Ancient Monuments Laboratory
Report 30/86

FISKERTON: THE ENVIRONMENT CONNECTED WITH IRON AGE STRUCTURES IN THE PEAT OF THE WITHAM VALLEY.

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Summary

A few of the samples from this wetland site were examined, mainly for pollen and seeds, but there are also some results from beetle remains produced by Peter Osborne. There is a large wetland flora which is probably indicative of what was growing in the immediate surroundings of the site. A few dry land plants indicate open land and grassland. Others are indicative of scrub which seems to have replaced alder carr at about the same time that the site was used. The plant and insect evidence seems to agree with ideas that the site was used as a cattle droveway in connection with a crossing of the River Witham at that point.

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JAMES GREIG

LIST OF PLANT REMAINS (absolute numbers). Name given in CAPITALS when pollen record only.

sample: macrofossils	50	75	100			175
pollen				100	150	
PINUS	.	.	.	1	-	.
Chara	5+	-	-	.	.	-
Ranunculus a/r/b.	-	-	3	.	.	-
Ranunculus sceleratus	-	-	2	.	.	15
Ranunculus subg. *Batr.*	-	-	6	.	.	-
RANUNCULUS type	.	.	.	-	+	.
? *Nuphar*	-	3	+	.	.	+
CRUCIFERAE	.	.	.	1	-	.
Stellaria media	8	-	-	.	.	-
Atriplex sp.	1	-	-			-
TILIA	.	.	.	+	+	.
RHAMNUS CATHARTICUS		.	.	1	2	.
LEGUMINOSAE	.	.	.	+	-	.
FILIPENDULA	.	.	.	-	1	.
Rubus fruticosus agg.	-	5	1	.	.	-
Prunus spinosa	-	2	-	.	.	.
PRUNUS t.p.	.	.	.	+	-	.
Hydrocotyle vulgaris	-	-	2	.	.	-
LYTHRUM	.	.	.	-	1	.
MYRIOPHYLLUM	.	.	.	+	-	.
Conium maculatum	-	-	-	.	.	1
Berula erecta	-	-	-	.	.	1
Oenanthe aquatica	1	3	8	.	.	-
UMBELLIFERAE	.	.	.	3	1	.
URTICA	.	.	.	2	4	.
ULMUS	.	.	.	+	1	.
BETULA	.	.	.	3	2	.
Alnus glutinosa	1 (1)	66	7 (1)	72	63	4
Corylus avellana	=1	-	-	30	22	-

QUERCUS	.	.	.	15	18	.
macrofossils	50	75	100			175
pollen				100	150	
SALIX	.	.	.	3	-	.
FRAXINUS	.	.	.	1	5	.
MENYANTHES	.	.	.	-	+	.
Solanum dulcamara	1	14	5	2	8	1
RHINANTHUS tp.	.	.	.	+	-	.
Mentha cf. *aquatica*	-	1	93	.	.	-
Lycopus europaeus	-	2	1	.	.	-
Stachys palustris	-	-	6	.	.	-
STACHYS tp.	.	.	.	-	+	.
PLANTAGO LANCEOLATA	.	.	.	3	1	.
Galium palustre	-	-	-	.	.	1
Galium sp.	-	-	-	.	.	3
Sambucus nigra	-	2	5	.	.	-
VIBURNUM tp.	.	.	.	-	+	.
ADOXA tp.	.	.	.	-	+	.
ARTEMISIA tp.	.	.	.	1	-	.
Eupatorium cannabinum	-	-	-	.	.	1
COMPOSITAE (T)	.	.	.	1	-	.
CIRSIUM/CARDUUS tp.	.	.	.	+	-	.
COMPOSITAE (L)	.	.	.	+	-	.
Alisma sp.	-	2	22	1	1	-
Potamogeton sp.	17	-	-	-	1	-
Iris pseudacorus	-	-	1	.	.	-
Sparganium erectum/ emersum	-	-	1	.	.	-
Sparganium minimum	-	-	2	.	.	-
SPARGANIUM/TYPHA ANG	.	.	.	96	11	
Eleocharis sp.	-	-	2	.	.	-
Scirpus maritimus	2	-	-	.	.	4
Carex pseudocyperus	-	-	5	.	.	-
Carex hirta (or *riparia*)	-	-	12	.	.	1
Carex cf. *remota*	-	-	1	.	.	-

Carex sp(p).	2	55	-	.	.	-
macrofossils	50	75	100			175
pollen				100	150	
CYPERACEAE	.	.	.	10	5	.
GRAMINEAE	.	.	.	52	62	.
other remains						
fish	+	-	-			-
insect	+	+	+			+
molluscs	+	-	-			-
wood	+	-	-			-

Sampling

A column was sampled through the peats from the present ground surface down to a depth of 2m (omitting the top, disturbed 25cm ploughed topsoil), see stratigraphy diagram , Fig. 1. This series of samples includes both large samples taken as 5 cm slices of peat, and also a monolith which was collected in metal boxes of 25 x 10 x 10 cm. Additional samples were collected from the excavation by Naomi Field.

Laboratory work

The bulk samples (see below for amounts and general appearance on sieving) from 50, 75, 100 and 175 cm depth in the column were dispersed in water and sieved on meshes of 4mm, 1mm and 0.3mm to give size fractions that were convenient to sort under a microscope. All remains were picked out, including beetles (see Peter Osborne's report) and a few fish bones (see Andrew Jones' report). The pollen samples, from 75, 100, 150 and 200 cm depth were prepared in the normal manner, but only the middles ones, from 100 and 150cm had pollen that could be counted.

sample:		
50	0.4 litres	woody lumps, some charred material, snail opercula and partly dissolved shells, fish remains.
100	0.6 litres	black peat, granular and humified.
175	0.4 litres	fibrous peat and silt; few seeds.

