Lens 680 Ann Report 2868

Report on some seeds from Flaxengate, Lincoln from the 10th to 14th centuries A.D.

		ASH pit fill 900-30-1040-50	ATZ fill of posthole 1050-70	AOE fill of oven 1050-70 (or? 1070-80)
cultivated plants				
Avena sp.	oats	-	10	-
" "	large	35	-	27
" "	small	44	-	49
" "	flower bases (2 definitely cultivated)	4	-	-
Triticum cf. aestivum L.	cf. bread wheat	3	-	-
T. aestivum L. aestivo-compactum Schiem.	club wheat	24	4	5
T. cf. spelta L.	cf. spelt wheat	10	-	-
Triticum sp.	wheat	7	3	2
Hordeum vulgare L. emend. Lam.	hulled barley	26	-	24
Hordeum sp. (very badly preserved)	barley	10	7	9
Secale cereale L.	rye	-	-	2
Triticum/Secale	wheat/rye	-	-	1
cereals (species undetermined, many fragmentary)		1	10	c.32
Linum usitatissimum L.	cultivated flax	-	1	1
plants from roadsides, hedgebanks, waste places and cultivated land.				
Sambucus nigra L.	elder	95	23 pr	7pr
cf. Calystegia sepium L.	cf. greater bindweed	1	-	-
Bromus sp.	brome sp.	-	-	19
Gramineae sp. (other than Bromus)	grasses	7 (3 species)	3	9 (3 species)
cf. Genista tinctoria L.	cf. dyer's greenweed	1	-	-
Vicia sp.	vetch	-	-	1
Polygonum sp.		-	-	1
Polygonum aviculare L.	knotgrass	-	-	2
Polygonum convolvulus L.	black bindweed	1	-	-
Rumex sp.	dock	-	-	3
Ranunculus acris/bulbosus/repens	buttercup	1	-	-
Agrimonia odorata (Gouan) Mill.	fragrant agrimony	1	-	-
Viola sp.	violet, pansy	3	-	-
plants from damp habitats				
Carex sp.	sedge	2	-	1
Carex [illegible] (L.) Vahl	sedge	73	-	-

			A/L pit fill 1050-80	A/R pit fill 1100-1110	A/R fill of ?malting oven 1110-1130
cultivated plants					
Avena sp.	oats		105	5	8
Triticum aestivum L. aestivo-compactum Schiem.	club wheat		16	3	-
Triticum sp.	wheat		1	-	1
Hordeum vulgare L. emend. Lam.	hulled barley		7	1	-
Hordeum distichon L.	hulled two-row barley		-	-	227
Secale cereale L.	rye		2	-	4
cereals (poorly preserved, species undetermined)			c.17	c.16	-
plants from waste places and cultivated land					
Bromus sp.	brome sp.		-	-	2
Gramineae sp. (other than Bromus)	grasses		7	1	6
Sambucus nigra L.	elder	pr	c.400	several pr thousand	-

All seeds in the tables on pages 1, 2 and 3 are carbonized except those marked 'pr' - these are preserved by waterlogging and partial mineral replacement. Those marked ' cr' have been completely replaced (see text for explanation).

		ALV pit fill associated with post 1185 stone building phase. 1185- c.1300	AIQ, AIU, AIW pit fill associated with stone building phase. c.1300-c.1400
cultivated plants			
Avena sp.	oats	-	20
" large		48	-
" small		30	-
Triticum cf. aestivum L.	cf. bread wheat	-	3
T. aestivum L. aestivo-compactum Schiem.	club wheat	102	2
Triticum sp.	wheat	2	4
Hordeum distichon L.	hulled two-row barley	110	-
H. vulgare L. emend. Lam.	hulled barley	-	1
cf. Secale cereale L.	cf. rye	-	1
Triticum/Secale	wheat/rye	-	1
cereals (very poorly preserved, species undetermined)		132	79
cf. Vicia faba L. var. minor	cf. horsebean	½	-
Prunus cf. avium L. (fragmentary)	cf. cherry	-	1
plants from cultivated land, waste and grassy places			
Lithospermum arvense L.	corn gromwell	4 pr	1 pr
Sambucus nigra L.	elder	c.200 pr	1
Bromus sp.	brome sp.	2	1
Gramineae sp. (other than Bromus)	grasses	2	1
Vicia/Lathyrus (poor condition)	vetch /tare	2	1
Vicia/Lathyrus/Pisum (poor condition)		2	5
Rumex sp.	dock	-	1
Ranunculus acris/bulbosus/repens	buttercup	-	1
Plants from damp habitats			
Carex cf. pendula Huds,	cf. pendulous sedge	1	-
Carex cf. nigra (L.) Reichard	cf, common sedge	1	-
Carex sp.	sedge	1	-
unidentified (complete and fragmentary)		2+ cr	-

The soil samples were put through machine flotation on site and the seeds reached the auth(already separated from the rest of the sample. No information on the size of the sample taken from each context was readily available.

