

# The Phycologist

The Newsletter of the British Phycological Society.

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**BPS Home Page.** John Berges has relocated the BPS Home Page to Queens University, Belfast. The new address is: <http://web.qub.ac.uk/bb/jbpage/bpshome/bps.htm>

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**Freshwater Algae Course Kindrogan Field Centre.** Tutors: Dr. E. Cox and Dr. E. Shubert

With 16 microscopes in our luggage two intrepid PhD students from Lancaster University set off for the Scottish Highlands, not knowing what was waiting in store for them. At Pitlochry we left all civilisation behind and drove for another 9 miles to the Field Centre in the "middle of nowhere". Only a little track led to the impressive house in a wonderful setting on the river Ardle. After our first dinner together at the centre, which was a positive surprise (culinary-wise), we had our first lesson: getting to know, not the algae, but the other members of the group. Soon we all got to know Eileen and Elliot and over time we became friends with the other participants, from all corners of the world. Meeting so many people, all interested in algae, some of them keen experts in certain fields and always happy to help, was a great experience. It was also possible for the total beginner to work at their own speed and get familiar with the most common algae by the end of the week.

The days consisted of informal lectures, accompanied by fantastic slides, introducing us to the different algal families. The rest of the time was spent identifying algae from different samples, which luckily consisted of more than "little green balls". However, there was also time to introduce the group to our own research projects and obtain feedback from "the experts".

After a general introduction about microscopes and keys, we could not wait for our first field trip to the nearby Kindrogan pond. Unfortunately the clouds moved more quickly than us and for the remainder of the course we always remembered to take our waterproofs. Of course, as invariably with field work, we never needed them again. We collected algal samples from sediment, stones, aquatic plants and plankton. Fantastically we identified over 100 algal species from this one sampling trip. The help of our ever patient, always (even at 9:30 p.m.) helpful and very knowledgeable tutors was therefore indispensable. They motivated us so well that they often had trouble removing us from the microscopes. The variety of species would always make us want to find just one more.

The next day we investigated samples from the river Ardle and found over 50 different species again. An unexpected surprise were the big, tree-like structures of *Didymosphaenia* and a little *Gomphonema* species growing on the stalks of the *Didymosphaenia*, that well may be a new species.

After three days at the Kindrogan campus, we were all looking forward to our great sampling trip to the Lochs west of Pitlochry. We sampled different substrates at Loch Tummel, River Tummel, Loch Rannoch and a few smaller, but very diverse Lochs. Our last port of call was to sample the water at the smallest Scottish Distillery. Of course both kinds were sampled, distilled and non-distilled! However we were so dedicated to the cause that even after this visit we found ourselves glued to the microscopes as soon as we arrived back at base. The black-board was not big enough to write all our findings down. Luckily Joan had brought her laptop to keep track of everything. By the end of the week we had identified algae out of a major groups except the brown algae, and were well prepared for the "exam"....

The exam really tested our newly acquired knowledge and identification skills! It also required a good imagination. Think of "Give us a Clue" but instead of film titles - algal species! Stuart's Naked Dinoflagellate (*Gymnodinium*) will never be forgotten. We suggest if

anyone is unsure of the rules that Elliot and Eileen may be induced to demonstrate at the BPS Conference!!! It goes down well in the bar.

We would like to thank Elliot and Eileen for being such fantastic, fun tutors and all the other course participants for making it a wonderful week.

We would also like to thank the BPS for providing a stipend for us to attend the course. Since attending the course the skills that we have obtained have been invaluable and we would recommend that other students with an interest in this area take a trip to Kindrogan.

Lydia King and Anna Watson.

