

British Phycological Society

NEWSLETTER

March 1976

The Editor of the Newsletter will be pleased to receive articles, requests, details of meetings and symposia for publication in the Newsletter.

Material should be sent to Ian Tittley, Dept. of Botany, British Museum (Natural History), Cromwell Road, London. SW7 5BD.

It is hoped that the next issue of the Newsletter will be published and distributed during the latter part of this year. The Newsletter will take on a new format, (a page being one half A4 size) and will be lithographed instead of duplicated. It is hoped that this will help save on postage costs.

SUBSCRIPTIONS

Members are reminded that subscriptions are due on January 31 of each year and should be sent to the Hon. Treasurer, Dr.H.Pearson, Dept. of Botany, University of Liverpool, PO Box 147, Liverpool L69 3BX

Subscription rates are as follows:

Members taking the Journal ... £7.50
(reduced to £5.00 for undergraduates and research students).

Members not taking Journal or retired members ... £2.00

CHANGES OF ADDRESS

The Hon. Membership Secretary, Dr.C. Happey-Wood, School of Plant Biology, University College of North Wales, Bangor, Wales, should be informed of any changes in address.

25th ANNIVERSARY

1976 Sees the Society achieving its first quarter of a century of existence. A special anniversary winter meeting will be held at Royal Holloway College, (for further details see over).

Number 9

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BRITISH PSYCHOLOGICAL SOCIETY

Twenty-Fourth Winter Meeting at Westfield College, 2-3 Jan. 1976

To start a Winter Meeting on the day immediately following New Year's Day can hardly be regarded as very convenient, particularly for those coming from north of the Tweed. As I mentioned in my report on last year's Winter meeting in the 1975 Newsletter, we had little choice in the matter due to the timing of the commencement of the University of London term. Nevertheless, 73 members came to stay at Westfield, and with the additional support of members resident in the London area a total of 105 members were registered for attendance at the 4 sessions of papers. We were delighted to welcome members from N. America and Europe. In a programme which included 36 papers, and had also to incorporate the 24th A.G.M., there was little time to spare. The first session of 5 papers covered various aspects of the ecology of microbial algae in freshwater and estuarine habitats, and was chaired by Professor P.F. Peterson, Head of the Department of Botany and Biochemistry at Westfield College. It was entirely fitting that the first paper of the session should be one from the host Department, in which Miss R. Nicholson described her work on the planktonic inter-relationships in St. James's Park Lake in London. In the second session (chaired by Mifion Jones) attention was turned to ecological studies on macrophytic marine algae. Nine papers were given in this session, and it was especially pleasing to hear the four North American contributions to this session more particularly the Canadian members (Tony Charman and Alan Whittick) who had 'got through' despite their problems with the recent postal strike in Canada, which caused them to use a variety of novel means to communicate to me their intentions of getting to Westfield College.

Following this session and a short tea interval, the 24th AGM was opened by Bill Stewart in the presence of 52 members. This, the annual report on Council's stewardship over the past 12 months, paid particular attention to the financial status of the Society. With the deficit about as predicted at last year's A.G.M. very prominent in all our minds, the justification for the increased membership subscriptions as from 31 January of this year (as decided at the last A.G.M.) was clearly underlined. It is hoped that by containing all expenses as much as possible, and by keeping the Journal pagination under control, the inflow of subscriptions in the coming year should render the Society in a much healthier financial state. Membership of the Society stood at 633, with 57 new members having joined during the year. The inflow of new members was down on that of 1974 and 1973, and may reflect the reduced number of graduate students which has resulted from the cut-backs in research funding in recent years. A matter of concern was seen in the number of members with subscriptions still outstanding for 1975 - 111, and about double the number at the same time last year. Any members reading this note who are suddenly reminded of not having paid their subscription for 1975 will find the Hon. Treasurer's address listed at the end!

The death of Prof. L.B. Goly at the early age of 50 was announced with regret. Prof. Goly's contributions to marine phyecology in Brazil are well known to many members, and (as stated by Dr. Picudo in a letter to the Society) Prof. Goly was a person "whose devoted teaching and research effectively established the cornerstone for the development of phyecological studies in Brazil."

