

British Phycological Society Newsletter

Editorial

Summer is upon us (at least in the Northern hemisphere) and our thoughts turn to field work (even if our pet alga grows/reproduces in the winter). However, there are ever-growing problems of financing field work at any time of the year. Field study and other centres have to at least cover costs. Transport and accommodation costs are rising and even time to get away is getting more difficult. Those of you with school aged children will know the costs of field trips and the situation is not necessarily any easier at undergraduate level or later. Its not easy, even for postgraduate research students, to get funding for fieldwork and collection. For example, in a recent case of my knowledge the grant awarding authority agreed to pay half the costs. This is fine if you have the other half! Tomost phycologists field work is important and I would like to invite readers to comment and tell of their experiences of these problems.

On now to less weighty matters.

Unfortunately the last issued slipped through the net without any latin names being underlined. Fortunately there was only one (?) and even that lost a "d" (A Phycological Society Newsletter with hardly any algae mentioned!!! — a small prize to the first person to tell me what it was). This error has been remedied on both counts in this issue (I hope). However, unlike the last couple of issues there is no advertising in this one. I hope you will agree with me that the advertising we carry is useful and well presented, so, if you know any publishers or equipment manufacturers who want to target phycologists throughout the world, get them to contact me.

Sheffield for beginners

A report on the BPS winter meeting, January 1989

Being part of the large Dundee contingent present at the BPS Winter meeting was probably a slight advantage over fellow newcomers to the conference scene. Nevertheless, apprehension inevitably grew throughout the festive season as to what lay ahead of us. However, within a few hours of arrival at Sheffield most pre-conference tension was dismissed. The relaxed atmosphere at the poster session, coupled with the approachability and willingness of the more senior delegates to communkcate with us lesser beings was a welcome relief and a trend which continued throughout the two days.

We found the presentations themselves, on the whole, well considered and informative, both intheir content and as examples for our own 'baptisms' next year. The diversity of subject matter was well planned and we found that we were able to follow either of the two broad

themes of physiology or ecology, particularly as the succinct nature of the talks generally kept minds alert. At the same time, mid-sessional changes of heart were mostly feasible due to good time keeping.

Sheffield '89 was a pleasant surprise, although we're sure that if asked to comment similarly next year, the experience of actually presenting our own respective works will colour our views substantially. Perhaps next Christmas anxiety will be better founded.

Simon Avery and Judith Taylor
Research Students
Department of Biological Science
University of Dundee

(I'm sure all of us who have presented work at the BPS meetings can remember having our festive season spoilt with apprehension (or preparation) — its a good stimulus to get everything ready in November! — ed.)

Help! Divers! Diatoms!

Help wanted to collect Sublittoral Microalgal Communities

A team of British diatomists are shortly to embark on the preparation of a section of the Marine Algal Flora devoted to benthic diatoms. The first phase will take several years and will involve widespread collection around the coasts of the British Isles. Obviously we can handle intertidal collection ourselves but beneath the waves we could do with some help. There are communities of diatoms on subtidal sediments (sands and muds) that are almost completely unstudied as yet; some species probably belong here rather than in the inshore plankton where they are often observed and into which they are washed in small numbers. We are not intending to look at the plankton but would like to have samples of the sand and mud communities, and of any growths on submerged seaweeds or rocks. Anyone kind enough to collect for us can send material to either Dr. Richard Crawford or Dr. David Mann at the addresses below.

Stipes of seaweeds and stones may be scraped upon return to the surface and smaller seaweeds with obvious growths of diatoms may be bottled entire. Diatoms live in the top 0.5 – 1 cm of muds and to greater depths in translucent quartzitic sands. To sample these subtidal sand and mud communities it is probably best to scoop the top 1 cm of sediment into a

tube, bottle or polythene bag underwater and seal the container before transport to the surface. This prevents cells from being washed out of the sediment. A match-box sized sample will normally be adequate. However, if it is possible or you to transport material to Bristol or Edinburgh within 1-2 days of collection, please collect a larger volume – enough to cover the bottom of a sandwich box to a depth of 1 cm; this would allow harvesting of the live cells by us in the laboratory.