## **BRITISH PHYCOLOGICAL SOCIETY**

### **46 th Annual General Meeting**

Chair: The President, Prof. B. Moss  
at 16:30 on 7th January 1998, at Royal Holloway

#### AGENDA

1. Minutes of the 45th Annual General Meeting.
2. Matters arising from the Minutes.
3. Presidential report.
4. Reports from Council:
  - (a) Report of Hon. Secretary.
  - (b) Report of Hon. Treasurer; presentation of accounts for 1997.
  - (c) Report of Hon. Editor of the *European Journal of Phycology*.
  - (d) Report of Hon. Membership Secretary.
  - (e) Report of the Marine Algal Flora Committee.
  - (f) Report of the Freshwater Algal Flora Committee.
  - (g) Report of the Conservation Committee.
  - (h) Report of the Jubilee Fund Committee.
5. Election of Members of Council.
6. Re-appointment of the European Journal of Phycology (EJP) management committee. Prof. Evans (chair), Dr Brodie (Secretary), Dr Berges (Treasure of the Society) and Dr Maggs (Editor of the EJP).
7. Should the *European Journal of Phycology* be on-line?
8. Field Meetings and timing of winter meeting.
9. Election of Auditor for 1997.
10. Any other Business.

## BRITISH PHYCOLOGICAL SOCIETY

Minutes of the 45th Annual General Meeting of the Society, held at University of Sheffield, at 16.30 on Saturday 4th January 1997. The President, Prof. J. A. Raven, was in the chair, 40 members were present.

1. There were apologies for absence from Dr L. Carvalho.
2. Minutes of the 44th Annual General Meeting were approved and signed.
3. Matters arising: There were no matters arising.

#### 4. Presidential report:

The President noted that there may be problems in finding a suitable venue and timing for future meetings and asked for input about the most appropriate time for the annual meeting. Fewer had registered for this than other recent meetings, it was unclear whether this was due to the lack of industrial interest, holding the meeting over a weekend or the weather, although the latter did not seem to have prevented people arriving. Comments from the membership were welcomed. Dr Dring commented that he and Prof. Gibson wondered whether we should try a general enquiry among the membership. Would late June or early July be better? Dr J. Lewis agreed with the suggestion of a general ballot, but commented that with the increased move towards semesters the suggested timing would not be good. If a ballot was to be held, then there should be a choice between a few selected dates, e.g. present timing, around Easter, just after midsummer, and whether or not a weekend is acceptable. The alternative point of view that if the meeting is attractive enough people will attend regardless of the timing was also presented. However it was agreed that it would be appropriate to ballot the membership. It was noted that information about the meeting must be disseminated early. About one third of the registrants had used the BPS home page to obtain information although this was probably more important for non-members. It was nevertheless agreed that the society should continue to use and develop this facility. Founders' and update lectures should be advertised as far in advance as possible.

#### 5. Reports from Council:

Written reports were circulated to attendees.

##### a. Hon. Secretary.

Because the new year fell mid-week, this year's winter meeting was planned to run into a weekend, the first time the society has done so, although this possibility had been discussed in relation to reducing the cost of travel for overseas members. 26 poster titles were submitted plus 48 papers, including the presidential lecture and 2 update lectures. This is a marked drop on previous years (35 and 59 respectively in 1996), although a few late submissions increased the final number of posters. Only one of the proposed special topics produced a response, but there was an increase in the number of submissions for the Manton prize (to 8). However, submissions for the BPS student poster prize remained low. Supervisors are asked to remember to encourage their students to enter for one or other of these prizes. It was also disappointing that a number of industry contacts who had been approached to participate in the Ecotoxicology session ultimately declined involvement. As a result the first morning was re-timetabled to allow more time to view the posters before the oral papers commenced. The Update lectures, given by Wytze Stam and Jeanine Olsen represented a more extensive coverage of a topic than previously attempted in this slot, for which we were most appreciative.

To overcome the inconsistency in formatting within the abstract booklet, abstracts were

electronically scanned and the final booklet produced from disk, once the Hon. Secretary and Hon. Editor of the Newsletter had overcome some transmission difficulties. Sufficient abstract booklets were produced for those who had registered before Christmas. I would like to thank the NHM for their support during the year, and other members of Council, particularly Jim Gilmour and Andy Johnston, for their various assistance during preparation of the winter meeting programme.

Following discussion over how to ensure that papers and posters were placed where their authors wanted them, it was agreed that it would be useful to have boxes to tick on an abstract registration document. The incoming secretary commented that he would hope to be able to accept abstracts as e-mail or on disk, as well as hard copy.

b. Hon. Treasurer.

