

Charred plant remains from Bantham Ham Surf Club

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16 July, 2002

Introduction and methodology

Excavation of a dune site at Bantham by Exeter Archaeology revealed Dark Age occupation dating from the late 5th to early 6th centuries. Nine samples for environmental analysis were recovered from an upper and lower buried soil, dune sand sediments, hearth samples and one ditch fill.

Cressida Whitton from Exeter Archaeology processed the samples. They were wet sieved to a 300 micron float and 500 micron residue and then oven dried. The floats and residues were scanned by the author. In view of the low density of charred plant remains in most samples full counts were made and the samples were then passed on to other specialists for charcoal and snail analysis. The condition of the charred cereal remains was variable, some grain was well preserved, others were very fragmented and were only identified as 'Cereal indeterminate'. The charred weeds, especially the smaller seeds, such as grasses (Poaceae), bartsia/eyebright (*Odontites/Euphrasia*) and stinking chamomile (*Anthemis cotula*) were in very good condition. The results are shown in Table 1. Nomenclature and habitat information is based on Stace (1991) and cereal determinations are based on Jacomet (1989).

Results

Buried soils

Upper buried soil (context 521/sample 3960305)

Lower buried soil (context 501/sample 3960300)

Two buried soils were examined, which were separated by dune sand sediments. The lower buried soil (501) produced a large float (1290ml) which was predominantly charcoal. There were also several thousand snail shells, bone fragments, including some burnt bone. A few small mammal teeth and limb bones were recognisable, but most fragments are likely to be unidentifiable. There was a small assemblage of charred plant remains including the distinctive rounded grains of bread wheat (*Triticum*), several hulled barley (*Hordeum vulgare*) plus 4 indeterminate cereal grains. There was no cereal chaff. Most of the other charred plant macros may well have originated with the charcoal used as fuel and include a possible oak (*Quercus*) bud, hazel (*Corylus avellana*) nut fragments and a single bramble (*Rubus sect Glandulosus*). The hazel and bramble, together with a single charred apple/pear (*Malus/Pyrus*) pip could also represent burnt food debris. Occasional eggshell, also present in the residue, may also suggest this.

The float and residue from the upper buried soil (521) were much smaller (37 and 30ml respectively), but contained abundant charcoal fragments. The small charred assemblage included occasional wheat, barley and oat (*Avena*) grains, but most of the grain was in very poor condition and was classified as Cereal indet. There were single

examples of a grass (*Poa/Phleum* - meadow-grass/cat's-tail) caryopsis and dock (*Rumex*) seed likely to be present as crop weeds. The residue contained fragments of shellfish including limpet and mussel, with some large (6-8mm) fragments of eggshell. There was also some small mammal bone, small vertebrae and a few fish scales.

Dune sand sediments

Context 500/sample 3960315,

Context 512/sample 3960316

Context 519/sample 3960306

The three samples taken from dune sand sediments produced very few charred plant remains. Context 500 was predominantly snails, with much broken shell debris, the occasional bivalve, small mammal teeth and possibly fish bone. There were occasional small charcoal fragments plus a single charred bramble seed.

Charcoal formed the bulk of the float from Context 512, with c100 snails. The only charred item was a single fragmented ribwort plantain (*Plantago lanceolata*) seed, a perennial species of grassy places.

The float from context 519 was mostly roots, but also contained 1000's snails, with mussel, barnacle, limpet, a single top-shell and occasional eggshell also present. As well as occasional charcoal there were several wheat (in very poor condition), barley and oat grains.

Hearth samples

Context 541/sample 3960311

Context 556/sample 3960318

Context 571/sample 3960322

The three hearth samples, all predominantly charcoal, were more productive for charred plant macrofossils. In context 541, there were 480 charred fragments of hazelnut including several half-shells, which could either have arrived with hazel firewood, or be food remains. Although the cereal assemblage was again small with only a few wheat and oat grains and no chaff, the weed assemblage included some seeds usually considered to be arable weeds. These include black-bindweed (*Fallopia convolvulus*), stinking chamomile, bartsia/eyebright and orache (*Atriplex*). Some of the other weeds are more typical of grassy habitats, but are often associated with charred cereal remains. These may have occurred in grassy field margins, invading the arable crops and been gathered with them at harvest. However species such as selfheal (*Prunella vulgaris*), buttercup (*Ranunculus acris/repens/bulbosus*), vetch (*Lathyrus/Vicia*) and ribwort plantain (*Plantago lanceolata*) also occur in hay meadows and may have come from hay, gathered by the inhabitants of the site which was latterly burnt, perhaps used as tinder.

