

POST-GLACIAL FAUNA AND FLORA FROM INTER-TIDAL EXPOSURES  
IN THE INGOLDMELLS AREA, LINCOLNSHIRE

by  
Robert C. Alvey

Summary

The occurrence of foreshore exposures of Post-glacial deposits north of Ingoldmells, Lincolnshire, is recorded and their contained fauna and flora listed. The environmental interpretation of these fossils reveals a similar, but more condensed, sequence to that previously recorded in the Ingoldmells area.

Introduction

Coastal submergence has been going on steadily since the last glaciation. Evidence of it can be seen at several places on the Lincolnshire coast, where large clay banks are occasionally exposed at low tide. An examination of these clays often reveals the presence of a submerged forest, represented by tree stools, roots and large fallen trunks. The purpose of this paper is to record the presence of foreshore exposures at Chapel St. Leonards and Anderby Creek, Lincolnshire, and to present more detailed information on the contained fauna and flora.

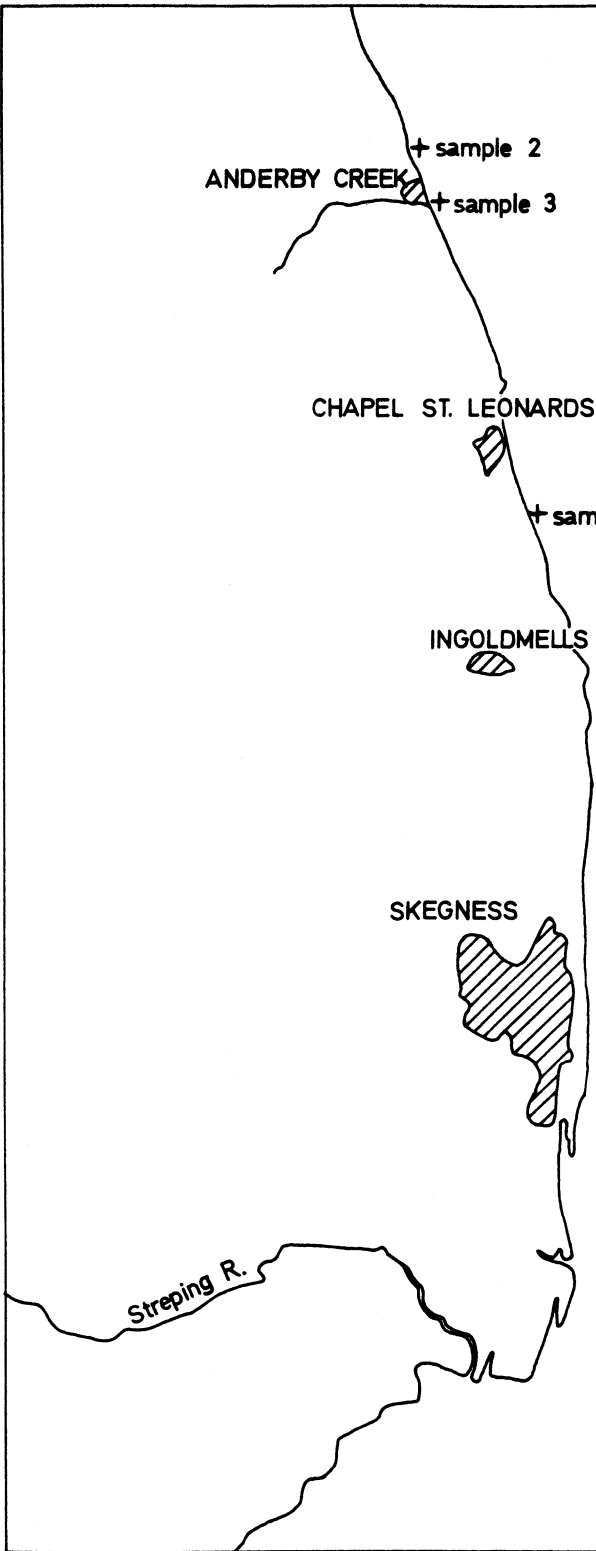
The stratigraphy of the deposits can be seen in the channels and is given in Text-fig. 1. It compares well with that given by Swinnerton (1936) but differs in being more condensed, a maximum of only 2 feet being present as compared to about 7 feet cited by Swinnerton. It was difficult to differentiate lithologically the black peaty clay, saltmarsh clay and freshwater clay in the field, although each contained a distinctive biota. The dating of these deposits is based on several archaeological discoveries. The tree layer must be at least late Neolithic in age, owing to the presence of a late Neolithic flint implement found below a tree stump (Swinnerton, 1932). The Iron Age peat contains hearths and pottery typical of this age. The clay used for making this pottery had been tempered with chopped grass and chaff; and one pot (Pl. 8 fig. 1) retains some carbonised grains in situ in the surface and about fifty determinate impressions of Avena spp. (oats) and Bromus spp. (a rye grass).