It was with great pleasure that the members heard the news that Miss G. MacFarlane had been the recipient of three honorary Doctorates, from Arcadia University, the University of Prince Edward Island, and Dalhousie University - truly a record for a member of the Society,

24th Winter Meeting at Westfield College 2 - 3 Jan 1976 Contd.

and a well merited series of recognitions of Dr MacFarlane's contributions to Phycology in Nova Scotia and Prince Edward Island.

The retiring Hon. Editor, Gordon Leedale, presented his last report to the Society. The completion of vol. 10 was announced with the publication of No. 4 in December. A continuing flow of good quality papers was announced for vol. 11. Costs, however, were spiralling, with printing costs likely to be up by 25% next year. A vote of thanks to Gordon for his excellent work on the Journal over a period of 9 years was duly proposed by Harry Powell, and passed with acclamation. A vote of thanks to the retiring Membership Secretary was also made in the course of the meeting. Dudley Richardson has dealt with this important aspect of the Society's affairs for several years, and with the increasing membership this first contact with the Society calls for sympathetic handling of all enquiries. This unobtrusive service has been much appreciated by Council. In moving the adoption of reports of the executive members, Bill Stewart accorded the thanks of the Society to the officers concerned. Best wishes were also expressed to the new Hon. Editor, Gerald Roalch, and to the new Membership Secretary, Chris Wood.

Other features of significance were emphasized with the information that the first part of the Rhodophyta volume was away to press, and in the report on the successful Field Meeting held in the summer at Aberdeen and organized by the Field Meetings Secretary, Martin Wilkinson.

The candlelit Society dinner held in the evening was, as always, a pleasant social occasion attended by members and their guests.

The first session on the second day was devoted to a paper by Peter Dixon on the topic 'Algal growth and the environment'. This stimulating paper gave some account of the research interests of the speaker in the past decade, and particularly drew attention to the great scope of studies on algal morphogenesis in relation to field studies - a somewhat neglected and seemingly little favoured topic of research. The application of algal growth studies in environmental pollution problems was also described, with suitable illustrations from inshore studies in California. The second session was one devoted to 'short papers' - none to exceed more than 10 minutes (including questions). Bill Stewart chaired this session of 11 papers, with 8 being given by graduate students. The 'spread' of the papers was a wide one, covering aspects of algal ecology and physiology, biochemistry and ultrastructure. This is only the second time in the overall series of Winter Meetings that this 'short papers' session has been included, with the specific intention of encouraging the participation of graduate students but certainly not excluding more experienced phycologists. The reactions of members to this type of session - possibly as an annual event - would be most welcome. The session after lunch, chaired by Gordon Leedale, included eight papers on various aspects of the ultrastructure, cytology and biochemistry of algae.

With the marked restriction on timing, spare a thought for Council Members who had to fit two meetings on successive days with 'working lunches' - and for the members of the Marine Algal Flora Committee, who fitted their annual meeting in between the A.G.M. and the Society Dinner.

In conclusion, it is my pleasure to accord the grateful thanks of all members of our Local Secretaries at Westfield College, Peter Day and Brenda Thake, for their most efficient handling of both the preparations beforehand and the organization of affairs during the meeting. Our thanks also to the College Authorities and to Professor Peterson for making hostel and lecture room accommodation available.

24th Winter Meeting at Westfield College 2-3 Jan 1976 Contd 2

As in past years, I conclude my report by drawing the attention of members to the next Winter Meeting, to be held on the 4, 5, and 6 January 1977, at Royal Holloway College. This is the 25th Annual Meeting of the Society - certainly a special occasion, and one which I hope as many members as possible will attend. So please book these dates now!

A.D. ROMEY

Address of Hon Treasurer:

Dr H. Pearson, Department of Botany, University of Liverpool,
PO Box 47, Liverpool L69 3 BE.

