Ancient Monuments Laboratory
Report 32/93

FENLAND MANAGEMENT PROJECT REPORT 1 LITTLE DUKE FARM, DEEPING ST. NICHOLAS, LINCS: PLANT MACROFOSSILS AND MOLLUSCS FROM A BRONZE AGE BARROW AND PRE-BARROW CONTEXTS.

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Summary

Although the ditch of the secondary mound had included wet organic deposits, recent de-watering had degraded and destroyed most plant macrofossils and insects. From charred plant remains and molluscs, the following sequence is suggested. 1. Deposition of diffuse scatter of charred cereals, weed seeds, nutshells, fruitstones and vegetative plant material during pre-monument settlement activity. ?Late Neolithic. 2. Clearance of secondary woodland before main activity. Late Neo/EBA? 3. Some incorporation of domestic (?) refuse material into barrow mounds. Shallow impersistent freshwater prone to desiccation in ditch of secondary mound, grassland in vicinity. BA. 4. Charred plant remains and partly burnt molluscs from BA cremations indicate proximity of Arrhenatheretum grassland, trampled ground and disturbed soil. Charcoals of *Alnus, Fraxinus* and *Rhamnus catharticus* indicate fuel collection in calcareous fen woods. Three oysters had been placed in a cist cremation and a shell of *Littorina littoralis* came from the ditch of the secondary mound.

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Plant macrofossils

Introduction

The barrow at Little Duke Farm, Deeping St. Nicholas (DEN 28/91) was one of a group on a gravel promontory at about 2.5m OD between Deeping Fen and the lower Welland valley floodplain. Gravel extraction adjacent to the site was resulting in de-watering of its ditch fills, which were expected to include structured organic deposits. For this reason full excavation was undertaken in 1991 as part of the Fenland Project, Phase 3, to retrieve as much information as possible before these deposits were lost (French and Begg 1992). Unfortunately it rapidly became apparent that the feature fills were more severely de-watered than had been expected : severe degradation of macrofossils had occurred. However the monument still was of palaeoenvironmental interest by virtue of the buried soil sealed beneath a largely intact mound and the inhumation and cremation burials associated. 51 bulk samples were collected from these and related contexts, and samples for laboratory analysis were taken from the ditch fills.

Methods

The bulk samples were processed by V.Fryer in a water flotation tank, using 0.5mm meshes throughout. The cremations were treated with particular care, separating all fragments of bone >5mm by gentle coarse wet-sieving prior to flotation of the fraction under 5mm. The dried non-floating residues were sorted without magnification, to extract small artefacts, bone fragments etc. Residues containing very abundant bone (particularly from cremations) were entirely retained for inspection by the bone specialists. The flots were dried and subsequently sorted under a binocular microscope at low power. Charcoal fragments >6mm were separated from samples potentially suitable for C14 dating for identification. Charred plant remains are listed in Tables 1-4 and the results are summarised in Table 6.

Samples for laboratory analysis were collected as columns from the basal fills of the barrow ditches. Sub-samples from these were processed, following the methods of Kenward et al (1980), for assessment purposes.

Preservation

In order to assess preservation by waterlogging in the barrow ditches, sub-samples were examined by the writer and Dr. M. Robinson from the column samples, Laboratory Samples 1 and 2.

Lab Sample 1: A column through the Outer Ditch, SE quadrant, contexts 016, 034, 035, 038

Section 3. Generalised description of deposits:
0-40cm Dark brown humified peat; blocky structure at top, amorphous below; large reddish-brown mottles; very slightly stony; some decayed wood fragments; some intrusive fibrous roots at top; merging boundary.

40-46cm Dark greyish-brown organic sandy clay loam; slightly stony; some woody roots; sharp boundary.

46-100cm Yellowish-brown, becoming greyish-brown below, sandy clay loam; reddish brown mottles; stony; band of charcoal at 65cm; some woody roots; sharp undulating boundary.

100-135cm Yellowish-brown coarse sand; very stony; some wood fragments; concreted in places, with iron-panned horizon at top.

Small sub-samples (c.250g) were disaggregated and their organic fractions scanned.

