

1.1 Assessment of the Waterlogged Plant Remains

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Thurnham Villa (ARC THM 98)

Introduction

- 1.1.1 Samples of waterlogged deposits were taken from the well 11010 during excavation works at Thurnham Villa, for the recovery of waterlogged plant and insect remains.
- 1.1.2 Bulk samples were taken in the field and kept wet in sealed bags and plastic boxes. Sub-samples of 1kg were submitted for assessment of waterlogged plant remains.
- 1.1.3 The recovery and study of the samples was undertaken in accordance with the Fieldwork Event Aims for the site, which are set out in section 2 of the main report, above. The sampling programme aimed to recover evidence for the diet and economy of the site as well as gaining information about the local environment of the well.

Methodology

- 1.1.4 A sample from each deposit believed to be waterlogged was submitted for assessment. Sub-samples of 200g were processed by a simple wash over technique and collected onto a 250µm mesh. This will not provide an exhaustive species list but should provide sufficient material to assess the presence or absence of waterlogged material, the quality of preservation, the density of any remains and an indication of the range of species or types of material present.
- 1.1.5 Each flot was then washed through a stack of sieves ranging from 2mm to 250µm mesh size. Each fraction to 500µm was scanned, while still wet, under a binocular microscope at x10 to x20 magnification. Provisional identifications were made and an approximation of abundance on a three point scale (+ = present, ++ = some; +++ = many).

Quantifications

- 1.1.6 A total of seven samples were assessed. A summary of the material noted in each sample is displayed in Table 10.4. Five samples produced waterlogged material. Two samples (10377 and 10013) produced no waterlogged material, while several *Triticum spelta* (spelt wheat) glume bases were noted in sample 10377.
- 1.1.7 Samples 10347 (cxt 12227), 10351 (cxt 11516), 10306 (cxt 11984), 10293 (cxt 11982) and 10352 (cxt 11985) all produced waterlogged remains. The species noted during the assessment are displayed in Table 10.5. Woodland or scrub species and species characteristic of ruderal habitats are most numerous in the deposits. The ruderal species are those which are characteristic of disturbed habitats and often nitrogen rich soils, such as might be found within a settlement. Included in this group are *Urtica dioica* (stinging nettle), *Conium maculatum* (hemlock), *Pastinaca sativa* (wild parsnip), and *Carduus/Cirsium* sp. (thistle). True arable weeds are not commonly represented although some of the ruderal species will also occur in cultivated habitats including cereal crops. Large quantities of moss were present in four of the five samples and include at least two species.
- 1.1.8 The woodland or scrub species represented include wood fragments, and seeds as well as numerous leaf pads and bud scales of unidentifiable species. The wood identified includes *Fraxinus* sp. (ash), *Quercus* sp. (oak) and Pomoideae (hawthorn, apple, pear etc.). Seeds noted included *Prunus spinosa* (sloe), *Ilex aquifolium*

(holly), *Crataegus monogyna* (hawthorn), *Cornus sanguinea* (dogwood), and *Fraxinus excelsior* (ash). The species would suggest the presence of mixed deciduous or oak woodland, with a scrubby component at the margins of the wood or as an under-storey, with holly, sloe, hawthorn and dogwood. Sloe will not tolerate deep shade so is likely to have occurred in clearings or on the wood margins.

- 1.1.9 The *Prunus spinosa* stones are only tentatively identified at this stage. They have an appropriate surface texture but are large for sloe and very pointed, although too small for other *Prunus* species. As sloe spreads vegetatively as opposed to being seed germinated, it is usual to have many individual plants of the same clone. A slight variation in seed shape would then be seen in all the individuals of one given population. This population appears to be characterised by a pointed stone.
- 1.1.10 Several of the herbaceous species represented are common within woods or on the wood margins. This group includes *Conium maculatum*, *Arctium* sp. (burdock) and *Lapsana communis* (nipplewort).
- 1.1.11 Occasional damp or wet ground species were identified. *Eleocharis palustris* (spikerush) requires its roots to be submerged in water for at least part of the year so tends to be associated with seasonally flooded ground, particularly grassland. *Sparganium erectum* (branched bur-reed) is characteristic of wet mud or the shallow water of ponds, ditches etc and ungrazed marshland. Both species are likely to have been growing in wet ground around the well.
- 1.1.12 In addition to the occasional spelt wheat glume bases, a fragment of capsule of *Linum usitatissimum* (flax) is also possibly derived from a cultivated crop. It will not persist as a weed for very long so certainly suggests the cultivation of flax at some stage, even if not directly derived from the cultivated crop itself.