Accounts and subscription reminders were sent in the post so all members should have received copies. The change in format this year includes an account of the society's activities and differentiation between restricted and unrestricted funds. As can be noted from the balance sheet net assets are very healthy. Notes to the accounts define policies and provide a breakdown on expenditure. The increase in expenditure for students reflects that the society regards the encouragement of its younger members as an important activity. Two summer studentships of £500 were awarded in 1996 for undergraduates to do summer work. Reports on these will be published in the *Phycologist*. Applications for 1997 should be submitted to Dr Dring by the end of March.

Dr R.I. Jones commented that summer studentships were a welcome development but more publicity would be appreciated.

Dr J. Jones commented that we need to sell more copies of "Strictly Marginal".

The Hon. Treasurer reported that this year's auction raised £1099 with £27 going towards the Manton fund. The cost of pre-payments for mounting and framing needed to be offset against the auction profits but thanks were expressed to Dr Shubert for thinking about and effecting this.

The Hon. Treasurer thanked members of council, particularly Drs Cox, Lawrence, Lewis and Mr S.J.M. Droop, as well as Mr P. Morrison, the independent examiner for 3 years, for their tremendous help. Thanks were also expressed to Dr J. Berges for taking over.

The President thanked the retiring Hon. Treasurer for her service to the society.

c. Hon. Editor of the Journal.

**Publication schedule of *European Journal of Phycology*:** All issues of Vol. 31 (1996) appeared on time or early. Good manuscripts were usually published within 7-8 months, the minimum possible for this type of journal at present. This publication rate will be maintained because if there is a surplus of good papers extra journal pages will be purchased. Publication dates are now given on the volume contents page and will also appear inside the cover of each issue.

**Length of issues:** Vol. 31 comprised one issue of 112pp, clearing the backlog from 1995, and 3 issues of 96pp. At present 4 issues of 96pp seems appropriate; a larger number of pages could only be filled by reducing quality.

**Cover design:** At the Associate Editors' meeting in Cologne in August there was a consensus for change. CUP would not charge extra for an annual cover change. A different cover for each issue would be more expensive and could be problematical. For 1997 the image produced for the EJP poster will be used. It has been suggested that the recognition pattern of the cover be retained, dropping that on the back cover to allow a larger font for the contents list.

**Editorial Board:** All Associate Editors have been working very hard for the journal and

many have submitted papers of their own, or solicited excellent mss. Associate Editors have now been appointed to renewable 4-year terms and following a few changes a full Editorial Board is now in place again. Editorial Board members serve 3-year terms.

**Marketing:** CUP have been very active in marketing the journal and supported EPC1 with a stand, including an attractive poster advertising EJP.

**Impact factor:** The 1991-1993 figures for BPJ had gradually increased from 0.667 to 1.18, calculated on a 2-year basis. The final figure for 1994 (0.8) was low. The first figure for EJP was 0.6, but the 1995 figure (first real figure for new journal) was 1.000, lower than *Phycologia* at 1.179 and *Journal of Phycology* at 1.876, but not too bad for a "new" journal. The importance of review articles for impact factors is appreciated and a Miniview series is now under way.

**Editor's business:** New instructions to authors have now appeared and are available on CUP web site. The contents of each issue will also be available on the web 2 weeks before publication. Acceptance rate was 48% for the last available period. The Editor is now trying to establish the Miniview series, starting with the first issue of 1997. Two more are available for the subsequent issues and there are several offers for the next couple of years. Any submissions are welcomed.

d. Hon. Membership Secretary.

The Hon. Membership Secretary submitted a report although he was not able to attend the meeting.

Total active membership stands at 529, with another 76 paid up to 1995, i.e. 12.6% of membership carried. The only worrying trend is a drop in N. American membership: 9 were struck off and others are in arrears. There was only one new member from N. America. European recruitment has shown an increase, presumably from the European Congress, although numbers are slightly lower than in 1993, 1994 (change from BPJ to EJP) and those in arrears have increased.

Dr Shubert commented that in view of the drop in N. American members, the society advertise in *Journal of Phycology* and invite PSA to do the same in our journal. Dr Maggs suggested that those who had dropped membership be contacted individually. It was also commented that PSA has a policy that if membership is not renewed by the 1st issue of a year that issue is not sent. The President urged those present to encourage anyone who should be a member to become one.

e. Hon. Editor of Newsletter.