20-30cm A few cladoceran ephippia, scraps of beetles; scraps of decayed wood; intrusive fibrous roots; very few seeds apart from a few Aphanes. These were not viable (no internal tissue) but they were very tough and did not seem to be sub-fossil - possibly intrusive.

40-46cm Cladoceran ephippia, beetles (mostly degraded); wood scraps, budscales; seeds fairly common - mostly poorly preserved Chenopodiaceae with some Ranunculus sceleratus, Plantago major, Juncus etc.

46-56cm)
90-100cm) Small charcoal fragments; scraps of degraded plant
120-130cm) tissue; very occasional beetle fragments.

From this scan it was clear that de-watering had caused degradation and destruction of most macrofossils present originally though some material survived at 40-46cm. Furthermore water-table lowering had permitted intrusion of recent biological material into the top of the peat at 0-46cm. The lower deposits, though apparently emplaced in damp/wet conditions, seem to have formed quite rapidly and probably never did include much organic material.

Lab Sample 2. A short column from the lowest deposits of the Inner Ditch, SE Quadrant, Section 22, contexts 262 and 269. The upper fills comprised sandy gravels, silts and some ? domestic midden material (bulk samples). The lowest deposits sampled were:

130-139cm Greyish-brown silty clay loam; slightly stony; sharp boundary

139-158cm Yellowish-brown coarse sand becoming greyish-brown towards base; becoming very stony towards base.

Sub-samples proved to contain virtually no organic material but did produce a few charcoal flecks. These deposits evidently formed in dry conditions.

Further samples were assessed by M. Robinson, for insects, from other sections of the Outer Ditch (contexts 634, 9-10, (6); 646, 9-10 (8); 261, 21-22 (4). The samples were washed over onto a 0.2mm mesh and scanned for insect remains. Although they contained badly preserved organic remains including seeds, identifiable insect remains were absent.

After establishing that organic preservation was very poor, the remaining portions of LS1 and 2 were treated as bulk samples and processed accordingly, mainly in order to retrieve carbonised plant material. Other bulk samples from basal fills of the outer ditch (eg. 646, BS 7) produced some seeds etc, preserved by waterlogging : Chenopodium album, Atriplex sp., Moehringia trinervia, Rubus fruticosus, Rumex sp., Urtica dioica, Sambucus nigra. Such restricted assemblages of durable propagules were clearly not worth detailed examination.

Two wood samples from the outer barrow ditch were examined : 009 (Prunus sp) and 1000 (too degraded for identification).

Charred plant remains

The monument had a complicated history, comprising five main phases with sub-phases. For present purposes it is convenient to consider the samples of charred plant material in three groups, related to these phases as follows:

a). Samples from the buried soil and pre-barrow dug features (Phases 0-2.1 : Table 1);

b). Samples from contexts related to barrow construction and enlargement, and from inhumations (Phases 3.1 - 4.1.1 : Table 2);

c). Samples from cremations (Phases 4.1.2-4.2 : Tables 3-4).

The results are summarised in Table 6.

Buried soil and other pre-barrow contexts. (Tables 1;6)

Samples from the buried soil produced sparse assemblages of charred cereal remains, weed seeds, nutshells, fruitstone fragments, tubers and rhizomes. The most frequent macrofossils were fragments of hazel nutshell (Corylus avellana), which occurred quite consistently but at very low densities, never representing more than one nut per sample. Fruitstone fragments of sloe (Prunus spinosa) were less common. A possible oak leaf gall was also noted. Cereal remains were uncommon, consisting mainly of small unidentifiable grain fragments with one possible fragmentary barley grain (Hordeum sp.). Weed taxa were all large-seeded types; very battered and abraded fruits/seeds of Vicia/Lathyrus sp (vetches), possibly Fallopia convolvulus (black bindweed), Galium aparine (goosegrass) and a possible grass fruit. Charred rhizome fragments of indeterminate species (see Appendix 1 for descriptions) were moderately frequent and there were two 'tuber' fragments including a swollen basal internode of the onion couch grass Arrhenatherum elatius var bulbosum. There were no marked concretions of charred material but rather a diffuse, uniform scatter across the area of buried soil.

