Ancient Monuments Laboratory
Report 16/86

THE MEDIEVAL CEREALS AND WEEDS FROM SCHOOL ROAD, ALCESTER.

L C Moffett

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Summary

Samples were taken for charred plant remains from an area believed to be near a medieval pottery kiln. The samples produced two types of free-threshing wheat as well as rye, barley and, probably, oats. Arable weeds were also present and included whole flowers of stinking mayweed (Anthemis cotula). One of the wheats was a tetraploid species (Triticum turgidum or durum). This is an early (ca. 12TH Century) occurence of a wheat infrequently found on British Archaeological Sites. One of the samples was rich in remains and this might represent the rakings of a fire where chaff was used as tinder, perhaps in the pottery kiln.

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by Lisa Moffett

Samples were taken for charred plant remains from eight contexts. The samples were processed by washing the soil through a 1mm mesh sieve, then collecting and drying the material retained on the sieve. This material was then placed in a bucket of water, allowing the heavy mineral fraction to sink while the lighter floating fraction, including the charred material was decanted into a 0.7mm sieve. The resulting 'flot' was dried and sorted under a low power binocular microscope.

Once the samples were sorted it was clear that most of them contained just a few charred items. Only one, 25/L/1, a patch of ashy material, produced substantial amounts of charred remains. Since it is not possible to do a distributional analysis on a limited excavation of this kind, the main aim of the analysis of these samples was to determine species presence. With this end in view, two samples (20/L/1 and 25/L/1) were chosen because they had noticeably the largest numbers of items, and two other samples (24/L/1 and 19/L/1) because they came from layers roughly below and above the two previously chosen layers (see section drawing fig. 4) and therefore formed a sequence of four layers. The sorted material from the remaining samples was briefly checked to see if they contained any further species. A single fruit of an Umbelliferae, too badly abraded to be identified, was found in one of these remaining samples, but otherwise the species list produced by the four samples chosen for analysis is complete for all the samples taken.

The sample from 24/L/1, a rubbish layer at the bottom of the sequence of four samples, and the sample from 19/L/1, a gravel layer at the top, contained only a very small amount of cereals and weed seeds. This is likely to be residual material. Most of the charred material in the gravel layer 20/L/1 appears to derive from 25/L/1, the ashy patch, which lay directly beneath it. This ashy patch contained many chaff fragments of wheat and rye, as well as a few of barley, and grains of wheat, rye, barley, and, probably, oat. Chaff remains from oats are delicate and often do not survive charring. Without them it is impossible to determine if the oats were wild or cultivated. In this sample the oat-like grains are too badly preserved to identify with certainty even as oat, but it seems likely that all four major cereals are represented.

The presence of *Triticum turgidum/durum*, most likely *turgidum* (rivet wheat), is noteworthy as archaeological finds in Britain have so far been rare. The grains of this species are usually impossible to distinguish from bread wheat, but the rachis nodes with characteristic 'lump' below the

glume insertion are distinctive when well-preserved (Hillman, forthcoming). According to Jasny (1944, p.49) rivet (or poulard) wheat produces the poorest quality flour for bread making of all the common wheats. It is, however, a prolific yielder (Percival, 1921, p.242) and may have been grown to 'stretch' the flour produced from the bread wheat crop. Alternatively, rivet flour may have had a different use, such as pastry making. Depending partly on whether or not rivet wheat was used differently from bread wheat, the two wheats could have been grown either separately, or together as a maslin.

Most of the wild species present are weeds of arable and disturbed ground, and were undoubtedly harvested with the crops. The large number of achenes of stinking mayweed is due to the fact that it was present as whole flowers, though charring had detached most of the achenes, rather than any preponderence of this weed in the crop.

The most likely explanation for the presence of the charred cereal remains and associated weeds is that handfuls of chaff were used as tinder to light the fire in the pottery kiln. There are, however, a considerable number of prime cereal grains present as well. This would perhaps not be too surprising if the chaff derived from a winnowing by-product as it is impossible to achieve total separation of grains and chaff by winnowing. Grains may also be over-represented relative to rachis remains because the rachis segments of free-threshing cereals, such as bread wheat, rivet wheat and rye, stay joined together are and lighter than the relatively dense, heavy grains. The chaff remains, therefore, would tend to get caught in the upper, more aerobic part of the fire and would be more likely to be completely consumed (Hillman, 1978). The grains would tend to sink to the bottom of the fire under the ash where reducing conditions prevail, and would thus be preserved.

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SPECIES LIST

Context no.:	19/L/1	20/L/1	25/L/1	24/L/1	
Feature type:	layer	layer	ashy patch	soily dump	
Volume of sample:	8 litres	14 litres	9 litres	16 litres	
Volume of flot:	2 ml.	7 ml.	25 ml.	10 ml.	Common name
CEREALS					
Triticum turgidum/durum rachis nodes	-	3	64 + 11cf.	-	rivet or macaroni wheat
Triticum cf. tetraploid rachis	-	-	1	-	
Triticum aestivum s.l. rachis nodes	-	12	224+37cf.	-	bread wheat
Triticum spp. free-threshing rachis nodes	1	10	220	-	
Triticum spp. free-threshing grains	-	12	113	1	
Triticum indet. rachis frags.	-	-	11+1basal	-	
Triticum indet. grains	-	3	12	-	
Triticum/Secale grains	-	1	15	-	
Secale cereale rachises	2	3	99+5cf.	-	rye
Secale cereale grains	-	-	7	-	
Secale/Hordeum rachis frags.	-	-	44	-	
Hordeum sp. rachises	-	-	5	-	barley
Hordeum sp. grains	-	-	4cf.	-	
Avena/Large Gramineae grains	-	-	17	-	oat or large grass
Cereal indeterminate	2	15	173	4	
Cereal/Gramineae culm nodes	-	-	5	-	
WEEDS					
Silene cf. alba	-	-	1	-	white campion
Spergula arvensis	-	-	1	-	corn spurrey
Atriplex sp.	-	-	4	-	orache
Medicago/Melilotus/Trifolium	-	-	1	-	clovers
Trifolium sp.	-	-	2cf.	-	
Vicia cf. hirsuta	-	-	3	-	hairy tare
Vicia cf. tetrasperma	-	-	2	-	smooth tare
Vicia/Lathyrus	-	2	27	-	vetch
Polygonum aviculare agg.	-	-	2	-	knotgrass
Rumex sp.	1	1	20	-	dock
Galium sp.	-	-	3	-	cleavers
Valerianella dentata	-	-	1	-	cornsalad
Anthemis cotula	4	35	743	-	stinking mayweed
Anthemis cotula flower heads	-	-	2	-	
Centaurea cf. cyanus	-	-	1	-	cornflower
Centaurea sp.	-	-	2	-	
Unknown flower heads frags.	-	-	2	-	
Tree buds	-	-	1	1	
Unknown	-	-	1	-	