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Summary

Identification of organic materials preserved by metal corrosion products on selected objects from this Anglo-Saxon cemetery. The objects examined include knives, seax, shears, buckles, combs, tools and boxes. It was possible to reconstruct one of the boxes and this is covered in detail. The report is presented in two parts, a discussion accompanied by a catalogue of all the examined material.

Author's address :-

Jacqui Watson

Ancient Monuments Laboratory
English Heritage
23 Savile Row
London
W1X 2HE

Mineral preserved organic material associated with metalwork from Harford Farm, Norfolk.

The Anglo-Saxon cemetery at Harford Farm produced material dating to the late seventh and early eighth centuries. All the metalwork was conserved by M.Davies, at Norwich Castle Museum, and in conjunction with her work K.Penn selected around 55 objects that had traces of organic material. The examination of these form the basis of the following report which is in two parts, a general discussion followed by a catalogue of observations on the individual items. A summary of the specific organic material associated with different object groups is presented below in two tables: 1. Knives, seax, shears, buckles, and combs; 2. Boxes, tools, spear. Brooches and other objects that were recognised as only having textile preserved on them have not been included in this study as these have been reported on separately by E.Crowfoot.

All the organic material was preserved by contact with iron or copper corrosion products. As the cemetery was situated in sandy soil this has given rise to the extensive corrosion of these metals, especially the ironwork. In turn this corrosion has promoted the large scale preservation of organic materials that otherwise would not have been represented on the site. Although altered by the presence of metal corrosion products, most of the organic materials could be recognised using a low powered binocular microscope. However, many of the wood species were confirmed by observing gold coated samples in a scanning electron microscope (SEM) (Watson, 1988), and where this technique was used a sample number is quoted in the catalogue. Most of the samples had well preserved structures which made identification easier, and these have been retained for further study. It is important to note that for the purposes of this study willow and poplar should be regarded as one wood species as they cannot be separated on microscopic grounds. All the materials recorded were readily available in Anglo-Saxon Britain and Europe, so it is not possible to isolate any imported items from this evidence.

	Knives	Seax	Shears	Buckles	Combs
antler					4
horn	21	1			
leather	20	1	4	5	
textile	7		1	3	
straw				1	
Total	22	1	4	5	4

Table 1. Summary of organic material associated with knives, shears, buckles and combs.

In addition to identifying the materials used it has been possible to reconstruct some of the organic objects from their metal fittings, such as the casket from grave 7. These are covered in detail under the appropriate object headings below.

Knives

Twenty-two knives were examined and nearly all of them had the remains of their original horn handles (21) and leather sheaths (20). The knife from grave 5 illustrates that this handle was mounted to partially cover the blade. In grave 45 the knife handle was made from a horn tip.

The one from grave 42 appears to have a steel inserted into the same sheath. Some of the knives had traces of mineral preserved textile on them which was probably related to garments.

Seax

There is only one seax from the site and this has the remains of the organic hilt and scabbard. The hilt was made from a single piece of horn, over which was mounted a copper alloy collar at the shoulder. The scabbard is made from a single piece of leather, probably cattle, and is decorated with parallel incised lines. Associated with the seax are two awls which may have been housed in the same scabbard.

This seax is very similar in type and date to one found on the Buttermarket site in Ipswich (grave 3243:6795). For further details contact J.Newman, Ipswich Archaeological Unit.

Shears

Four pairs of shears were examined and all had been inserted into leather sheaths. One had the remains of textile which probably belonged to an adjacent garment.

Buckles

There are five buckles all of which have traces of their original leather belts. Three have traces of textile, probably the remains of garments. One has straw on one side, which may indicate that this grave was covered in straw before burial. In order to confirm this though, one would need to pick up the same material on other objects in the grave.

Combs

Three combs and a possible fourth have been identified solely as traces of antler adhering to iron rivets from graves 7, 11, 19, 28. On the rivets from graves 7 and 28, there are clearly three sections of antler, approximately 3mm thick and with the central portion aligned perpendicular to the outer two. This could indicate the joining of side plates on either side of the teeth (MacGregor 1985).