SUMMER FIELD MEETING AUGUST 1975

Last years field meeting was centred at the University of Aberdeen. A dozen or so phycologists from various institutions in the U.K. were comfortably accommodated in the University halls of residence (together with squads of well-drilled Police-cadets and also multitudes of musicians from all four corners of the Earth, who were participating in an International festival of music!) Excellent laboratory facilities were made available by the Department of Chemistry.

For perhaps the first time, the party was not dominated by benthic phycologists as in previous years; a large contingent of diatomists investigated a variety of marine and freshwater habitats, some of the latter high in the Cairngorm Mountains. The seaweed group travelled to shores in Pembrokeshire, Aberdeenshire, and Kinkardineshire. Sites visited embraced a wide range of habitats including exposed and sheltered marine shores, estuaries and saltmarshes. Unfortunately, the deeper infralittoral was not investigated in great detail, a few local volunteer subaqua divers spent a morning cutting off Laminaria hyperborea stipes and bringing up boulders and stones with crustose coralline growths; a couple of members of the seaweed group snorkelled in shallow infralittoral, and contributed additional species from this part of the shore. Interesting species records for the Aberdeen area include Euthora cristata, Phyllophora truncata and Pennemaisonia hamifera; a detailed list will be published in the Br. phycol J.

An innovation to this year's field meeting was the series of evening 'mini lectures' given by members of the group. Martyn Wilkinson described on methods of collecting and examining shell-boring algae; Linda Irvine similarly spoke on dealing with crustose algae, and David Irvine discussed phytogeographical distributions of algae with special reference to the Aberdeen area.

The meeting was rounded off with a visit to the Morrey marine laboratory where we were able to see some of the interesting experimental work on marine animals being undertaken there.

Our thanks to the Field Meeting's Secretary, Martyn Wilkinson and to the local secretary for a well organised week.

Progress of the Seaweed Distribution Mapping Scheme.

Since its inception in 1971, the scheme has progressed steadily. There are now 230 registered recorders and at least 30 of these submit records regularly. There are also networks of both specialist and regional referees set up to help the collectors.

