

The archives of the peat bogs



## The archives of the peat bogs

SIR HARRY GODWIN, FRS

EMERITUS PROFESSOR OF BOTANY UNIVERSITY OF CAMBRIDGE

CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE
LONDON · NEW YORK · NEW ROCHELLE

MELBOURNE · SYDNEY



## **CAMBRIDGE UNIVERSITY PRESS**

Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org Information on this title: www.cambridge.org/9780521107129

© Cambridge University Press 1981

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1981
This digitally printed version 2009

 $A\ catalogue\ record\ for\ this\ publication\ is\ available\ from\ the\ British\ Library$ 

ISBN 978-0-521-23784-0 hardback ISBN 978-0-521-10712-9 paperback



## Contents

	Acknowledgments	page vii
1	Introduction: Quaternary research and mires	1
2	Living raised bog	18
3	Raised bog stratigraphy: first steps	38
4	Blanket bog	52
5	Plants of the bogs: Sphagnum	66
6	Plants of the bogs: sedges and such	72
7	Plants of the bogs: dwarf shrubs etc.	90
8	Recent peat of Somerset: a double inundation	103
9	Trackways in context	122
10	Geology of Levels and lakes: marine transgressions and	
	lake settlements	137
11	Old peat and Neolithic culture	150
12	Disforestation and agriculture	167
13	Pollen zones and sea-level changes absolutely dated	182
14	Climatic registration	193
15	The archive appraised	207
	References	219
	Short glossary	222
	Index	223

© Cambridge University Press



## Acknowledgments

Since this book concerns studies through a quarter of a century, it will be understood that my indebtedness is so great, and embraces so many colleagues and good friends, that it can only be expressed in general, though still sincere terms. Many of those most immediately concerned have been mentioned in the text: I trust that the rest will not take it amiss that I can only say collectively how warmly I recognise their kindness to and cooperation with me.

In building up familiarity with the techniques of bog enquiry, peat stratigraphy, pollen analysis and radiocarbon dating, one was able to draw freely upon the experience of scientists of many nations, especially those of western Europe and North America, and in the facilitation of meetings and working parties with them, Clare College and the University of Cambridge were extremely helpful. Similarly, throughout the founding and expansion of all the studies associated with Quaternary research the Research Councils, the Royal Society, the Nuffield Foundation, the British Council and the Wenner-Gren Foundation provided invaluable support.

A great deal of the investigation dealt with in the book relates to the Somerset Levels and I gladly acknowledge the immediate and effective facilities given by both individual peat diggers and by the larger firms engaged in peat extraction. The separate publications listed in the References have happily already allowed me to thank most of them individually, along with an extended succession of research students and friends who permitted themselves to be recruited into peat excavation, sampling, note-taking and haulage, lending not only brawn but acute and valued observation and criticism. In every way first of these was Professor A. R. Clapham, jointly with whom the first scientific publications of the derelict Somerset bogs were made. Material collected in the field has been analysed in the laboratory and I am deeply sensible of the sustained and skilful labour of the numerous laboratory staff who carried through this work, be it pollen analysis, plant identification or radiocarbon assay.



Acknowledgements

viii

Now, at a later stage altogether, I am happy to acknowledge help in preparation of *this* volume. I have been able to make use of photographs by those consummate plant portraitists, Dr M. C. F. Proctor and Mr W. H. Palmer, by Dr Neville Moar and Mr K. G. Richman. The majority of photographs are my own but they owe much to their skilful printing and enlargment by Mrs Sylvia Dalton.

It is not difficult to appreciate the gratitude I feel to Professor Richard West, my successor both to headship of the Sub-department of Quaternary Research and to the Chair of Botany: working in the Botany School has made preparation of this book in many ways simpler and more efficient. Finally I allow myself the pleasure of reiterating the manifold thanks that I owe my wife, with whom the beginnings of pollen analysis were shared and who has jointly endured so many of the pleasures of bog-trotting and looking into the archives of the mires.

Some of the illustrations have previously appeared in scientific publications and I gratefully acknowledge their employment to the following journals, societies and book-publishers: *Acta Phytogeographica Suecica*, *Bristol Medico-Chirurgical Journal*, Clarendon Press Oxford, Kooperativa Förbundets Bokförlag-Stockholm, Nordisk Oldkundighed og Historie, Somersetshire Archaeological and Natural History Society, *Ulster Journal of Archaeology*, University of Bristol Spelaeological Society. Many of the author's own figures have been reproduced from the *Journal of Ecology*, *New Phytologist*, *Proceedings of the Prehistoric Society* and the journals of the Royal Society.