	Boxes	Awls	Steel	Spearhead
wood	3	3		1
alder	2	1		
ash	2			
beech	1			
hazel		1		
oak	1			
willow/poplar		1		
not identifiable				1
bone/antler			1	
Total	3	3	1	1

Table 2. Summary of organic material associated with box fittings, tools and spearhead.

In grave 7 comb rivets were found among the casket fittings and this may indicate that the comb was originally inside the wooden casket.

Boxes

There are metal fittings belonging to three boxes or caskets from graves 7, 18, and 27, most of these had mineral preserved wood on them which is recorded in detail in the catalogue.

The casket from grave 7 is made from alder with alder dowels, and sufficient wood remains to produce the reconstruction below. This casket appears to have a curved lid and is similar in size to the caskets from Swallowcliffe Down (Speake, 1989), Finglesham (ibid), and Field Farm (Watson, forth.). All these boxes appear to have a seventh century date. The iron fittings closely resemble those from Field Farm and it is quite likely that these two boxes were almost identical in appearance.

The casket from grave 18 did not have enough metal furniture to suggest its construction other than it appears to have been made from ash and alder boards approximately 19mm thick.

Only two fittings remain of the casket from grave 27 and on these are represented three woods, ash, beech and oak. From the grain preserved on these fittings it is very difficult to work out the function of these separate woods, but it would seem that the body of the casket was made from ash or beech. The split loop (147) for the ring handle has both ash and beech preserved on it which may indicate an ash inlay in the beech lid?

Grave 7

The casket from this grave had most of its fittings remaining and sufficient wood preserved on them to produce the reconstruction in figures 1 and 2. The reconstruction is based on the following:

a. the distribution of fittings on the grave plan give the size as approximately 150 x 115mm.

b. The height of the side must be in excess of 65mm, the length of the lock which hung vertically.

c. The hinges suggest that it has a curved top. By extending this curvature it is possible to get the shape of the lid and its height of 45mm.

