Suburban life in Roman *Durnovaria*

Additional specialist report

Environmental
Charred plant remains

By Chris Stevens

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A total of 112 samples were taken from a range of feature types dating from the earlier to later Roman periods. They were processed (flots retained on 0.5mm mesh and residues on 1mm) and scanned during the assessment. Only one sample was rich in plant remains, the remainder contained on average less than 10 remains. The plant remains comprised predominately charred cereal, weed seeds and occasional items of other crop species. These then represent the remains of crops brought to Roman Dorchester and processed into food. As such they reveal something of the use of crops and their place in the economy of Roman Dorchester.

Method
Three samples were analysed. The flots were sorted and the residues fully extracted, with material identified where possible and tabulated (Table CPR1) using the nomenclature of Stace (1997). Remains from the assessed samples were scanned identified and quantified during the assessment phase. Eleven of the richer samples, or those containing slightly more unusual remains, are also presented (Table CPR1**),** but the residues of these samples were not sorted.

Results
The majority of samples contained sparse numbers of charred plant remains. The most predominate remains were cereal grains and chaff of hulled wheats emmer or spelt (*Triticum dicoccum/spelta*). Occasional grains of barley (*Hordeum vulgare sl*) and free-threshing wheat were also identified. Most of the chaff, where identifiable, was of spelt wheat (*Triticum spelta*), although spikelet forks and glume bases of emmer wheat (*Triticum dicoccum*) were also identified. Only one single context, an early Roman pit (1439), produced any quantities of grain and chaff. While all the other contexts combined scarcely produced more than 10 fragments of hulled wheat chaff, this context yield over 400 glume bases and spikelet forks of emmer and spelt wheat. Glumes have been seen to generally outnumber grains upon prehistoric and rural Roman sites, and is characteristic of waste from the processing of hulled wheats (Stevens 2003). In this respect the assemblage from pit 1439 was the only one that represented the more typical pattern.

Cereal remains were accompanied by infrequent finds of seeds of weed species. The most prolific context was that which yielded the high numbers of chaff (pit 1439). On the whole most of the identified species are the same as those which dominate the Iron Age assemblages of southern England, e.g. vetches/wild pea (*Vicia/ Lathyrus* sp.), cleavers (*Galium aparine*), brome grass (*Bromus* sp.) and clover (*Trifolium* sp.). A single floret base of wild oats indicated that at least some if not all the oats seeds recovered are likely to represent crop weeds rather than the cultivated crop. Three finds from earlier and middle Roman contexts (pit 1439; heath 4144) provide evidence for the introduction of Mediterranean arable weed species that were to become a common part of the English flora (cf. Godwin 1984). These are corncockle (*Agrostemma githago*), hemlock (*Conium maculatum*) and grass vetchling (*Lathyrus nissolia*), the latter species whose seeds are also recovered from Isca (Helbaek 1964),

Some ecologically specific species provide an indication of where such crops may have been grown. Spikerush (*Eleocharis palustris*) is seen as a weed of wet,

seasonally flooded soils (Jones 1988), while field madder (*Sherardia arvensis*), narrow-fruited cornsalad (*Valerianella dentata*) and ribwort plantain (*Plantago lanceolata*) would be commoner on drier, calcareous or chalk soils.

Other remains present included crop species, potential imports and plants that were more probably collected from the wild. In the former category we may include two pulse crops, celtic bean (*Vicia faba* var. *minor*) and garden pea (*Pisum sativum*), which despite the low quantities of charred remains were still present. Of more interest were the remains of lentil (*Lens culinaris*). Lentil has been found on occasional Roman sites, but notably these are almost all associated with major Roman Towns e.g. Colchester (Murphy 1986), London (Davies 2000; Straker 1984; Wilcox 1977; 1978), York (Hall and Kenward 1990), Stonea, Cambridgeshire (van der Veen 1991a) or forts e.g. Isca, Caerleon (Helbaek 1964). A single seed of possible bitter vetch (*Vicia ervilia*) represented a further potential pulse crop from an early Roman context. This species is unlikely to have been cultivated or even to have grown wild in England. Seeds of bitter vetch were recovered from a warehouse destroyed by fire in Roman London where they were taken to represent imported crops (Straker 1984).

