# ANCIENT MONUMENTS LABORATORY REPORT

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AUTHOR Peter Murphy

TITLE West Row Fen, Suffolk Mollusca, plant macrofossils. stratigraphic studies . AHK Repart. KOIG

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Site: West Row Fen County: Suffolk Code: MNL 130 Type of site: Settlement Period: Bronze Age Geology: Undulating topography of

Geology: Undulating topography of sand ridges with adjacent hollows filled with peats and shell marls. Director: E. Martins.

Type of material: Mollusca, plant macrofossils. Stratigraphic studies.

#### West Row (MNL 130): Further examination of sediments in the hollows.

Excavation of the Bronze Age settlement site MNL 130 during 1977 exposed a section through sediments at the edge of a hollow adjacent to the sand ridge upon which the settlement is located. The stratigraphy was relatively simple: beneath the peaty ploughsoil was a wedge of shell marl up to 30cm thick with humic laminations and beneath this marl there was up to about 50cm of fibrous, woody and sandy peats overlying sand. (Fig 1). In April 1983 the site was re-visited in order to examine further the stratigraphy of deeper hollows in the field in which the site is located and to obtain cores for pollen analysis and samples for mollusc analysis. Trial augering showed the stratigraphy to be extremely variable. In a trial pit and auger holes in the southern part of the field, for example, thick shell marl beneath the ploughsoil (up to about 50cm) directly overlay sand, but in a further trial pit only a few metres away shell marl was absent, and was replaced by compacted wood peat. Elsewhere peats and freshwater sediments were extremely thin. The deepest sequence of peats and marls located was in a hollow approximately 200m from the northern edge of the field and 35m from its eastern edge. This sequence was described in detail and sampled for pollen and molluscs.

### Stratigraphy

A typical sequence at this point, revealed in a trial pit and by augering was as follows.

| 0 - 33  | Cm   | Very dark humified peaty topsoil.                            |  |  |
|---------|--|--|--|--|
| 33 - 52 | 52cm Shell marl. Variable very pale brown (10 YR 7/3) calcared |  |  |  |
|         |  | marl becoming greyish-brown, (10 YR 5/2) below with brownish |  |  |
|         |  | yellow (10 YR 6/6) mottles and yellowish-red (5 YR 4/6)      |  |  |
|         |  | mottles and humic laminations. Abundant freshwater mollusc   |  |  |
|         |  | shells, particularly noticeable in lower greyish-brown marl. |  |  |
| 52 - 1  | 15cm   | Dark peats, including some wood fragments.                   |  |  |
| 115 - 1 | 25cm   | Pale brown (10 YR 6/3) shell marl. Abundant shells.          |  |  |
| 125 - 1 | 45cm   | Dark peat, merging into shell marl above and below.          |  |  |
| 145 - 1 | 55cm   | Pale brown to greyish-brown (10 YR 5/2) shell marl. Abundant |  |  |
|         |  | shells.  |  |  |
| 155cm + |  | Sand.  |  |  |

These horizons varied markedly in thickness over very short distances.

## Sampling

A pit was dug to the surface of the upper shell marl and spot samples were taken for mollusc analysis. Rapid filling of the pit with water precluded column sampling. Further small mollusc samples were obtained by augering from the lower marls.

A 50cm core (Core 1, Sample 1 etc.) was taken using a Russian corer from the shell marl and the top of the peats. The sequence at this point was:

| 0  | - | 33cm | <pre>/ery dark humified peaty topsoil (not sampled).</pre> |
|----|---|------|--|
| 33 | - | 49cm | Shell marl.  |
| 49 | - | 83cm | Peat, becoming woody at base of core.                      |

Samples were removed at 4cm intervals from the marl and 2cm intervals from the peat. It was not possible to penetrate deeper with this corer. A Hiller auger was therefore used to obtain pollen samples from the base of the main peat in a second core (Core 2, Samples 1A etc.). The sequence in this core was:

| 0 - 33cm   | Very dark humified peaty topsoil (not sampled). |
|------------|---|
| 33 - 52cm  | Shell marl. (Not sampled).                      |
| 52 - 108cm | Peat (lower 20cm sampled).                      |
| 108cm +    | Shell marl.                                     |

Cores 1 and 2 should give, in combination, an almost complete pollen diagram through the main peat.