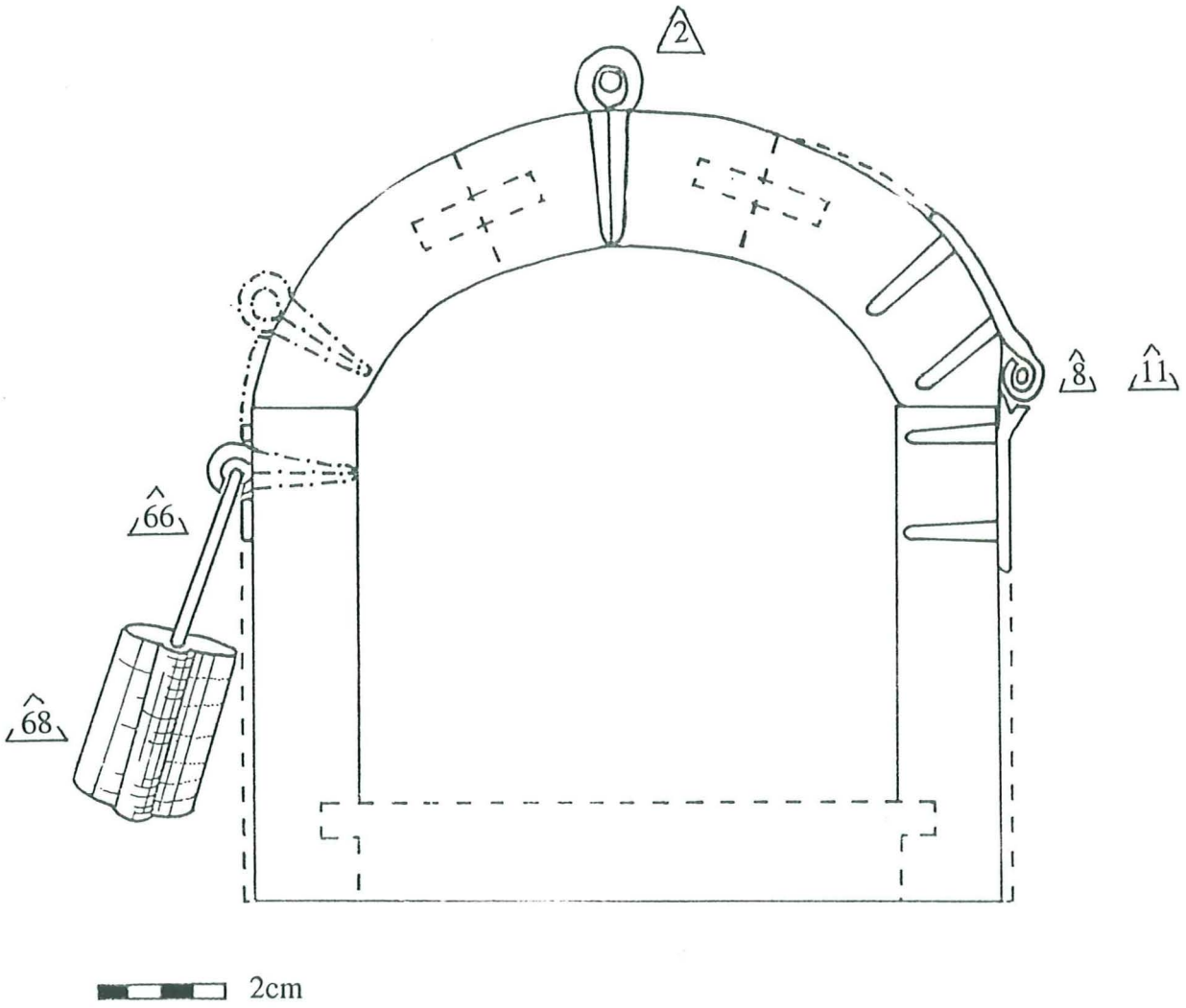
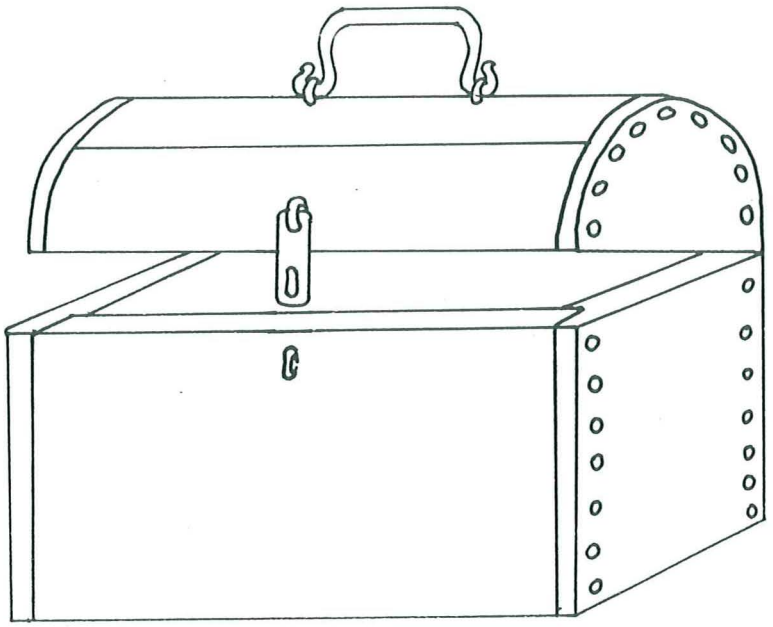


Figure 1. Cross section of casket from grave 7. Dashed lines indicate possible construction.



5cm

Figure 2. Reconstruction of casket from grave 7.

d. The thickness of the sides is taken from the nails on hinge 11, they give a minimum of 15.7mm for the lid and 14.5mm for the back. The back would have been about 2mm thicker if the fittings were recessed into the wood surface like the example from Finglesham.

e. Split loop 2 was probably used to attach one side of a drop handle to the lid, like the example from Field Farm, and this indicates that the top was at least 25.9mm thick in the centre.

f. As the lid exhibits radial surfaces on both the hinges and split loop 2 , this would suggest that it was made from several sections rather than one piece. It could have been made in 3 sections joined together with loose tongues as the curved piece of furniture from Taplow in the British Museum.