This restricted assemblage appears to be of domestic character: certainly there is nothing to suggest that the plant remains are related at all to ritual activity. Comparable, but much better preserved material has come from the Neolithic settlement Blackwater Estuary Site 28, Essex (Murphy 1989 and forthcoming), where nutshells and rhizome/tuber fragments were also abundant. The poor preservation of the material from Deeping St. Nicholas (and no doubt the total destruction of more delicate charred plant remains) is thought to be a consequence of the fact that burial of the soil under the barrow mound significantly post-dated deposition of the plant remains. Faunal re-working and human disturbance of the soil, combined with fluctuations in

Phases	0-2.1	3.1-4.1.1	4.1.2-4.2
Cereals			
Cereal indet (caryopsis frags)	3	-	-
Triticum sp (caryopsis)	-	1	-
cf.Hordeum sp (caryopsis)	1	-	-
Triticum dicoccum (glume base)	-	1	-
Triticum dicoccum (spikelet fork)	-	1	-
Weeds/herbs etc.			
Ranunculus acris/repens/bulbosus	-	-	1
Atriplex sp	-	-	1
Chenopodiaceae indet	-	-	1
Malva sp	-	-	1
Vicia/Lathyrus sp	5	1	1
Medicago/Lotus/Trifolium-type	1	-	3
Polygonum aviculare	-	-	5
Fallopia convolvulus	1	1	-
Polygonaceae indet	-	-	3
Labiatae indet	-	-	1
Plantago lanceolata	-	-	2
Galium aparine	4	-	-
Tripleurospermum maritimum	-	-	1
Carex spp	-	-	1
Gramineae	2	-	4
Trees/shrubs (charcoals in frequency order)			
Corylus avellana (nutshell frags)	14	6	1
Alnus glutinosa (female cone)	-	-	1
?Quercus sp (?leaf gall)	1	-	-
Prunus spinosa (endocarp frags)	4	-	1
Sambucus nigra (seed)	-	-	1
Prunus sp (charcoal)	-	1	6
Quercus sp (charcoal)	-	1	5
Rhamnus catharticus (charcoal)	-	1	3
Alnus sp (charcoal)	-	-	2
Alnus/Corylus sp (charcoal)	-	1	2
Crataegus-group (charcoal)	-	-	2
Fraxinus sp (charcoal)	-	1	2
Vegetative plant material			
Arrhenatherum elatius ('tubers')	2	1	4
ovoid tubers	1	-	2
Rhizome frags	8	1	2
Root/rhizome frags	-	-	3
Stem frags	2	-	5
Total no. of samples with macrofossils	15	6	11

Table 6 : Summary of frequencies of macrofossils in the three sample groups
Taxa are represented by fruits/seeds except where indicated. Only charcoal fragments >6mm from charcoal-rich samples were identified.

temperature and moisture content, would all have resulted in fragmentation and destruction of charred plant remains. Only the most durable charred material has survived, and that is very abraded and fragmented.

The sample from the fill of grave 483 (509) produced a different, but still sparse assemblage. Predominant components were rhizome and 'tuber' fragments including A. elatius with small-seeded badly deformed Leguminosae seeds (Medicago/Lotus/Trifolium-type) as well as a few remains of Vicia/Lathyrus sp, a possible grass fruit and scrap of hazel nutshell. This assemblage shows features in common with those from cremation deposits at the site, discussed further below, in which there seems to be a component of uprooted grassland vegetation. In the case of this inhumation, however, it is not clear how charring occurred.

Barrow construction and associated inhumations (Tables 2; 6)
Samples from these contexts were similar to those from the buried soil, again producing cereal remains with some large-seeded weeds, nutshells, tubers and rhizomes. No doubt some material from the buried soil was re-worked into later deposits during construction. There were, however, a few very well preserved unweathered chaff remains of emmer (Triticum dicoccum) in 130, a feature apparently including re-deposited occupation debris, and 239, tertiary fill of the inner ditch.

Cremations (Tables 3,4,6)
Several, though not all, of the cremation samples contained abundant charcoal and from these fragments >6mm were identified. Charcoal samples from Bronze Age cremations in East Anglia are commonly composed mainly of oak (Quercus sp) (Murphy 1990, 1992). At this site, however, oak was the predominant charcoal in only four of the samples examined, and Prunus sp (probably sloe) was the most frequent charcoal. Other woods used as fuel included Rhamnus catharticus (buckthorn), Alnus sp (alder), the Crataegus-group (hawthorn, apple etc) and Fraxinus sp (ash). The buckthorn, alder and ash wood is likely to have come from nearby calcareous fen woods. The relative abundance of shrub species perhaps points to supplies of oak wood (usually the preferred fuel at all periods) being limited.