The Hon. Editor of the Newsletter presented a short verbal report. The 3 issues of the last year had appeared more or less on time and the Editor was quite pleased with the results. As this is the end of his 3rd year as Hon. Editor he also announced his resignation, offering thanks to all at Dundee and officers of the Society who had helped in getting the newsletter out. He also recommended that the importance of the Internet is such that a member of Council or an Officer of Council be dedicated to cover aspects of the Internet and keeping members up to date. Thanks were expressed to Andy for his efforts and for keeping to deadlines.

f. Marine Algal Flora Committee.

The written report submitted to the meeting is appended to the minutes.

In relation to the lack of progress with the diatoms Prof. Mann commented that if estimates of 5000 spp. around the coast were accepted, and that a good taxonomist could deal with one species / day there is still 20 years of work on this group.

g. Freshwater Algal Flora Committee.

Dr John reported that the committee had met twice in the last year, and had received

suggestions for re-organisation of the project. Progress had been made and a checklist of British freshwater algae will appear on the Internet. Members were encouraged to look at this and report any major mistakes. Dr Whitton had received a grant of £49,000 from the Environment Agency to produce an identification guide to blue-green algae which would go onto CD Rom.

The written report was reviewed.

A small separate steering committee is to be formed of the BPS President, Keeper of Botany at the Natural History Museum, plus representatives from the Royal Botanic Garden Edinburgh and the Environment Agency. It was also noted that a publisher needs to be selected and that it was likely the flora would appear as a series of volumes.

Dr Clokie commented that on both the freshwater and marine sides it was good to have new accounts, but that there is still much misuse of information in the outside world. Should we be prepared to shoot down reports which are inaccurate? The meeting concluded that all were aware of the problems.

Prof. Moss asked what are the main potential blocks to producing the flora, adding that limnologists need a usable flora. Dr John replied that many are over-committed and often need money to help complete the work. Some is available, but more funding is required. He admitted that time had been wasted in trying to obtain money.

Prof. Raven commented that the flora should be moved ahead with all due speed, given the need for accuracy. Dr Olsen raised the possibility of working with web sites, asking whether a definitive flora was not an evolving entity. Was it not possible to incorporate comments on certainty / uncertainty into a site? Dr John suggested that the check list would partially answer this. Dr Roger Jones commented that there may be conceptual problems with an Internet flora if accounts published on the net are not suitable for citation.

Prof. Mann added that taxonomic work is often not costed realistically and that the production of a flora costs a lot of money if it is to be achieved in a reasonable time.

#### h. Conservation Committee.

Dr John flagged a number of items from the written report.

1. Plantlife strategy document, thanking those who had contributed and noting that algal priorities had been included.
2. Red data books. Juliet Brodie was thanked for her work. A red data book is being produced for British seaweeds while other countries have produced them for freshwater algae. Many are threatened because their habitat is threatened. This approach might be adopted in the UK.
3. European marine sites. As a guide to their conservation, marine sites should be added.
4. Comments on SERCON were presented.

Dr John noted that some members of the committee were active whereas others were not. Some reorganisation will be considered in consultation with Council. If anyone was interested in helping they should contact Dr John or Dr Brodie.

The adoption of the reports was proposed by Prof. B. Moss; seconded by Dr M.J. Dring.

Thanks were expressed to all those involved in preparing reports and doing all the work that is required for the above duties.

#### 5. Election of Council for 1996.

Council nominations for the following offices were accepted:

Vice President (President-elect) - Prof. C.E. Gibson (Belfast)

Overseas Vice-President - Prof. R.G. Sheath (Canada)

Hon. Treasurer - Dr J.A. Berges (Belfast)

A change had been made in the Council nomination for Hon. Secretary. The new nomination of Dr R. Geider (Plymouth) was accepted.

As no nominations for Ordinary Members of Council had been received from the membership, Council made the following nominations, for members to serve for 3 years:

Dr J.A. Brodie (Bath);  
Dr J. Kübler (Dundee);  
Dr L.E. Shubert (NHM, London);

for 2 years:

Dr D. Thomas

The candidates were declared duly elected.

