

Journal of the Marine Biological Association of the United Kingdom

Published for the Marine Biological Association of the United Kingdom

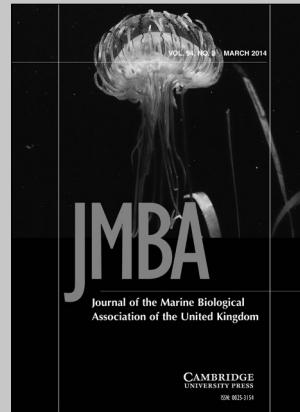
Executive Editor

Dr. P. R. Dando, The Marine Biological Association of the UK, Plymouth, UK

Editor-in-Chief

Michale Thorndyke, Royal Swedish Academy of Sciences, Sweden

JMBA is an international journal, publishing original research on all aspects of marine biology. It includes pioneering work on major issues concerning marine organisms and their environment. Subjects covered include: ecological surveys and population studies of marine communities; physiology and experimental biology; taxonomy, morphology and life history of marine animals and plants; and chemical and physical oceanographic work.



Journal of the Marine Biological Association of the United Kingdom is available online at:
<http://journals.cambridge.org/mbi>

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

Price information

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

Free email alerts

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

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



CAMBRIDGE
UNIVERSITY PRESS

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.

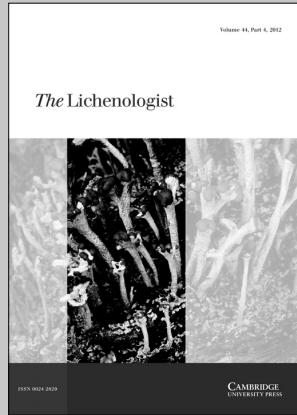
Price information

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

Journal of Helminthology

Editor

John Lewis, Royal Holloway, University of London, UK

Journal of Helminthology publishes original papers and review articles on all aspects of pure and applied helminthology, particularly those helminth parasites of environmental health, medical or veterinary importance. Research papers on helminths in wildlife hosts, including plant and insect parasites, are also published along with taxonomic papers contributing to the systematics of a group. The journal will be of interest to academics and researchers involved in the fields of human and veterinary parasitology, public health, microbiology, ecology, epidemiology and biochemistry.

Price information

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

Free email alerts

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

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



Journal of Helminthology
is available online at:
<http://journals.cambridge.org/jhl>

**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 Journal of Agricultural Science

Senior Editor (Animal papers)

Julian Wiseman, *University of Nottingham, UK*

Senior Editor (Crops & Soils papers)

Paul Bilsborrow, *Newcastle University, UK*

The Journal of Agricultural Science publishes papers concerned with the advance of agriculture and the use of land resources throughout the world. It publishes original scientific work related to strategic and applied studies in all aspects of agricultural science, including: crop and animal physiology, modelling of crop and animal systems, the scientific underpinning of agronomy and husbandry, engineering solutions, decision support systems, land use, environmental impacts of agriculture and forestry, impacts of climate change, rural biodiversity, experimental design and statistical analysis, the application of new analytical and study methods (including molecular studies). The journal also publishes book reviews and letters.

Submit your research online

<http://mc.manuscriptcentral.com/jagrisci>

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



The Journal of Agricultural Science is available online at:
<http://journals.cambridge.org/ags>

**To subscribe contact
Customer Services****Americas:**

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

subscriptions_newyork@cambridge.org

Rest of world:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email journals@cambridge.org

Free email alerts

Keep up-to-date with new material – sign up at

journals.cambridge.org/ags-alerts



CAMBRIDGE
UNIVERSITY PRESS

Edinburgh Journal of Botany is an international journal of plant systematics. Contributions relating to plant systematics and allied subjects, including biodiversity, conservation science and phytogeography, will be considered. Papers reporting the results of research that link traditional and modern techniques are especially welcomed. **Manuscripts should be sent in electronic form** to ejb@rbge.org.uk. All manuscripts will be subject to multiple peer review before publication. Submitted manuscripts should not have been accepted for publication or be under consideration elsewhere. The language of the journal is UK English. Authors whose mother tongue is not English should have their papers checked by a fluent or proficient English speaker before submission.

There are no page charges. A PDF offprint will be supplied free of charge to the corresponding author. Paper offprints may be purchased through the publisher. Colour plates may be included in the online version free of charge; the cost of including colour plates in the printed version will be charged to the author. Halftone plates are free of charge both online and in print.

Text pages should be numbered serially, with the title and abstract on the first. Genus and species names should be italicised and should be followed by the authority when first used in the main text or in diagnoses. SI (metric) units must be used other than in specimen citations where appropriate. Authors are advised not to return loan material of new taxa until papers have been reviewed. Refer to volume 63 onwards to see how nomenclatural details, typification and specimens seen should be formatted.