Also present were charred seeds and fruits with vegetative plant material and some other remains of woody plants. The latter included sloe fruitstone fragments, an alder 'cone' and seed of elder from cremation 647. Most of the identifiable macrofossils, however, were fruits/seeds of grassland plants with some weeds, the predominant taxa overall being small-seeded Leguminosae, grasses, knotgrass (Polygonum aviculare) and Chenopodiaceae. Vegetative plant material, including Arrhenatherum 'tubers', ovoid tubers, root, rhizome and stem fragments was also frequent (see Appendix 1 for descriptions).

Assemblages of this type are often encountered in association with Bronze Age cremations. In East Anglia, similar material came from the cremation cemetery at Moverons Farm, Brightlingsea, Essex (Murphy 1990) and from cremations within ring-ditches on the line of the Norwich Southern By-Pass (Murphy 1992). Elsewhere comparable assemblages are reported from as far apart

as Radley Barrow Hills, Oxon (Moffett 1988) and Perthshire (Camilla Dickson, pers comm). They are thought to represent the use of uprooted grasses and grassland herbs as kindling for the pyre, though the tubers could, in part, represent food offerings (Moffett 1991). Robinson (1988) suggests that Arrhenatheretum grassland, (common today on verges, poorly-managed pasture and meadow, and abandoned ungrazed formerly-cultivated land), may be the vegetation type represented. Certain taxa, particularly Polygonum aviculare and Plantago lanceolata, suggest trampled ground within this grassland and weeds such as the Chenopodiaceae, Malva and Tripleurospermum maritimum point to some soil disturbance.

The (probably re-deposited) soil on the outer edge of the inner ditch (614) produced only scraps of hazel nutshell and a possible rhizome fragment.

Conclusions

It is clear from this study that de-watering of organic deposits can very rapidly result in degradation of organic deposits to the extent that all but the most resistant macrofossils are destroyed. At this site gravel extraction nearby in 1989 seems to have been the proximate cause of degradation, although general water-table lowering by the drainage authorities previously may already have had some effect. From this it follows that in future once organic deposits threatened by de-watering have been found, excavation (at least on a small scale for sampling purposes) should follow immediately.

The charred plant remains surviving give only a fraction of the information which would have been obtained from the site had it been dug some years ago. However, combining these results with those from the molluscs (see below), the following sequence may be inferred, in relation to phases of activity reconstructed from excavation:

Phase 0. Deposition of diffuse scatter of charred cereals, weed seeds, nutshells, fruitstones and vegetative material, apparently associated with pre-monument settlement activity.

Phase 1.1 Clearance of secondary woodland (evidence from mollusca) before pre-barrow burial activity.

Phases 3.1-4.1.1 Burials and mound construction. Most charred plant material probably re-worked from earlier deposits, though some well-preserved emmer remains suggest incorporation of unweathered refuse material. Primary fill of outer ditch produced molluscs indicating shallow impersistent freshwater at base with grassland in vicinity.

Phases 4.1.2. - 4.2. Cremations produced charred plant remains and partly burnt mollusc shells pointing to proximity of Arrhenatheretum grassland, trampled ground and disturbed soil. Charcoals indicate that fuel sources included woodland and scrub on dry ground and fen woods of alder, ash and buckthorn.

Mollusca

Most of the bulk samples processed included small numbers of shells, mainly of 'open-country' taxa (Vallonia excentrica, Pupilla muscorum, Vertigo cf. pygmaea). However there was extensive penetration by modern roots etc. and many samples included intrusive seeds and insects. It is probable that some intrusive shells were also present. In these circumstances only relatively large shell assemblages from well-sealed contexts, or those which on other grounds are clearly not intrusive, will be considered here.

Assemblages from four contexts. (151 : Pre-monument pit; 634 : Basal fill, outer ditch; 647, 655 : Phase 4.2 Cremations) are listed in Table 7, together with hand-collected shells from 622, a cist cremation of Phase 4.1.2.

