

Phycological Research

Volume 61 • Issue 4 • October 2013

Monica O. Paiano and Orlando Necchi Jr <i>Phylogeography of the freshwater red alga Sirodotia (Batrachospermales, Rhodophyta) in Brazil</i>	249
Haifeng Gu, Zhaohe Luo, Ni Zeng, Binbin Lan and Dongzhao Lan <i>First record of Pentapharsodinium (Peridinales, Dinophyceae) in the China Sea, with description of Pentapharsodinium dalei var. aciculiferum</i>	256
Haruyo Yamaguchi, Takeshi Nakayama and Isao Inouye <i>Research note: Proposal of Microsquama subgen. nov. for Nephroselmis pyriformis (Carter) Ettl (Nephroselmidophyceae, Chlorophyta)</i>	268
Jaruwan Mayakun, Jeong Ha Kim, Brian E. Lapointe and Anchana Prathep <i>Effects of nutrient enrichment and herbivory on morphology, reproduction and chemical content of Turbinaria conoides (Phaeophyceae)</i>	270
Daniel Remias, Steffen Jost, Jens Boenigk, Johann Wastian and Cornelius Lütz <i>Hydrurus-related golden algae (Chrysophyceae) cause yellow snow in polar summer snowfields</i>	277
Mathias Ahii Chia, Ana Teresa Lombardi and Maria da Graça Gama Melão <i>Research note: Calorific values of Chlorella vulgaris (Trebouxiophyceae) as a function of different phosphorus concentrations</i>	286
Priscila Izabel Tremarin, Rosildo Santos Paiva, Thelma Veiga Ludwig and Lezilda Carvalho Torgan <i>Aulacoseira calypsi sp. nov. (Coscinodiscophyceae) from an Amazonian lake, northern Brazil</i>	292
Kaoru Matsumoto and Satoshi Shimada <i>Taxonomic reassessment of Chondrus verrucosus (Rhodophyta, Gigartinales), with a description of Chondrus retortus sp. nov.</i>	299
Referees	310
Author Index	311
Subject Index	312

