

Antarctic Science

Published on behalf of Antarctic Science Ltd, Cambridge

Editors

Laurie Padman, Earth & Space Research, Corvallis, USA
Walker O. Smith, Virginia Institute of Marine Sciences, USA
Alan P. M. Vaughan, British Antarctic Survey, Cambridge, UK
David W. H. Walton, British Antarctic Survey, Cambridge, UK

Antarctic Science provides a truly international forum for the broad spread of studies that increasingly characterize scientific research in the Antarctic. The journal attracts papers from all countries currently undertaking Antarctic research. Whilst emphasising interdisciplinary work, the journal publishes papers from environmental management to biodiversity, from volcanoes to icebergs, and from oceanography to the upper atmosphere. No other journal covers such a wide range of Antarctic scientific studies.

Price information

is available at: <http://journals.cambridge.org/ans>

Free email alerts

Keep up-to-date with new material – sign up at
<http://journals.cambridge.org/ans-alerts>

For free online content visit:
<http://journals.cambridge.org/ans>

ANTARCTIC
science



VOLUME 25 NO 8 DECEMBER 2013 ISSN 0964 102X
CAMBRIDGE UNIVERSITY PRESS

- NICE PREDATION ON ALBATROSS CHICKS
- MEASURING SEAL MASS BY PHOTOGRAMMETRY
- EUKARYOTIC PROTOISTS IN ANTHONY'S SEA
- UV CLIMATOLOGY AT ESCUDERO STATION
- BOSS SEA LATE QUATERNARY CLIMATE
- SALINITY OF SNOW-LOADED SEA ICE

Antarctic Science

is available online at:
<http://journals.cambridge.org/ans>

To subscribe contact
Customer Services

in Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
Email journals@cambridge.org

in New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
Email
subscriptions_newyork@cambridge.org



CAMBRIDGE
UNIVERSITY PRESS

Environmental Conservation

International Journal of Interdisciplinary Environmental Science

Published for the Foundation for Environmental Conservation

Editor

Nicholas V. C. Polunin, University of Newcastle, UK

Environmental Conservation is one of the longest-standing, most highly-cited of the interdisciplinary environmental science journals. It includes research papers, reports, comments, subject reviews, and book reviews addressing environmental policy, practice, and natural and social science of environmental concern at the global level, informed by rigorous local level case studies. The journal's scope is very broad, including issues in human institutions, ecosystem change, resource utilisation, terrestrial biomes, aquatic systems, and coastal and land use management. *Environmental Conservation* is essential reading for all environmentalists, managers, consultants, agency workers and scientists wishing to keep abreast of current developments in environmental science. Selected papers are made freely available online as part of **EC Perspectives**.

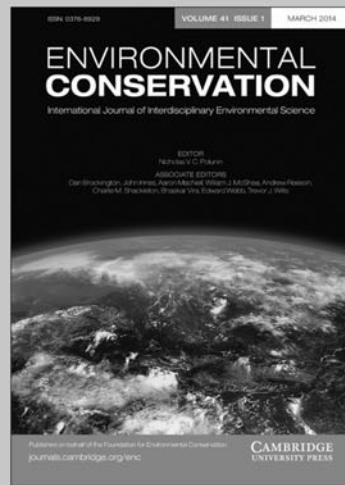
Price information

is available at: <http://journals.cambridge.org/enc>

Free email alerts

Keep up-to-date with new material – sign up at
<http://journals.cambridge.org/enc-alerts>

For free online content visit:
<http://journals.cambridge.org/enc>



Environmental Conservation
is available online at:
<http://journals.cambridge.org/enc>

To subscribe contact
Customer Services

in Cambridge:
Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
Email journals@cambridge.org

in New York:
Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
Email
subscriptions_newyork@cambridge.org

The Lichenologist

Published on behalf of The British Lichen Society

Senior Editor

Peter D. Crittenden, University of Nottingham, UK

The Lichenologist is the premier scientific journal devoted exclusively to the study of lichens worldwide. As the leading forum for the dissemination of new concepts and topical reviews, *The Lichenologist* reaches more scientists concerned with the study of lichens and lichen symbionts than any other single journal. All aspects of lichenology are considered including systematics and phylogenetics; molecular biology; ultrastructure, anatomy and morphology; secondary chemistry, effects of pollutants and use as bioindicators; biogeography.

