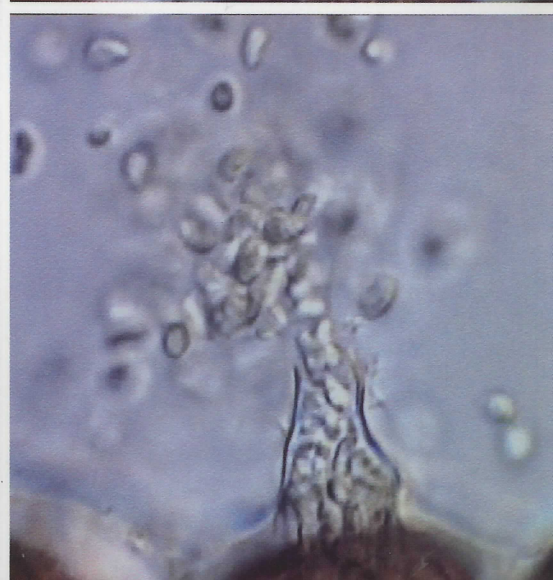
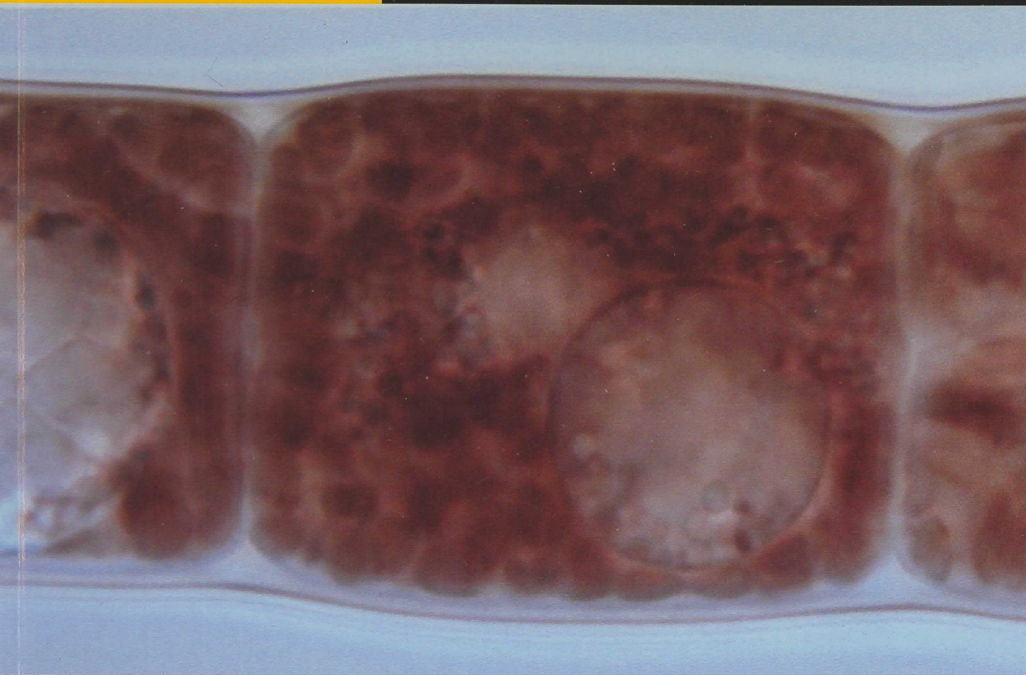


Phycological Research

Volume 54 • Issue 1 • March 2006

ISSN 1322-0829



**Blackwell
Publishing**

**The Japanese
Society of
Phycology**

Phycological Research

EDITOR-IN-CHIEF

Kazuo Okuda

Graduate School of Kuroshio Science, Kochi University, Kochi, Japan

ASSOCIATE EDITORS

Antonio Flores-Moya
Faculty of Science
University of Málaga
Spain

Daisuke Fujita
Department of Marine
Biosciences
Tokyo University of
Marine Science and
Technology
Japan

Gert Hansen
Botanical Institute
University of
Copenhagen
Denmark

Ken-ichiro Ishida
Graduate School of
Natural Science &
Technology
Kanazawa University
Japan

Ulf Karsten
Institute of Aquatic
Ecology - Applied
Ecology - University of
Rostock
Germany

