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Wood Preserved by Iron Nails found among the Cremations from Brougham, Cumbria

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Summary

The report covers the observations made during the examination of groups of iron nails retrieved during the excavation of cremation burials. The results point to biers and coffins having been made from oak or ash timbers, whereas small boxes or caskets were made of various woods. There seems to be a clear distinction between the wood used for these structures and the fuel used for the pyres. The metalwork retrieved from each burial also only seems to consist of a small proportion that would have been required to make each object, for example only sufficient nails hold together one corner.

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During her initial examination of the metalwork from Brougham, Cumbria, Quita Mould noted that many of the nails had wood preserved on them. In several cases it could be seen that the wood grain was aligned in different directions, indicating that two pieces of wood had been nailed together. This report aims to identify the wood species preserved on these nails and see if it is possible to make any comments on the original carpentry they represent. Unfortunately not all of the nails in Q.Mould's list could be located at this time, but a sufficiently representative sample was examined and the observations are presented in the table below.

The nails fall into two different groups based on their size, which is probably indicative of the size of the original construction:-

1. Large nails used to join relatively thick planks of wood, 20-30mm, and usually employing radial split timber or quarter sawn timber. Oak or ash is preserved on these examples.
2. Smaller nails were probably used for small casket construction, and sides between 17-23mm thick. Various woods seem to be present, but not easily identifiable with the exception of beech or lime in burial 67/49, BC/DQ sf. 868 (database ref. 282).

Oak and ash were frequently used for coffins and other structural carpentry, and the use of boards between 20-25mm thick adds to this assumption. Beech was commonly used for small casket construction, for example cremation chests found at Godmanchester, Cambs (Watson, forthcoming), and Westhampnett, West Sussex (Montague & Watson, 1997). The evidence from this site seems to point to the biers and coffins being made from oak or ash, beech for smaller caskets, with birch and alder for pyre fuel (*pers. comm* Gill Campbell).

Only small groups of nails have been recovered from each burial, not enough to make a single structure or casket, they possibly represent just one corner. This is similar to a single corner of a small casket being retrieved from a sieved whole earth sample from grave 20392 from Westhampnett, West Sussex. There is not a complete set of fittings for any of these boxes, biers or coffins, so it has not been possible to suggest how they were constructed. Corner joins seem to be butt joints, but one cannot tell if they were originally rebated as there are no fittings that were originally attached to the sides for comparison.

Surprisingly there is no evidence for any of the small caskets being covered with leather, although this may be due to the conditions on site being unsuitable for the preservation of this material. To date most of the small boxes found in Roman

cemeteries, some containing cremations, were covered in leather with copper alloy straps and decoration applied on top (Watson 1997; Montague & Watson, 1997; Watson, forthcoming).

Observations

Burial Old No.	Location	Database Ref.	Comments
11	sf 893	82	Iron nail shank with iron preserved wood, not oak – maybe worth further exam.
66/27	BC/CP	215	Wood is preserved on one broken nail shank, it appears to be a ring porous wood, possibly *Fraxinus* sp. (ash). But there is no indication of the type of timber reduction or the thickness of the planks or boards used.
67/28	BC/VK	221	Chunks of charcoal have fused onto some of these small nail fragments, in this case the wood is probably related to the pyre rather than the object they were originally part of.
67/49	BC/DQ sf 868	282	1. Group of medium sized nails with iron preserved wood. They were used to join together two radial surface boards between 17-25mm thick. Wood probably *Fagus* sp. (beech) or *Tilia* sp. (lime). 2. 3 small nails also with wood and must have belonged to a smaller construction than group1.
67/56	BC/DZ	273	1. Fragment of iron preserved wood on small nail head, probably unrelated to the original use of the nail. 2. 2 nails with fragments of bone preserved on them.
67/95	BC/GH sf. 456	268	1. One nail originally used to join two pieces of wood together. The nail has been put through an oblique tangential surface, c. 28mm thick and into the cross section of another board. 2. Four nails where the wood is so degraded it really only amounts to a colour change in the soil/corrosion, but this area is at a consistent depth of 23-24mm and probably represents the thickness of one board nailed to another.
67/107	BC/HU (HQ) Sf. 471	325	1. One nail with wood on lower part of shank-uniseriate rays. 2. One nail with charcoal fragments preserved on

			the shank. The grain alignment of the charcoal could mean that the fragments were part of a board.
67/109	BC/HY	232	2 nails, one with fragment of bone preserved on it.
67/112	BC/VP	228	Most of these small nails have fragments of charcoal or iron preserved wood on the shanks – probably a ring porous wood. These small nails are often used for small box construction. On the top of the shank and heads of some nails are fragments of bone, mostly cancellous tissue rather than the compact bone used for decorative plaques – probably cremated human bone.
67/117	BC/JJ	227	Several broken nails with iron preserved wood, indicating the use of radial surface oak boards, *Quercus* sp.. One example suggests that they were around 30mm thick.
125	BC/VW		Wood sorted from cremation, possibly a root, which is quite likely to be modern.
199		198	1. Iron nail corroded onto section of worked bone. 2. Small nail originally attached to a non-specific organic material, could be bone as it is of the same thickness c.7mm.
67/255	BC/PS	167	Three nails which probably represent one corner of a nailed coffin, made from oak (*Quercus* sp.) planks of radial split timber 21-22mm thick.

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