If you cannot send or deliver material to us within a couple of days of collection, it could be fixed in formalin or even air dried (but don't lose the diatoms!). The cell walls will survive almost anything except treatment with alkalis, but formalin fixation may enable us to look at the structure of the cells themselves.

Please record date, location (6-figure grid reference) and depth of the sample, together with any special habitat features, e.g. shading by seaweeds, freshwater inputs nearby.

Dr. Richard Crawford
Department of Botany
University of Bristol
Woodland Road
Bristol
BS8 1UG

Dr David Mann
Department of Botany
University of Edinburgh
The King's Buildings
Mayfield Road
Edinburgh, EH14 7HU

Forthcoming Events

Plant-Animal Interactions in the Marine Benthos

18-21 September 1990, University of Liverpool

The aim of this international meeting is to provide a forum for botanists (principally phycologists) and zoologists to review the present state of our knowledge on marine plant-animal interactions and to focus on areas where further research is needed. Invited papers will review such dynamic processes between plants and animals on a world wide basis. There will also be sessions of contributed papers devoted to the presentation of original research and a poster session. A workshop will be held and a post symposium field excursion to the Isle of Man may be arranged in response to demand. The invited papers will be published in the Systematics Association Special Volume series (Oxford University Press) and contributed

papers will, after peer review, probably appear in the Journal of the Marine Biological Association of the United Kingdom.

The symposium is sponsored by the Systematics Association, the British Phycological Society, the Marine Biological Association (UK) and other societies.

The organisers of the Symposium are D.M. John and J.H. Price of the Department of Botany, British Museum (Natural History), London, and S.J. Hawkins and G.A. Williams, Port Erin Marine Laboratory, Isle of Man.

For further information and for submission of topics for posters and/or papers, contact: David John and Jim Price, Marine Plant-Animal Interaction Symposium, Department of Botany, British Museum (Natural History), Cromwell Road, London SW7 5BD, tel. 01-938 8781 or 8815.

5th Annual Symposium on Biotechnology

14-15 December 1989

The regulation of growth and Development – the elucidation of Signal Pathways.

A symposium with over 20 international speakers.

Registration fee £50 (hopefully reduced for students)

Organisers: Professor Mike Waterfield, Dr Jeremy Brockes and Dr Peter Parker, Ludwig Institute of Cancer Research, London (Middlesex) Branch.

Details from: Mrs B Cavilla, c/o Institute of Biology, 20 Queensberry Place, London SW7 2DZ, UK.

Winter Meeting — Bangor

BPS WINTER MEETING BANGOR
SPECIAL TOPIC SESSION

Biotechnological applications of algae and cyanobacteria

CALL FOR PAPERS

SPECIAL TOPIC SESSION

Anyone wishing to contribute a paper for this special session at the winter meeting in Bangor in January 1990 should write to:

Dr N Kirby
Department of Biological Sciences
University of Dundee
DD1 4HN
Scotland

Officers Come and Go

Absent Without Leave

It struck me that this year something was different, something was missing. In fact, someone was missing. Gerald Boalch was no longer a member of Council.

Gerald has been a member of the society since its inception in the 1950's. Subsequently, from 1960 onwards he served four stints as an ordinary member of Council, an eight year period as editor of the journal, followed immediately by tours of duty as Vice President, President and Past President.

In total, Gerald served on Council for twenty-six years of the last twenty-nine. In addition, from 1973 to 1988 he was convenor of the Algal Conservation Committee.

Even with time off for good behaviour, it represents a heavy sentence and an unequalled record of service to the society. May I say thank you Gerald on behalf of all those who served with you and benefitted from your wisdom and commonsense.

It won't be quite the same without you.

T. A. NORTON

They Also Served

All the new(ish) officers of the society realise the debt they owe to their predecessors:

Apart from Gerald Boalch these include George Russell, former editor of this newsletter was instrumental in shaping it into the form you see it now.

Matt Dring was secretary to the Society for five years and, apart from everything else, made significant changes to the winter meeting including an "update lecture", special sessions, the poster evening at the beginning of each meeting and parallel sessions to accommodate increasing numbers of oral presentations.

Maureen Callow, who has done so much to maintain an accurate record of the membership and, more especially, those who have and haven't paid?