Discover this journal online at
WILEY ONLINE LIBRARY
wileyonlinelibrary.com

Phycological Research

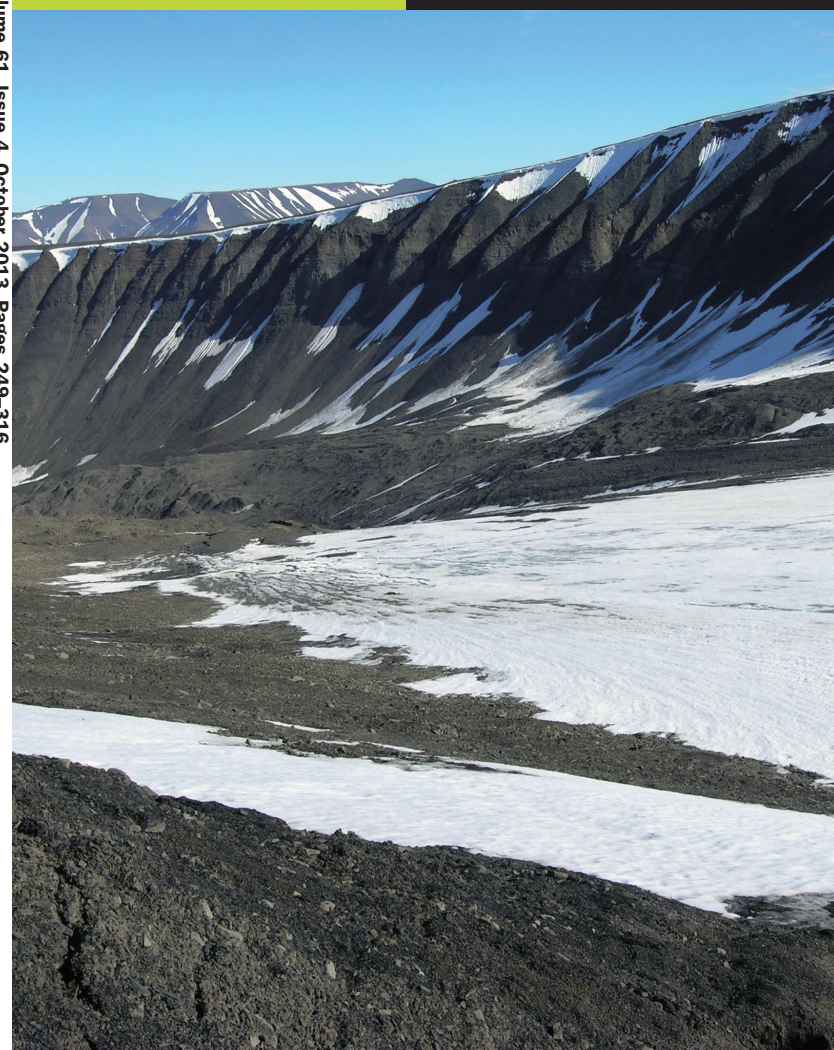
Volume 61 • Issue 4 • October 2013

ISSN 1322-0829

Phycological Research

Volume 61, Issue 4, October 2013, Pages 249-316

WILEY Blackwell



WILEY
Blackwell

The Japanese
Society of
Phycology

Phycological Research

EDITOR-IN-CHIEF

Ichiro Mine

Graduate School of Kuroshio Science, Kochi University, Japan

ASSOCIATE EDITORS

Jaanika Blomster
Dept. of Environmental
Sciences, University of
Helsinki, Finland

Daisuke Honda
Department of Biology,
Faculty of Science and
Engineering, Konan
University, Japan

Mona Hoppenrath
Senckenberg Research
Institute, German
Centre for Marine
Biodiversity Research,
Germany

Matthew L. Julius
Department of Biological
Sciences, St. Cloud
State University, USA

Mitsunobu Kamiya
Department of Marine
Bioscience, Faculty of
Biotechnology, Fukui
Prefectural University,
Japan

Ulf Karsten
Institute of Biological
Sciences, University of
Rostock, Germany

Christos Katsaros
Department of Botany,
Faculty of Biology,
University of Athens,
Greece

Masanobu Kawachi
Environmental Biology
Division, National
Institute for
Environmental Studies,
Japan

Jeong Ha Kim
Department of
Biological Sciences,
Sungkyunkwan
University, Korea

Tatyana Klochkova
Department of Biology,
Kongju National
University, Korea

Showe-Mei Lin
Institute of Marine
Biology, National
Taiwan Ocean
University, Taiwan

Hideaki Miyashita
Department of
Interdisciplinary
Environment, Graduate
School of Human and
Environmental Studies,
Kyoto University, Japan

Taizo Motomura
Field Science Center for
Northern Biosphere,
Hokkaido University,
Japan

Rei Narikawa
Graduate School of
Arts and Sciences,
University of Tokyo,
Japan

Wendy Nelson
National Centre of
Aquatic Biodiversity
and Biosecurity,
New Zealand

Hiroyuki Sekimoto
Department of Chemical
and Biological Sciences,
Faculty of Science,
Japan Women's
University, Japan

Kensuke Toyoda
Department of Biology,
Keio University, Japan

John West
School of Botany,
University of
Melbourne, Australia

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

This journal is available online at *Wiley Online Library*. Visit wileyonlinelibrary.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, and the OARE initiative with UEP. For information, visit <http://www.aginternetwork.org>, www.oarescience.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 This journal is indexed by Aquatic Sciences & Fisheries Abstracts, BIOBASE, Biological Abstracts, BIOSIS Previews, Biotechnology & Bioengineering Abstracts, Cambridge Scientific Abstracts, Chemical Abstracts Service, Current Awareness in Biological Sciences, Current Contents, Ecological Abstracts, EMBASE/Excerpta Medica, Environmental Sciences and Pollution Management, GEOBASE, Irrigation and Drainage Abstracts, Microbiology Abstracts, Oceanic Abstracts, Pollution Abstracts, ProQuest (previously University Microfilms), Referativnyi Zhurnal, Science Citation Index (ISI), Soils and Fertilizers, Weed Abstracts, Zoological Record, National Inquiry Services Centre (NISC).

