

Bulletin of the Geological Society of Norfolk

No. 32 (1982)

Published September 1982

CONTENTS

	Page
Lees, B.J. Quaternary sedimentation in the Sizewell Dunwich Banks area, Suffolk.	1
Cambridge, P.G. A note on supposed crag shells from the Kippett Hills, Aberdeenshire.	37
Davies, A.M.C., Funnell, A.M. and Funnell, B.M. Amino Acid ratios in crag molluscs.	39
Hey, R.W. Composition of Pre-Anglian Gravels in Norfolk.	51
Raiswell, R.W. and Tranter, M. Composition and origin of Thetford Mineral Water.	61
Cambridge, P.G. Report on Field Meetings to Bulcamp, near Blythburgh, Suffolk. (Summary account of field trip, 1979)	71
[Secretary's Report] - 1980~1981.	[73]
[Field Meeting Secretary's Report] - 1981.	[74]
[Editorial Note].	[80]

The Geological Society of Norfolk exists to promote the study and understanding of geology in East Anglia, and holds meetings throughout the year.



Click here, to order printed copy of the Bulletin.
Please, specify the issue or year required.

Back copies of the Bulletin cost £3.50 each (members); £10.00 each (non-members).

For membership details consult our web site <http://www.norfolkgeology.co.uk>

**QUATERNARY SEDIMENTATION IN THE SIZEWELL-DUNWICH
BANKS AREA, SUFFOLK**

B.J. Lees

Institute of Oceanographic Sciences,
Crossway, Taunton, Somerset, TA1 2DW, UK.

SUMMARY

Evidence from geophysical surveying, grab sampling, box and vibrocoreing has been used to deduce the sedimentation sequence and an outline of the Quaternary history of the Sizewell-Dunwich area, off the Suffolk coast. The present sedimentary regime is the result of one or more periods of marine transgression of an estuarine embayment during the Holocene epoch, together with erosion of the nearby cliffs of unconsolidated Pleistocene sediments. The interaction between tidal dynamics and the erosion processes has given rise to the present day linear sandbank lying parallel to the coast.

No formal abstract available for this paper.

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 1-35. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk



www.norfolkgeology.co.uk

**A NOTE ON SUPPOSED CRAG SHELLS
FROM THE KIPPETT HILLS, ABERDEENSHIRE**

P.G. Cambridge

258 Bluebell Road,
Norwich, NR4 7LW, UK.

INTRODUCTION

At the beginning of the century, when research on the Plio-Pleistocene was at its height, and the Crag deposits of East Anglia were being extensively studied, a number of records of isolated material from other parts of the country were made. Some of these, like the St. Erth Clays, Cornwall have been re-studied; of others there appears to have been no further record in the literature. Among the latter was a record of "Crag" fossils from gravels in Aberdeenshire by T.F Jamieson (QJGS 1882 Vol. 38, "On the Crag Shells of Aberdeenshire"). Jamieson's specimens do not seem to have been preserved so that comments on his determinations are purely speculative but it is interesting to note that he believed that "some bed as old at least as the Red Crag of Norfolk (sic) must have contributed to the remains".

*If the molluscan species were correctly identified, then a Red Crag origin is most likely. Some of the species in his list might have come from earlier deposits but they all occur either as contemporaneous or derived shells in the Red Crag with the exception of **Macoma balthica** (L). Thus **Scaphella lamberti** (Sowerby) lived in Pliocene times and is found in the Lower Red Crag (Sands of Walton). It also occurs in the Upper Red Crag as worn fragments, especially pieces of the columella and apex. Jamieson describes his specimen of **Scaphella** as a much worn fragment of the columella. It is doubtful whether such a fragn could be used to decide whether the species is **S. lamberti** of the Pliocene or **S. bolli** (Koch) of the Miocene. Similarly, worn or fragmentary shells of **Glycymeris** are very difficult to determine in the absence of a definite age for the specimens since the genus is well represented from the Eocene to the present day.*

No formal abstract available for this paper.

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 37-38. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk


www.norfolkgeology.co.uk

AMINO ACID RATIOS IN CRAG MOLLUSCS

*A.M.C. Davies*¹, *A.M. Funnell*² and *B.M. Funnell*³

¹ Food Research Institute, Colney Lane, Norwich, NR4 7UA, UK.

² Alcuin College, University of York, Heslington, York, YO10 5NB, UK.

³ School of Environmental Sciences,
University of East Anglia, Norwich, NR4 7TJ, UK.

