INDEXES TO VOLUME 316 (B)

Author index

Addy, J. M. Environmental monitoring of the Beatrice oilfield development, 655.
Aizawa, M. Immunosensors, 121.
Bartlett, P. N. See Albery et al.
Bedborough, D. R., Blackman, R. A. A. & Law, R. J. A survey of inputs to the North Sea resulting from oil and gas developments, 495.
Belanger, D. See Wrighton et al.
Blackman, R. A. A. See Bedborough et al.

Carroll, N. J. See Flanagan et al.
Cass, A. E. G. See Albery et al.
Clark, R. B. Summary and conclusions: environmental effects of North Sea oil and gas developments, 669.
Clarke, D. J. Biosensors in process control, 169.

Davies, J. M. See Leaver et al.
Drake, R. A. L. See Badley et al.
Dunnet, G. M. Seabirds and North Sea oil, 513.

Eisma, D. The North Sea: an overview, 461.


Gorton, L. See Scheller et al.
Gray, J. S. Oil pollution studies of the Solbergstrand mesocosms, 641.
Green, Monika J. Electrochemical immunoassays, 135.

Gunther, H. See Schmidt & Gunther.

Higgins, I. J. & Lowe, C. R. Introduction to the principles and applications of biosensors, 3.
Hill, H. A. O. See Frew & Hill.

Johansson, G. See Scheller et al.
Johnston, R. Effects of North Sea oil and gas developments on fisheries [abstract only], 511.

Kingston, P. F. Field effects of platform discharges on benthic macrofauna, 545.
Kirstein, D. See Scheller et al.
Kirstein, L. See Scheller et al.
Koziol, M. J. See Pannell & Koziol.

Lane, G. A. See Wrighton et al.
Larminie, F. G. The history and future of North Sea oil and gas: an environmental perspective, 487.
Law, R. J. See Bedborough et al.

Livingstone, D. R. See Moore, M. N. et al.
Long, S. Mohd. See Moore, C. G. et al.

Lowe, D. M. See Moore, M. N. et al.

Mills, D. J. L. See Moore, C. G. et al.
Mohd Long, S. See Moore, C. G. et al.

[ 679 ]


Murison, D. J. See Leaver et al.; see also Moore, C. G. et al.

Natan, M. J. See Wrighton et al.

Norberg, U. M. & Rayner, J. M. V. Ecological morphology and flight in bats (Mammalia; Chiroptera): wing adaptations, flight performance, foraging strategy and echolocation, 335.

Olsson, B. See Scheller et al.

Pannell, C. M. & Koziol, M. J. Ecological and phytochemical diversity of arillate seeds in Aglaia (Meliaceae): a study of vertebrate dispersal in tropical trees, 303.

Pipe, R. K. See Moore, M. N. et al.


Purchon, R. D. Classification and evolution of the Bivalvia: an analytical study, 277.

Rafaeli, D. See Leaver et al.

Rayner, J. M. V. See Norberg & Rayner.

Reid, P. C. The importance of the planktonic ecosystem of the North Sea in the context of oil and gas development, 587.

Sanders, P. F. & Tibbetts, P. J. C. Effects of discarded drill muds on microbial populations, 567.


Schmidt, H.-L. & Günther, H. Structure and electrochemistry of oxidoreductases, 73.

Shanks, I. A. See Badley et al.

Sibbald, A. See Covington & Sibbald.

Silver, I. A. Microelectrodes in medicine, 161.

Smith, A. M. See Badley et al.

Smith, D. K. See Wrighton et al.

Spez, Anita. See Lundström et al.

Stephenson, P. R. See Badley et al.

Taha, K. A. K. See Flanagan et al.

Thackeray, J. W. See Wrighton et al.

Tibbetts, P. J. C. See Sanders & Tibbetts.


Widdows, J. See Moore, M. N. et al.

Winquist, F. See Lundström et al.

Wollenberger, U. See Scheller et al.

Subject index

acoustic monitoring, 169.
alkanes, 567.
ammonia sensors, 47.
amperometric immunoassays, 95.
amperometric sensors, 135.
amperometry, 161.
analyser, 85.
Antarctic Isopoda, 429.
antibodies in immunoassays, 135.
antibody-bound membrane, 121.
aplications of biosensors, 3.

bat flight, 335.
bathed-bird surveys, 513.
benthic surveys, 655.
benthos, North Sea, 525.
bioaffinity sensor, 121.
bioanalyser, 85.
bioanalyser, 85.
biocompatibility, 161.
biodegradation, 567.
bioelectrochemistry, 73.
biological recognition elements, 3.
biological relations, North Sea, 461.
bioelectrochemistry, 73.
bioelectrochemistry, 73.
bioelectrochemistry, 73.
biological relations, North Sea, 461.
microbial responses, 545.
microprocessors, 61.
molecular electronics, 13.
molecular recognition, 121.
molluscs, 603.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
molecular recognition, 121.
mouthparts of *Antarcturus*, 429.

North Sea, oil and gas, 461, 487, 495, 513, 525, 545, 567, 587, 603, 625, 641, 655, 669.

nutrients, North Sea, 461.