The title page should include the title, the name(s) and address(es) of the author(s), the abstract, a short running title and a few important keywords. Titles do not normally include authors of scientific names. Correspondence will be addressed to the first author unless otherwise indicated. The abstract should be concise and informative, indicating what the paper contains without summarising it.

Author abbreviations should precisely follow: *The International Plant Names Index*, <http://www.ipni.org/index.html>; *Index Fungorum, Authors of Fungal Names*, <http://www.indexfungorum.org/authorsoffungalnames.htm>.

Herbarium abbreviations should follow: *Index Herbariorum. Part I: The Herbaria of the World*, <http://sweetgum.nybg.org/ih/>.

Journal abbreviations should follow: *BPH Online*, http://fmhibd.library.cmu.edu/fmi/iwp/cgi?-db=BPH_Online2014&-loadframes.

Book title abbreviations should follow: *Taxonomic Literature*, <http://www.sil.si.edu/digitalcollections/tl-2/index.cfm> except that all abbreviated words should be capitalised, e.g. Sp. Pl. not Sp. pl.

References in the text should be cited by author and publication date: (Smith, 2014) or 'as stated by Smith (2014)'. Multiple references should be arranged chronologically. For three or more authors use *et al.* In the reference list, references should be in alphabetical order and should appear in the following style:

KNOFF, P., SCHULZ, C., LITTLE, D. P., STÜTZEL, T. & STEVENSON, D. W. (2012). Relationships within Podocarpaceae based on DNA sequence, anatomical, morphological, and biogeographical data. *Cladistics* 28: 271–299.

NOLTIE, H. J. (2013). *The Botanical Collections of Colonel and Mrs Walker: Ceylon, 1830–1838*. Edinburgh: Royal Botanic Garden Edinburgh.

ZHANG, Y. X. & LI, D. Z. (2013). History of and recent advances in plant taxonomy. In: HONG, D. Y. & BLACKMORE, S. (eds) *Plants of China: A Companion to the Flora of China*, pp. 256–278. Beijing: Science Press.

Tables should be numbered in arabic numerals and carry a descriptive title. Figures, whether line drawings or photographs, should be numbered consecutively in arabic numerals and referred to in the text thus: (Fig. 1), (Figs 2, 3), (Figs 1–4). Line drawings should be scanned in black and white at 600 dpi and photographs at 300 dpi (but correspond with the editor if this should prove problematic) and sent electronically with the manuscript. Please use LZW compression for tif files, remove excess space and elements from around the image, and crop or scale the image to the journal page size (12.5 × 19.5 cm to include caption). A measured scale mark should be included on each illustration to indicate magnification.

First View: Articles may be made available online before the issue in which they appear is published, though this is not possible in the case of nomenclatural acts, such as new species descriptions and lectotypifications. Cambridge University Press normally publishes the electronic version of the journal simultaneously with the paper edition in order to avoid problems of priority in nomenclature. Authors whose work contains no nomenclatural acts, and who wish their article to be published electronically before it is published on paper, may inform the editor.

Open Access: Cambridge Open Option allows authors the option to make their articles freely available to everyone, immediately on publication. For further information see the online Instructions for Contributors at <http://journals.cambridge.org/ejb>.

© Trustees of the Royal Botanic Garden Edinburgh

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

VOLUME 73, NO. 2 (2016)

CONTENTS

Patterns of Cactaceae species distribution in a protected area in the semiarid <i>Cuatinga</i> biome of north-eastern Brazil S. RIBEIRO-SILVA, M. B. MEDEIROS, V. V. F. LIMA, M. R. PEIXOTO & L. Y. S. AONA	157
A monographic revision of <i>Retrophyllum</i> (Podocarpaceae) R. R. MILL	171

Book review

<i>Spot-characters for the Identification of Malesian Seed Plants: a Guide</i> , by M. M. J. VAN BALGOOY, Y. W. LOW & K. M. WONG	263
---	-----

The cover illustration, drawn by Mary Mendum, is of the diminutive alpine plant *Sibbaldia procumbens*, named in honour of one of the Royal Botanic Garden Edinburgh's founders Robert Sibbald. This plant is used, in a stylised form, as the Garden's official logo.

Date of publication of *Edinburgh Journal of Botany* 73(1) (pages 1–156): 25 February 2016

Cambridge Journals Online

For further information about this journal please
go to the journal website at:
http://www.journals.cambridge.org_EJB



CAMBRIDGE
UNIVERSITY PRESS