The main cultivated species identified from the samples are oats, club wheat and hulled barley. In some cases the oats have been separated into a larger group (about 7mm long by 2.5mm wide) and a smaller group (about 5mm long and 2mmwide). The two sizes may indicate a larger cultivated species and a smaller wild species, although it is possible that they in fact belong to the same species which shows a large range in size of grain. The size of the larger grains are suggestive of a cultivated species and the presence of two flower bases of cultivated oats from a tenth century pit (page 1) indicates their certain presence from this context.

The wheat where it is well enough preserved to determine species, is mainly club wheat. The few possible grains of bread wheat may represent morphologically unusual grains from the club wheat range. A few grains which exibit characteristics typical of spelt are also present.

As with the wheat, much of the barley is also in a poor state of preservation with the outer layer no longer present. Where it is possible to determine this, the barley is of the hulled variety and where present in sufficient quantity (ALV and AFN), it can be established that it is of the two-row type. The presence of barley (hulled, two-row) in large amounts from the possible malting oven (AFN) does certainly suggest a connection between the two , however very little of the barley is sprouted and the roasting of sprouted grain is an important part of the malting process.

It is interesting to note that the only two grains of flax both come from early eleventh century contexts (ATZ and AOL). Fragments which are probably of cherry are identified from a context associated with post 1185 stone-building (ALV) and the seed comparable to that of horsebean also came from this context. The other legumes from Flaxengate are small and probably wild except for some from late 12th and 13th century contexts (ALV, AIQ, AIU and AIW). These seeds are in a bad state of preservation and have only been identified as Vicia/Lathyrus/Pisum as features that would help to distinguish them to species are not present. It is possible therefore that the field or garden pea may be represented at Flaxengate, although this cannot be said with certainty.

The other plants come mostly from habitats associated with waste or cultivated land and hedgerows or roadsides. The grasses, bindweeds, knotgrass, dock, Viola and vetch are commonly found on disturbed or cultivated ground, and the corn gromwell is well known from hedgebanks, roadsides and the edges of fields. Elder is characteristic of woods, scrub, roadsides and waste places particularly with base and nitrogen rich soils.(Clapham, Tutin and Warburg, 1962). Dyer's greenweed is found on rough pasture and buttercup is common in a wide variety of habitats including meadows and gravel heaps. Sedges (Carex sp.) are widely distributed throughout the British Isles and can be important in a variety of plant communities (Jermy and Tutin, 1972). They do however characterise in particular damp habitats such as the banks of streams,wet grassy places and damp woods.

Cladium is more restricted in its habitat requirements and may form dense stands in reed swamp fen (Clapham, Tutin and Warburg, 1962). Four weed species from Flaxengate remain to be identified.

Some of the seeds identified from the Flaxengate samples are not carbonized and by far the most numerous of these are of elder. These seeds have been preserved by being in wet conditions and they are also partially calcium carbonate (or possibly calcium phosphate) replaced. The replacement of organic material by minerals is known for both plant and animal remains from archaeological sites. In hard water areas the water with which the seeds come in contact may contain calcium carbonate and this can result in the calcification of the seeds over a period of time. Calcification can be partial as in the case of elder and corn gromwell, or complete as with the unidentified seeds from context ALV. Replaced arthropods have also been found at Medieval Flaxengate (Girling,1979) and replaced apple, pear and sloe were recovered from a sixteenth century latrine pit at at Worcester (Colledge, personal communication).

References

Clapham, A.R., Tutin, T.G. and Warburg, E.F. (1962) Flora of the British Isles. Cambridge University Press.

Colledge, S. (1979) personal communication

Girling, M. (1979) Calcium Carbonate replaced Arthropods from Archaeological Deposits. In press

Jermy, A.C. and Tutin, T.G. (1972) British Sedges B.S.B.I.

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