

Ancient Monuments Laboratory  
Report 78/2000

ORGANIC MATERIAL ASSOCIATED  
WITH METALWORK FROM ICKHAM,  
KENT

J Watson

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Summary

Identification of organic material preserved in contact with a selection of iron tools from Roman levels. Most of the objects are pruning hooks and knives with traces of original handles. Unfortunately the condition of the organic material, the wood in particular, was poor and only a small proportion could be identified to species level.

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# Organic material associated with metalwork from Ickham, Kent.

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A small group of 16 objects were selected by Quita Mould with mineral preserved organic material for study. They are mainly iron tools, with the exception of a copper alloy ferrule (1311), all with traces of their organic handles. All the objects are of a Roman date.

The corrosion present on most of the objects appears to have been formed as a result of soaking in water or aqueous solutions. Two objects at least have been treated with sodium sesquicarbonate at some stage, as this recorded on their packaging, so it seems quite reasonable to suppose that most of the ironwork could have been treated in this way. Consequently the mineral preserved organic material is in a poor condition, having shrunk and warped, making identification difficult and sometimes impossible. It was possible to identify most materials and some of the wood species using a low-powered incident light microscope. Some samples were taken for examination at higher magnifications on the scanning electron microscope (SEM), and these items have been marked with \* in the following catalogue, but on the whole this did not prove helpful (Watson, 1988).

## Pruning hooks

There are six pruning hooks from the site, all with traces of the original wooden handles, but only one could be identified as possibly hazel (sf 673).

506	745796	Pruning hook with wood in socket, but too degraded to identify.
673	746084	Pruning hook with wood in socket*, probably <i>Corylus</i> sp.(hazel). SEM B816
1005	745692	Pruning hook with mineral preserved wood in socket*, but not well enough preserved to identify the species.
1064	745704	Pruning hook with mineral preserved wood in socket*, but not well enough preserved to identify the species.  SEM B819
1706	-	Pruning hook with traces of a wooden handle, but not enough to sample for identification.

2033 - Pruning hook with mineral preserved wood in socket\*, but the structure is too distorted to identify the species.

SEM B822

### Knives

Four knives were selected for examination, two with wooden handles, and one with bone. Neither of the wood samples taken from the knives could be identified, but one (806) had fragments of untreated iron preserved wood that could be identified as ash and were labelled as being from the handle.

426 745761 Knife covered in miscellaneous organic material, which are mainly stem fragments but nothing that could correspond to a handle.

806 741714 Knife with wooden handle\*. Separate fragments are also marked as belonging to the handle, and these are *Fraxinus* sp. (Ash). Object has been treated with sodium sesquicarbonate. The sample taken from the knife proved to be too degraded to identify the species.

SEM B817

807 741715 Knife with bone handle as marked on the bag. Object has been treated with sodium sesquicarbonate.

1701 782617 Knife with remains of wooden handle on tang\*, but too degraded to identify the species.

SEM B821

Blade encrusted with stones, shell fragments and stems, but nothing directly associated with the knife.

### Other objects

The last group of objects is basically several unrelated tools from the site with varying amounts of preserved organic material.

406 745757 Conical ferrule with mineral preserved organic material in the socket, but not recognisable.

586 745668 Heckle tooth with no organic material remaining. The striations which look like wood grain do in fact run along the length of the tooth and are below the original metal surface so are more as a result of how the iron was wrought.

- 852 - Sledgehammer with mineral preserved wood in the eye\*, *Buxus* sp. (box). The handle was made from a young stem or branch wood, and of the two possibilities the choice of a sapling would seem the better choice in combining the properties of strength and elasticity. Heartwood on the other hand is hard and brittle by comparison, and would soon break in usage. Hammer handles have been made of boxwood from the Iron Age (Stead, ) to modern times, so that the choice of box in this instance is highly appropriate.  
SEM B818
- 1204 745896 Awl with striations along the square section that have formed as a result of the way in which the iron has corroded, and are not preserved organic material.
- 1257 745851 Fragment of frying pan handle with chunks of miscellaneous organic material including wood, roots, plant stems and leaves.
- 1311 746588 Copper alloy ferrule with three concentric layers of organic material inside it - directly underneath the metal is a layer of glassy black material, possibly some form of bitumen\* c.3mm thick. Beneath this layer is a paper or feltlike material\* c.3mm thick. In the centre are fragments of wood, *Fraxinus* sp. (Ash).  
Feltlike material SEM B820

## References

Stead, I.M., 1991

*Iron Age Cemeteries in East Yorkshire*, English Heritage Archaeological Report No.22.

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“The identification of organic materials preserved by metal corrosion products.”, in S.Olsen (ed) *The Use of the Scanning Electron Microscope in Archaeology*, BAR International Series No. 452, 65-76.