151 was the fill of pit 153, related to pre-monument ground clearance during phase 1.1. The shell assemblage present, though sparse, is quite distinctive, being dominated by Carychium spp, Discus rotundatus and other shade-requiring taxa. It is thought to indicate a phase of woodland or scrub growth prior to the main phases of activity.

634 was a basal fill of the outer ditch associated with the secondary mound (Phase 4.1.1.). The sample included small calcareous (tufaceous) concretions probably formed as a result of evaporation of lime-rich water. The predominance of Succineidae, Lymnaea truncatula and Anisus leucostoma (marsh and freshwater slum taxa) is consistent with this, pointing to shallow freshwater prone to periodic desiccation in the ditch. There are also some terrestrial snails, mainly taxa characteristic of open conditions.

Many of the shells from the cremation 647 are discoloured to grey or black as a result of exposure to burning. Presumably these represent animals buried beneath a pyre and subsequently incorporated into the cremation pit fill. The assemblage is composed mainly of open-country species, common in grassland habitats, though the relative abundance of Pupilla suggests that there was some bare ground. The sample produced abundant charred macrofossils of grassland plants and species tolerant of trampling (see above), which is clearly consistent with the mollusc remains. 655 produced only a sparse and uninterpretable shell assemblage.

Two marine taxa were identified. 622, a cist cremation, included three unburnt oysters, represented by six paired valves with a heavy ferrimanganiferous coating. These give unusually unequivocal evidence for intentional placing of foodstuffs in a Bronze Age cremation. The shell of the winkle, Littorina littoralis, from 634 is less easily interpreted. This species is too small to be worth gathering for food, but it is noted for the brilliance and variety of its colour variants. Perhaps it was collected during a coastal food-gathering trip, simply as a pleasing object.

Context	151	634	647	655	622
Sample No.	57	5	11	13	-
Terrestrial/marsh taxa					
Carychium sp(p) (inc.C.tridentatum (Risso))	14	-	-	-	-
Succineidae indet. (a)	-	59	-	-	-
Cochlicopa spp.	-	6	6	-	-
Vertigo pygmaea (Draparnaud)	-	-	1	-	-
Vertigo sp(p)	-	-	3	-	-
Pupilla muscorum (Linné)	-	4	22	-	-
Vallonia costata (Müller)	-	1	-	1	-
Vallonia excentrica Sterki	-	-	6	1	-
Vallonia sp(p)	-	10	41	1	-
Acanthinula aculeata (Müller)	-	-	-	1	-
Discus rotundatus (Müller)	5	-	-	-	-
Vitrina pellucida (Müller)	-	-	-	1	-
Vitrea contracta (Westerlund)	-	1	-	-	-
Oxychilus sp (a)	-	-	-	1	-
Zonitidae indet.	3	-	-	-	-
Clausiliidae indet	1	-	-	-	-
Trichia hispida gp	-	-	4	-	-
Trichia sp	-	1	-	-	-
Cepaea sp	1	2	-	2	-
Freshwater/freshwater slum taxa					
Lymnaea truncatula (Müller)	-	8	-	-	-
Anisus leucostoma (Millet)	-	11	-	-	-
Armiger crista (Linné)	-	2	-	-	-
Planorbid cf.Gyraulus albus (Müller) (a)	-	1	-	-	-
Pisidium sp	-	1	-	-	-
Ostracods	-	+	-	-	-
Marine taxa					
Littorina littoralis (Linné)	-	1	-	-	-
Ostrea edulis (Linné)	-	-	-	-	3x2
Sample volume (litres)	2	3.5	45	17	-
% sorted	100	100	12.5	25	-

Table 7: Mollusca etc.
Note (a) Abraded/juvenile specimens or small apical frags

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Appendix

Vegetative Plant remains

Samples from all phases included charred remains of rhizomes, 'tubers' and roots. Most cannot be identified at present. The following types were noted.