#### 6. European Phycological Congress

A report was published on the congress in the Phycologist. Dr Dring reported that a decision was made to form a European Society and that a steering committee has been set up with a representative of each major country. The Constitution is being modified and invitations to join will be circulated early in 1997. It was agreed that the next congress should take place in 1999 and thereafter adopt a 4 year cycle like other international congresses. The venue for EPC2 has been fixed as Montecatini near Florence, from 20-26th Sept. 1999. Some concern was expressed over the future of EJP in relation to the new society but Dr Dring emphasised that there is no reason why the relationship between BPS and the journal should change. It is perfectly acceptable for societies to adopt journals without any implications for ownership. The financial relationship between BPS and the journal will hold.

#### 7. Field meetings and next winter meeting.

Prof. Moss noted that the society used to run field meetings but that these have been in abeyance for a couple of years. They require a lot of organisation and few have wanted to attend. He asked whether there was interest in freshwater meeting. Views of the members should be sought on the value of the society organising such meetings. He noted that Field Study Centres are now more professionally organised, asking for deposits and advance booking. Microscopes and lab. space would also be needed. Dr Shubert commented that there will be a Freshwater algal course will be offered in late July at Kindrogan Field Centre, Scotland. Dr Brodie briefly reviewed previous meetings. It was noted that unlike societies such as the British Mycological Society, BPS does not have a large amateur group who might attend such events. Next year's winter meeting will be held in London; the final decision on location will be made before the end of January and announced in the Phycologist.

#### 8. Election of independent examiner for 1997.

Because of the transfer of Treasurership no name has yet been put forward for this, but possible nominees in N. Ireland are being considered. An appointment will be made at the summer Council meeting.

#### 9. Any other business.

There was no other business.

The meeting ended at 18.15.

**BRITISH PHYCOLOGICAL SOCIETY**  
**Winter Meeting 1998 - MONDAY 5 JANUARY 1998**

**Buffet & Poster Session : 19:00 - 21:00** (buffet starts at 19:00)

- ABEL KARL A** The effects of external osmolality on intracellular osmolality and growth rate of *Chlamydomonas reinhardtii*.
- BAPTISTA MARINES GARCIA.** *Psammoparalia elliptica*, gen. and sp. nov, a epipsammic diatom from Porto Belo Peninsula, Santa Catarina, Brazil.
- BERRY L.** Release of organic-N by phytoplankton.
- BOULCOTT M.** Patterns of carbohydrate (EPS & glucan) production in estuarine epipellic diatoms.
- CLARKSON N.** The response of diatoms to extremely low frequency electromagnetic fields.
- DÍEZ I, Secilla A** Marine benthic vegetation as ecological indicator of water quality. A case study.
- DRAKARE S.** The role of picophytoplankton in a deep humic lake in northern Sweden.
- FITZGERALD OLIVIA** Irradiance and nutrient effects on pigmentation of intertidal fucoids from the Ireland west coast.
- FRANKLIN L.A** How does *Chondrus crispus* deal with ultraviolet light?
- FYSON A.** Algae from extremely acidic environments, the flooded lignite pits (Tagebauseen) of East Germany.
- GARGIULO G.M.** A sexual stage in the life history of freshwater *Bangia atropurpurea* (Rhodophyta).
- HAN Young-Seok** Effects of light on sporulation in a green alga, *Ulva pertusa*.
- HANLON A.** The effect of sub-lethal concentrations of herbicides on in situ chlorophyll a fluorescence in salt marsh microphytobenthic communities.
- JOHN, D.M.** Towards a modern freshwater algal flora of the British Isles.
- KARLSSON IRENE** A study of *Gloeotrichia echinulata* in Lake Erken (Sweden) during the summer of 1997.
- KING L** Periphyton response to nutrient manipulation in lakes of different trophic state.
- KONG Jeong-Ae** Rhythmic phenomena in a green alga *Ulva pertusa* exposed to different light qualities.
- KUHLENKAM R.** Are natural surface radiation levels of PAR and UV-light detrimental to early germling stages of intertidal macroalgae?
- KÜSTER A** Ecophysiological characterisation of Characeae populations from lakes with a range of optical properties in Mecklenburg-Vorpommern, Germany.
- LEE Min-Soo** Comparative sensitivity of UV-irradiated germlings and adult thalli of *Ulva pertusa* to light.
- MARSHALL H.** A Comparison Between Simulations Of Photoadaptation.
- MARSHALL R.A** *Falkenbergia hillebrandii* - a source of tri- and per- chloroethylene?
- REUSS STEPHANIE** Causes of afternoon depression of photosynthesis by macroalgae measured *in situ* in large chambers.
- PARK Byeong-Jik** Effect of UV-B radiation on spore motility of *Ulva pertusa* (Chlorophyta).
- POWTONGSOOK S.** Investigation of glycerol leakage from the halotolerant green microalga *Dunaliella* spp.
- PRATT S.** Light absorption and attenuation by marine phytoplankton.
- SAMMES P.** Effect of prolonged darkness on the photosynthetic characteristics of *Skeletonema costatum*.
- TIEN C.** Cation adsorption by algal cells: analysis of copper uptake by laboratory cultures and phytoplankton samples using freundlich isotherms.
- WATSON, A.G.** Nutrient patchiness and phytoplankton competition.
- WILKINSON M.** Algal recovery over seventeen years of the tidal Billingham Beck from low pH, high metal pollution
- WOODRUFF S L** The Effect of Biofilms on Chemical Fluxes at the Sediment Water Interface.