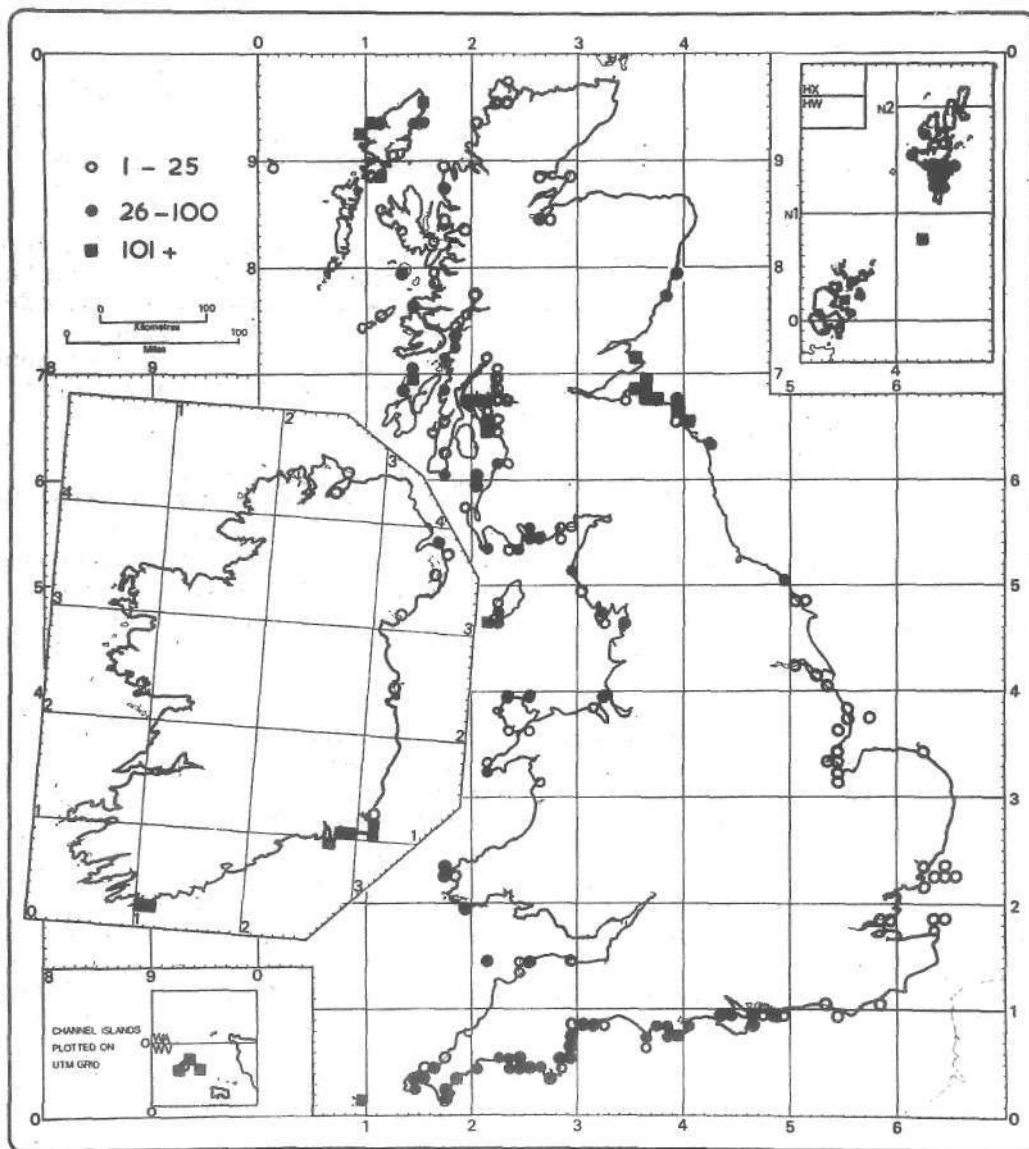
I have received several hundred completed cards and have records for about 23% of all the 10 km squares likely to contain seaweeds (see map). The number of cards received far exceeds the number of squares mapped for often different recorders collect in the same square and even a single collector may send cards for collections from the same square at different times of year or in different years.

Of the squares mapped only about half are adequately recorded if it is assumed that with the exception of species - poor areas such as estuaries and much of the E. coast of England, most squares should contain at least 50 - 100 species of seaweed and many shores on the south and west coasts should support over 100 species. Wales, and especially Ireland, are poorly covered and together account for only 15% of all the cards submitted.

Collectors are undoubtedly inhibited by the appalling dearth of keys and good descriptions suitable for the identification of sea-weeds. Undoubtedly the worst result of this lack would be that the records received might not be correctly identified. To prevent this, voucher specimens are required for difficult or very rare species and specialists check the determinations. In practice however, most recorders restrict their collections to the species that they can identify with certainty. It is also reassuring to note that when two collectors independently submit records for the same locality, they invariably record almost identical lists of species.

I would like to thank all those who have submitted records and to plead for records from the squares that are poorly collected. No doubt many useful lists are lurking in your field notebooks. If you are not yet involved in the scheme, but would like to be, please contact me.

TREVOR A. NORTON



SEAWEED MAPPING SCHEME

Squares covered and numbers of species recorded
for each 10km square.

NATIONAL BIOLOGICAL SOCIETIES MEETING
JUNIPER HALL, DORKING. FEB. 7 1976

Representatives of 25* biological societies, museums and conservation groups participated in a discussion meeting under the chairmanship of Dr F Perring of the Biological Records Centre. Items on the Agenda included:

Red Data Books, society representatives were asked for information on endangered species.

Codes of Conduct, the coastal code, published in 1974 ought to be more widely distributed.

Environmental records centres, Data banks are being established at provincial museums in most counties. At these centres data based on local collections will be collated with data from B.R.C. It was considered important that societies recorders liaise with these centres and to this effect, Dr Perring would be distributing a list of addresses of these local centres.

Attention was also drawn to the Endangered Species (Petfood) Fund where money is still available for survey work into threatened species and habitats. (British Phycologists take note!)

