hedge parsley. Smaller seeded species included those of common stitchwort (*Stellaria media*), red bartsia (*Odontites vernus*), orache (*Atriplex* sp.), and selfheal (*Prunella vulgaris*).

Most of the Iron Age samples analysed came from probable storage pits dating from the early Iron Age to the Late Iron Age/Romano-British period. Most of cereal remains recovered were of spelt wheat (*Triticum spelta*), with some barley within all features except that from the Late Iron Age/Romano-British storage pit 434. Glume bases by far outnumbered remains of grain within all of the samples of this date. The vast majority of glumes and spikelet forks were too poor for identification and while no remains of emmer wheat were seen, it may be that some of the spikelet forks from pit 527 (537) are of this crop.

Several of the samples contained occasional fragments of hazelnut (*Corylus avellana*). As with the previous samples most of the weed seeds were from larger seeded species. These included buttercup, cleavers, fumitory (*Fumaria* sp.), and corn gromwell (*Lithospermum arvense*). Most of the species represented are associated with drier soils with the exception of a single seed of spikerush (*Eleocharis palustris*) from the Late Iron Age/Romano-British pit (434).

Comment

Given that all only one sample of Late Iron Age/Romano-British dates was examined it is questionable how much should be read into the differences between this and the earlier samples in terms of changes in crop husbandry. However, it might be noted that barley is also seen as being less prevalent from the Late Iron Age into the Romano-British period.

Seeds of cleavers are quite difficult to identify to species and many are usually thought to be of common cleavers (*Galium aparine*), although it might be noted that the similarly sized corn cleavers (*Galium tricornutum*) was once a common weed of the chalklands in this country only becoming diminished by modern farming techniques (Salisbury 1961, 31–40).

Bibliography

Salisbury, E.J., 1961. *Weeds and Aliens*, London, Collins

Stace, C., 1997. *New Flora of the British Isles* (2 edn), Cambridge, Univ. Press