**Winter Meeting 1998**  
**TUESDAY 6 JANUARY 1998**

**Morning Session - Tracing large-scale and long-term environmental change using algae.**

09:00 Introduction - E. Cox

09:10 Patrick Holligan - Applications of Satellite Ocean Colour Sensors.

09:50 Gill Malin: Algae and DMS: cells, blooms and climate.

**10:30 Coffee**

11:00 Arnold Taylor - Tracing a climatic connection between the Gulf Stream and plankton on the European Shelf.

11:40: Jeremy Young - Coccolithophorids and environmental change: achievements and ambitions.

**12:30 Lunch**

**14:00 Founder's Lecture** - John Dodge - Planktonic Dinoflagellates, tell-tales of the oceans.

**15:00 Coffee**

15:20 Rick Battarbee - Diatoms and long-term environmental change.

16:00 John Anderson - Diatoms in annually-laminated lake sediments: the ultimate long-time series?

16:40 Chris Haphey-Wood - Lakes in North Wales: recent, past and historical changes.

17:20 S. Maberly - 50 years of surveillance: variations in performance of *Asterionella formosa* in four basins of the Windermere catchment.

## Winter Meeting 1998 - WEDNESDAY 7 JANUARY 1998

### Session A: Light and photosynthesis.

- 09:00 Charrier - Predicted underwater light in tidal waters and its possible effects on algal pigment content.
- 09:15 Russell - Sunlight, shade and tidal night: photoadaptation in *Fucus*.
- 09:30 Osborne - Light absorption by the coccolithophorid *Emiliana huxleyi* (Lohmann) Hay & Mohler.
- 09:45 Geider - Is there only one photoacclimation strategy in marine microalgae?
- 10:00 Anning - Mechanisms of photoacclimation in *Skeletonema costatum*.
- 10:15 Hodge - Diurnal patterns in photosynthesis and feeding in mixotrophic algae.

### 10:30 Coffee

### Session A: Photosynthesis and carbon dioxide assimilation.

- 11:00 Buitenhuis - Zn-C co-limitation of *Emiliana huxleyi*.
- 11:15 Wood - Characterisation of the CO<sub>2</sub> concentrating mechanism in microalgae and lichens.
- 11:30 Nimer - Extracellular carbonic anhydrase in relation to photosynthetic rate in the marine dinoflagellate *Prorocentrum micans*.
- 11:45 Sarthou - Interaction of zinc with carbonic anhydrase in sea water.
- 12:00 Davey - Response of *Chaetoceros calcitrans* to iron-limited growth.
- 12:15 Riebesell - Carbon isotope composition of marine phytoplankton - a tracer for changes in CO<sub>2</sub> concentration?