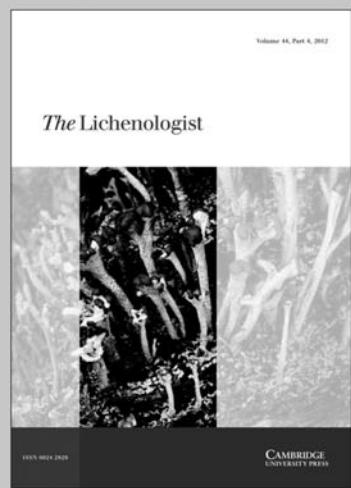
Price information

is available at: <http://journals.cambridge.org/lic>

Free email alerts

Keep up-to-date with new material – sign up at
<http://journals.cambridge.org/lic-alerts>

For free online content visit:
<http://journals.cambridge.org/lic>



The Lichenologist

is available online at:
<http://journals.cambridge.org/lic>

To subscribe contact
Customer Services

in Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
Email journals@cambridge.org

in New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
Email
subscriptions_newyork@cambridge.org

THE MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM

TERMS OF MEMBERSHIP FOR 2015

MBA MEMBERSHIP (prices per annum)	Price from 1st March 2015
Young Marine Biologist (YMB)	£12.50
Student Member	£25.00
Associate Member	£40.00 (direct debit discount £5)
Professional Member, Mem.MBA	£45.00 (direct debit discount £5)
MBA Fellow, FMBA	£120.00 (direct debit discount £5)
Institutional Member	£340.00

JOURNAL SUBSCRIPTION

(MBA price added to the above membership fees, with the exception of YMB as no Journal option for this category)

Online Journal	£20.00
Print Journal	£60.00
Print & Online Journal	£80.00

The Association is a learned society founded in 1884 and incorporated by Royal Charter in 2013. The Marine Biological Association (MBA) provides a unified, clear, independent voice on behalf of the marine biological community. In 1888, the MBA opened the Plymouth laboratory at Citadel Hill.

The MBA is also a registered charity with its key aims being to promote scientific research into all aspects of life in the sea, including the environment on which it depends, and to disseminate to the public the knowledge gained. The Patron of the Association is His Royal Highness the Duke of Edinburgh, who is also an Honorary Fellow. The other Honorary Fellows are His Serene Highness Prince Albert of Monaco, Dr Sylvia Earle, Sir Tim Hunt and Professor James Lovelock.

The work of the Association is controlled by the Council elected annually by its subscribing members.

The Marine Biological Association, under the direction of its Council, has undertaken research in all branches of marine science and many of the results have been published in this Journal. An account of the history of the first hundred years of the Association and Journal may be found in Volume 67 (pp. 463 and 465).

Since its foundation the Association has been supported by grants from Research Councils and by subscriptions and donations from private members, universities, learned societies, the Fishmongers' Company and other public bodies.

The Plymouth Laboratory was opened in June 1888 and, since that date, considerable additions have been made to the buildings,

including a library, resource centre, extensive laboratory accommodation and seawater facilities.

The Association and the research programme are based entirely at the Citadel Hill Laboratory. The building is shared with SAHFOS (Sir Alister Hardy Foundation for Ocean Science).

The Marine Biological Association retains the lease of the building on Citadel Hill and continues as a very active scientific learned society with a large international membership. The MBA manages a research programme carried out by research fellows together with scientific visitors, publishes and International Journal, Annual Report, Newsletters and organizes scientific meetings.

Subscriptions can be paid by cash/cheque, direct debit from a UK bank account or credit card. *Subscriptions are reduced by £5 per annum if paying by direct debit.

Members of the Association have a wide range of rights and privileges including the use of post-nominals (FMBA for MBA Fellows, Mem.MBA for Professional Members) and being entitled to receive the Marine Biologist Magazine. The Commissioners of Inland Revenue have approved the Association for the purposes of Section 16, Finance Act, 1958, and that the whole of the annual subscriptions paid by a member who qualifies for relief under the section will be allowable as a deduction from his emoluments assessable to income tax.

All correspondence should be addressed to: The Membership Secretary, Marine Biological Association, The Laboratory, Citadel Hill, Plymouth, PL1 2PB, UK (Tel. +44 (0) 1752 633207; Fax. +44 (0) 1752 633102; e-mail: membership@mba.ac.uk).

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, CB2 1RP, United Kingdom

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

Printed by Bell and Bain Limited, Glasgow

CAMBRIDGE UNIVERSITY PRESS

Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge CB2 8BS, United Kingdom
32 Avenue of the Americas, New York, NY 10013-2473, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
C/ Orense, 4, planta 13, 28020, Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

