

Ladbroke Palaeoenvironmental Assessment

Luke Parker

Introduction and Methods

Palaeoenvironmental assessment was undertaken on flots which were recovered from bulk sediment samples taken from thirteen archaeological contexts. These contexts were viewed as likely to be Romano-British in origin, as suggested by spot-dates of associated pottery fragments

Extensive bulk sediment sampling was undertaken at the site, with all non-natural contexts having 40L of bulk sediment sample extracted. Where the context contained less than 40L of sediment, 100% of the context was sampled.

Bulk fill samples were processed via water floatation through a siraf-style flotation tank using a 300 µm flotation mesh and a 300 µm sieve. Heavy residues were cleaned and searched for archaeological finds and non-floating palaeoenvironmental remains. Flots were weighed, air dried, and scanned using a low-power binocular microscope (x40).

Botanical macrofossil identification was undertaken using a low-power binocular microscope (x40). Botanical macrofossil identification utilised plates and guides from Martin and Barkley (2000) and Cappers *et al.* (2006), as well as comparison with a modern reference collection. Plant nomenclature follows Stace (1997). Cereal identification utilised the guide by Jacomet (2006). Uncharred material is viewed as being recent biological activity as no evidence for permanent water saturation of archaeological contexts was identified. No other method for organic preservation beyond charring was identified.

Results

Recovery of archaeobotanical material was very poor from bulk sampled contexts. Flots were almost exclusively limited to small quantities of uncharred rootlets with the occasional inclusion of individual uncharred seeds; the result of recent biological activity at the site.

Sample No.	Context No.	Context Details	Flot Contents
1	2808	Ditch fill	Ligneous remains/rootlets
2	2811	Upper ditch fill	Rootlets
3	2812	Lower ditch fill	Rootlets
4	2604	Ditch fill	Rootlets
5	2609	Ditch fill	Rootlets; 2x elderberry (<i>Sambucus nigra</i>) seed
6	1208	Ditch terminus fill	Rootlets; 1x charred false oat grass (<i>Arrhenatherum elatius</i> var. <i>bulbosum</i>) bulb
7	1217	Fill of ring ditch	Rootlets

8	1216	Fill of ring ditch	Rootlets; 1x uncharred ivy leaved speedwell (<i>Veronica hederifolia</i>) seed
9	4618	Fill of pit [4617]	Rootlets; 2x uncharred mustard family (<i>Brassica sp.</i>) seeds; 1x charred cf. wheat (<i>Triticum sp.</i>) grain
10	4623	Fill of pit [4622]	Rootlets
11	4621	Fill of posthole [4620]	Rootlets
12	4604	Lower fill of ditch [4603]	Rootlets
13	4606	Fill of pit [4605]	Rootlets

Archaeobotanical remains were restricted exclusively to two charred individuals, beyond which no charred material of any form was recovered. The first was a poorly preserved cereal grain, recovered from the fill (4618) of pit [4617]. This cereal grain was poorly preserved and displayed erosive surface damage, though still somewhat resembled a wheat grain (cf. *Triticum sp.*). A single charred false oat grass (*Arrhenatherum elatius* var. *bulbosum*) bulb was recovered from ditch terminus fill (1208), in relatively good condition.

No charcoal was recovered.

Apparent survival of archaeobotanical material is poor and no further analysis of archaeobotanical remains can be undertaken on the material collected from the bulk-sampled archaeological contexts. There is little potential for radiocarbon dating of the two recovered archaeobotanical macrofossils, due to the risk of these being intrusive or residual individuals (see Pelling *et al.* 2015 for the risks of radiocarbon dating of single individuals within a context).

References

- Braadbaart, F. Poole, I., van Brussel, A. 2009. Preservation Potential of Charcoal in Alkaline Environments: An Experimental Approach and Implications for the Archaeological Record. *Journal of Archaeological Science*, 36(8), 1672-1679.
- Cappers, R., Bekker, R. and Jans, J. 2006. *Digitale Zadenatlas Van Nederland/Digital Seed Atlas of the Netherlands*. Barkhuis.
- Jacomet, S. 2006. *Identification of cereal remains from archaeological sites, 2nd Edition*. IPAS, Basel University.
- Martin, A. and Barkley, W. 2000. *Seed Identification Manual*. University of California Press.
- Pellin, T., Campbell, G., Carruthers, W., Hunter, K., Marshall, P. 2015. Exploring Contamination (Intrusion and Residuality) in the Archaeobotanical Record. *Veget. Hist. Archaeobot.* 24, 85-99

Stace, C. 1992. *New Flora of the British Isles*. 2nd Edition. Cambridge.