Dick Crawford who has guided the Journal through five volumes including a change in style, an improvement in quality of plate reproduction and a seemingly endless conveyor belt of sub-editors at Academic Press.

These, and all other past officers of the Society have, with little praise, and on top of all their other commitments, helped to build your society. We have good reason to thank them all.

There have been several changes to the officers of the society in recent years. The names inside the front cover of the journal. Now's your chance to contribute a sketch together with a photograph. Few photographs were forthcoming. Some were committed to prison and caused me to hastily abandon the idea. Others were along to a meeting or use your imagination (try the seven dwarfs).

Rob Reed — Secretary

Born in N.E. England and educated in Washington DC (the original one — Durham County) he ventured as far south as Liverpool to collect a couple of degrees and then north (by osmosis) to Dundee and St. Andrews. After a bit of oscillation the Royal Society made him an offer he couldn't refuse and he settled for Dundee where, having completed his fellowship, he is now a lecturer in Biological Sciences. His research rapidly descended the evolutionary scale while remaining very salty. In ten years he has moved from the salinity responses of macroalgae, through blue-greens to bacterial! However, at home he breeds hamsters (well, he's only got one — someone ought to tell him they are not like bacteria . . .), claims to jog and has a certificate to say he's an advanced motorist.

Lynne Terry — Membership Secretary

A thankless task, as the last thing we remember to do when we move is to tell anyone, but one which Lynne has taken on from her Scottish Eyrie.

With a background including Hatfield Polytechnic and Newcastle-upon-Tyne her research interest in photoperiodic responses in algae was broadened with postdoctoral work on fouling algae and a teaching diploma before she was lured to Aberdeen by the oil money! There she has been involved in fouling assessment of offshore structures, ecological base line surveys and oil spill contingency planning. She is now busy as a consultant and becoming an accountant (as well as keeping track of all our addresses and subscriptions?)

Roger Jones — Editor, BPJ

What kind of fool would agree to edit a scientific journal? Roger claims to be a case (study).

Graduating in Biology (he doesn't say when) from the University of East Anglia he was obviously well saturated with small lakes and plankton. However, he tore himself away to immerse himself in a much bigger one, Loch Neagh (and Irish Whiskey) and gain a D.Phil. A Royal Society fellowship allowed him a superabundance of lakes (187,888 to chose from) in Finland, and after spending a short time at Bangor (doesn't everyone!) he ended up as Lecturer in Ecology at Loughborough. Obviously not close enough to any lakes he has just moved to Lancaster (just across the bay from Windermere). He attributes his interest in phytoplankton migrations to this itinerant life style.

Periods of study abroad produced requests from overseas colleagues to "correct the English of my paper" and to comment on the presentation. Unfortunately, the poor chap actually believed that concern with the manuscripts of others would lead to an improvement in his own. Having thus shown some slight interest, he was immediately pounced upon and plied with Irish Whiskey until he agreed to take on the editorship of our journal, thus sleaving him no time to do anything else whatsoever. To answer the question at the beginning, Roger has paraphrased an old adage into "those who might but don't but teach and administrate must be editors" (though I think he sells himself short).

He now works 200% of his time, which is OK because too much Irish Whiskey makes you see double!

BIGGER THAN WATERGATE! BIGGER

NEXT ISSUE — THE PRESIDENT

recruits

cent months and you may have wondered what lies behind those
ch all the gossip. I asked each for a (hopefully amusing) biographical
oming and those that were made the subjects look drunk or newly
So, to know what they look like you will either have to come
s!).

John Green — Treasurer

(as old as the hills and been in post since they were still printing ten shilling notes but we include him for completeness!).
Based in the idyllic setting of the Plymouth Marine Laboratory (well, idyllic when you walk out onto the Hoe), John has been involved
with studies on the fine structure and cell biology of microalgae since way before there was any thought of the laboratory being
anything other than the Marine Biological Association. Any convictions previous to this he is keeping well hidden. He agreed to take
on the society Treasury in a moment of weakness after a particularly satisfying BPS Dinner since when his observations have taken
a more sociological turn; for example, he has found a definite inverse relationship between the seniority of BPS members and
their ability to pay the correct subscription at the right time. As for the finances, apart from the troubled look he gets whenever
anyone wants to spend money he hasn't yet run off to S. America with the proceeds so we are sure he is doing a good job. (He
also seems to take a long time to cash my cheques which keeps my bank manager happy — ed). However, he tells me that it will
not be too long before he feels it is time to hang up his calculator, so if he offers you a drink in Bangor next winter, be on your
guard — it may be your turn next!

