

August 1988

No 80

BRITISH ANTARCTIC SURVEY

BULLETIN



CAMBRIDGE

PUBLISHED BY THE BRITISH ANTARCTIC SURVEY
NATURAL ENVIRONMENT RESEARCH COUNCIL

BRITISH ANTARCTIC SURVEY

Director: DR D. J. DREWRY

Deputy Director: W. N. BONNER

Heads of Divisions

Geology: DR M. R. A. THOMSON

Geophysics: DR P. F. BARKER

Ice and Climate: DR ELIZABETH MORRIS

Marine Life Sciences: DR R. B. HEYWOOD

Space Sciences: DR M. J. RYCROFT

Terrestrial and Freshwater Life Sciences, Human Physiology and Medicine:
DR D. W. H. WALTON

Managing Editor: B. MORAN

The *Bulletin* is published quarterly, in February, May, August and November.

1988 annual subscription: UK £44

Overseas £48

Individual issues: £11.00 each.

Only papers concerned with the work of the British Antarctic Survey can be published in the *Bulletin*, but correspondence on papers appearing in the *Bulletin* or on related topics will also be considered.

The authors of all signed papers are alone responsible for the opinions expressed in them.

Papers to be considered for publication and editorial enquiries should be sent to the Managing Editor of the *Bulletin*, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET, England. Telephone: Cambridge (0223) 61188. Telex: 817725 BASCAM G.

Orders for subscriptions and individual copies should be sent with payment to: The Distribution Centre, Blackhorse Road, Letchworth, Hertfordshire SG6 1HN, England. Telephone: Letchworth (04626) 72555. Telex: 825372 TURPIN G.

Copyright © 1988 British Antarctic Survey
ISSN 0007-0262

BRITISH ANTARCTIC SURVEY

BULLETIN

No. 80 AUGUST 1988

CONTENTS

	PAGE
Sedimentology, palynology and structure of Humps Island, northern Antarctic Peninsula D. PIRRIE and J. B. RIDING	1
Age, distribution and eruptive conditions of Late Cenozoic alkaline volcanism in the Antarctic Peninsula and eastern Ellsworth Land: review J. L. SMELLIE, R. J. PANKHURST, M. J. HOLE and J. W. THOMSON	21
New K-Ar age determinations on the James Ross Island Volcanic Group, north-east Graham Land, Antarctica M. A. SYKES	51
The structure of Wordie Ice Shelf, Antarctic Peninsula J. M. REYNOLDS	57
The annual cycle of temperature, chlorophyll and major nutrients at Signy Island, South Orkney Islands, 1969-82 A. CLARKE, L. J. HOLMES and M. G. WHITE	65
The status of birds at Signy Island, South Orkney Islands D. M. ROOTES	87
The South Georgian moss flora: <i>Vittia</i> R. OCHYRA and P. J. LIGHTOWLERS	121
Short Note	
Botanical survey of Deception Island R. I. LEWIS SMITH	129
Book Reviews	137

CAMBRIDGE: PUBLISHED BY THE BRITISH ANTARCTIC SURVEY
NATURAL ENVIRONMENT RESEARCH COUNCIL