1. Swollen basal internodes of the onion couch, *Arrhenatherum elatius* (L) Beauv. ex. J and C Presl. var *bulbosum* (Willd) Spenner. There is considerable variation in size and shape from pyriform to elongate and scarcely enlarged. Basal roots from these occur as separate fragments in several samples.
2. Rhizomes. These typically consist of short lengths up to about 5mm, and 0.3-2mm in diameter, with up to two nodes. The internodes often show longitudinal striations and at the nodes are root scars. Some are branched.
3. Ovoid tubers. 623 produced two fragments of ovoid tubers, one *c* 4 x 2mm with a constriction at one end where another similar tuber was attached. There are root scars on the surface. Internally there are large cavities produced during carbonisation. Similar specimens are illustrated in Murphy 1992, Fig.1
4. Other probably tubers. An ovoid specimen, attenuated at one end, *c* 5 x 2mm came from 087. 274 included an elliptic specimen, slightly pointed at either end, *c* 4 x 2.7mm, with one convex domed surface and one relatively flat.

Appendix 1: Tables etc. for inclusion on microfiche

Context no	188	188	274	274	274	274	274	408	460	670	670	670	670	670	509
Sample no	76	77	41	42	68	69	70	32	43	17	19	20	21	22	52
Context-type	Buried soil														Grave fill
Cereals															
Caryopsis frags	-	-	-	-	+	-	-	-	+	-	+	-	-	-	-
cf.Hordeum sp (caryopsis)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Weeds/herbs etc															
Vicia/Lathyrus sp	-	-	1co	-	1s	-	-	-	1co	-	-	-	-	1+1co	1
Medicago/Lotus/Trifolium-type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
cf.Fallopia convolvulus	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Galium aparine	2+fr	-	-	-	1	-	-	1fr	-	-	-	-	1	-	-
Gramineae	-	-	-	-	-	-	-	-	-	-	1cf	-	-	-	1cf
Trees/shrubs															
Corylus avellana (nutshell frags)	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+
Prunus spinosa (endocarp frags)	+	-	-	+	+	-	-	-	-	-	+	-	-	-	-
?Quercus sp (?leaf gall)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Vegetative plant remains															
Arrhenatherum elatius ('tubers')	-	1	-	-	-	-	-	-	-	-	-	-	-	-	6+fr
Rhizome fragments	3	1	-	1	1	-	-	-	-	-	2	10	-	2	18
?Tuber fragment	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Stem fragments	-	-	-	-	+	-	-	-	-	-	-	-	-	-	5
Indeterminate seeds etc.	-	1	-	-	2	1	1	-	1	-	1	-	-	-	5
Sample volume (litres)	16	16	12	14.5	16	16	16	12	16	12.5	13	12	12	12	4

Table 1 : Charred plant remains from the buried soil and pre-barrow features (Phases 0-21)

Context no.	002	214	239	269	050	130
Sample no	16	37	15	LS2	25	49
Context-type	Primary	mound	Inner	ditch	Grave	Trench
Cereals						
Triticum sp (Caryopsis frag)	-	-	-	-	-	1
Triticum dicoccum (glume base)	-	-	-	-	-	1
Triticum dicoccum (spikelet fork)	-	-	1	-	-	-
Weeds/herbs etc.						
Vicia/Lathyrus sp	-	1s	-	-	-	
cf.Fallopia convolvulus	-	-	1	-	-	
Trees/shrubs						
Corylus avellana (nutshell frags)	+	+	+	+	+	+
Prunus sp (charcoals)	-	-	-	-	-	+
Fraxinus sp (charcoal)	-	-	-	-	-	+
Rhamnus catharticus (charcoal)	-	-	-	-	-	+
Indeterminate (charcoal)	-	-	-	-	-	+
Alnus/Corylus sp (charcoal)	-	-	-	-	-	+
Quercus sp (charcoal)	-	-	-	-	-	+
Vegetative plant remains						
Arrhenatherum elatius ('tubers')	-	-	-	-	1fr	-
Rhizome frags	-	1	-	-	-	-
Indeterminate seeds etc	-	-	2	-	-	1
Sample volume (litres)	11	10	9.5	13.5	6.5	14
% flot sorted	100	100	100	100	100	50

Table 2 : Charred plant remains from contexts associated with barrow construction, enlargement and inhumations (phases 3.1 - 4.1.1).Charcoals from 130 listed in order of abundance.

