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Journal of Ecology

Edited by **J.A. Lee, J. White and J. Etherington**

The Journal of Ecology is one of the world's oldest and most respected publications in the science. The objects of the journal are: (1) to foster and promote the study of vegetation and ecology, especially in the British Isles; (2) to afford an outlet for original work on these subjects; (3) as far as possible to present a record of the commentary on the progress of these studies throughout the world. The journal includes the series Biological Flora of the British Isles, which appear in most issues of the journal but are also available as separate offprints on standing order.

Journal of Animal Ecology

Edited by **L.R. Taylor and J.M. Elliott**

This leading international journal publishes papers on original research in all branches of animal ecology. A balance is sought between aquatic and terrestrial environments, between invertebrates and vertebrates, and between theoretical, experimental and analytical approaches to soundly-based field data. Occasional purely descriptive, theoretical or review papers may be published at the discretion of the editors on animals or concepts of special interest or as part of an extensive development of a subject or as an adjunct to a long-term project.

Journal of Applied Ecology

Edited by **W.C. Block, J. Miles and N.R. Webb**

The journal publishes the results of original research in which ecological ideas and methods are applied to the study, conservation, management, control, development and use of natural resources in the widest sense. The editors select for publication only material of the highest scientific standards and this policy has attracted contributions by the world's leading authorities.

Functional Ecology

Edited by **P. Calow and J. Grace**

Functional Ecology publishes short, original papers in a wide range of ecological topics, but particularly emphasizing the fields of physiological, biophysical and evolutionary ecology. Papers may describe experimental, observational or theoretical studies on terrestrial, freshwater or marine systems. The Editors are especially keen to publish papers that blend between these subject areas. Work that is purely descriptive and/or concerned exclusively and specifically with the population dynamics of organisms will not be accepted unless it sheds light on those specific areas mentioned above.

Subscription Information

The **Journal of Ecology** is published quarterly, the **Journal of Animal Ecology** and **Journal of Applied Ecology** are published three times a year and **Functional Ecology** is published bimonthly. The subscription rates for 1989 are, for each one: £92.00 (UK), £110.00 (overseas), US\$189.00 (USA & Canada) post free. Subscriptions and free specimen copies are available from:

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NEW TITLES IN MARINE SCIENCE FROM
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HARCOURT BRACE JOVANOVICH, PUBLISHERS

**Handbook of
Marine Mammals** Volume 4
**River Dolphins and the
Larger Toothed Whales**

edited by

Sam H. Ridgway, *Naval Ocean Systems Center,
San Diego, California*

Richard Harrison, *University of Cambridge, England*

£49.50, ISBN: 0-12-588504-0, 464pp, April 1989

This series is an authoritative guide to the biology of marine mammals in their natural environment. Perfect for use in the field as a practical guide to identification, these books provide an abundance of factual information and reference photographs.

Fish Vaccination

edited by

A.E. Ellis, *Marine Laboratory, DAFS, Aberdeen, England*

£19.95, ISBN: 0-12-237485-1, 272pp, 1988

Fish disease is a major economic threat to the aquaculture industry. One key to combating this problem is the successful development and utilization of vaccines. This book provides clear and concise essential information on:

- ◆ the theory of vaccination
- ◆ the commercial production, legal restrictions and marketing of vaccines
- ◆ the practical use of vaccines on fish farms—limitations and attendant problems
- ◆ Vaccination strategies for the most common and commercially important bacterial, viral, and parasitic diseases of fish.

A glossary of terms is included as an appendix to the book.

Fish immunologists and pathologists, fish farmers, students and teachers of aquaculture, and veterinarians will find this text an indispensable guide.

Advances in Marine Biology
Volume 25

edited by

J.H.S. Blaxter, *Dunstaffnage Marine Research Laboratory,
Scotland*

A.J. Southward, *The Laboratory, Plymouth, England*

£35.00, ISBN: 0-12-026125-1, 288pp, June 1989

All prices subject to change without notice

Volume 25 of this authoritative review series continues the high standard set by the editors in the past. Marine biologists everywhere have come to value and enjoy the wide variety of thought-provoking papers written by invited experts.

CONTENTS: *K.M. Bailey and E.D. Houde*, Predation on Eggs and Larvae of Fish. *S.V. Boletsky*, Early Life History of Cephalopods. *J. Theodorides*, Parasites of Zooplankton. *A.C. Brown, J.M.E. Stenton-Dozey, and E.R. Truman*, Sandy Beach Bivalves and Gastropods.

