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King's Lynn. Norfolk (KLY 1159): Plant remains from two medieval floors.

Two small samples from successive floors of organic material (2 and 3) were examined. These floors were separated by a layer of fine sand and silt containing foraminifera, probably a flood deposit. The samples themselves consisted of very compressed layers of plant material with maximum thicknesses of 7mm (2) and 11mm (3). Adherent sand was washed from the organic material under running water, the samples disaggregated and washed in a 250 micron mesh sieve before sorting. Plant remains identified are listed in Table 1. Other biological remains included small fragments of bone and avian eggshell, and a few insect remains.

Preservation

Anaerobic conditions had been maintained in these deposits since the sediments were highly compacted both by trampling, and probably more importantly, by the mass of deposits overlying them. The plant remains are generally well preserved, though flattened. In the case of the grass caryopses this good preservation has proved to be a disadvantage, since some pericarps still contain brown degraded remains of the endosperm and other internal tissues, and others are still partially enclosed in their lemmas and paleas. These mask the hila and the cell patterning amd it was impossible to remove these unwanted tissues without totally disrupting the pericarps. Consequently the grass caryopses have not been identified.

The cereals were more easily identified. The oat caryopses still retain hairs attached to their pericarps, and on detached pericarp fragments the characteristic pattern of elongated cells in groups of varying direction is clear. The oat floret base containing the basal half of a grain from floor 3, retains part of its rachilla and has a broad basal fracture typical of A. sativa. Korber-Grohne (1964, 45) notes that non-carbonised oat caryopses are rarely preserved owing to the thinness of the pericarp; the preservation of the King's Lynn material is thus apparently exceptionally good. Several grains from floor 3 were definitely identified as rye (showing the cell-patterning illustrated by Korber-Grohne) and others are of rye or, less probably, wheat.

The short sections of rye rachis have pubescent margins partially preserved, with narrow glume bases and masses of tissue representing the remains of lemmas attached.

Discussion

The two floors consist mainly of layers of fragmentary bracken fronds (Pteridium aquilinum). There are also small quantities of grass/cereal culms and rye rachis, with a few scraps of moss. Cereal grains (rye and oats) are fairly common in floor 3, and both floors produced seeds of arable weeds including species found on light (P.argemone) and heavy (A.cotula) soils. Whether this material represents domestic consumption of cereals or storage is impossible to say. The grape seed and fractured hazel nut from floor 3 are presumably domestic food debris. The remaining seeds are principally of ruderal and grassland species which could have been introduced into the deposit by a variety of agencies - by wind or on clothing and footwear for example. Seeds of wetland species (Juncus, Eleocharis, Schoenoplectus, Carex) and halophytes (Triglochin, possibly Odontites) are rare and are again probably merely accidental inclusions.

It is unfortunate that the circumstances of excavation did not permit more extensive sampling. However, considered as a pilot study, these two samples serve to illustrate the potential of deep deposits at King's Lynn.

Korber-Grohne, V.,(1964) 'Bestimmungsschlussel fur subfossile Juncus - Samen und Gramineen - Fruchte' in Haarnagel, W., Probleme der Kustenforschung im Sudlichen Nordseegebiet Band 7. Hildesheim.

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	2	3
Pteridium aquilinum (L) Kuhn (p+sf)	++	++
c.f. Thalictrum sp	-	1
Papaver argemone L.	19	1
Agrostemma githago L.	6	2
Caryophyllaceae indet.	1	-
Chenopodium album L.	-	1
Atriplex patula/hastata	1	3
Chenopodiaceae indet.	-	1
Torilis c.f. japonica (Houtt) D.C.	1	-
Umbelliferae indet.	1	2
Urtica urens L.	2	-
Corylus avellana L.	-	1
c.f. Veronica sp.	1	-
Odontites c.f. verna (Bellardi) Dumort	-	3
Anthemis cotula L.	4	3
Achillea millefolium L.	5	-
Centaurea cyanus L.	5	1
Sonchus asper (L) Hill	-	1
Triglochin maritima L.	1	-
Juncus spp.	3	2
Eleocharis sp.	-	1
Schoenoplectus sp.	-	1
Carex sp.	1	-
Cyperaceae indet.	-	4
Avena sativa L. (ca + fb)	-	1+1
Secale cereale L.	-	2
Secale cereale L. (ri)	-	+
Secale/Triticum	1	4
Cereal indet.	-	2
Gramineae indet.	13	8
Gramineae indet. (cn)	+	+
Vitis vinifera L.	-	1
Unidentified	1	5
Mosses	+	+
Small wood fragments	+	+

Table 1 : Macroscopic plant remains (taxa are represented by fruits and seeds unless otherwise indicated)

Abbreviations:

ca + fb	caryopsis + floret base	+	present
cn	culm node	++	abundant
p + sf	pinnules + stalk fragments		
ri	rachis internodes		