g. Base was probably inserted into the sides using tongue and groove joints. No evidence exists for this on the metalwork, but this type of joint can be seen in small caskets from the early thirteenth century in the British Museum.

h. Sides appear to have been held together with dowels and repaired with iron nails (4 on west side, and 2 on east). To facilitate this type of joining the ends were probably rebated to hold the front and back firm, as in the example from Field Farm. The same method was probably used to join the curved section of the lid to the sides.

i. The hasp needs to be flexible in order to fit over the split loop on front. This could have been done in one of two ways, either the hasp was connected to the lid with another split loop, or it was hinged. Unfortunately the hasp was broken just above the split loop and there are no other fittings that would correspond to either construction.

Tools

Only four tools were examined, three awls and a possible steel. The awls had wooden handles (alder, hazel, willow/poplar) and the steel had a bone or antler one.

All four tools were found with other objects and were probably very closely associated. In grave 25, two awls were found with the seax and it is likely that they were housed in the same leather scabbard. The steel was probably in the same sheath as the knife from grave 42. The remaining awl was found among the box fittings from grave 18, and may have originally been inside the wooden box.

Spear

One unassociated spearhead was found which had mineral preserved wood in the socket, but this could not be identified except to say that it had been hafted with coppiced timber.

References

MacGregor, A.; 1985
Bone, Antler, Ivory and Horn, Croom Helm, London, 73-95.

Speake, G.; 1989
A Saxon Bed Burial on Swallowcliffe Down, English Heritage Archaeological Report No. 10, 24-30.

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Casket Reconstruction, in H.Rees and C.A.Butterworth, Excavations at Field farm, Burghfield, Wessex Archaeological Report No.1: Excavations in the Burghfield Area, 56-7.
Also available as AML report No.23/88

Catalogue of examined material

* sample taken for examination by SEM

Grave 1
1: 152
Iron girdle hangers with patches of degraded textile preserved along them.

Grave 2
1: 205
Iron knife with mineral preserved horn handle and possible traces of leather sheath.

2: 206
Iron buckle and plate with remains of leather belt. On front of plate are mineral preserved stems or roots.

Grave 3
1: 90
Iron knife with mineral preserved horn handle and leather sheath.

Grave 4
1a: 89
Iron knife with mineral preserved horn handle and traces of leather sheath. On one side at the shoulder is a fragment of textile.

Grave 5
1: 203
Iron knife with mineral preserved horn handle that extends part of the way down the blade. Traces of leather sheath on the blade which possibly covers part of the handle. On one side is a piece of fine textile probably on top of the sheath.

Grave 6
1a: 71b
Iron knife with mineral preserved horn handle and traces of leather sheath. Very degraded textile is preserved on one side of blade on top of leather.

1b: 71a
Large iron ring with layers of textile preserved round it.

1c: 74
Iron shank with copper alloy ring, is mainly covered in various textiles but at one end it appears to pierce a piece of leather.

Grave 7
1: 55
The box was originally 150mm x 115mm x ht [c.75mm + lid 45mm], these dimensions were taken from the plan of the fittings in the grave and the height was ascertained from the length of the lock spring plus the

reconstructed curvature of the lid.

Iron box fittings with mineral preserved wood, Alnus sp. (alder).
c:11 SEM B513

a: 66, 68
The lockspring (66) has wood preserved on one side which originally belonged to a tangential surface board on this casket. The axis of the spring is perpendicular to the wood grain which probably indicates that it was hanging vertically. In which case this gives a minimum height for the side as approximately 65mm.

The padlock casing (68) only has mineral preserved threads on one side, and it was possibly not attached to the spring at burial. It is probably worth X-raying the end of the casing to get the shape of the ward.

b,c: 8,11
Two hinges with mineral preserved wood from radial surface boards. The nails on c give a minimum thickness for the lid at this point of 15.7mm.. There is a slight curvature on both hinges which suggests that the casket originally had a curved top.

k: 12,13
Nail shanks with mineral preserved wood which do not exhibit any joinery. The grain orientation and position in the grave suggests that these belong with hinge 11.

g: 4
Nail shank with mineral preserved wood which possibly belongs with hinge 8.