MNL 130: Marls and peats.

#### Macrofossils

Samples were taken for macrofossil analysis from the shell marl horizons. Details of sampling, extraction methods and full species lists are given below and in Tables and . Mollusca and Charophyte remains are extremely common, and are important for palaeoecological interpretation, but other plant and animal macrofossils (seeds, ostracods, cladoceran ephippia, insect remains, caddis larval cases and fish bones) also occur.

The mollusc assemblages from the upper very pale brown and greyish-brown marls between 33 and c.50cm and from the lower marls at 115-125 and 145-155cm are extremely similar in species composition. Numerically dominant freshwater taxa are Valvata cristata, Valvata piscinalis, Bithynia tentaculata, Lymnaea spp (including L. peregra), Planorbis planorbis and P. carinatus, Hippeutis complanatus, Acroloxus lacustris and Sphaeriidae. Physa sp, Lymnaea truncatula, Bathyomphalus contortus, Armiger crista and Planorbarius corneus occur at lower frequencies. The assemblages indicate extensive bodies of water, sufficiently well-oxygenated to support Valvata piscinalis and Bithynia spp and including a dense growth of aquatic plants to provide substrates for such species as Valvata cristata and Acroloxus lacustris. Plant macrofossils indicate that the aquatic vegetation included Charophytes, Ranunculus subg. Batrachium, Potamogeton sp and Lemna sp. Terrestrial and marsh snails (Carychium minimum, Succinea sp, Vertigo antivertigo, Vertigo substriata, Punctum pygmaeum, Euconulus c.f. fulvus) are rare in all samples, but are slightly more common in the greyish-brown marl at 38 - c.50cm. This includes a higher proportion of plant detritus than the other marls and was probably deposited closer to the margin of a water body. Macrofossils from littoral and marsh vegetation include Ranunculus acris/repens, Thalictrum flavum, Polygonum sp, Mentha arvensis/aquatica, Menyanthes trifoliata, Cladium mariscus, Carex sp and a fruit of Alnus glutinosa, indicating a fringe of sedge fen and marsh with some alder at the water's edge. Fig. summarises some features of the mollusc assemblages, and emphasises their similarity. The shell marl horizons were clearly deposited in very similar conditions, in fairly extensive but probably shallow base-rich freshwater meres which successively filled the hollow adjacent to the sand ridge on which the settlement MNL 130 was located. The three phases of marl formation are separated by peats representing dryer conditions.

## MNL 130 (1983) Macrofossils: Sampling and extraction.

A pit was dug to the surface of the upper shell marl, at 33cm, and spot samples were taken from the upper very pale brown marl and the lower greyish marl. Rapid filling of the pit with water precluded column sampling. Further small samples were obtained from the lower marls by augering. To minimise fragmentation the samples were not dried before processing. The samples were disaggregated in hot water and washed out over a 0.5mm mesh. The retent was air-dried and sorted under a binocular microscope at low power. Macrofossils extracted are listed in Tables and .

| Depth from surface (cm)                 | 33-38 | 38- <u>c</u> .50 | 115-125 | 145-155     |  |
|---|-------|------------------|---------|-------------|--|
| Sample weight (moist) gm                | 250   | 250              | 100     | 70          |  |
|   |       |                  |         |             |  |
| Characeae oogonia                       | t     | +                | +       | +           |  |
| thallus fragments                       | +     | +                | +       | +           |  |
| Ranunculus subg Batrachium              | -     | -                | 11      | 8           |  |
| Ranunculus acris/repens-type            | -     | -                | 1       | <b>Re</b> x |  |
| <u>Thalictrum</u> flavum L              | -     | -                | 1       |             |  |
| <u>Alnus glutinosa</u> L                | -     | -                | ]       | -           |  |
| <u>Polygonum</u> sp                     | -     | 1                | -       | -           |  |
| Mentha arvensis/aquatica                | -     | ~                | 1       | -           |  |
| Menyanthes trifoliata L                 | -     | 2                | -       | -           |  |
| <u>Potamogeton</u> sp                   | -     | 1                | 2       | -           |  |
| Lemna sp                                | -     | -                | 3       | -           |  |
| <u>Cladium maris<b>e</b>us</u> (L) Pohl | 7     | 10               | 4       | 3           |  |
| Carex sp                                | -     | -                | -       | 1           |  |
| Wood fragments                          | -     | -                | +       | -           |  |

Table : Plant macrofossils from the shell marls at MNL 130 (1983).