### 12:40 Lunch

### Session B: Manton Prize

- 08:50 Introduction
- 09:00 Edwards - Interspecific fertilisation in *Fucus*.
- 09:15 Fleck - Cryopreservation stresses in unicellular micro-alga *Euglena gracilis*.
- 09:30 Rengefors - Environmental and endogenous regulation of cyst germination in two freshwater dinoflagellates.
- 09:45 Skidmore - Potamoplankton production, growth and biomass: interpretation of spatial and temporal changes in the River Trent.
- 10:00 Poole - Evidence for increased superoxide dismutase activity in *Enteromorpha* growing in a high oxygen environment
- 10:15 Hyenstrand - Cyanobacterial dominance of phytoplankton communities.

### Session B: Ecology.

- 11:00 Callow - Primary adhesion of *Enteromorpha zoospores*. VIDEO
- 11:20 Pearson - How do fucoid algae know when to release gametes? Mechanism for sensing periods of calm in a turbulent environment.
- 11:40 Kuebler - Effects of hydrodynamics on dispersal of *Ascophyllum nodosum* zygotes.
- 12:00 Dudgeon - Post-disturbance recruitment of rockweeds with scale of perturbation. A mechanism underlying the origin of alternative communities on rock intertidal shores.
- 12:20 Smith - Rhythms of exopolymer production by epipellic diatoms.

## Winter Meeting 1998 - WEDNESDAY 7 JANUARY 1998

<b>12:40</b>	<b>Lunch</b>			
<b>14:00</b>	<b>Session A: Phytoplankton/Microphytobenthos Productivity.</b>	<b>Session B: Ecology</b>		
14:15	Berges - Differing responses of phytoplankton communities in the Irish Sea to simulated upwelling.	Shubert - Variations in the distribution and abundance of marine benthic and epilithic microalgae exposed to oil pollution.	14:00	
14:30	Birkett - Primary production estimates for phytoplankton, macroalgae and microphytobenthos in a coastal system.	Perkins - Long term changes in algal biomass in relation to ferric dosing and phosphorous concentrations in a pumped storage reservoir from 1981 to the present.	14:15	
14:45	Richardson - Lake Baikal Phytoplankton: effects of temperature and irradiance on growth.	Taylor - Green tides at the Ythan Estuary, Aberdeenshire - an indication of environmental change?	14:30	
<b>15:00</b>	<b>Coffee</b>	Yaobin - Long term changes in a polluted bay as seen from its seaweed flora: the case of Santos bay in Brazil.	14:45	
<b>15:30</b>	<b>Session A: Mineral Nutrition</b>			
15:45	Sigeo - Elemental composition of <i>Ceratium hirundinella</i> within mixed phytoplankton samples - a x-ray microanalytical study.		15:30	
16:00	Flynn - A mechanistic model for phosphorus nutrition of microalgae.		15:45	
<b>16:30</b>	<b>Annual General Meeting</b>		16:00	
<b>19:00 for 19:30</b>	<b>Conference Dinner - Award of Manton and Poster Prizes</b>		16:15	
				Codd - Cyanobacterial blooms and toxins in fresh, brackish and marine waters.
				Martin - General features of the inhibition of algal and cyanobacterial growth by degraded plant litter.
				Metcalf - Microwave extraction of hepatotoxins from cyanobacterial laboratory cultures and blooms.