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 Chikako Nagasato, 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 Ichiro Mine, Graduate School of Kuroshio Science, Kochi University, 2-5-1 Akebono-cho, Kochi, Kochi 780-8520, Japan (E-mail: mine@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.

Copyright © 2013 Japanese Society of Phycology.

Cover Arctic yellow snow caused by *Hydrurus* sp. at Spitsbergen island. *Left* General view of the lower parts of the glacier Larsbreen taken from Sarkofagen mountain. The yellow snow was harvested at its margins. *Right* Detail of the yellow snow occurring between Plataberget and Svalbard Airport causing yellow-greenish coloured slush. See Remias *et al.* in this issue for detail.

Note to NIH Grantees

Pursuant to NIH mandate, Wiley Blackwell will post the accepted version of contributions authored by NIH grant-holders to PubMed Central upon acceptance. This accepted version will be made publicly available 12 months after publication. For further information, see www.wiley.com/go/nihmandate.

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

ISSN 1322-0829 (Print) ISSN 1440-1835 (online)

PRE.JEB.Jan11

The Japanese Society of Phycology

Officers for 2013–2014

President: Jiro Tanaka *Tokyo University of Marine Science and Technology, Japan*

Secretary: Hidekazu Suzuki *Tokyo University of Marine Science and Technology, Japan*

Treasurer: Takanori Matsuoka *Nippon Dental University, Tokyo, Japan*

Membership Secretary: Satoko Sekida *Kochi University,*

Japan; Shinya Yoshikawa Fukui Prefectural University, Japan

Public Relations Secretary: Kensuke Toyoda *Keio University, Japan*

Secretary for International Affairs: Shin-ichiro Abe *National Research Institute, Fisheries Research Agency, Japan*

Members of Executive Council 2013–2014

Put O. Ang Jr. *The Chinese University of Hong Kong, China*

Taira Enomoto *Kobe University, Japan*

Daisuke Fujita *Tokyo University of Marine Science and Technology, Japan*

Masahiko Idei *Bunkyo University, Japan*

Masanobu Kawachi *National Institute for Environmental Studies, Japan*

Kazuhiro Kogame *Hokkaido University, Japan*

Kazuyoshi Kuwano *Nagasaki University, Japan*

Ichiro Mine *Kochi University, Japan*

Daisuke Muraoka *Tohoku National Fisheries Research Institute, Japan*

Tamotsu Nagumo *The Nippon Dental University, Japan*

Takeshi Nakayama *University of Tsukuba, Japan*

Wendy A. Nelson *The National Institute of Water and Atmospheric Research, New Zealand*

Tadahide Noro *Kagoshima University, Japan*

Claude E. Payri *Institut de Recherche pour le Developpement, France*

Hidetoshi Sakayama *Kobe University, Japan*

Yukihiko Serisawa *University of Yamanashi, Japan*

Yoshihiro Shiraiwa *University of Tsukuba, Japan*

Shinya Uwai *Niigata University, Japan*

Goro Yoshida *National Research Institute of Fisheries and Environment of Inland Sea, Japan*

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 685 members (including 68 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 2013

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 postal money order

Send application form to: Shinya YOSHIKAWA
Department of Marine Bioscience,
Fukui Prefectural University
1-1 Gakuencho, Obama,
Fukui, 917-0003, Japan
PHONE +81-770-52-9608
FAX +81-770-52-9608
Email: syoshika@fpu.ac.jp