Frank Perring reminded participants that Lt.Col. Clayden (last year's speaker) is still anxious to make contact with Societies and can arrange access to M.O.D. land (which includes considerable stretches of the Dorset, Essex and Lincolnshire coastlines) for biological surveying.

John Heath and Diana Scott reported on the year's activities at the Biological Records Centre, Monks Wood. Newtetrad, habitat and single species recording cards have now been printed and are available. One atlas has been published this year and several others are currently in an advanced stage of preparation (all deal with insect groups). Although a number of European mapping schemes are now in operation, there are still gaps in European recording, and significantly, in the Cryptogamic groups! (B.P.S. members on both sides of the English Channel and North Sea ought to give this further consideration.

During the afternoon session, David Barwick, Head of the Legal and Parliamentary Section, Nature Conservancy Council, C.B. H.C., spoke on 'The implications of the Conservation of Wild Creatures and Wild Plants Act 1975 to members of National Biological Societies'. Mr. Barwick stated that one of the main aims of the law is to educate the public into wildlife conservation. Certain plants and animals are protected by that act. It is an offence (penalty up to £100) to kill, injure or capture without reasonable excuse 6 species of animals. Twenty-one species of wild plants are protected from picking, uprooting and destruction, while all plants are protected against unauthorised uprooting. The act excludes algae and fungi. Mr. Barwick related that although seaweeds were considered by the by the Committee preparing the act, legal problems concerning the ownership of the foreshore and the sublittoral shore, and also the abundance of considerable amounts of drift weed (hence the difficulty in proving a plant was deliberately 'uprooted') necessitated their exclusion from the Act. However, the N.C.C. are at present reviewing their coastal policy, and are formulating ideas on the conservation of marine flora and fauna.

The meeting was closed with a short paper by Frank Perring on the implication of changes in names and boundaries of local authority areas. He advocated the continuing use of the Watson vice-county system as biological census areas.

* B.P.S. represented by Mrs.J.Moore (freshwater) and Mr. Ian Tittley (marine).

AYLTHON B JOLY

(1924-1975)

It is with the deepest regret that we must report the untimely death of Dr Aylthon B. Joly in São Paulo, Brazil. After a short fight with cancer that began earlier this year, Dr Joly died at the age of 50 on August 29. He was Full Professor and Chairman of the Department of Botany at the University of São Paulo where he spent the greater part of his professional career. It was here that he received the B.S. in 1945 and the Ph.D in 1950. His training in phycology was acquired during 1951 and 1952 when he worked with Dr William R Taylor at the University of Michigan in Ann Arbor.

Dr Joly will be remembered here as the one professor whose devoted teaching and research effectively established the cornerstone for the development of phycological studies in Brazil. Throughout this pioneering work he published no less than 60 articles on algae. We would like to think, however, that this impressive contribution to our knowledge of Brazilian sea-weeds will one day be surpassed in significance by his tireless and patient efforts as a teacher. While this final testament has yet to be finished, his students are now actively working in Brazil as well as in Argentina, Chile and Mexico.

In 1972 Dr Joly turned his attention to the study of Phanerogams in which he initiated an intensive program concerning all aspects of the native vegetation found throughout the Serra do cipo, in the Brazilian State of Minas Gerais. The results of this new ambitious project must now regrettably be finished without him. At the time of his death, Dr Joly was finishing a general book on economic botany. The final draft of this book is fortunately complete and will be published some time in the future.

Dr Joly will be missed by those who knew him and on behalf of all these many people, the Brazilian phycologists extend their deepest sympathy to his family and mother in their loss.

Carlos E.M. Bicudo
Instituto de Botanica
Caixa postal, 4005
01000 - Sao Paulo, SP-BRASIL

MARINE FLORA OF KENT

In conjunction with the Kent Field Club, we are currently preparing a set of species distribution maps (approx 250) of the marine algae of Kent. Mapping is on a 5km² grid system; brief distribution and habitat details will be given for each species.

The authors would like to estimate the interest of Society members in purchasing copies at an estimated total cost of £3.50. Please contact either author if interested.