A few seeds of other species represent food items brought into and consumed in the Roman town, most probably collected from the wild. These include hazelnuts (*Corylus avellana*), sloe berries (*Prunus spinosa*) and also possibly in this category crab-apples (*Malus sylvestris*). The status of the introduction of cultivated apple trees to Britain remains unknown, although the single mineralised pip from the late Roman context (pit 4230) might also represent imported apples. The few grape pips (*Vitis vinifera*) recovered undoubtedly represent cultivated plants. They are usually taken to indicate imported fruits or wine, although evidence for vineyards within England has been recovered from Northampton (Dark 1999).

Discussion

The results from the County hospital excavations contribute to a growing body of information on the plant economy of Roman Dorchester. The results from these assemblages can be compared to those conducted within Dorchester itself (Ede 1993; Jones and Straker 1993) and those carried out in the area around Dorchester (Monk 1987; Letts 1997; Straker 1997; Jones and Straker 2002).

Like the County hospital excavations, these excavations produced generally few cereal remains with only occasional rich charred deposits. Excavations carried out within Dorchester itself frequently produced poorer assemblages than those in the general vicinity around the Roman Town. For example, while richer deposits have been recovered from sites around Dorchester (Letts 1997; Monk 1987), those within the town itself are often bereft of cereal rich charred assemblages (e.g. Ede 1993; Jones and Straker 1984). In part this may be due to hearth waste being routinely deposited elsewhere; however, it is probable that it can be related to other taphonomic factors.

Charred material, including grain, which is characteristic of many prehistoric and Roman sites in Britain, can be attributed to the creation and burning of cereal waste during the routine processing of cereals (Stevens 2003). If crops of spelt wheat arrived in towns fully processed or dehusked, then glume bases and other charred waste from processing will be largely absent. In contrast localities around or perhaps even within

the town where crops were processed *en mass* in order to supply the towns residents with clean grain would potentially afford charred deposits rich in chaff, in particular glume bases, and grain. That grain-dryers frequently contain such deposits has led to the suggestion that they were perhaps used in such bulk-processing in order to supply fully-processed grains to towns (cf. van der Veen 1989b; van der Veen and O'Connor 1998; Fulford 1989).

It is possible that the waste from pit 1439 may relate to such processing activities. Some of the grain within this pit had clearly germinated and such remains have been found associated with corn-dryers at Catsgore (Hillman 1982) where they were associated with waste from malting in preparation of spelt grain for brewing.

It has been suggested that seeds of lentil may derive from grain contaminants in crops imported from the Mediterranean, rather than the importing of the crop itself (Straker 1984; Godwin 1984). Although lentils are perhaps a frequent enough find in London (e.g. Davies 2000) to suggest that it was imported as seed for consumption.

It is probable that species, such as corncockle and hemlock, originally arrived in England during the Roman period as grain contaminants (Godwin 1984) and quickly became established within native fields. However, the presence of bitter-vetch was taken by Straker (1984) to indicate specifically the storage of imported crops in London ready for distribution elsewhere, as the species has never been known to have grown as weed or crop in this country. As such its presence can be taken to indicate that some of the grain reaching Dorchester also came from the continent. Other species, as seen, are common weeds of the period, to be found growing in the fields surrounding the town, and doubtless Roman Dorchester was as dependant if not more so on such local grain supplies.

That pea, celtic bean and perhaps lentil appear in what are generally small assemblages signifies the importance of such crops within the diet of those who lived in the Roman Town. Similarly, grape pips would not be charred regularly, and in addition to wine, we might suppose that they were also consumed, along with other food items brought in from the surrounding countryside such as sloes, apples and hazelnuts.

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