Taxa are represented by fruits or seeds unless otherwise indicated. Charophyte remains have not been counted but vastly predominate.

|                                    |             |                   | · .            |             |
|------------------------------------|-------------|-------------------|----------------|-------------|
| Depth from surface (cm)            | 33-38       | 38- <u>c</u> .50  | 115-125        | 145-155     |
| Sample weight (moist) gm           | 250         | 250               | 100            | 70          |
|                                    | ÷           |                   |                |             |
| <u>Valvata cristata</u> Müller     | 257         | 203               | 73             | 32          |
| <u>Valvata piscinalis</u> (Müller) | 11          | 13                | 14             | -           |
| Valvata cf piscinalis              | 79          | 67                | 39             | 16          |
| <u>Bithynia tentaculata</u> (L)    | 21          | 4                 | 1              | 2           |
| <u>Bithynia</u> sp                 | 110         | 112               | 35             | 13          |
| <u>Bithynia</u> sp (opercula)      | 117         | 149               | 25             | 10          |
| <u>Carychium minimum</u> Müller    | -           | 1                 | <b></b>        |             |
| Carychium sp                       |             | 3                 | -              | -           |
| <u>Physa</u> sp                    | 3           | 2                 | -3             | 5           |
| Lymnaea truncatula (Müller)        | -           | 9                 | -              | -           |
| Lymnaea peregra (Müller)           | 1           | 3                 | 32             | 4           |
| Lymnaea spp                        | 59          | 36                | 54             | 36          |
| Planorbis planorbis (L) )          |             |                   |                |             |
| Planorbis carinatus Müller         | 233         | 208               | 75             | 50          |
| Bathyomphalus contortus (L)        | 1           | <b>_</b>          | 1              |             |
| Armiger crista (L)                 | 1           | 3                 | _              | 1           |
| Hippeutis complanatus (L)          | 86          | 28                | 22             | 15          |
| Planorbarius corneus (L)           | 2           | 1                 | 2              | 2           |
| Acroloxus lacustris (L)            | 7           | 23                | -              | 5           |
| Succinea sp                        | -           | 6                 | -              | -           |
| Vertigo antivertigo (Draparnaud)   | 3           | 5                 | -              | _           |
| Vertigo substriata (Jeffreys)      | 1           | 1                 | -              | -           |
| Vertigo sp                         | 8           | 6                 | -              | 2           |
| Punctum pygmaeum (Draparnaud)      | -           | 1                 | يسو            | -           |
| Euconulus cf fulvus (Müller)       | -           | 2                 | _              |             |
| Sphaeriidae (valves)               | 117         | 93                | 18             | 13          |
| Indeterminate molluscs             | 14          | 53                | -              | 11          |
| Ostracods                          | +           | +                 | +              | +           |
| Cladoceran enhipnia                | +           | +                 | +              | •<br>+      |
| Insects                            | +           | +                 | ,<br>+         | ,<br>+      |
| Caddis larval cases                | -           |                   | 1<br>          |             |
| Fish hone (vertebrae teeth oto)    | +           | •                 | -              | +           |
| Table · Mollusce and other aris    | in 1 maawaf | r<br>Docilo fuero | -<br>+ha aha11 | T<br>wlc of |
|                                    | a Hiderot   | USSIIS TROM       | une snell Ma   | ris di      |

<u>MNL 130</u> (1983).

Incomplete identifications normally refer to young juvenile or fragmentary specimens. <u>Planorbis</u> spp counts are combined due to difficulty of separating young juveniles. The bivalves were almost all very young or fragmentary. Nomenclature follows Kerney (1975) and Kerney and Cameron (1979).

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