Three sediment samples were collected for laboratory study, one from Chapel St. Leonards and two from Anderby Creek (Text-fig. 1). The fossils were extracted by initial hand-picking-out of the larger specimens, followed by drying the sample and wet sieving to 30 mesh. The residues were examined under a binocular microscope.

Chapel St. Leonards

The sample was collected from a small exposure of dark freshwater clay, three to four feet wide, situated at about mid-tide mark on the south end of the beach (TF 567710). The

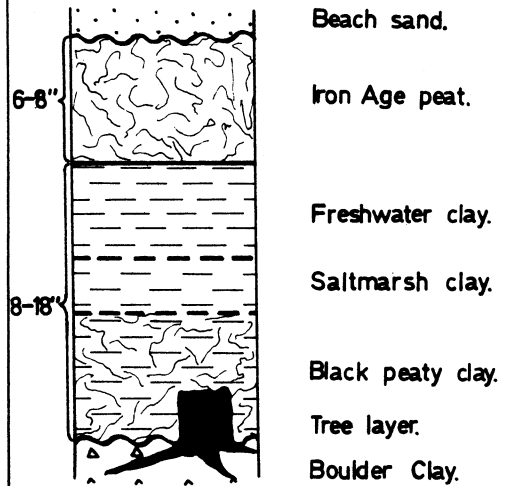
TEXT-FIGURE 1  
MAP SHOWING THE  
SAMPLING LOCALITIES



scale in miles

+ sampling localities

DIAGRAMMATIC GEOLOGICAL  
SUCCESSION



fossils obtained from the sample are listed below. This biota is dominated by freshwater species, but the close proximity of a marine environment is shown by the presence of several foraminifera.

SAMPLE 1

PLANTAE

<u>Atriplex</u> spp.	Orache	1 seed
<u>Carex spicata</u> Hudson	Spiked Sedge	3 nutlets
<u>Ranunculus batrachium</u> (L.)	Water Crowfoot	250 achenes
<u>Schoenoplectus lacustris</u> (L.)	Bulrush	16 achenes

PROTOZOA

Undetermined foraminifera		9 specimens
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MOLLUSCA

<u>Lymnaea ?palustris</u> (Müller)	Marsh Snail	A few fragments
<u>L. peregra</u> (Müller)	Wandering Snail	5 specimens
<u>Potamopyrgus jenkinsi</u> (Smith)	Jenkins' Spire Snail	2 specimens
<u>Succinea putris</u> (L.)	Amber Snail	2 specimens

ARTHROPODA

Undetermined ostracods		12 specimens
Undetermined insect fragments (including one dipteran pupa)		17 specimens

PISCES

Indeterminate teleost bone fragment		1 specimen
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Anderby Creek

Two samples were collected in the proximity of Anderby Creek. Sample 2 was collected just north of the Creek just above low-tide mark (TF 552769). Stratigraphically the sample comes from the junction between the black peaty clay and the saltmarsh clay, as is evident from the biota. The flora comes from the lower division and is representative of an oak/brush woodland. The only plants previously recorded from this bed are Prunus, Yew, Oak, Birch, Pine and Holly (Swinerton, 1931, 1936; Jules-Brown, 1887). The single molluscan species present in the sample is a characteristic saltmarsh species and comes from the upper stratigraphical division. Sample 3 comes from 18 inches beneath the beach sand just south of the Creek at about high-tide mark (TF 552761). The biota characterises the freshwater clay and is similar to that of sample 1.

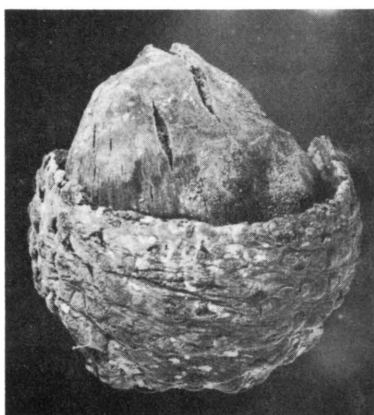
EXPLANATION OF PLATE 8

- Fig. 1      Iron Age pot showing many impressions of grass grains  
[This pot was figured in outline by Swinnerton, 1932, fig. 3a.]  
(118 x 115 mm.)
- Fig. 2      Acorn of oak (Quercus sp.).    (11 x 10 mm.)
- Fig. 3      Fruitstone of Bramble (Rubus fruticosus L. agg.). (2.4 x 1.9 mm.)
- Fig. 4      Nut of Hazel (Corylus avellana L.).    (18 x 13 mm.)
- Fig. 5      Seed of Yellow Flag (Iris pseudacorus L.).    (7.1 x 7.1 mm.)
- Fig. 6      Hydrobia ulvae (Pennant).    (5.3 x 2.8 mm.)
- Fig. 7      Indeterminate teleost bone fragment.    (3.1 x 2.5 mm.)