Ian Tittley & James H Price

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BUTCHERIANA - A NOTE AND A REQUEST

The Culture Centre of Algae and Protozoa at Cambridge has now completed the incorporation of R.W. Butcher's cultures.

In the course of his work at Burnham on Crouch, Butcher isolated something in the region of a thousand strains of planktonic algae from the shores, estuaries and salt marshes of Britain. The aim was to provide a taxonomic survey of all the algae likely to be useful as food for shell fish and other marine animals of economic importance. As it turned out, this was far too great a task for any one man but he did publish a considerable number of new species and when he retired he left behind most of the strains of new species and many others as yet unidentified. About five thousand strains were maintained for a time at Westfield College, London, until the Cambridge laboratory was built and ready to accept them. All these have now been checked; some had to be rejected as containing nothing resembling the name on the tube or of any value. Some contained more than one kind of organism, some still do, in some cases because they were found to be just stages of the one species.

As well as the cultures, CCAP has acquired custody of various items relating to them.

- a) Five large note books of Butcher's, chiefly containing pasted-in photographs of Chrysophyceae and Haptophyceae.
- b) A bundle of 6" x 4" cards with electron micrographs stuck on.
- c) Many loose photomicrographs and electron micrographs.
- d) A few loose pages of notes.
- e) A booklet recording those cultures sent to other workers while the Butcher collection was at Westfield.

As will be noticed when reading our next List of Strains, we do not have full information on several strains. If anyone has any information to fill the gaps, I would be most grateful to have it - preferably Butcher's original notes or photographs of them.

E.A. George
Culture Centre of Algae
& Protozoa
36 Storey's Way
Cambridge, CB3 0DT

REQUESTS

1) Marine Flora of Cornwall

Messrs. Price (BMNH, LONDON) and Boalch (MBA, PLYMOUTH) request records of rare or unusual algal species for Cornwall.

2) Epiphytic Corallinaceae.

Mrs. Yvonne Butler
Portsmouth Polytechnic
Marine Laboratory
Ferry Road
Hayling I. PO11 0DG

requests material of Epiphytic Crustose Corallinaceae.

3) Dr Dieter Mollenhauer

Forschungsinstitut Senkenberg
Aussenstelle Lochmuelle
D- 6465 Biebergemünd 3
Federal Republic of Germany.

Dr Mollenhauer has recently taken on the task of writing a chapter dealing with 'Systematics and Phylogeny of the Algae' for the book 'Progress in Botany' and requests reprints of papers on taxonomic, systematic, phylogenetic and geobotanical topics for reviewing in the course of preparation of this work.

OLD AND NEW COUNTY NAMES - WHICH OR BOTH?

In the past the Society (B.S.B.I.) has, in its publications, used both vice-county names and the names of the administrative counties. This has worked well enough although inevitably there is sometimes confusion between the two and it hasn't always been clear to us, as editors, which name is more appropriate in a particular instance. As a rule we have used vice-county names when citing detailed distributions and particulars of individual specimens and records, while the county names are used in a more general sense, e.g. Plants with more compact inflorescences occur on the coasts of Devon and Cornwall.

With the reorganisation of local government boundaries in Britain, many of the old familiar names have in theory disappeared and we feel that the Society must decide which of the following alternatives it wishes to adopt in its publications. In addition to vice-county names (suitably abbreviated where possible) we can use either both old and new county names or only the new names.

a) Old and new names co-existing

This has the usual advantage of a compromise. Most of us (the Welsh excepted) would no doubt continue to use the old names and the inevitable transition would probably take 10 to 20 years. On the other hand three sets of names would be very confusing, especially for foreign readers and editors, uncertain to which administrative name the author really intended. We could have Walney Island variously referred to as Furness (V.C.69b), Westmorland V.C.(69), Lancashire or Cumbria, and there are three versions of East and West Sussex which are all different.

b) New names only

This has the virtue of tidiness and clarity. However many of the new county names cover such a large area that they would be of limited use. This is particularly true in Scotland where the Highland Region extends from Morvern to Caithness.