CONTENTS

SPECIAL SECTION: EUROPEAN MARINE BIOLOGY SYMPOSIUM PAPERS 2014

Sukhotin, A., Frost, M. & Hummel, H. Introduction to the Proceedings of the 49th European Marine Biology Symposium	1517
Hummel, H., Frost, M., Juanes, J.A., Kochmann, J., Castellanos Perez Bolde, C.F., Aneiros, F., Vandebosch, F., Franco, J.N., Echavarri, B., Guinda, X., Puente, A., Fernández, C., Galván, C., Merino, M., Ramos, E., Fernández, P., Pitacco, V., Alberte, M., Wojcik, D., Grabowska, M., Jahnke, M., Crocetta, F., Carugati, L., Scorrano, S., Fraschetti, S., García, P.P., Sanabria Fernández, J.A., Poromov, A., Iurchenko, A., Isachenko, A., Chava, A., Pavloudi, C., Bordeyne, F., Andersen, S.F., Eronat, E.G.T., Cakmak, T., Louizidou, P., Rico, J., Ruci, S., Corta Diego, D., Mendez, S., Rousou, M., de Clippele, L., Eriksson, A., van Zanten, W., Diamant, A. & de Matos, V.K.F. A comparison of the degree of implementation of marine biodiversity indicators by European countries in relation to the Marine Strategy Framework Directive (MSFD)	1519
Antsulevich, A.E. Biogeographic and faunistic division of the Eurasian Polar Ocean based on distributions of Hydrozoa (Cnidaria)	1533
Trabucco, B., Grossi, L., Marusso, V., Bacci, T., Bertasi, F., Ceracchi, S., Lomiri, S., Vani, D. & Virno Lamberti, C. Macrozoobenthic assemblages around a marine terminal for re-gassifying liquefied natural gas (LNG) in the north Adriatic Sea (Italy)	1541
Russo, R., Valente, S., Colangelo, G. & Belmonte, G. Meiofauna distribution on hard substrata in a submarine cave	1555
Šolić, M., Krstulović, N., Šantić, D., Šestanović, S., Ordulj, M., Bojančić, N. & Kušpilić, G. Structure of microbial communities in phosphorus-limited estuaries along the eastern Adriatic coast	1565
Krasnova, E.D., Kharcheva, A.V., Milyutina, I.A., Voronov, D.A. & Patsaeva, S.V. Study of microbial communities in redox zone of meromictic lakes isolated from the White Sea using spectral and molecular methods	1579
Özer, A. & Güneydağ, S. Seasonality and host-parasite interrelationship of <i>Mytilus galloprovincialis</i> parasites in Turkish Black Sea coasts	1591
Aristov, D., Varfolomeeva, M. & Puzachenko, G. All's good in a famine? <i>Hydrobia ulvae</i> as a secondary prey for juveniles of Iceland moonsnails <i>Amauroopsis islandica</i> at the White Sea sandflats	1601
Mekhova, E.S., Dgebuadze, P.Y., Mikheev, V.N. & Britayev, T.A. Colonization of depopulated crinoids by symbionts: who comes from the bottom and who from the water column?	1607
Nazarova, S.A., Shunkina, K. & Genelt-Yanovskiy, E.A. Abundance distribution patterns of intertidal bivalves <i>Macoma balthica</i> and <i>Cerastoderma edule</i> at the Murman coast tidal flats (the Barents Sea)	1613
Lezin, P. & Flyachinskaya, L. Shell sculpture formation in bivalves of the genus <i>Hiatella</i> under different temperature conditions	1621
Fokina, N.N., Ruokolainen, T.R., Bakhmet, I.N. & Nemova, N.N. Lipid composition in response to temperature changes in blue mussels <i>Mytilus edulis</i> L. from the White Sea	1629
Demchuk, A., Ivanov, M., Ivanova, T., Polyakova, N., Mas-Martí, E. & Lajus, D. Feeding patterns in seagrass beds of three-spined stickleback <i>Gasterosteus aculeatus</i> juveniles at different growth stages	1635
JMBA PAPERS	
Cabral, A.C., Nogueira Júnior, M., Nagata, R.M. & Brandini, F.P. Are free-floating planktonic hydroids (Cnidaria, Hydrozoa) common components of the pelagic fauna from the South Brazilian Bight?	1645
Bahia, J., Padula, V., Correia, M.D. & Sovierzoski, H.H. First records of the order Polycladida (Platyhelminthes, Rhabditophora) from reef ecosystems of Alagoas State, north-eastern Brazil, with the description of <i>Thysanozoon alagoensis</i> sp. nov.	1653
Koçak, C. & Moreira, J. A new <i>Nebalia</i> species (Crustacea, Phyllocarida, Leptostraca) from the eastern Mediterranean Sea	1667
Romanov, E.V., Potier, M., Anderson, R.C., Quod, J.P., Ménard, F., Sattar, S.A. & Hogarth, P. Stranding and mortality of pelagic crustaceans in the western Indian Ocean	1677
Arab, A., Kazanjian, G. & Bariche, M. Biological traits suggest a niche overlap between two grapsid crabs sharing the rocky intertidal of the eastern Mediterranean	1685
Rattanachot, E. & Prathep, A. Species-specific effects of seagrass on belowground biomass, redox potential and <i>Pillucina vietnamica</i> (Lutinidae)	1693
Saber, S., Ortiz de Urbina, J., Gómez-Vives, M.J. & Macías, D. Some aspects of the reproductive biology of albacore <i>Thunnus alalunga</i> from the western Mediterranean Sea	1705
Lee, P.B. & Nijman, V. Trade in dugong parts in Southern Bali	1717