Fish Nutrition (2/E)

John E. Halver, *University of Washington, Seattle*

£91.00, ISBN: 0-12-319651-5, 798pp, March 1989

The second edition of this comprehensive treatise gives a 15-year update on the nutrients required by fish and describes the roles and functions of these nutrients in fish physiology and metabolism. This volume is a fundamental source book and reference work and features:

- ◆ all elements of fish nutrition
- ◆ nutrient requirements of various fish species
- ◆ nutrient roles in metabolism
- ◆ digestive physiology of fish
- ◆ intermediary metabolism in fish
- ◆ diet formulations and preparations.

The contributors review knowledge as developed within the last 15 years; extend the principles of fish nutrition to more species, and particularly to ones that are the targets for aquaculture or preservation because they are endangered or threatened; and discuss theories about the role of vitamins and other nutrients, including nutrient balance in fish physiology, development, and reproduction.

This volume will be an indispensable sourcebook to anyone interested in the topic of fish nutrition.

Fish Pathology (2/E)

R.J. Roberts, *Institute of Aquaculture, University of Stirling,
Scotland*

£75.00, ISBN: 0-7020-1314-5, 448pp, April 1989

The only major constraint in the successful economic development of intensive fish farming is disease. This book addresses the problem in detail—covering a wide range of species from around the world, with over 400 illustrations. The second edition contains more information on the virology, histopathology and immunology of fish as well as new, definitive descriptions of previously unknown diseases. It has been written by one of the leading authorities in the field.

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**1989 CENTENNIAL MEETING OF THE
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THE CRUSTACEAN SOCIETY,
INTERNATIONAL ASSOCIATION OF ASTACOLOGY,
AND SOCIETY OF SYSTEMATIC ZOOLOGY**

Marriott Copley Place • Westin Copley Place • Copley Plaza Hotel
Boston, Massachusetts — December 27-30

Abstract Deadline: August 4, 1989 Call for Papers: April, 1989 for Oral and Poster Presentations.
Note that posters are particularly encouraged, and the ASZ Division of History and Philosophy of Biology
welcomes posters as a second paper.

Schedule for December 27, 28 and 29: Plenary Lectures • Oral Papers • Poster Presentations

Schedule for December 30: Society/Divisional Symposia and Workshops plus Elephant and the
Blind Zoologists Program

PLENARY LECTURES DECEMBER 27, 28 AND 29:

Wednesday, December 27

EMERGING SYSTEMS: COMPONENTS OF ORGANISMS INCLUDING IONS, MOLECULES, GENES AND CELLS
(Keith Porter, Joseph Bonaventura, Gary W. Litman, and Lynn Margulis)

Thursday, December 28

ORGANISMS AS INTEGRATED SYSTEMS: CELLS, ORGANS, TISSUES
(Hugh Huxley, Howard A. Bern, Berta Scharrer and Marvalee H. Wake)

Friday, December 29

ORGANISMAL SYSTEMS: ANIMALS AND BEHAVIOR
(George O. Mackie, Masakazu Konishi, Stephen J. Gould and E.O. Wilson)

Art, Book and Instrument Exhibits at the
Westin Hotel and Harvard University.

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Tools and Technologies

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Impersonation of Charles Darwin by Richard Eakin

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closing banquet honoring international guests,
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Meeting Hosted by Harvard University
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Karel F. Liem and Kenneth P. Sebens
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For more information, contact:
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Cover: The photograph on the outside of the cover was taken by David Nicholson at Pedney Beach, Cornwall.

Inside front cover: Scanning electron micrographs of coccolithophorids (photographs by Derek Harbour).

Upper: *Rhabdosphaera claviger* Murray and Blackman (9 μm diameter).

Lower: *Discosphaera tubifera* (Murray and Blackman) Ostenfeld (8 μm).

Inside back cover: Scanning electron micrographs of coccolithophorids (photographs by Derek Harbour).

Upper: *Helicosphaera carteri* (Wallich) Kamptner (15 μm).

Lower: *Umbilicosphaera hulburtiana* Gaarder (9 μm).

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CAMBRIDGE UNIVERSITY PRESS

THE PITT BUILDING, TRUMPINGTON STREET, CAMBRIDGE CB2 1RP

32 EAST 57TH STREET, NEW YORK, NY 10022, USA

10 STAMFORD ROAD, OAKLEIGH, MELBOURNE 3166, AUSTRALIA

Printed in Great Britain by the University Press, Cambridge



JMBA

JOURNAL OF THE MARINE BIOLOGICAL ASSOCIATION
OF THE UNITED KINGDOM
VOLUME 69:3 AUGUST 1989

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