Table 1. Charred plant remains from A303 sites

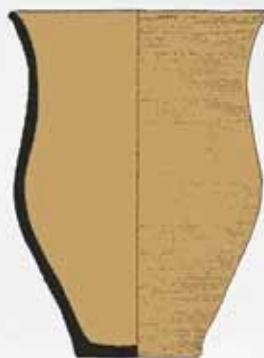
	Site	50252		50157					
		52246	LBA	LBA	EIA			MIA	LIA/RB
	Phase	MBA	LBA	LBA	Storage pit			Storage pit	LIA/RB
	Feature	pit	pit	pit				pit	pit
	Feature	131003	4103		327	527		514	434
	Context	131004	4106	4107	370	535	537	526	432
	Size Litres	30	10	10	20	15	15	18	18
Cereals									
<i>Hordeum vulgare</i> L. <i>sl</i> (grain)	barley	4	4	4	4	10	6	6	-
<i>H. vulgare</i> L. <i>sl</i> (rachis fragment)	barley	-	-	-	-	-	4	-	-
<i>Triticum</i> sp. L. (grains)	wheat	-	1	-	-	-	-	-	-
<i>Triticum spelta</i> L. (glume bases)	spelt wheat	-	-	1	4	14	42	3	-
<i>T. dicoccum/spelta</i> (grain)	emmer/spelt wheat	-	-	-	-	10	24	2	3
<i>T. dicoccum/spelta</i> (spikelet fork)	emmer/spelt wheat	-	-	-	-	-	2	-	2
<i>T. dicoccum/spelta</i> (glume bases)	emmer/spelt wheat	1	1	-	20	152	131	46	23
Cereal indet. (grains)	cereal	5	11	3	7	30	10	28	3
Cereal indet. (embryo)	cereal	-	-	-	1	-	-	-	-
Cereal indet. (est. whole grains from frags.)	cereal	3	-	-	-	6	5	5	3
Cereal indet. (rachis fragment)	cereal	-	-	-	-	1	-	-	-
Cereal indet. (culm node)	cereal	-	-	-	-	-	6	-	-
Species									
<i>Ranunculus</i> L. sp. subg <i>Ranunculus</i> arb	buttercup	-	4	-	-	1	2	-	-
<i>P. dubium</i> L./ <i>rheas</i> L.	poppy	-	-	-	-	-	3	-	-
<i>Fumaria</i> L. sp.	fumitory	-	-	-	1	-	4	-	-
<i>Corylus avellana</i> L. (fragments)	hazel	-	-	-	-	6	-	4	3
Chenopodiaceae	goosefoot/campion	2	1	-	-	-	-	-	-
<i>Atriplex</i> sp. L.	oraches	-	4	-	-	-	-	-	1
<i>Stellaria media</i> (L.) Vill.	stitchwort	-	1	-	-	-	11	-	-
<i>Silene</i> sp. L.	campions	-	-	-	-	1	-	-	-
Polygonaceae indet.	knotweeds	-	6	1	-	2	-	-	-
<i>Fallopia convolvulus</i>	black bindweed	-	2	-	-	4	-	1	-
<i>Rumex</i> sp. L.	dock	-	3	-	-	1	-	5	-
<i>Rumex cf. crispus</i> L.	dock	-	1	-	-	-	-	3	-
<i>Viola</i> sp.	violet	-	2	-	1	1	cf.1	2	-
<i>Aphanes arvensis</i>	parsley piert	-	-	-	-	-	4	-	-
<i>Prunus spinosa</i> L.	sloe	cf.1	-	-	-	-	-	-	-
<i>Crataegus monogyna</i>	hawthorn	1	-	-	-	-	-	-	-
<i>C. monogyna/Prunus spinosa</i> (thorns)	hawthorn	1	-	-	-	-	-	-	-
<i>Vicia</i> L./ <i>Lathyrus</i> sp. L.	vetch/pea	-	-	2	-	1	6	-	1
<i>Medicago lupulina</i> L.	black medick	-	18	-	1	-	-	-	-
<i>Trifolium</i> sp. L.	clover	-	-	-	-	1	-	-	1
<i>Torilis</i> sp. Adans.	hedge parsley	-	-	-	-	-	cf.2	-	-
<i>Aethusa cynapium</i> type	fool's parsley	-	1	-	-	-	-	-	-
<i>Lithospermum arvense</i> L.	corn gromwell	-	-	-	-	2	9	279	-
<i>Galeopsis</i> sp. L.	hemp-nettle	-	1	-	-	-	-	-	-
<i>Prunella vulgaris</i> L.	self-heal	-	1	-	-	-	-	-	-
<i>Odontites vernus</i> (Bellardi) Dumort	red bartsia	-	4	-	1	-	3	-	1
<i>Sherardia arvensis</i> L.	field madder	-	1	-	-	5	9	-	-
<i>Galium aparine</i> L./ <i>tricornatum</i> Dandy	cleavers/corn cleavers	-	14	2	4	34	4	15	1
<i>Valerianella dentata</i> (L.) Pollich	narrow fruited corn salad	-	-	-	-	-	10	-	-
<i>Valerianella locusta</i> (L.) Laterr.	common corn salad	-	-	-	-	-	1	-	-
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	scentless mayweed	-	-	-	-	1	95	3	-
<i>Eleocharis cf. palustris</i> (L.) Roem. & Schult.	common spike-rush	-	-	-	-	-	-	-	1
Poaceae (mid-large indet.)	grass seed	1	-	-	-	-	-	-	-
<i>Lolium perenne</i> L.	rye grass	-	-	-	-	-	1	-	2
<i>Poa/Phleum</i> sp. L.	meadow grass/cats'-tails	-	-	-	-	1	5	3	1
<i>Arrhenatherum elatius</i> var. <i>bulbosus</i> (tuber)	false oat-grass	1	-	-	-	-	-	3	-
<i>Avena</i> sp. L. (grain)	oat grain	-	-	-	-	5	14	4	-
<i>Avena</i> L./ <i>Bromus</i> L. sp.	oat/brome	-	-	-	-	2	-	-	-
<i>Bromus</i> sp. L.	brome	-	-	-	-	1	5	-	-
Seed indet.		-	3	-	-	2	-	2	-
Seed indet. small		-	-	-	1	3	-	-	-

This volume reports on the archaeological works undertaken between 1998 and 2003 as part of the A303 Stonehenge Improvement highway scheme promoted by the Highways Agency.

The A303 trunk road and the A344 which pass Stonehenge are widely agreed to have a detrimental effect on its setting and on other archaeological features within the World Heritage Site. Around Stonehenge there is noise and visual intrusion from traffic and also air pollution. Each year nearly one million people visit the World Heritage Site and surroundings, using visitor facilities intended to cater for a much smaller number.

Many plans that might improve this situation have been examined, involving partnership working across many organisations. Common to all these has been the aim of removing traffic from the area of Stonehenge and at the same time addressing highways issues with regard to road capacity and safety.

This volume sets out the objectives of the extensive programme of archaeological work that was undertaken to inform the planning of the highway scheme, the methods used, the results obtained, and to explain something of the significance of works which provided a 12 km transect across the WHS and beyond: the first of its kind ever undertaken.



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