Context No	619	623	765	766	614	115	117	647	655	746	747
Sample no.	1	2	84	86	10	38	39	11	13	58	59
Context-type	Cist/urn cremations (4.1.2)				Soil			Cremation pits (4.2)			
Weeds/herbs											
Ranunculus acris/repens/bulbosus	1	-	-	-	-	-	-	-	-	-	-
Chenopodiaceae indet	-	-	-	-	-	-	-	13	-	-	-
Atriplex sp	-	-	-	-	-	-	-	1	-	-	-
Malva sp	-	2	-	-	-	-	-	-	-	-	-
Vicia/Lathyrus sp	-	-	-	-	-	-	-	1cf	-	-	-
Medicago/Lotus/ Trifolium-type	36	9	-	-	-	-	-	25	-	-	-
Polygonum aviculare	1	1	-	-	-	1cf	-	26	-	-	2cf
Polygonaceae indet	1	-	-	-	-	1	-	18	-	-	-
Labiatae indet	-	-	-	-	-	-	-	2	-	-	-
Plantago lanceolata	-	1fr	-	-	-	-	-	1+1cf	-	-	-
Tripleurospermum maritimum	-	-	-	1	-	-	-	-	-	-	-
Carex spp	2	-	-	-	-	-	-	-	-	-	-
Gramineae	-	-	1cf	1	-	-	-	70	-	-	10
Trees/shrubs											
Corylus avellana (nutshell frags)	-	-	-	-	+	-	-	-	-	-	-
Alnus glutinosa (female 'cone')	-	-	-	-	-	-	-	1	-	-	-
Prunus spinosa (endocarp frags)	-	-	-	-	-	-	-	+	-	-	-
Sambucus nigra	-	-	-	-	-	-	-	1	-	-	-
Vegetative plant material											
Arrhenatherum elatius ('tubers')	-	1fr	-	-	-	1fr	-	-	2fr	1	-
Ovoid tubers	-	2fr	-	-	-	-	-	1fr	-	-	-
Rhizome frags	-	-	-	1	1cf	-	-	-	-	-	1
Root/rhizome frags	4	22	-	-	-	-	-	14	-	-	-
Stem frags	+	+	-	-	-	+	-	-	+	-	+
Indeterminate seeds etc	56	7	-	2	-	3	3	57	-	2	2
Sample volume (litres)	14.5	25	2	6.5	10.5	15.5	11.0	45	17	8	24
% flot sorted	50	25	100	100	100	12.5	12.5	12.5	25	50	12.5

Table 3: Charred plant remains from cremations and associated contexts (Phases 4.1.2 - 4.2)
See also Table 4 for charcoal identifications.

Context no.	Sample no.	Taxa (listed in order of abundance)
115	38	Quercus sp Prunus sp
117	39	Quercus sp Prunus sp
123	45	Quercus sp Fraxinus sp Prunus sp
125	46	Fraximus sp (some twigs) Prunus sp Crataegus-group Indeterminate (deformed) Rhamnus catharticus
623	2	Quercus sp Indeterminate (deformed)
647	11	Alnus sp Alnus/Corylus sp Indeterminate (deformed)
655	13	Prunus sp (some twigs) Crataegus-group Indeterminate (deformed) Rhamnus catharticus Quercus sp
746	58	Prunus sp Indeterminate (deformed) Rhamnus catharticus
747	59	Alnus sp Alnus/Corylus sp

Table 4 : Charcoals from cremations (phases 4.1.2 - 4.2)
Only fragments >6mm from charcoal-rich samples were identified.

Sample	Context		
3	211	7.0 litres	Primary fill, outer ditch
5	634	3.5 litres	Primary fill, outer ditch
7	646	3.5 litres	Primary fill, outer ditch
12	023	5.5 litres	Pit
14	657	3.0 litres	Pit
18	670	12.0 litres	Buried soil
23	670	11.0 litres	Buried soil
24	670	12.0 litres	Buried soil
28	408	14.0 litres	Buried soil
33	087	8.0 litres	Inhumation
44	121	2.5 litres	Cremation
45	123	5.0 litres	Cremation
46	125	8.5 litres	Cremation
50	508	2.5 litres	Coffin stain
57	151	2.0 litres	Pit
63	733	2.0 litres	Buried soil
LS1	035, 038	20.5 litres	Primary fill outer ditch

Table 5 : List of samples which produced no charred remains of fruits, seeds, vegetative material etc.