THE ROYAL SOCIETY OF EDINBURGH



PROCEEDINGS

Section B (Biological Sciences)

ISSN-0308-2113

PUBLISHED BY THE ROYAL SOCIETY OF EDINBURGH 22 GEORGE STREET, EDINBURGH EH2 2PQ

PROCEEDINGS

OF THE

ROYAL SOCIETY OF EDINBURGH

PROCEEDINGS

OF

THE ROYAL SOCIETY OF EDINBURGH

Section B (Biological Sciences)

VOL. 83

1983

PUBLISHED BY
THE ROYAL SOCIETY OF EDINBURGH
22 GEORGE STREET
EDINBURGH EH2 2PQ

1983

THE ROYAL SOCIETY OF EDINBURGH

and the



NATURE CONSERVANCY COUNCIL

The Natural Environment of the Inner Hebrides

Edited by

John Morton Boyd

and

D. R. Bowes

Associate Editor—Earth Sciences

Published by
The Royal Society of Edinburgh
22 George Street
Edinburgh EH2 2PQ
1983

Contents

Foreword by the Rt Hon. The Viscount of Arbuthnott, D.S.C., M.A., F.R.I.C.S.	xiii
Introduction Natural environment of the Inner Hebrides—an introduction by Dr John Morton Boyd	3
Physical Environment Geological framework of the Inner Hebrides by Professor D. R. Bowes	25
Precambrian and Palaeozoic rocks of the Inner Hebrides by Dr R. Anderton and Professor D. R. Bowes	31
Mesozoic sedimentation and sedimentary rocks in the Inner Hebrides by Dr J. D. Hudson	4 7
*Tertiary igneous activity in the Inner Hebrides by Dr Colin H. Donaldson	65
Quaternary geology of the Inner Hebrides by Dr J. D. PEACOCK	83
*Recent sediments and sedimentation in the Inner Hebrides by Dr George E. Farrow	91
*Soils of the Inner Hebrides by G. Hudson and D. J. Henderson	107
*Climate of the Inner Hebrides by F. H. W. Green and Dr R. J. Harding	121
Marine and Freshwater Environment *Oceanography and inshore hydrography of the Inner Hebrides by D. J. Ellett and A. Edwards	143.
*Shallow sublittoral ecosystems in the Inner Hebrides by Dr R. MITCHELL, Dr R. C. EARLL and Dr F. A. DIPPER	161
Marine benthic communities of the Sound of Jura by Dr B. J. Brown	185
Marine mollusca of Islay and Skye by Dr Shelagh M. Smith	195
*Seals in the Inner Hebrides by R. William Vaughan	219
*Inland waters in the Inner Hebrides by Dr P. S. Maitland and A. V. Holden	229
Salmon and freshwater fishes of the Inner Hebrides by R. N. CAMPBELL and R. B. WILLIAMSON	245

viii Contents

Vegetation and Flora *Late-Quaternary vegetational history of the Inner Hebrides by Dr H. J. B. Birks and Dr W. Williams	269
*Flora and vegetation of the Inner Hebrides by A. Currie and Mrs C. Murray	293
Native woodlands of the Inner Hebrides by M. E. Ball	319
Ombrogenous mires in Islay and Mull by R. A. LINDSAY, J. RIGGALL and E. M. BIGNAL	341
Ecology and phytogeographical affinities of the bryophytes in the Inner Hebrides by M. F. V. CORLEY	373
Lichens of Colonsay by Dr Francis Rose and Brian J. Coppins	403
Fungi in the Inner Hebrides by Dr R. W. G. DENNIS and Dr ROY WATLING	415
Evolution and Fauna Evolution of animals and plants in the Inner Hebrides by Professor R. J. BERRY	433
*Birds of the Inner Hebrides by T. M. REED, A. CURRIE and J. A. LOVE	449
Wildfowl of Islay by M. A. Ogilvie	473
Wildfowl of the Inner Hebrides by M. A. OGILVIE and G. L. ATKINSON-WILLES	491
Coleoptera in the Inner Hebrides by Dr R. Colin Welch	505
Lepidoptera in the Inner Hebrides by Peter Wormell	531
Land Use and Natural Resources *Land use and settlement history of the southern Inner Hebrides by Dr Margaret C. Storrie	549
*Agriculture in the Inner Hebrides by J. W. Grant and A. MacLeod	567
*Forests of the Inner Hebrides—status and habitat by A. G. Bramwell and G. M. Cowie	577

Contents	ix
Shellfish resources in the Inner Hebrides by Dr James Mason, Dr R. G. J. Shelton, J. Drinkwater and F. G. Howard	599
Mineral resources of the Inner Hebrides by Dr C. D. Gribble	611
Nature conservation in the Inner Hebrides by A. J. Kerr and Dr John Morton Boyd	627

(Issued 1st August 1983)

^{*}Papers marked with an asterisk were delivered at the Symposium.