i,j: 9,10 - nails from SW corner
k,z: 14,17 - nails from NW corner
d,z: 1, 63 - nails from E side
All six nails have mineral preserved wood with the grain orientated along the axis of the shank and no sign of joins. This probably indicates that they were put through wooden dowels. As there are four nails on the West side and two on the East it is quite likely that these nails represent repairs to this casket, where the sides and/or the lid were originally joined with dowels.

f;o;r: 3,5,6; 19; 58
Possible fragments of a drop handle.

e:2
Split pin, possibly used to attach the handle to the lid. If so this gives a minimum thickness for the top of the lid as 25.9mm.

m,n: 16,18
Possible fragments of a key. m has textile preserved on the end.

l,p,x: 15,20,65
Fragments of iron, probably nail shanks, with no preserved organic material to suggest function.

y: 67
Iron fragment with mineral preserved textile, possibly part of lock.

q: 57
Iron fragment with mineral preserved wood, could be part of a nail shank or the handle.

1s-w: 59-62, 64
Group of 6 iron rivets with mineral preserved antler rather than wood. Most of the rivets appear to join three sections of antler, approximately 3mm thick, which suggests that they belong to an antler comb rather than be part of the box. The position of these rivets on the grave plan suggests that the comb may have been inside the casket.

Grave 8
1: 91
Iron buckle and plate with remains of leather belt passing through the loop and possibly between the two sides of the buckle plate. Layers of mineral preserved textile on both sides.

Grave 10
1: 189
Iron knife with mineral preserved horn handle and leather sheath.

Grave 11
4: 79-80, 82-3
Fragments of compacted organic material, which may have been leather and random organic material.

5: 86
Iron knife with mineral preserved horn handle and leather sheath. Textile overlying leather at shoulder.

6: 86
Pair of iron shears in a leather sheath which extends almost to the loop. Overlying some of the leather and covering most of the loop are layers of textile.

8: 85
Fragments of an iron chatelaine covered in various textiles.

9: 84
Large iron object with mineral preserved threads and fragments of leather along its length.

Also associated with this object are two iron rivets with possible mineral preserved antler, which suggests that they may belong to an antler comb.

Grave 12
1: 70
Iron knife with mineral preserved horn handle and probable leather sheath.

Grave 13
1: 96
Iron knife with mineral preserved horn handle and leather sheath.

Grave 18
3: 114 121 122
Various box fittings with mineral preserved wood, Fraxinus sp. (ash) and Alnus sp. (alder). This box appears to be made from two woods, but there are not enough fittings to reconstruct it.

114
Barrel padlock with some wood preserved on surface. Broken nail shank with alder preserved on it.

121
ssl which pierces an alder board, 19mm thick.

122
Three nails and two ssl's with wood preserved on them. One ssl and the folded nail have ash preserved on them, and the nail indicates the use of a 19mm thick board. The ssl with ring and the two remaining nails* have alder preserved on them.
SEM B514

3c: 123
Iron awl with plied thread around metal shank just below the *wooden handle. Wood identified as Alnus sp. (alder).
SEM B515

7: 126
Iron pursemount with mineral preserved organic material. Appears to have fragments of leather preserved on both sides of the loops, and very degraded textile on one side. On both sides are areas of random organic material which may just be roots.

Grave 19
1: 204, 193-6
Fragments of iron preserved wood, Fraxinus sp. (ash).

2: 197
Iron knife with horn handle and leather sheath. On one side several layers of textile are preserved on top of the sheath.

4: 198
Fragments of copper alloy and iron with mineral preserved textile.

7: 155
7b: 292
Iron tang with mineral preserved horn, probably fragment of knife handle.

7g: 302
*?Wooden bung, Acer sp. (maple).
SEM B516

7h: 297
Fragments of an iron loop with mineral preserved textile.

8:191
Iron rivet with possible mineral preserved antler, not wood. Possibly this is a fragment of an antler comb.

Grave 20
1: 115
Iron shears with traces of mineral preserved leather sheath.

Grave 21
1: 149
??Heckle teeth covered in random organic material, probably plant stems.

Grave 23
1: 145
Iron knife with mineral preserved horn handle and possible leather sheath.