Strategy

It would be natural to try to examine the evidence for the surroundings before, during and after the occupation of the site so as to find out what effect there had been on the site, and therefore what went on there. The sample series would give data from one place over the years, and the extra samples collected by the excavator could add something as features of particular interest might have more signs of occupation than the site of the section. A wet site such as this would be expected to have waterlogged plant remains such as pollen and seeds, and animal remains such as insects, molluscs and bones (these last two if the groundwater was not too acid). These studies would be linked to the other work being done on the material, notably from dendrochronology, and hopefully dated. However, in the end what one can tell about a site depends upon just what happens to be preserved.

In the event, shortage of resources have meant that only the minimum work has been done on the samples, although hopefully the main features of interest have been discovered. Furthermore, pollen did not appear to be well preserved in all samples.

Results

The main evidence comes from macrofossils, of plants and Peter Osborne's insect work. There is some pollen evidence, too, from this section which can be compared with Katharine Groves' pollen diagram from nearby, and Andrew Jones' fish bone identifications.

Wetland

The main sign of the surroundings is, hardly surprisingly in a peat section, of wetland. Typical plants are *Ranunculus sceleratus* (celery-leaved crowfoot), *Hydrocotyle vulgaris* (pennywort), *Oenanthe aquatica* (water dropwort), *Mentha cf. aquatica* (probably water-mint), *Galium palustre* (marsh bedstraw), *Alisma* sp. (water-plantain), *Iris pseudacorus* (yellow flag), *Sparganium* species (bur-reeds) and the numerous Cyperaceae (sedges and club-rushes). The lower peat contained numerous large stems of reeds, although these were not identified, and it is possible that a major part of the swamp vegetation such as *Phragmites* or *Cladium* is unrepresented by closely identifiable remains. The abundant *Alnus* (alder)

remains show that there was probably also carr growing. There are not very great signs of aquatic vegetation and thus of standing water, some possible *Nuphar* (water-lily) and a trace of *Myriophyllum* (milfoil). There was probably a riverside swamp growing along the course of the Witham with some aquatic vegetation either growing there, or swept there by floods. This started forming at the time represented by the change from inorganic to peaty organic sediment at the bottom of the profile which is so far undated. Other valley peats often have some connection with erosion and prehistoric farming, so this is probably also prehistoric.

The insect fauna from sample 75 studied by Peter Osborne also shows signs of still or very slowly flowing water . There is also some sign of herbivore dung (see his report, p ***)

Dry land herbs

These are the plants most likely to be connected with human activities. The list is fairly small; there are weeds such as *Stellaria media* (chickweed) and *Atriplex* (orache) which were found as macrofossils, and *Artemisia* (mugwort) pollen, and *Plantago lanceolata* (ribwort plantain) which is mainly a grassland plant. Some of the Gramineae (grass) pollen could also have come from grassland. This is a very small flora for an archaeological site.

The beetle fauna adds somewhat to this, with records of dung beetles and a chafer which feeds upon grass roots, which are suggestive of open grazed land. Perhaps the greater mobility of beetles allows them to represent dry land better than the very small flora.

Scrub

There is a modest scrub flora consisting of macrofossil records such as that of *Prunus spinosa* (sloe), *Rubus fruticosus* (bramble), *Solanum dulcamara* (woody nightshade) and *Sambucus nigra* (elder), and pollen records such as *Rhamnus catharticus* (purging buckthorn), *Viburnum* tp. (wayfaring tree) and *Urtica* (nettle).

Changes with time, occupation

The start of deposition of the peaty sediment would appear to be during the prehistoric period when farming was causing sufficient erosion for the

soil to be washed into river valleys and to cause there a change in hydrology, thus starting the formation of peat there. The evidence is rather slight, as the sediments were not rich in macrofossils, but it appears that the swamp started out with only a little alder carr at first, but later the carr spread, so that the samples at 100 and 75 cm have large amounts of alder seeds and catkins and also wood remains (unidentified). These upper samples also contain more of a scrub and dry land flora as well, and may be in some way associated with the occupation horizon around 70 cm. The sample at 75 cm was the richest in macrofossils, and the evidence of dry-land beetles has also been mentioned. By this stage the peat is highly humified.

The uppermost sample has some great differences in that the humified peat also has some inorganic material, mainly sand. There are signs that it was slightly calcareous too, with *Chara* (brittlewort) oogonia present, and numerous opercula of a mollucs, probably *Bithynia*, a water snail. Other molluscan shell remains were mostly dissolved by acid groundwater up to the point where their presence alone could be noticed, but not their identities. There were also many fish bones. The water conditions seem to have altered too, with fairly numerous seeds of *Potamogeton* (pondweed), which grows in standing water.

Katherine Groves' pollen diagram, from a core taken from the canal bank, a little distance from the trackway and the peat samples described here, shows little change apart from a possible *Tilia* (lime) decline. This leads to the conclusion that there may not have been great change taking place on the dry landscape apart from continuing forest clearance if is is assumes that the sediments sampled for her pollen core are roughly equivalent to the deposits at the Fiskerton site itself.

Archaeological significance

So what of occupation on the site? There seems to be little sign of actual occupation there, and besides, the place would have been most inhospitable. The signs of a dry landscape that could be occupied, such as the weeds and dung beetles, could have arrived in the swamp by natural dispersal, or they could have been brought there, if perhaps this site was a droveway used for getting the stock to a river crossing. The archaeological structures certainly suggest some such activity. If a droveway existed

there, then some of the thorny plants such as the buckthorn and sloe could have been used for hedging, and this would explain their presence in this swamp deposit.

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