O₂ sensors, 13.

offshore chemical discharges, North Sea, 495.

oil, North Sea, 487, 669.

oil and gas yields, and pollution, 587.

oil-based muds, 625, 655.

oil effects, 641.

optical waveguide immunoassay, 143.

organic enrichment, 545, 625.

organic salt electrodes, 107.

outlier detection, 61.

passive filtration, 429.

penicillin monitor, 61.

peroxide-based electrochemical assays, 95.

petrochemicals, ecological effects, North Sea, 525.

petroleum hydrocarbons, North Sea, 495.

pH sensors, 13.

phylogeny, 183.

pollutant hydrocarbons, effects, 603.

pollution, oil and gas, 487.

potentiometric sensors, 135.

primates, 303.

principles of biosensors, 3.

process control, 61.

redox polymers, 13.

redox potential profile, 625.

scope for growth, 603.

seabed, 545.

seabird numbers, 513.

seabirds, breeding at sea, 655.

seabirds at sea, 513.

sediments, North Sea, 461.

seed dispersal, *Aglaia*, 303.

semiconductor biosensors, 47.

semiconductor devices, 31.

sensor reliability, 61.

shores, rocky and mudflats, 655.

solar energy input, 587.

statistical analysis, 61.

stomach structure, bivalves, 183.

subclasses, bivalves, 277.

substrate amplification, 85.

substrate-specific electrodes, 161.

substral soft bottom, 641.

sulphate-reducing bacteria, 567.

sulphides, 567.

surface modification, 13.

suspension feeding, 429.

threats to seabirds, 513.

tissue electrodes, 161.

toxicity, 567.

trace elements, North Sea, 461.

transducers for biosensors, 3.

tropical rainforest, 303.

voltammetry, 161.

water concentrations, North Sea, 495.

wing morphology, bats, 335.

zones of effect, 545.
CONTENTS

Series B Volume 316

No. 1176 28 August 1987
Biosensors
   A Discussion organized and edited by M. Akitar, F.R.S., C. R. Lowe and
   I. J. Higgins ........................................ page 1

No. 1177 28 August 1987
The stomach in the Bivalvia
   By R. D. Purchon ........................................ 183

Classification and evolution of the Bivalvia; an analytical study
   By R. D. Purchon ........................................ 277

No. 1178 28 August 1987
Ecological and phytochemical diversity of arillate seeds in Aglaia (Meliaceae): a study
   of vertebrate dispersal in tropical trees
   By C. M. Pannell and M. J. Koziol ........................................ 303

No. 1179 16 September 1987
Ecological morphology and flight in bats (Mammalia; Chiroptera): wing adaptations,
   flight performance, foraging strategy and echolocation
   By U. M. Norberg and J. M. V. Rayner. [Plates 1 and 2] .......................... 335

No. 1180 16 September 1987
The feeding mechanism of Antarcturus and a redescriotion of A. spinacoronatus Schultz,
   1978 (Crustacea: Isopoda: Valvifera)
   By J. W. Wägele. [Plates 1–5] ........................................ 429

No. 1181 16 September 1987
Environmental effects of North Sea oil and gas developments
   A Discussion organized by J. I. G. Cadogen, F.R.S., R. B. Clark and
   J. P. Hartley, and edited by J. P. Hartley and R. B. Clark ........................................ 459
Although ‘acid rain’ has recently become a major environmental issue, the ways in which deposited sulphur and nitrogen compounds affect plant and animal life are far from understood. It is clear that much of the deposition is associated with a small proportion of rainfall events. Damage to vegetation may arise from the direct action of gases such as sulphur dioxide and from deposition of aerosol particles as well as from both sulphuric and nitric acids in rain itself. The deposited sulphur and nitrogen compounds may be carried through the solids to rivers and lakes and in this process may liberate substances such as aluminium which can affect both trees and fish.

At a Discussion Meeting at the Royal Society in September 1983 experts from the United Kingdom, Scandinavia, North America, Germany and Switzerland reviewed our current knowledge of these important topics. Their papers, which are presented here together with discussion comments, provide a comprehensive account of the pathways that airborne sulphur and nitrogen compounds follow in the natural environment and how they and natural acidification processes may affect plants, trees and fish. The volume is a useful source of information, not only for biologists but for all who are concerned about the possible effects of ‘acid rain’ but who do not have the resources to examine the extensive and often confusing scientific literature on the topic.

‘Acid rain’ is popularly thought of as a well established and rather simple phenomenon, with direct effects on plant and animal life. But as research proceeds, the complexities of the system become increasingly evident. Many of the effects attributed to acid rain may well prove to involve other factors. This volume illustrates the kind of analysis we cannot avoid if we seek a proper scientific understanding of one of today’s most prominent environmental concerns.

319 pages  2 plates  clothbound  ISBN 0 85403 229 0


Price including packing and postage
£46.15 (U.K. addresses) £48.50 (overseas addresses)

Publications Sales Department, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG
TECHNOLOGY IN THE 1990s:
UTILIZATION OF
LIGNOCELLULOSIC WASTES

Many of the lignocellulosic wastes of today can be
tomorrow's valuable resources, if the appropriate
scientific and technological work is done now. This
was the main theme of a Royal Society Discussion
Meeting held in April 1986. The contributions col­
lected here demonstrate the very interdisciplinary
nature of this topic. The starting point was the nature
and amounts of the materials that are available. This
was followed by extensive discussion of how mi­
crobiological, biochemical and molecular-genetic
approaches are illuminating the nature of biological
degradation of the carbohydrate and lignin compo­
nents of lignocellulose. Equal emphasis was then
placed on the processes, the products and environ­
mental benefits that could be foreseen. It emerges
strongly that biological, physical and chemical
technologies will be used in different combinations
to deal effectively with the specific problems pre­
sented by the various materials available in different
parts of the World.

Edited by:
B.S. Hartley, F.R.S.,
P.M.A. Broda and P.J. Senior

164 pages 1 plate clothbound ISBN 0 85403 313 0


Price including packing and postage
£30.00 (U.K. addresses) £32.00 (Overseas addresses)

Publications Sales Department, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG

Printed in Great Britain
for the Royal Society by the University Press, Cambridge