Grave 25
1: 215
Iron seax with single piece horn hilt. It appears to have a copper alloy collar at the shoulder, made from thin sheet c 0.5mm thick. As this sheet is so fragmentary one cannot tell how far up the handle it originally extended, but it was at least 6mm wide. On the blade are the remains of a leather scabbard which extends over at least part of the hilt. The scabbard appears to have been decorated originally, but all that remains are two horizontal lines incised in the leather.

This seax is very similar to one of three from the Anglo-Saxon cemetery at Buttermarket, Ipswich. The seax from grave 3243: 6795, also has a horn hilt with a copper alloy collar at the shoulder.

*Associated with the seax is a small iron awl (A) with a wooden handle, Corylus sp. (hazel). Around the tip are traces of leather which may indicate that it was housed in the same scabbard as the seax.

*A second awl (B) also has a wooden handle, Salix sp. (willow) or Populus sp. (poplar). This was found loose in the box with the seax and may also have been housed in its scabbard.
SEM B517

2: 215
Iron buckle with remains of leather belt, pupa cases and textile on the reverse.

Grave 27
1: 156
Iron shears with possible mineral preserved leather on both sides of blades, which probably indicates the presence of a sheath.

2: 147
Iron ring with split spiked loop. The shank of the ssl pierces two pieces of wood, the upper one Fraxinus sp. (ash) and the lower one Fagus sp. (beech). This fitting is probably the box handle, which was originally mounted on the lid. The presence of two different woods may represent an ash inlay in a beech lid.

3: 146
Iron box fitting with three different woods preserved, Fraxinus sp. (ash), Fagus sp. (beech), and Quercus sp. (oak). This appears to be the hasp which was attached to the lid with a split loop, and fitted over another split loop on the front. Both the split loops are complete, so that it is possible to say that this part of the lid was made from ash, 17.7mm thick. The front of the box appears to be made from beech, 11.5mm thick, with either a dowel or repair of oak.

8: 211
Iron knife with probable mineral preserved horn handle and leather sheath.

Grave 28
8: 182
Group of five iron studs found in a row with mineral preserved antler on them. On most of the studs there appears to be 3 pieces of antler preserved with the grain of the central piece perpendicular to the outer two. This is probably all that remains of an antler comb, with the studs joining the side plates to the toothplates (MacGregor 1985, 75). The total thickness of the comb back is between 10-15mm, which suggests that the side plates taper towards the edges. The toothplates are approximately 3mm thick.

9: 363
Iron knife with remains of leather sheath, no sign of handle.

9b: 365
Iron shears with possible leather sheath and fragments of bone.

Grave 33
1: 232, 355
Chatelaine with mineral preserved textile.

Grave 34
1: 249
Iron knife with mineral preserved horn handle and possible traces of leather sheath.

Grave 36
1; 245
Iron knife with mineral preserved horn handle.

Grave 37
1: 288

Iron knife with mineral preserved horn handle and leather sheath.

Grave 40
1: 218
Iron knife with mineral preserved horn handle that extends onto blade. Remains of leather sheath which on one side is overlain with textile.

Grave 42
1: 207
Iron knife with mineral preserved horn handle and leather sheath. Also associated with this knife is a rectangular section tool, possibly a steel which may have been housed in the same sheath. Little organic material is preserved on the tool's tang, but it may be bone or antler.

Grave 43
1: 254
Iron knife with mineral preserved horn handle and possible traces of leather sheath.

2; 255
Iron buckle and plate with traces of leather belt preserved between the plates and some degraded threads on the underside of loop.

Grave 44
1: 221
Iron knife with mineral preserved horn handle and traces of leather sheath.

2: 222
Iron buckle loop with copper alloy plates, has the remains of the leather belt between the plates. Random organic material, straw or fragments of wood, are preserved on one side of the loop.

Grave 45
1: 226
Iron knife with mineral preserved horn handle made from the tip of a horn. Has remains of leather sheath, and overlying this on one side is a fragment of degraded textile possibly part of a braid.

Unassociated finds
1: 214
Iron spearhead with mineral preserved *wood in the socket from coppiced timber, but too degraded to identify species.
SEM B518