Christos Katsaros
Faculty of Biology
University of Athens
Greece

Jeong Ha Kim
Department of Biological
Sciences
Sungkyunkwan
University
Korea

Gwang Hoon Kim
Department of Biology
Kongju National
University
Korea

Kazuhiro Kogame
Graduate School of
Science
Hokkaido University
Japan

John W. La Claire II
Section of Molecular Cell
and Developmental
Biology
University of Texas at
Austin USA

Ichiro Mine
Graduate School of
Kuroshio Science,
Kochi University
Japan

Taizo Motomura
Field Science Center for
Northern Biosphere
Hokkaido University
Japan

Orlando Necchi Jr
Zoology and Botany
Department
São Paulo State
University
Brazil

Hisayoshi Nozaki
Graduate School of
Science
University of Tokyo
Japan

John West
School of Botany
University of Melbourne
Australia

Giuseppe C. Zuccarello
School of Biological
Sciences
Victoria University of
Wellington
New Zealand

EDITORIAL ADVISORY BOARD

Yuji Fujita Nagasaki, Japan

Terumitsu Hori Tsukuba, Japan

Takeo Horiguchi Hokkaido, Japan

Ichiro Imai Kyoto, Japan

Hironao Kataoka Sendai, Japan

Hiroshi Kawai Kobe, Japan

Dieter G. Müller Konstanz, Germany

Masao Ohno Kochi, Japan

Megumi Okazaki Tokyo, Japan

Robert Sheath Guelph, Canada

Makoto M. Watanabe Tsukuba, Japan

Yasutsugu Yokohama Shizuoka, Japan

Isao Inouye Tsukuba, Japan

This journal is available online at Blackwell synergy. Visit <http://www.blackwell-synergy.com> to search the articles and register for table of contents email alerts.

Access to this journal is available free online within institutions in the developing world through the AGORA initiative with the FAO. For information, visit <http://www.aginternetwork.org>.

AIMS AND SCOPE *Phycological Research* is published by the Japanese Society of Phycology and complements the *Japanese Journal of Phycology*. The Journal publishes international, peer-reviewed research dealing with all aspects of phycology to facilitate the international exchange of results. All articles are peer-reviewed by at least two researchers expert in the field of the submitted paper. *Phycological Research* has been credited by the International Association for Plant Taxonomy for the purpose of registration of new non-vascular plant names (including fossils). For further information see <http://bgbm3.bgbm.fu-berlin.de/iapt/registration/journals/htm>.

ABSTRACTING AND INDEXING SERVICES The journal is indexed by BIOSIS Database, Cambridge Scientific Abstracts, Chemical Abstracts Service, Ecological Abstracts, EMBASE/Excerpta Medica, GEOBASE, ProQuest (previously University Microfilms), Science Citation Index (ISI), Zoological Record and National Inquiry Services Centre.

THE JAPANESE SOCIETY OF PHYCOLOGY We invite anyone who is interested in any aspect of phycology to become a member of the Society. As a member you will receive *Phycological Research* and the *Japanese Journal of Phycology* free of charge. The annual membership fee for individuals ¥8000. (Members who reside outside Japan will receive only the English language journal *Phycological Research* and the annual membership fee is ¥7000 (standard), ¥5000 student.).

Those who wish to join the Society should send the application form (at the back of each issue of the Journal), together with payment, to the Membership Secretary, Dr Mitsunobu Kamiya, at the address given on the form. Members who wish to claim for missing or damaged issues should contact the Membership Secretary.

ADDRESS FOR EDITORIAL CORRESPONDENCE Kazuo Okuda, Graduate School of Kuroshio Science, Kochi University, 2-5-1 Akebono-cho, Kochi 780-8520, Japan (email okuda@cc.kochi-u.ac.jp).

DISCLAIMER The Publisher, Society and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher, Society and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher, Society and Editors of the products advertised.

© 2006 Japanese Society of Phycology.

Cover Developing Zoosporangia of a fungus, *Olpidiopsis* sp., inside the cells of *Bostrychia moritziana* and *Porphyra pulchella* and release of zoospores.

For submission instructions, subscription and all other information visit
<http://www.blackwellpublishing.com/pre>

ISSN 1322-0829 (Print) ISSN 1440-183 (online)

The Japanese Society of Phycology

Officers for 2005-2006

President: Hiroshi Kawai, Kobe University Research
Center for Inland Seas, Kobe 657-8501, Japan
Secretary: Takeaki Hanyuda, Kobe University
Research Center for Inland Seas, Kobe 657-8501,
Japan
Public Relations Secretary: Satoshi Shimada, Center for
Advanced Science and Technology, Hokkaido University,
Sapporo 060-0810, Japan

Membership Secretary: Mitsunobu Kamiya, Faculty of
Biotechnology, Fukui Prefectural University, Obama
917-0003, Japan
Secretary for International Affairs: Ken-ichiro Ishida,
Faculty of Science, Kanazawa University, Kanazawa
920-1192, Japan
Treasurer: Daisuke Honda, Faculty of Science and
Engineering, Konan University, Kobe 658-8501, Japan.