Provenance

- 1.1.13 The samples are derived from waterlogged fills which are assumed to relate to the post-abandonment phase of the well (11010), and therefore possibly the later phases of occupation at the site. The samples are listed in Table 10.6. Sample 10347 (context 12227) is the lowest excavated fill of the well and thought to be related to the collapse of the feature. Contexts 11516, 11982 and 11984 are organic deposits containing worked and unworked wood, moss and leaf litter. Context 11985 is associated with the upper tier of stake lining and derives from packing fill between the stake lining and well shaft. It is believed that the well construction dates from the early-mid 2nd century and that it was infilling by the 4th century.
- 1.1.14 The assessment results may hint that the lower fills, samples 10347 and 10351 have a slightly higher ruderal component than the upper fills. Conversely the upper fills contain greater quantities of woodland and scrub species. Furthermore, the flax capsule, the only good evidence so far of arable activity in the deposits, was identified from the lower fill. This might suggest, therefore, that human activity is attested at the time of the abandonment of the well, while the later fills suggest an increasing regeneration of the local woodland and scrub cover. This needs to be further explored at analysis level.

Conservation

- 1.1.15 If the samples are to be stored for any length of time before analysis it is recommended that they are refrigerated or kept in a cold store. They can be kept in such an environment for some time as either unprocessed deposit or processed flint. The samples should certainly be retained pending decisions about final analysis.

Comparative Material

- 1.1.16 No long waterlogged sequences are known for this date from with the CTRL project or the Kent region. While long well sequences of this type are rare, a similar sequence is known from Barton Court Farm in Abingdon, Oxfordshire (Miles 1984). The mosses from that particular site were very interesting as they were of deliberately collected woodland species used as a filter and packing in the well wall.

Potential for further work

CTRL Landscape Zone Priorities and Fieldwork Event Aims

- 1.1.17 The following section discusses potential for further work in the light of the Landscape Zone Priorities and Fieldwork Event Aims.
- 1.1.18 Good waterlogged well deposits can provide very useful data not available if only charred remains are recovered. Such remains might include the identification of leafy plants or seeds of foods which require no heat as part of their preparation, such as herbs and spices, as well as habitat information about the microenvironment of the feature and the environment of the wider area. Well deposits can cover some considerable time period so provide a sequence of data relevant to changing environment and activity for many years; in this case perhaps two centuries. The preservation of the material from the Thurnham Villa well deposits is very good.
- 1.1.19 The very good samples available offer the potential to examine aspects of the surrounding environment of Thurnham Villa towards the end of the period of occupation, and possibly at the abandonment of the site. The lower deposits also offer some potential for adding to the existing economic data already available from the charred remains. This will provide information for the analysis of the decline of the villa, and for the ways in which this decline was reflected on the villa site itself, and in its local environment. Additional evidence for economic activity and the agricultural regime is likely to be obtained, as is evidence relating to the diet (and therefore the status) of the site's inhabitants.
- 1.1.20 It is recommended that sub-samples of the five deposits are examined in detail for their plant macro-fossils including the wood. It is not possible at this stage to establish if the mosses represent deliberately collected mosses for lining the well and filtering the water, or if they represent mosses growing on the upper wall of the well which have subsequently fallen into it.
- 1.1.21 The mosses were exceptionally well preserved and the species and provenance should therefore be identifiable. It is likely that some, if not all, of the moss was collected from the surrounding area for use as a water filter in the well. Mosses have very specific habitats, and can provide additional information about woodland environments in the surrounding area. It is recommended that a sub-sample of the mosses is examined by a recognised expert.