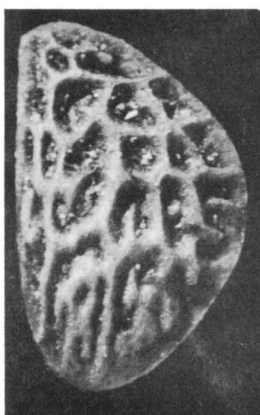
All quoted measurements are of the maximum dimensions in each of the views given. The figured specimens have been deposited in the Archaeology Museum, University of Nottingham.



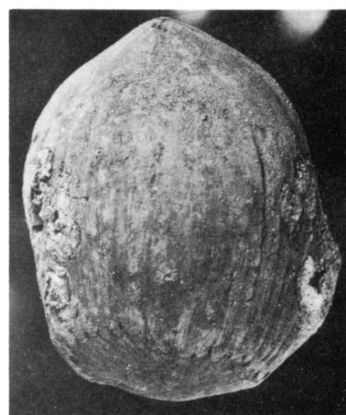
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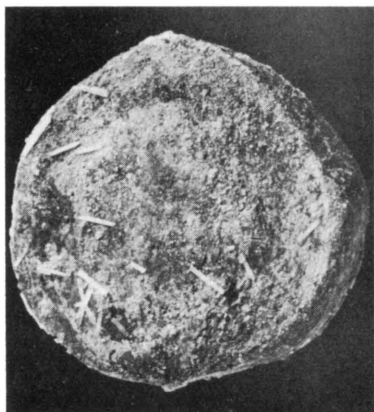
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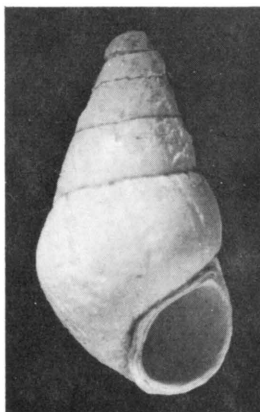
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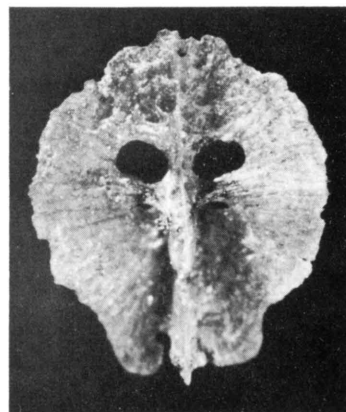
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5



6



7



SAMPLE 2

PLANTAE

<u>Atriplex</u> spp.	Orache	4 seeds
<u>Corylus avellana</u> L.	Hazel	13 nuts
<u>Crataegus monogyna</u> Jacq.	Hawthorn	1 fruitstone
<u>Iris pseudacorus</u> L.	Yellow Flag	1 seed
<u>Prunus spinosa</u> L.	Blackthorn	1 fruitstone
<u>Quercus</u> sp.	Oak	1 acorn
<u>Ranunculus</u> spp.	Buttercup	2 achenes
<u>Rubus fruticosus</u> L. agg.	Bramble	25 fruitstones
Undetermined buds		5 specimens

MOLLUSCA

<u>Hydrobia ulvae</u> (Pennant)	Laver Spire Snail	11 specimens
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SAMPLE 3

PLANTAE

<u>Atriplex</u> spp.	Orache	48 seeds
<u>Centaurea nigra</u> L.	Hardhead	1 achene
<u>Cirsium</u> spp.	Thistle	3 achenes
<u>Ranunculus</u> sp.	Buttercup	1 achene
<u>Rubus fruticosus</u> L. agg.	Bramble	4 fruitstones
<u>Schoenoplectus lacustris</u> (L.)	Bulrush	2 achenes
Undetermined bryophyte fragment	Moss	1 specimen

MOLLUSCA

<u>Helix nemoralis</u> L.	Grove Snail	4 specimens
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ARTHROPODA

Undetermined ostracods		Several specimens
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### Conclusions

Twelve species of plants and six species of mollusc are recorded for the Holocene deposits in the Ingoldmells area. Their ecological requirements confirm that, although there has been overall subsidence since the Pleistocene, there was some uplift before the Iron Age.

### Acknowledgements

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R.C. Alvey,  
Department of Archaeology,  
The University,  
Nottingham

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