Members of Executive Council 2005-2006

Tetsuro Ajisaka *Kyoto University*
Daisuke Fujita *Tokyo University of Marine Science and
Technology*
Yoshiaki Hara *Yamagata University*
Takeo Horiguchi *Hokkaido University*
Masahiko Idei *Bunkyo University*
Ichiro Imai *Kyoto University*
Isao Inouye *University of Tsukuba*
Ken-ichiro Ishida *Kanazawa University*

Tadahiko Kajiwara *Yamaguchi University*
Shigeo Kawaguchi *Kyushu University*
Akira Kurashima *Mie University*
Miyuki Maegawa *Mie University*
Tamotsu Nagumo *The Nippon Dental University*
Tadahide Noro *Kagoshima University*
Kazuo Okuda *Kochi University*
Naotsune Saga *Hokkaido University*
Makoto Yoshizaki *Toho University*

JOIN THE JAPANESE SOCIETY OF PHYCOLOGY AND RECEIVE FOUR ISSUES OF PHYCOLOGICAL RESEARCH PER YEAR FREE OF CHARGE

The Japanese Society of Phycology, founded in 1952, currently has 760 members (including 105 overseas members).
The Society is open to anyone who is interested in pure or applied aspects of phycology.

Application for membership

(Please type or write in block letters) Membership starts from 2005

Name in full: _____,
(Family name) (Given name and initials)

Mailing address: _____

(Postal code) (Country)

Telephone: _____ Fax: _____

E-mail: _____ Interests: _____

Signature: _____ Date: _____

The annual fee for individual members is ¥8000

**(¥7000 for members who reside outside Japan, ¥5000 for students who submit a verifying
statement signed by their Chairperson or Head of Department)**

Payment by: ☐ Visa ☐ MasterCard ☐ American Express

Card number: _____ - _____ - _____ - _____ Expiry date: _____

Signature: _____

☐ International giro postal transfer (Postal Account No.: 01320-4-48748)

☐ International postal money order

Send application form to: Dr Mitsunobu Kamiya
Faculty of Biotechnology
Fukui Prefectural University
1-1 Gakuen-cho,
Obama 917-0003, Japan
Fax: +81 770 52 6003; email: jsphycol@anet.ne.jp

Phycological Research

Volume 54 • Issue 1 • March 2006

John A. West, Giuseppe C. Zuccarello, Max Hommersand, Ulf Karsten and Solvig Görs <i>Observations on Bostrychia radicata comb. nov. (Rhodomelaceae, Rhodophyta)</i>	1
Sarah M. Wilson, Jeremy D. Pickett-Heaps and John A. West <i>Vesicle transport and the cytoskeleton in the unicellular red alga Glaucosphaera vacuolata</i>	15
Leonard James Dyck and Robert E. De Wreede <i>Seasonal and spatial patterns of population density in the marine macroalga Mazzaella splendens (Gigartinales, Rhodophyta)</i>	21
Myung-Sook Kim and Isabella A. Abbott <i>Taxonomic notes on Hawaiian Polysiphonia, with transfer to Neosiphonia (Rhodomelaceae, Rhodophyta)</i>	32
Sandra C. Lindstrom, Louis A. Hanic and Larry Golden <i>Studies of the green alga Percursaria dawsonii (=Blidingia dawsonii comb. nov., Kornmanniaceae, Ulvales) in British Columbia</i>	40
Makoto Mizuno <i>Evolution of meiotic patterns of oogenesis and spermatogenesis in centric diatoms</i>	57
Yusuke Kato, Kazuhiro Kogame, Chikako Nagasato and Taizo Motomura <i>Inheritance of mitochondrial and chloroplast genomes in the isogamous brown alga Scytosiphon lomentaria (Phaeophyceae)</i>	65
John A. West, Tatyana A. Klochkova, Gwang Hoon Kim and Susan Loiseaux-de Goër <i>Olpidiopsis sp., an oomycete from Madagascar that infects Bostrychia and other red algae: Host species susceptibility</i>	72
Corrigendum	86