Bob Fletcher — Chairman, Committee for Marine Algal Flora

A graduate of Hull, Bangor and the Polytechnic of North London, Bob eventually settled on Portsmouth (sensible man) and is a
contract research fellow at Portsmouth Polytechnic. His main research interest is the taxonomy and systematics of brown algae,
in particular the crustose species. He is currently involved in writing the brown algal volume for the series "Seaweeds of the British
Isles" (Part 1 of which is now out — see separate item). His other main research interest is marine fouling algae, in particular the
mechanisms of spore and rhizoid attachment. He is also a mine of information on the marine fouling/algal research/conservation
scene in Europe (and on Greek wines!).

Robert Edyvean — Editor, Newsletter

(whose strange sense of humour and fierce patriotism for Cornwall, where he wasn't born and never seems to find time to visit
nowadays, you all know and groan at!)
Noted for his appalling (sic) spelling and ability to mist the most trivial% typographical error he was the natural choice of editor.
Those of you that follow the back page of this publication (that's where all the sport is) will have noticed that he has changed address
recently (What was he doing in a Metallurgy department anyway!). Even so, what is the editor of a Phycological Society Newsletter
doing as a lecturer in a Chemical Engineering department? Well, in the dim and distant past he did gain a degree in Marine Biology
from UCNW Bangor and has published on phycological topics (crustose coralline population dynamics!) but having a yen for the
megabucks of industry (!) has drifted (with the help of Portsmouth Polytechnic, the University of Newcastle upon Tyne and the
Royal Society) into fouling and corrosion, wee bugs and biotechnology. Chemical engineering is a nice all-embracing subject and
the powers that be at Leeds couldn't find it in their hearts to turn him away.

Conference Reports

International Coral Reef Symposium

"Halimeda, its Significance in the Reef System" was one of the mini-symposia held at the Sixth International Coral Reef Symposium at James Cook University, Townsville, Australia, August 8-12, 1988. It was the only session of the series devoted to algae. Invited organisers, L. Hillis-Colinvaux (Ohio State University, USA) and G.R. Orme (University of Queensland, Australia) planned the session to address different aspects of the roles and interactions of Halimeda in coral reefs. Some of the papers will be published in the Proceedings of the Sixth International Coral Reef Symposium.

For the Caribbean, Liddell, Ohlhorst and Boss reported extensive, though non-continuous, cover of living Halimeda over the bathymetric range of 1-75m, with significant sediment cover to 300m (north central shore of Jamaica). Multer presented a series of well-defined electron micrographs which, coupled with field observations in Antigua, provided data on the role of Halimeda as a major sediment stabilizer in addition to its more established activity as a producer of sands and muds.

For Pacific work sites, Paul and van Alstyne discussed the effectiveness of diterpenoid metabolites produced by Halimeda in deterring grazing by herbivorous fish in the reefs of Guam. Hillis-Colinvaux reported on Halimeda meadows in the lagoon of Enewetok Atoll in which rhizophyte species, especially *H. incrustata* contributed ca. 95% of the biomass. Also noteworthy was the extensive contribution of some meadow holdfast systems. In meadows of *H. cylindracea*, over 40% of the dry organic matter was contributed by holdfast. Meadows such as those of the Marshall Islands and Australia, the latter with

species of section *Opuntia* predominating, may represent today's model of Holocene Halimeda banks.

Halimeda build-ups during the Holocene garnered their share of excitement not only with reports of the continued work of Phipps and Roberts in Javanese waters, but also with the first information about Halimeda bioherms in the southern Great Barrier Reef (the Swain Reefs complex) by Searle and Flood, and of extensive build-ups in the southwest Caribbean Sea by Hine and his co-workers.