SUMMARY

*Analysis of the alloisoleucine : isoleucine ratios resulting from post-mortal epimerisation of L-isoleucine in the shells of fossil **Mya** from the Red and Norwich Crag Formations gives results ranging from 1.19 in the Red Crag of Bawdsey to 0.58 in the presumed equivalents of the Norwich and Weybourne Crag at Crostwick. There is however very considerable variability and overlap in values from different stratigraphical levels (Red Crag 1.19 to 0.83; Ludham Crag 1.07 to 0.63; Norwich Crag 1.20 to 0.76; Weybourne Crag 0.94 to 0.58).*

No formal abstract available for this paper.

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 39-50. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk



www.norfolkgeology.co.uk

COMPOSITION OF PRE-ANGLIAN GRAVELS IN NORFOLK

R. W. Hey

Department of Earth Sciences,
University of Cambridge, Downing Street, Cambridge, CB2 3EO, UK.

INTRODUCTION

In an earlier paper (Hey, 1976), the writer recorded pebble-counts carried out on pre-Anglian Pleistocene gravels at seven localities in Norfolk and five in Suffolk. The present paper records six additional pebble-counts from Norfolk; five of them are from new localities, the sixth is from a horizon at Sidestrand lower than any of those for which pebble-counts were presented in the earlier paper. The new results and some of the old are discussed in the light of recent developments in the study of the East Anglian Pleistocene, in particular the recognition of two new stages between the Baventian and the Pastonian: the Bramertonian temperate stage (Funnell, Norton and West, 1979) and the succeeding Pre-Pastonian cold stage (West, 1980).

No formal abstract available for this paper.

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 51-59. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk



www.norfolkgeology.co.uk

COMPOSITION AND ORIGIN OF THETFORD MINERAL WATER

R. Raiswell and M. Tranter

School of Environmental Sciences,
University of East Anglia, Norwich, NR4 7TJ, UK.

INTRODUCTION

A recent comprehensive review of United Kingdom subsurface waters (Edmunds et al., 1969) distinguishes three main types of water, classified according to their temperature and total dissolved solid (TD) content.

<i>Discharge temperature exceeds mean annual air temperature.</i>	THERMAL WATERS	<i>Unconstrained range of TDS values</i>
---	-----------------------	--

<i>Discharge temperature does not exceed average mean annual air temperature.</i>	MINERAL WATERS	<i>TDS = 1000 to 1000,000 mg^l⁻¹</i>
---	-----------------------	---

	BRINES	<i>TDS > 100,000 mg^l⁻¹</i>
--	---------------	---

Many relatively dilute (TDS < mg^l⁻¹), non-thermal waters lying outside this classification still achieve considerable national reputations for their therapeutic properties (e.g. those from Malvern, Ilkley, Tunbridge Wells) and have consequently attracted relatively recent investigation. However, this has rarely been the case with the less-known, dilute spring waters. It is the purpose of this paper, firstly to present new analytical data for one of these lesser-known therapeutic springs at Thetford (Norfolk), and secondly, to discuss the chemical original of the spring water.

No formal abstract available for this paper.

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 61-70. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk



www.norfolkgeology.co.uk

**REPORT ON A FIELD MEETING TO BULCAMP,
NEAR BLYTHBURGH, SUFFOLK, JULY 21ST 1979**

P.G. Cambridge

258 Bluebell Road,
Norwich, NR4 7LW, UK.

SUMMARY

The coastal sections in the Lower Pleistocene Crags of Suffolk have been examined and described in detail by various authors. The Crags have also been examined in boreholes to the west, but no recent work has been done in the intervening area. For this reason it was decided to attempt to excavate a section in the Blyth valley.

A search of the literature suggested that an old pit near Union Farm, Bulcamp, might be suitable. The only published description appeared to be that of Prestwich (Proc. Geol. Soc., 1868). It was brief, little more than a list of 28 species collected, a rough sketch of a section about 20 feet high (indicating considerable current activity), and a mention of the reddish colour of the sands giving a superficial resemblance to the Red Crag.

A preliminary examination of the site showed typical shelly Crag thrown out by rabbits, although the section itself was obscured. The large, partly degraded pit was easily accessible and it was decided to attempt to get part of the site cleared mechanically.

No formal abstract available for this paper. (Summary account of field trip, 1979)

Bull. geol. Soc. Norfolk (for 1980~1981) **32**, 71-72. (Published 1982)

Page 1 of 1

Website design and funding by:

UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk

 www.norfolkgeology.co.uk