Bulletin of the Geological Society of Norfolk

No. 66 (2016-17)

Published January 2017

CONTENTS	
	Page
Editorial	1
Hoogduin, A.L., Visscher, M.R., and Donovan, S.K.	
Aspects of the neotaphonomy of three species of bivalve molluscs	
common in the North Sea.	3
West, R.	
An alternative interpretation of the geology of the Lynford Mammoth	
Site, Norfolk.	19
Boreham, S. and Rolfe, C.J.	
Imaging periglacial stripes using ground penetrating radar at the	
'GRIM' training site, Grime's Graves, Breckland, Norfolk.	31
Riches, P.	
William Smith's problems with the correlation of the post-Chalk section	
in East Anglia, as revealed in his geological sections.	45

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

ISSN0143-9286

ASPECTS OF THE NEOTAPHONOMY OF THREE SPECIES OF BIVALVE MOLLUSCS COMMON IN THE NORTH SEA

Annika L. Hoogduin^{1,2}, Marin R. Visscher^{1,2} & Stephen K. Donovan²*

¹University of Leiden, Sylvius Laboratory, Sylviusweg 72, 2333 BE Leiden, NL ²Taxonomy and Systematics Group, Naturalis Biodiversity Center, Postbus 9517, 2300 RA Leiden, NL *e-mail: Steve.Donovan@naturalis.nl

ABSTRACT

Beach assemblages of Recent marine shells are used to investigate aspects of the palaeoecology and taphonomy of major invertebrate groups. A collection of shells and valves of bivalve molluscs were collected from the North Sea coast of Zandvoort aan Zee, the Netherlands. Three species dominated; <u>Cerastoderma edule</u> (Linné), <u>Spisula subtruncata</u> (da Costa) and <u>Ensis americanus</u> (Binney). All shells of <u>C. edule</u> and <u>S. subtruncata</u> were disarticulated into separate left and right valves, indicating a long residence time on the beach. There were more left valves collected than right valves of these two species, indicating post-mortem hydrodynamic sorting. Borings in <u>C. edule</u> and <u>S. subtruncata</u> included <u>Caulostrepsis taeniola</u> Clarke (domiciles of polychaete annelid worms bored after the death of the bivalve), and <u>Oichnus simplex</u> Bromley and <u>O. paraboloides</u> Bromley, but no shells of the predatory gastropods that made the borings were found. <u>Ensis americanus</u> shells were mostly articulated, some shells still retained soft tissues and none were bored or encrusted, indicating a very recent mass death event, probably storms over the previous weekend. <u>Cerastoderma edule</u> and <u>S. subtruncata</u> have more robust shells than <u>Ensis americanus</u>, which favoured their longer residence on the beach.

Bull. geol Soc. Norfolk (2016-17), 66, 3-17.

Website design and funding by:

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



AN ALTERNATIVE INTERPRETATION OF THE GEOLOGY OF THE LYNFORD MAMMOTH SITE, NORFOLK

Richard West

3A Woollards Lane, Great Shelford, Cambridge CB22 5LZ

ABSTRACT

An alternative explanation is given of the geology of the mammoth site at Lynford, Norfolk, suggesting that a solutional depression is responsible for the organic sediments in the Wissey river terrace gravels, rather than a palaeochannel (Boismier <u>et al.</u>, 2012). The value of extensive geological investigations around archaeological sites is shown by the discovery during the excavations of substantial thickness of sands to the south of the site, at a higher level than the terrace gravel, and banked against Chalk. These are comparable to sand at similar heights in the valleys of the Wissey tributaries to the north, the Little Ouse and the Nar valley. They are interpreted as deposits of proglacial lakes in the river valleys, ponded by ice of the Fenland glaciation in the Wolstonian cold stage.

Bull. geol Soc. Norfolk (2016-17), 66, 19-30.

Website design and funding by:

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



IMAGING PERIGLACIAL STRIPES USING GROUND PENETRATING RADAR AT THE 'GRIM' TRAINING SITE, GRIME'S GRAVES, BRECKLAND, NORFOLK

Steve Boreham* and Christopher J. Rolfe

Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN *e-mail: sb139@cam.ac.uk

ABSTRACT

The geological structure of periglacial patterned ground made visible by heather 'tiger' stripes at the GRIM Military Training Site, Breckland, Norfolk was investigated using Ground Penetrating Radar. A tripartite deposit model comprising an upper pellet chalk, a gravelly diamicton and a lower chalk rubble, overlying bedrock Upper Chalk is proposed. Frost cracks active during the Devensian Stage appear to have allowed the diamicton to 'heave' to the surface during solifluction. Coversand has been deposited in the gullies formed by the frostcracks during the Devensian. It is the acidic coversand that supports the growth of heather and makes this site of both geological and ecological interest.

Bull. geol Soc. Norfolk (2016-17), 66, 31-43.

Website design and funding by:

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



WILLIAM SMITH'S PROBLEMS WITH THE CORRELATION OF THE POST-CHALK SECTION IN EAST ANGLIA, AS REVEALED IN HIS GEOLOGICAL SECTIONS.

Peter Riches,

The Old Vicarage, Clifton Hampden, OX14 3EF. Email: pfriches@hotmail.com

ABSTRACT

This note highlights, and offers an explanation, for a misunderstanding of the stratigraphy of East Anglia made by William Smith in his ground-breaking descriptions of East Anglian geology. Specifically, he placed the London Clay, his Unit 1 and now known to be Palaeogene in age, above the sands, clays and gravels (his Units 2, 3 and 4) that are now known to be of *Pleistocene age.*

Bull. geol Soc. Norfolk (2016-17), 66, 45-53.

Website design and funding by: UK Fossils www.ukfossils.co.uk and UKGE www.ukge.co.uk