## Winter Meeting 1998 - THURSDAY 8 JANUARY 1998

09:00	<b>Session A Trace Metal Limitation of Phytoplankton Growth</b> Introduction - Geider	09:00	<b>Session B: Molecular Systematics.</b> Serrao - Phylogeny of Fucareae based on nrDNA-ITS (Internal Transcribed Spacers).
09:10	Rave - Iron and Algae	09:20	Iglesias-Rodriguez - Using microsatellites to describe genetic structure of <i>Emiliana huxleyi</i> populations.
09:40	de Baar -	09:40	Bown - A molecular approach to species diversity of green and brown algal enophytes in the red alga <i>Chondrus crispus</i> .
10:20	<b>Coffee</b>	10:00	Tan - Molecular identification of <i>Enteromorpha</i> occurring in the Ythan Estuary.
10:40	<b>Session A Trace Metal Limitation of Phytoplankton Growth</b> Gerringa - The reality of ocean versus laboratory cultures of algae with respect to iron availability research.	10:40	<b>Session B: Ecology and Life History.</b> Cox - <i>Stauronella mereschkowsky</i> rediscovered: an intriguing benthic diatom genus with representatives world-wide.
11:00	Timmermans - Effect of iron on <i>Chaetoceros calcitrans</i> (Bacillariophyceae) grown in natural seawater without artificial chelators.	11:00	Maggs - Life history variability in <i>Dasya ocellata</i> (Dasyaceae, Ceramiales)
11:20	Rothschild - Influence of physical forcing on carbon microclouds in the ocean.	11:20	Sullivan - How many species of <i>Calliarthron</i> (Corallinales; Rhodophyta) are distributed in the Northeast Pacific.
11:40	Voelker - Physical limits on iron uptake mediated by siderophores or surface reductants.	11:40	Gibson - Phytoplankton of Taihu Lake, one of China's large lakes.
12:00	Leal - Speciation of copper in cultures of <i>Emiliana huxleyi</i> .	12:00	Fyson - Productive, Eutrophic yet Extremely Acidic Mining Lakes in Lusatia, Germany: What, Where and Why?
12:20	Aldrich - Speciation of iron and zinc in cultures of <i>Emiliana huxleyi</i> .	12:20	Li - Spatial and temporal variability in diatoms and charophyte oospores in Fleet Lagoon, Dorset.
13:00	<b>Lunch</b>	12:40	Pettersson - Spatial distribution of <i>Gloeoetrichia echinulata</i> during summer in Lake Erken (Sweden) as affected by buoyancy and wind.

**First Announcement: 6th Canadian Workshop on Harmful Marine Algae - May 27-29, 1998, Biological Station, St. Andrews, NB, CANADA**

The workshop is set in the seaside resort of St. Andrews located on the scenic Bay of Fundy, site where the pioneering studies on *Alexandrium* and PSP were conducted. Participants are invited to submit provisional titles and subject categories (taxonomy, chemistry, ecology, toxicology, physiology, etc.) for oral and poster presentations. The workshop programme will be developed following submission of proposed titles.

All interested persons are invited to attend. There is no registration fee. (Deadline for submission of titles- Dec. 15, 1997; abstracts - Feb. 2, 1998). More detailed information about sessions, accommodations and travel will be included in the second announcement following pre-registration.

Correspondence with regards to the workshop should be addressed to: Jennifer Martin, 6th Canadian Workshop on Harmful Marine Algae, Fisheries and Oceans Canada, Biological Station, St. Andrews, NB, CANADA, E0G 2X0, Phone: 506-529-5921, Fax: 506-529-5862 e-mail: MartinJL@mar.dfo-mpo.gc.ca

**An International Symposium on the Cryopreservation of Algae** will be held on the University of Texas Campus in Austin, Texas, on April 16 -17, 1998. The symposium will bring together individuals who have successfully cryopreserved various groups of algae, along with individuals who are interested in cryopreserving their eukaryotic and/or prokaryotic algal collections. The purposes of the symposium are (1) to disseminate information regarding practical methods for cryopreserving prokaryotic and eukaryotic algae and (2) to encourage those responsible for, or interested in, long-term maintenance of algal collections to adapt cryopreservation technologies for maintaining archival stock.

Although several presentations will summarise current knowledge regarding plant and algal cryopreservation, the main focus of the Symposium will be discussions of current effective algal cryopreservation protocols and new directions that may lead to improved success. Each session will include problem-solving discussions of unresolved difficulties in cryopreserving algae. Topics for discussion will include:

- Equipment and supplies most useful for algal cryopreservation
- Conventional and non-conventional methodologies for algal cryopreservation
- Minimum acceptable viability and methods for measuring viability
- Algal groups easy and difficult to cryopreserve
- Unique problems related to differing algal morphologies and culture requirements
- Mechanisms of lethal and sub-lethal freeze/thaw injury

Conference registration cost is \$50 for participants whose registration information and payment reaches the conference organisers prior to February 1, 1998, and \$75 thereafter. For registration forms and further information regarding the conference please contact: Alexandra Crutchfield: e-mail: <almc@mail.utexas.edu>, Department of Botany, University of Texas, Austin, TX 78713: Telephone 512-471-1589: FAX 512-471-3878.