



making sense of heritage

Mythe to Mitcheldean Mains Reinforcement, Gloucestershire

Wood Charcoal
By Dana Challinor



MYTHE TO MITCHELDEAN, GLOUCESTERSHIRE: WOOD CHARCOAL

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Introduction and methodology

A targeted selection of three samples associated with the Late Iron Age roundhouses A and B in Area D2 was proposed for charcoal analysis.

A random selection of 50 fragments were fully identified, following standard procedures, from the >4mm and >2mm fractions. The charcoal was fractured and sorted into groups based on the anatomical features observed in transverse section at X7 to X45 magnifications. Representative fragments from each group were then selected for further examination in longitudinal sections using a Meiji incident-light microscope at up to X400 magnification. Identifications were made with reference to Schweingruber (1990), Hather (2000) and modern reference material. The maturity of the wood was noted where possible and the presence of roundwood, sapwood and heartwood is noted in the tables. Classification and nomenclature follow Stace (1997).

Results

The samples contained abundant assemblages of charcoal, with mid to small sized fragments. Although preservation was reasonably good, the condition of the charcoal in many fragments was brittle and highly vitrified, especially the fragments of *Quercus* sp. (oak). This, combined with frequent radial cracks, made the determination of maturity in oak difficult to ascribe. No whole roundwood stems with pith and bark were present, but the majority of the *Prunus* sp. (cherry/blackthorn) and Maloideae (hawthorn group) fragments exhibited strong ring curvature. In Table 1 the quantities of these fragments has been recorded with an 'r' to represent roundwood. Since the assignment of curvature of growth rings is unreliable on small fragments, only the data for the >4mm fragments have been recorded and these quantities should not be taken as absolute. Similarly, no oak heartwood was recorded due to the vitrification of the material blocking the large pores, rather than representing a reliable picture of the charcoal.

Six taxa were positively identified, all consistent with native species: *Quercus* sp. (oak), *Corylus avellana* (hazel), *Prunus* spp. (blackthorn/cherry), Maloideae (hawthorn, apple, pear, service tree etc.) and *Fraxinus excelsior* (ash). The *Prunus* spp. requires further clarification. There are three native *Prunus* species (*P. spinosa*, *P. avium* and *P. padus*) which can be differentiated from one another on the basis of ray width. However, there is a degree of overlap within the anatomical characteristic which makes differentiation very difficult. In this assemblage, the more distinct wide rays of *Prunus spinosa* were noted in all three samples, but a second species, with the consistently narrower rays of *Prunus avium*, was also recorded in sample 25. The majority of fragments was identified only as *Prunus* sp., and may represent one or both of the taxa.

Discussion

There are two notable characteristics of the charcoal assemblage from the Mythe to Mitcheldean excavations. Firstly, the dominance of hedgerow/shrub type taxa and, secondly, the use of small diameter roundwood. This is consistent with the type of domestic assemblages from household cooking fires, with wood fuel gathered from a scrub type habitat at the edges of the settlement and from hedgerow prunings. Similar charcoal results were recorded from middle Iron Age roundhouses near Cirencester (Challinor 2010). The size of the assemblages from the Mythe to Mitcheldean excavations suggests that they represent deliberate dumps of domestic waste rather than wind dispersed material or material accumulated over a long period of time. Moreover, there were large quantities of

charred cereal grain in these deposits, which may indicate a crop processing rather than cooking activity.

References

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Table 1: Results of the charcoal analysis from Roundhouses A and B

	Feature	Roundhouse A Ring Gully group 327	Roundhouse B Ring Gully group 328	
	Feature number	811	859	864
	Context number	812	861	866
	Sample number	23	25	28
<i>Quercus</i> sp.	oak	11 (1r)	5	7 (1s)
<i>Corylus avellana</i> L.	hazel			3
<i>Prunus spinosa</i> L.	blackthorn	8r	3r	1r
<i>Prunus avium</i> L.	wild cherry		2r	
<i>Prunus</i> sp.	cherry type	14 (9r)	25 (20r)	21 (10r)
Maloideae	hawthorn group	15 (10r)	15 (8r)	17 (10r)
<i>Fraxinus excelsior</i> L.	ash	2		
Indeterminate				2

r=roundwood; s=sapwood



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