The last paper of the mini-symposium, that of Hillis-Colinvaux and Orme provided an overview of trends in biological and geological research on Halimeda during the 20th century, along with factors which have directed progress to a basic global scheme of taxonomy, and baseline information about growth, carbon and carbonate production. No longer should we ask whether this cryptic calcareous green alga is important in reefs but, rather, how much of the physical and biological systems of reefs are based on Halimeda, and to what extent does the present day contribution of Halimeda assist us in interpreting its past significance.

Pre- and post-congress field trips to Halimeda meadows and banks of the northern Great Barrier Reef, led by E. Drew and P.J. Davies (who also chaired the organizing committee of the entire symposium), provided marvellous opportunities for direct experience of the extensive carbonate contribution of Halimeda to reef systems.

Llewellyn Hillis-Colinvaux
(Originally published in the Phycological Newsletter of the Phycological Society of America, March 1989).

1st International Coralline Workshop

First International Coralline Workshop, La Trobe University, 20-22 August 1988

After attending the Third International Phycological Congress at Monash University, fourteen of us made our way to the other side of Melbourne to take part in the very first International coralline workshop, organised by Bill Woelkerling, Deborah Penrose, Stuart Campbell and Yvonne Chamberlain at La Trobe University. The participants were half coralline specialists and half people with a more general interest in red algae, a mix that proved most valuable in discussing the problems besetting coralline algal study.

The first session, convened by Bill Woelkerling and Yvonne Chamberlain, looked at the structure of the coralline thallus in relation to other red algae and considered the terminology in use for aspects of this structure. It was agreed that two fundamentally different thallus types occur, with a single and

a multistratose basal layer of filaments respectively. It has recently been suggested (Woelkerling, Wm.J. The coralline red algae, 1988) that these thallus types should be termed dimerous and monomerous respectively and the meeting fell into the use of these terms quite easily. There also seemed to be a consensus that the terms 'hypothallium' and 'perithallium' should be abandoned, but no general agreement was arrived at as regards their replacement.

The next session, on species concepts, was led by Deborah Penrose who discussed the difficult legacy of Foslie's publications. She felt that coralline taxonomists had not sufficiently allowed for variation, and finally wondered whether a species was subjective? The discussion was lively and examples from other groups, with culture data and other

advanced techniques, suggested that species concepts needed to be rather wide in many taxa. We are far from the comprehensive information available in other groups at the moment — but working on it! The most useful activity at present seems to be to give good, well illustrated descriptions of corallines, and to examine type specimens when relevant.

On Sunday David Garbary introduced us to the world of Cladistics which, he said, is the best way of doing systematics if you are interested in relationships between organisms. David gave a most interesting and informative presentation, describing first the differences between evolutionary, phenetic, and cladistic taxonomy. In cladistics the important characters to consider are shared derived characters. In the afternoon he let us loose on the "Maclade" programme where we proceeded to achieve some, to say the least, original, groupings!

Stuart Campbell convened a session on Coralline Microtechnique. He described methods of selecting, staining, embedding and sectioning coralline thalli, the stunning results of which are there for all to see in the output of the La Trobe

group. He and Deborah Penrose then tactfully guided us as we had a go for ourselves, and generally proved that it isn't as easy as it looks.

Finally Dan Bosence talked about his work on fossil algae. By showing us actual slides and discussing the structures to be seen he opened up a world unfamiliar to most of us. He explained that two of the aspects of most interest are the taxonomic relationship between fossil and recent coralline species, and the assessment of palaeological populations by means of comparison with current ones.

All in all it was a most valuable and successful meeting, made all the more so by Woelkerling family hospitality for many of us. Our thanks go to the La Trobe staff for all the work they did in preparing the meeting, and to the University authorities for allowing the use of university facilities. We also thank the discussion leaders who presented well-thought-out and valuable sessions which took much time and trouble to prepare.

Yvonne Chamberlain, Marine Laboratory, Portsmouth Polytechnic, Hayling Island, PO11 0DG.

New Publications

PROCHLORON — A MICROBIAL ENIGMA

Edited by Ralph A. Lewin and Lanna Cheng
Chapman and Hall, New York. 19089 196pp \$53.00

(Apart from writing the part in "Bergey" Ralph Lewin has written/edited this one as well!)