There are a few weed seeds, which reflect the coastal location of the site and may have become accidentally incorporated into a hearth. These are henbane (*Hyoscyamus niger*), a plant of waste ground habitats, including maritime sand and shingle. Corn spurrey (*Spergula arvensis*) is a calcifuge (growing on more acidic soils), on usually sandy cultivated ground or more rarely in short maritime turf (Stace 1991, p210). Of particular interest from this sample were the charred seeds of flax (*Linum usitatissimum*). Many of these were fragmented and rather swollen, perhaps caused by the oiliness of these seeds, favoured for their high oil content. There were also several hundred snails in the sample, with bone, including some burnt fragments and eggshell, the latter presumably also relating to domestic debris.

Charcoal formed the bulk of the hearth sample from context 556, although again there was a small charred cereal assemblage, including grains of oat, wheat and barley, although most were in poor condition. The final hearth sample, context 571 was also mostly charcoal with a single oat, plus half a cotyledon of celtic bean (*Vicia faba*), perhaps representing the burnt remnants from a meal.

Ditch Fill

Context 514/sample 3960304

The float from the ditch fill was predominantly snails with occasional mussel fragments. About 25% was charcoal and included two oat grains, a single oat awn and a small charred assemblage of arable and grassland weeds as found in the hearth samples. A fragment of stinking chamomile receptacle shows that the whole flower head had been burnt.

Discussion

The most interesting plant remains from Bantham were those preserved in the hearth deposits. Although charred macrofossils were present in the other deposits, the dune sand sediments, ditch fill and buried soils, they are here in a secondary context. As such, similar assemblages to those recovered from the hearths are present, although concentrations are lower.

Despite the limited evidence for cereal remains, they do show the presence of wheat and barley crops. Many of the wheat grains were the distinctive rounded form typical of free-threshing bread wheat and several of the better-preserved barley grains confirmed the presence of hulled barley. Unfortunately cereal chaff was not preserved apart from a single barley rachis internode and oat awn. This meant that, particularly for oats, which were the most common cereal in hearth sample 556, further identification was not possible. The distinctive floret bases of oats are required to confirm if these were wild or cultivated oats, but this was not possible here.

Many of the weed seeds, particularly in hearth sample 541, have been interpreted as arable weeds, present here as a product of crop processing. They are of a similar small size to the chaff found and are likely to have been deposited into hearths as tinder, once the fine sieving process had removed the grain from other cereal debris. While many of the arable weeds found don't have specific soil requirements, the presence of five seeds of corn spurrey, a medium straggly annual of sandy cultivated ground may suggest local crop cultivation. It was also suggested that some of the species present,

more typical of grassy conditions, may have come from hay, or have invaded crops from grassy arable field margins.

The presence of flax seeds from hearth sample 541 is particularly interesting. Flax is grown for both its fibre and its seeds, which are rich in oil (linseed). The separation of fibres from flax stems is a complicated process (Dickson & Dickson 2000) and usually occurs before the seeds are fully ripe, so it seems likely that it was the seeds that were utilised at Bantham. Finds associated with hearths are often thought to represent domestic use. The seeds may have been pressed for oils, as linseed contains 35-40% oil and does not become rancid like animal oils, or it may have been used as an ingredient in breadmaking. The single fragmented cotyledon of celtic bean in hearth sample 571 may also be from food waste. Beans could have easily been grown in small garden plots and would have provided an additional source of protein. The abundance of hazelnut shell fragments, as well as the single apple/pear pip, bramble seed and the fragmented remains of shellfish and eggshell are also likely to be from food waste, deposited throughout these dune deposits.

There is little other comparative evidence from Dark Age sites in South-West Britain, although excavations at Tintagel and Mothecombe produced deposits of this period. Mothecombe is along the coast from Bantham and samples were recovered here from a buried soil, pits and wind blown sand. Well-preserved oats, still retaining their chaff, provided evidence for cultivation of oats (Carruthers 2002) and there was additional evidence for hulled barley and free-threshing wheat. Oats were also the main cereals found at Tintagel (Straker 1997), perhaps preferred for its suitability for cultivation on the poorer acid soils of the South-West, although there was also some barley and bread-type wheat.

References

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