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**SEDIMENT ENVIRONMENTS OF THE SANDY BARRIER / TIDAL MARSH
COASTLINE OF NORTH NORFOLK**

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ABSTRACT

A map of the classic north Norfolk coast has been prepared from aerial photographs showing the spatial distribution of sediment and vegetation zones. Eleven geologically or botanically distinct environmental units are described in terms of sedimentological, vegetational and micro-faunal parameters. Twenty two of the twenty eight possible inter-unit comparisons are separable completely by at least one grain size parameter (mean grain size, sorting, skewness, percentage >4φ), whilst separation of the remainder is possible over part of their grain size parameter ranges. Q-mode cluster analysis of benthonic foraminifera assemblages allow separation of the intertidal mud and marsh creek unit, the lower marsh unit and the four separate units recognised as mature salt marsh, from each other and from the dune unit and four sand or gravel based inter-tidal flat units. No separation was possible between the dune unit and inter-tidal flat sand units based on foraminifera assemblages.

The recognition of these units has provided a basis for the recognition of the depositional environments of sub-surface Holocene sediments in the area. In addition a further four environmental units present are described which are not recognisable as distinct units in sub-surface deposits. Using historical evidence the development and succession of the environmental units is outlined.

**PALAEO ECOLOGY OF THE MOLLUSCA
OF THE CRAG OF BULCAMP, SUFFOLK**

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INTRODUCTION

*Counts were made, following the methods of Norton, (1967), on 3 kg air-dried samples, supplied by Mr. P.G. Cambridge, from the western trench of the excavation. The results, demonstrate that the fossiliferous sandy sediments at Bulcamp contain an abraded, allochthonous shell deposit from mixed habitats; a situation typical of the Norwich Crag. **Spisula subtruncata** and the extinct **Macoma praetenuis** dominate an assemblage of juvenile and adult bivalves mostly originating from sublittoral muddy or silty habitats.*

No formal abstract available for this paper.

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OSTRACODS FROM THE CRAG OF BULCAMP, SUFFOLK

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INTRODUCTION

Ostracods are small bivalved crustaceans, in which the paired appendages associated with the group are inside the valves and extend ventrally from between two calcified valves which together comprise the animals carapace. In common with related animals, ostracods grow by a moulting process and for one animal there can be a number of discarded valves that are potential fossil material. For taxonomy it is important to distinguish adults from juveniles (called instars) which may differ morphologically; adults of different species range in size from 0.3 mm to 0.5 - 0.7 mm and exceptionally may exceed 1 mm in length. The appendages are only rarely preserved and palaeontologists study the calcified valves, which occur commonly in washed residues with foraminifers. Ostracods are known from Cambrian times onwards and were exclusively marine until the Carboniferous when they colonised non-marine environments. At the present day ostracods inhabit all aquatic habitats from the deep ocean basins to rivers, temporary pools, hot springs and even wet moss. Most fossilised ostracods were bottom dwelling and this feature combined with their widespread distribution in marine and non-marine waters makes them very useful for the investigation of past environments.

No formal abstract available for this paper.

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NON-MARINE MOLLUSCA FROM THE CRAG OF BULCAMP, SUFFOLK

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INTRODUCTION

Listing the non-marine Mollusca from Bulcamp Union Farm (TM 442 755). It is based partly on literature records, checked against actual museum specimens wherever possible, but mostly on recent collections made by Mr. P.G. Cambridge and Dr. P.E. Long. This fauna is a mixture of freshwater, brackish and terrestrial elements indiscriminately brought together in a shelly sand composed almost exclusively of marine molluscs.

No formal abstract available for this paper.

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**SMALL MAMMAL REMAINS FROM EARLY
PLEISTOCENE CRAG AT BULCAMP, SUFFOLK.**

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ABSTRACT

*Small mammal remains have been recovered from shelly sands exposed in section at Union Farm Pit, Bulcamp, Suffolk (TG 4420 7545). The following taxa are recognised: **Desmana thermalis**, **Micromys sp.**, **Mimomys pliocaenicus**, **Mimomys newtoni**, **Mimomys reidi**, **Mimomys altenburgensis**, **Desmana** and **Micomys** have not previously been recorded from deposits of this age (Norwich Crag) in England. The assemblage belongs to faunal group two of Mayhew and Stuart, (1986) and suggests a Bramertonian age for the Bulcamp crag deposits. Faunas of similar composition are known from the Tiglian and Villanyian stages of Continental Europe.*



**A NEW SPECIMEN OF THE OTTER *ENHYDRA REEVBI*
(NEWTON, 1890) FROM THE CRAG OF
BRAMERTON, NORFOLK**

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INTRODUCTION

*Newton, (1890, 1891) described a new otter species, **Lutra reevei**, based on a right M_1 found by Mr. James Reeve at Bramerton. The specimen was stored in the Norwich Castle Museum (nr. 548). During many years, this specimen was the only specimen, known of this species. But some years ago, Mr. Philip Cambridge found a second specimen, also a right M_1 at Bramerton. He kindly put the specimen at my disposal for study, now in the Sedgwick Museum (Cambridge). In this paper, some remarks are made on the new specimen.*

No formal abstract available for this paper.

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**OTOLITHS AND OTHER FAUNA
FROM THE CRAG OF BULCAMP, SUFFOLK**

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INTRODUCTION

Papers by (Long, 1990; Lord, 1990; Preece, 1990; Mayhew, 1990; Willemsen, 1990) record the occurrence and interpretation of the different faunal groups obtained from the Bulcamp excavations of 1979 (Cambridge, 1982) and related deposits. In this paper are recorded the occurrence of otoliths and a listing of other fossil remains including rarer species of molluscs not included in the quantitative records of Funnell, (1983) and Long, (1990).

No formal abstract available for this paper.

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