Prochloron and its associations with tropical didemnid ascidians have attracted much attention from biologists in the decade since the organism was discovered by Ralph Lewin in the Gulf

of California. He and Lanna Cheng have now put together the first book on the subject. Eight leading algal biologists have contributed specialised chapters summarizing virtually everything that is now known about Prochloron — how to collect and preserve it, its fine structure and various biochemical features, its physiological characteristics, and its biological relationships to its specific environment.

32 full colour plates!!!

Australian Algae

"Seaweeds of Australia" is a collection of 186 colour plates by Bruce Fuher together with an introductory section on the nature of seaweeds, their occurrence, classification, collection and preservation. Each plate is accompanied by a description of the plant, its botanical name and aids to identification, habitat etc. The text is edited by I.G. Christianson, M.N. Clayton and B.M. Allender. The book costs A\$10.00 (A\$8.00 if 5 or more ordered + p&p \$1.50 each seairmail or addition for airmail). Bank drafts in Australian dollars please or alternatively, an official institute order form. Orders and enquiries to:

Ms A.L. Carle
Laboratory Manager
Departments of Botany and Zoology
Monash University
Wellington Road
Clayton
Victoria
Australia 3168

Your editor has a few (two sets and an off part 2 to be precise) copies of "The Marine Benthic Flora of Southern Australia" by H.B.S. Wormersley. Part 1, dealing with the Chlorophyta was published in 1984 and part two, the Phaeophyta, in 1987. They were brought/sent back to the UK by Joanna Jones and others from the 3rd International Phycological Congress last year. Many sets were sold at the BPS meeting in Sheffield and these last few are available for £28 the set (£10 part 1 and £18 part 2 — at least I think that's what I was selling them for!) Anyone interested should contact the editor (who is quite happy to keep them on his shelf where they look nice and occasionally teach him something).

Bergey's "OPB"

Cyanobacteria and Prochlorales to be published in Bergey's manual of systematic bacteriology

I have received notification that the new edition of volume 3 of "Bergey's" will include a section on "Oxygenic Photosynthetic Bacteria". This section is to be printed as an A4 soft cover publication and will set at about £10 (a bargain or 100 pages and well illustrated).

However, to go ahead the publishers require pre-publication sales guarantees of 1000 copies. The British Phycological Society has provisionally ordered 25 copies to sell to its members. Would you let me know NOW if you want a copy so that I can pass on the good news if we can sell more than 25.

The editor

Seaweeds of the British Isles

The following volumes and part volumes of Seaweeds of the British Isles (A collaborative project of the British Phycological Society and the British Museum (Natural History)) are now available:

Volume 1. Rhodophyta

Part 1. Introduction, Nemaliales, Gigartinales, by P.S. Dixon and L.M. Irvine, 1977. Price £13. ISBN 0-565-00781-5

Volume 3. Fucophyceae (Phaeophyceae).

Part 1 by R.L. Fletcher, 1987. Price £30.00. ISBN 0-565-00992-3

Volume 4. Tribophyceae (Xanthophyceae). by T. Christensen, 1987. Price £7.50. ISBN 0-565-00980-X

NEW TITLE

Volume 2 Chlorophyta, by E.M. Burrows, 1989. Price to be announced. ISBN 0-565-01114-6

Volumes 3(i) and 4 are available at a reduced price of £32.00 to members of the British Phycological Society.

Backcopies

The following backcopies of the British Phycological Journal require a home:

Volume 16, parts 1-4 1981

Volume 16, parts 2 & 3 1981

Volume 17 part 1 1982

Anyone interested should contact:

Dr. R. Crawford
Botany Department
Woodland Road
Bristol
BS8 1UG

Where (and who) are you?

If you have moved, changed the title of your department, had your efforts recognised and are now FRS, Professor, Dr etc., please let the membership secretary know. So look at the envelope this came in and, if you want any changes, drop Lynne a note:

Dr L. A. Terry
52 Bruce Crescent
Ellon
Aberdeenshire
AB4 9BW

Editorial address

R.G.J. Edyvean, Department of Chemical Engineering, The University of Leeds, Leeds, LS2 9JT.

N.B. COPY FOR INCLUSION IN NEXT ISSUE MUST REACH THE EDITOR BY NOVEMBER 1ST 1989

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