Personally we are in favour of the second of these alternatives but if it is decided to operate the first, we should like to recommend strongly that announcements and reports of field meetings should be standardised using only the vice-county and new county names, the latter in parenthesis, e.g. Bettyhill, W.Sutherland (Highland Region).

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REQUESTS: Contd

Dr. G.F. Leedale, Department of Plant Sciences, University of Leeds, Leeds. LS2 9JT.

Requests reprints on algal cytology for reviewing in the chapter 'Morphology and Morphogenesis of algal cells in 'Progress in Botany'

CHECKLIST.

A "Check-list of the British Marine Algae - Third Revision" has been prepared by Drs Parke and Dixon, and will be published in the Journal of the Marine Biological Association. Reprints will be available for purchase during Summer 1976.

These and other reprints offered for sale by the Society are obtainable from Dr J C Green, Marine Biological Association, Plymouth.

BENTHIC MARINE PHYCOLOGY IN ARGENTINA 1974 - 1975

We spent October 1974 - March 1975 inclusive in Argentina, where JHP held a Royal Society Latin American Exchange Fellowship with Dr. S.A. Guarrera at the University of La Plata. During that time, thanks to facilities provided by CONICET (Consejo Nacional de Investigaciones Cientificas y Tecnicas) and the administration of the projected Flora de Tierra del Fuego, visits were made to institutions ranging from the Universidad de Juju in the north, to the Estacion de Biologia Marina Austral, Ushuaia, Tierra del Fuego in the south. Benthic marine research takes, as elsewhere, several forms in Argentina, although currently the strongest line concerns resources and exploitation of the larger brown seaweeds, especially Macrocystis. In terms of fieldwork, the only geographical areas of significance to the above lie in Patagonia, from the area of Peninsula Valdez southwards; along the coasts of the semi-desert of central Patagonia, the potential resources are very considerable, in places rivalling the situation in parts of the Falkland Islands. Locally, this is even more the further south where, as in the Ria Deseado, the environmental regimes are also closer to those of the Falklands. Work has been carried out in the past on the resources of the Deseado area by the various investigations attached to INTI (Centro de Biologia Marina, director Dr. O. Kuhnemann; stations at Puerto Deseado (Zizich) and Ushuaia (Medina); investigations now or previously, Kuhnemann, de Halperin, Asensi (currently in Paris), Boraso, Piriz, Mendoza and various biochemists, the latter working principally in the University of Buenos Aires). The general benthic ecology of the Ria Deseado was described by Kuhnemann (1971) and de Halperin (1967); much systematic work was carried out by Asensi (many papers), and others mentioned above; and the distribution of certain important genera (Macrocystis; Lessonia, Durvillea, Gogartina, Ulva, Porphyra etc.) has been mapped on a site presence/absence basis along the whole coastline from north of Peninsula Valdez to the east coast of Tierra del Fuego. (de Halperin, Asensi and Boraso, 1973). Exploitation of the various algae concerned has been the subject of comment in papers by many of the above workers, although their major fields of research are ecology (Kuhnemann); Cyanophyta (de Halperin); systematics of Chlorophyta (Boras); systematics of Rhodophyta (Mendoza - Corallinaceae; Piriz - Porphyra); systematics of Phaeophyta (Asensi) quantitative, qualitative and mapping methods in intertidal sublittoral ecology (Boras; Hall). Undoubtedly one of the currently most vigorous centres of ecological and resources research is the independently administered Centro Nacional Patagonico, Puerto Madryn, Patagonia, where Martin Hall (see above) now is primarily responsible for organizing aerial surveys (by conventional and infra-red photogrammetry) of virtually the whole of the Patagonia coast, including possibly the Isla de Tierra del Fuego. The director of the Centro (Dr. Pizarro) is principally a biochemist, but has built up an enthusiastic team working on many fields of biochemical, botanical, ecological and zoological research in areas along the coast of Patagonia. The Centro is relatively well equipped having excellent provisions for transport and underwater research. This area is one of the major Argentine centres for the latter as a sport, additionally, so there is usually no lack of interested helpers. In any case, the Centro employs two very experienced professional divers who carry out, with scientific members, whatever underwater work is necessary to further in situ investigations on the Macrocystis beds as a build-up on the preliminary aerial reconnaissance data. The latter surveys, incidentally, are achieved by the very good co-operation of the Fuerza Aerea, Argentina, working from the nearby (Trelew) Base Aero-Naval. Hall currently has in press and in preparation a series of papers on the methods employed and the results obtained during this work on Macrocystis.