Bibliography

D. Miles, 1986 *Archaeology at Barton Court Farm, Abingdon, Oxon*. Oxford Archaeological Unit Report 3, CBA Research Report 50

Table 10.5: Thurnham Roman Villa ARC THM 98: Plant macrofossils noted during assessment in the waterlogged deposits

	Sample	10293	10306	10347	10351	10352
	Context	11982	11984	12227	11516	11985
	Volume (g)	200	200	200	200	200
<i>Triticum spelta</i>	Spelt wheat glume, charred	+	+	-	-	-
Bryophyta	Moss	++	+++	-	+++	++
<i>Ranunculus acris/repens/bulbosus</i>	Buttercup, seed	+	-	-	-	-
<i>Linum usitatissimum</i>	Flax, capsule	-	-	+	-	-
<i>Ilex aquifolium</i>	Holly, seed	-	-	-	-	+
<i>Prunus cf. spinosa</i>	Sloe, stone	+		-	-	++
<i>Crataegus monogyna</i>	Hawthorn, stone	+	+	-	-	-
cf. Pomoideae	Hawthorn, apple etc wood fragment	+	+	-	-	-
<i>Cornus sanguinea</i>	Dog wood, seed	-	-	-	-	+
<i>Conium maculatum</i>	Hemlock, seed	-	-	+	-	-
<i>Pastinaca sativa</i>	Wild Parsnip, seed	-	-	-	-	+
<i>Rumex conglomeratus</i>	Sharp dock, seed	-	-	+	-	-
<i>Rumex sp.</i>	Docks, seed	+	-	+	-	-
<i>Urtica dioica</i>	Stinging nettle, seed	-	-	++	+	-
<i>Quercus sp.</i>	Oak, wood fragment	+	-	-	-	-
<i>Quercus sp.</i>	Oak, charcoal	-	-	+	-	-
<i>Salix sp.</i>	Willow, bud	+	-	-	+	-
<i>Fraxinus excelsior</i>	Ash, seed	-	-	+	+	-
<i>Fraxinus sp.</i>	Ash, wood fragment	-	+	-	-	-
<i>Stachys sp. type</i>	Woundwort, seed	-	-	+		-
<i>Sambucus nigra</i>	Elderberry, seed	-	+	-	+	-
<i>Arctium sp.</i>	Burdock, seed	-	-	-	+	-
<i>Carduus/Cirsium sp.</i>	Thistle, seed	-	-	-	+	-
<i>Lapsana communis</i>	Nipplewort, seed	+	-	-	+	-
<i>Carex sp.</i>	Sedge, nutlet	-	-	-	+	-
<i>Eleocharis palustris</i>	Common spikerush, seed	-	-	+	-	-
<i>Sparganium erectum</i>	Branched Bur-reed, seed	-	+	-	-	-
Gramineae	Grass, large seed	+	-	+	-	-
Gramineae	Grass, small seed	-	-	-	-	+
Cereal size	Culm node	-	-	-	-	+
Other	Branch Wood	+	-	+	-	-
Indet	Bud scales	+	-	-	-	-
Indet	Leaf pads	+	-	-	-	-
Molluscs		+	-	+	+	+
Insects		+	-	++	+	+

+ = 1-10; ++ = 11-50; +++ = 51-100; ++++ = 101-1000; 1000+ = >1000

Table 10.6: Thurnham Roman Villa ARC THM 98: Waterlogged plant remains from well 11010

Sample	Context	Weight Assessed	Total Charred	Id-Charred	Moss	Seeds / Fruit	Cultivated Species	Wood	Charcoal	Leaf/Bud	Molluscs	Insects	Notes
10013	10505	200											silt and charcoal flecks
10293	11982	200	+	T.spelt	++	+++		++		++	++	++	wood/scrub, ruderal
10306	11984	200	+	T.spelt	+++	++		+					very mossy, wood/scrub, ruderal
10347	12227	200				+++	+	++	+		++	++	flax capsule, ruderal. Wet
10351	11516	200			+++	+++		+			++	++	mossy, ruderals
10352	11985	200			++	+++					++	++	wood/scrub (sloe, acorn), moss

+=1-10; ++= 11-50; +++= 51-100; ++++= 101-1000; 1000+= >1000; all remains are waterlogged except where small quantities of charred remains were noted as also present in samples 10293 and 10306