

Archaeology on the A303 Stonehenge Improvement

Appendix 5: Charcoal *by Catherine Barnett*



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Wessex Archaeology 2008

This volume is available from Wessex Archaeology
www.wessexarch.co.uk

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Appendix 5: Charcoal

Catherine Barnett

Introduction

Three samples were selected at assessment from two Iron Age pits at WA 50157 in Area C and from a Beaker inhumation grave at WA 50538 in Area P. These samples, though relatively sparse, offer a rare opportunity to investigate aspects of the landscape and associated human exploitation of the woodland resource at this time.

Methods

All wood charcoal >2 mm was separated from the processed flots and the residue scanned or extracted as appropriate. Fragments were prepared for identification according to the standard methodology of Leney and Casteel (1975; see also Gale and Cutler 2000). Each fragment was fractured with a razor blade so that three planes could be seen: transverse section (TS), radial longitudinal section (RL), and tangential longitudinal section (TL). The pieces were mounted on a glass microscope slide using modelling clay, blown to remove charcoal dust and examined under bi-focal epi-illuminated microscopy at magnifications of x50, x100 and x400 using a Kyowa ME-LUX2 microscope. Identification was undertaken according to the anatomical characteristics described by Schweingruber (1990) and Butterfield and Meylan (1980) to the highest taxonomic level possible, usually that of genus (Table 1), with nomenclature according to Stace (1997). Individual taxa were quantified (mature and twig separated), and the results tabulated (Table 2).

Results

Owing in part to the small number of samples available and the small volume of charcoal within those samples, the species list for the site is restricted (minimum six types: see Table 1). The analyses presented below, however, are significant despite the small samples since wood charcoal of Early Bronze Age and Iron Age date has rarely been found or identified in the region, thus they offer a rare opportunity to look at aspects of the local later prehistoric landscape and human exploitation of woody resources.

Table 1 List of woody taxa for the A303

<i>Taxon</i>	<i>Common name</i>	<i>Comments</i>
<i>Alnus glutinosa</i>	Alder	-
<i>Corylus avellana</i>	Hazel	-
<i>Ilex aquifolium</i>	Holly	-
Pomoideae	Pomaceous fruits	Group of shrubs including <i>Cotoneaster</i> , <i>Sorbus</i> , <i>Pyrus</i> , <i>Crataegus</i>
Pomoideae cf	Hawthorn	-
<i>Crataegus monogyna</i>		
<i>Prunus</i> sp.	Cherries	-
<i>Quercus</i> sp.	Oak	-

As shown in Table 2, all the samples were of low charcoal volume but although the assemblages were generally fragmentary the pieces were firm and fresh with no evidence of rolling or transportation.

The charcoal assemblages from 50157 are interpreted as the remains of small-scale Iron Age domestic fuel use. Selection of oak (*Quercus* sp.) was ubiquitous but small quantities of hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), cherry type (e.g. blackthorn or wild cherry), hazel

(*Corylus avellana*) and alder (*Alnus glutinosa*) was also used. The types selected are deciduous types, with the exception of holly, and all are relatively common woody taxa of open woodland, hedgerow and scrub. The presence of alder wood charcoal in pit 526 indicates local availability and exploitation of wetter areas such as fen or floodplain edge during the Iron Age. The types represented show some similarity to those found in Late Iron Age contexts at Maiden Castle hillfort, as reported by Salisbury and Jane (1940) and Gale (1991) where oak (but also ash) were dominant in the landscape prior to hillfort construction, with hawthorn, cherry type and hazel also collected from open woodland and on woodland margins.

Table 2 Sample details and charcoal identifications, A303

Site code	50157	50157	50157	50538
Feature	514	527	527	1502
Context	526	535	537	1505
Sample	1	2	3	12
Phase	IA	IA	IA	Beaker
Feature type	pit	pit	pit	inhumation grave
Weight charcoal >2 mm	<1 g	1 g	<1 g	3 g
Weight ID	<1 g	<1 g	<1 g	3 g
% ID by weight	c. 90%	c. 90%	c. 90%	c. 95%
Comments	Poor, limited sample	Poor, limited sample	Fresh, large pieces, several puffy and friable (burnt while damp)	Firm, fresh large fragments, some puffy (burnt while damp)
<i>Alnus glutinosa</i> (alder)	2	-	-	-
<i>Corylus avellana</i> (hazel)	5	12	-	-
<i>Corylus avellana</i> (hazel) r'wd	-	2	-	-
<i>Ilex aquifolium</i> (holly)	-	-	2	-
<i>Prunus</i> sp	-	5	5	-
Pomoideae	-	-	-	1
Immature twigwood with spines, on external anatomy cf. <i>Crataegus monogyna</i> (hawthorn)	-	-	12	-
<i>Quercus</i> sp. (oak)	2	18	11	72
Unid 1 yr twigwood/ herbaceous stem	-	7	-	-
Unid	-	2	4	2
Total no. frags	9	46	34	75
Other	1 bark/ nutshell	2 pith	-	-

The assemblage from the Beaker (Early Bronze Age) inhumation grave at 50538 proved larger but highly restricted in terms of species diversity, heavily dominated by oak with a single piece of pomaceous fruit wood. The feature is a clear inhumation with no cremation-related material associated with it and the origin of the charcoal is questionable. It is of note that the grave may have had a temporary cover which was disrupted and some of the bone removed in antiquity and later resealed (*Main Report*, Chapter 3). A variety of possible explanations for the presence of the oak charcoal might be therefore be made: the material may be intrusive, having entered from a background scatter when the inhumation was disturbed, however the quantity and condition of the charcoal goes against this. Alternatively, it may represent the temporary cover, burnt when the bones were revisited and removed or the remains of a hearth or burnt offering from the time of inhumation or its revisiting.

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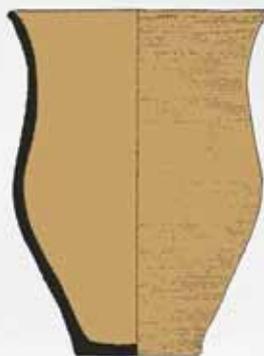
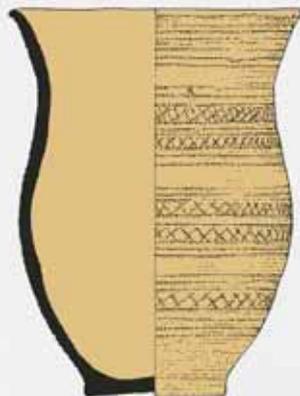
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This volume reports on the archaeological works undertaken between 1998 and 2003 as part of the A303 Stonehenge Improvement highway scheme promoted by the Highways Agency.

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.



ISBN 978-1-874350-48-4



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