## APPENDIX 1 - PLANT REMAINS

### 1.1 Assessment of Charcoal

*by Dana Challinor*

*Introduction*

1.1.1 During strip, map and sample excavation works at Chapel Mill, five samples were taken in order to sample two cremation pits in their entirety for the recovery of charred plant remains and cremated bone.

1.1.2 The samples were taken in accordance with the Fieldwork Event Aims for the site, which are set out in section 2 of the main report, above. The purpose in sampling was to examine the evidence for change and continuity in burial practices between the late Iron Age and the Roman period.

*Methodology*

1.1.3 All five samples were processed and assessed. The volume of soil processed ranged from 8 to 40 litres. The samples were processed by flotation in a modified Siraf-type machine, with the flots collected onto a 250µm mesh. The flots were air-dried and divided into fractions using a set of sieves. Fragments of charcoal were randomly extracted, fractured and examined in transverse section under a binocular microscope at x10 and x20 magnification. Fragments caught in the >2mm sized sieves were quantified as identifiable. In the case of large flots, a sample of *c* 20% was examined. The flots were also scanned for the presence of any other charred plant remains.

*Quantification*

1.1.4 A total of five samples was assessed, of which four produced identifiable wood charcoal (Table 10). Four taxa were identified - *Fraxinus excelsior* (ash), *Quercus* sp. (oak), *Alnus/Corylus* (alder/hazel) and a single fragment of coniferous wood, cf. *Pinus* sp. (pine). Ring-porous taxa are more easily recognisable at low magnification, although the identification of the diffuse porous taxa is tentative and the presence of coniferous wood will need to be confirmed. Pit 205 produced a huge quantity of charcoal in its upper fill, with an assemblage dominated by large pieces of *Fraxinus excelsior* and a very little *Quercus* charcoal. The lower fill of the same pit had a similar composition but produced fewer and smaller fragments of charcoal. Pit 213 contained a different assemblage which was dominated by *Alnus/Corylus* type charcoal. In this pit, the primary fill produced the greatest quantity of charcoal and the coniferous wood. Most of the flots also contained some charred amorphous tissue, possibly parenchymatous. Indeed, both flots from pit 205 produced some charred tubers and monocotyledonous rhizomes. A small amount of coal and modern material, such as insect remains and seeds, were present in all flots.

*Provenance*

1.1.5 There is a marked contrast in the selection of fuelwood for cremation in the two cremation pits at this site. However, there is no suggestion that more than a single burning event is represented in the composition of both pits, as all the assemblages appeared to be dominated by a single taxon (it is assumed that the *Alnus/Corylus* type charcoal is either one or the other as the fragments exhibited similar patterns). The presence of other taxa in the assemblages, although in smaller quantities, may relate to the position of the wood in the fire or it may represent the remains of

artefacts placed on the funeral pyre. The preservation of the charcoal was very good and concentration was high, which is to be expected in a burial pit containing the remains of the original pyre. Sample 100 produced large fragments of ash charcoal with up to seven years growth, from which a clear pattern was discernible. This pattern was compatible with those produced by the practice of woodland management, but some of the large pieces clearly fitted together to form a single branch, suggesting that a single branch/tree had been used as fuel. It would be difficult to infer woodland management from a single tree, and no other flot produced fragments of a large enough size.

*Conservation*

1.1.6 The flots are in a stable condition and present no problems for long-term storage and archive.

*Comparative material*

1.1.7 The predominance of a single taxon in prehistoric cremation assemblages, indicating the use of a single tree or specifically selected species in ritual activities, has been noted at Radley Barrow Hills (Thompson 1999, 352) and at Rollright Stones (Straker 1988). It has also been suggested that the abundance of oak or ash in cremation deposits, compared to other species, is a result of the pyre structure, the timber from these trees providing the supports in a central position, less likely to have been totally reduced to ash (Gale 1997, 82). The presence of tubers in cremation deposits has been noted elsewhere (e.g. Jones 1978, 108; Carruthers 1992, 63; Moffett 1999, 245) and may have been linked to ritual activity. At Chapel Mill, the evidence is more convincing for the use of grass as tinder, since the small burnt rhizomes would not be edible. However, there has been little publication on Iron Age and Roman charcoal from cremation deposits (Gale 1997, 77), although other sites along the CTRL are likely to provide comparable data.

*Potential for further work*

1.1.8 The utility of further work on these samples is dependent upon obtaining better dating through which it would be possible to determine whether or not the cremation pits are contemporary. It is anticipated that minimal work could be carried out to confirm the predominance of a single taxon and the absence of other taxa. Certainly, it is not considered that full fragment counts would provide useful information. A full discussion of the charcoal from these cremation deposits will allow valuable comparisons to be made with other sites, both regionally and nationally.

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*Table 10: Summary of charcoal from cremations*

| Sample details | | | | | Flot details | | |
|---|---|---|---|---|---|---|---|
| **Pit** | **Context** | **Period** | **Sample no.** | **Sample size (l)** | **Flot size (ml)** | **Charcoal** | **Taxa** |
| 205 | 203 | LIA | 100 | 38 | 1400 | 1000+ | *Fraxinus excelsior*<br>*Quercus* sp. |
| | 204 | LIA | 101 | 40 | 150 | ++ | *Fraxinus excelsior* |
| 213 | 211 | - | 103 | 35 | 250 | +++ | *Alnus/Corylus*<br>*Quercus* sp.<br>cf. *Pinus* sp. |
| | 212 | - | 104 | 38 | 300 | ++++ | *Alnus/Corylus* |

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