Argentina clearly has vast natural resources in terms of commercially important benthic seaweeds, as in almost every other natural commodity. The aim of better organisation in exploitation of those resources internally has been the intention behind most of the recent work. Hitherto, Argentina has been one of the larger exporters of the raw algal material to countries such as Japan, where

processing has been carried out. It is to be hoped that the current instabilities in the political (well known) and financial (inflation in Argentina in 1975 ran at about an admitted 350%, at that, rather less than all other South American countries except for Brazil) situations do not result in the loss of productive scientists and the supervision of promising lines of pure and applied benthic macro algal research.

J.H. & S.M. PRICE

SYMPOSIA & MEETINGS.

EDINBURGH, SCOTLAND.

A joint symposium organised by the Botanical Society of Edinburgh and the Institute of Biology 'Oil and its biological implications' will take place at the Heriot Watt University during September 1976. A full programme will be distributed as soon as possible.

LONDON, ENGLAND.

A joint symposium organised by the Linnaean Society and the Institute of Biology will be held at the Royal Geographical Society on 23 and 24 September 1976.

The symposium will be dealing with the unexpected side effects of the use of pesticides during the last three years when they have been used in Agricultural Forestry, Medicine and Water Management. Further details from the Institute of Biology, 41 Queens Gate, London.

ENVIRONMENTAL SEMINARS

The W.S. Atkins (Research & Development) Group will be holding half-day seminars in Swansea (May 4), Bristol (May 5) and London (the week 4 - 8 Oct) covering a variety of subjects which include air and water pollution. Further details from R.A. Waller, Atkins Research and Development, Woodcote Grove, Epsom, Surrey KT17 5BW, England.

IXth INTERNATIONAL SEAWEED SYMPOSIUM

Santa Barbara, California, August 1977.

Members wishing to be placed on the mailing list for circulars should write to: The Secretariat, IXth International Seaweed Symposium, Marine Science Institute, University of California, Santa Barbara, California 93106, USA.

PUBLICATION

Underwater Research

Edited by E.A. Drew, J.N. Lythgoe and J.D. Woods.

Published by Academic Press

440pp £14.00 \$ 34.75 0.12.22

LITERATURE

Photocopies of publications may be obtained from the Photocopying Service, British Museum (Natural History), Cromwell Road, London. SW7 5BD., at the rate of one sheet for £0.05p. Orders should be sent to the Museum who will obtain the book, despatch the photocopies and invoice.

SYMPOSIA & MEETINGS

B.P.S. SUMMER FIELD MEETING 1976, GALLOWAY (SCOTLAND - WEST COAST).

The summer field-meeting will be centred on Stranraer (Dumfries and Galloway), Scotland, during the week July 3 - 10, 1976. Laboratory facilities have been arranged at a local school, and accommodation is available at hotels and guest-houses in the area.

Those interested in participating please contact:-

Dr M Wilkinson
Dept of Brewing and Biological Sciences
Heriott-Watt University
Chambers St
Edinburgh EH1 1HX
Scotland

..... and indicate whether or not transport from Stranraer to the collecting sites is required (a mini-bus can be hired for the week).

TAXONOMY OF THE BLUE-GREEN ALGAE

A symposium initiated by the Systematics Association on the taxonomy of blue-green algae will be held in Durham from the 17 - 20 August 1976, and any member of the British Phycological Society would be most welcome to attend. Papers presented at the meeting will deal both with the differing fundamental approaches to the taxonomy of these organisms, and also how to help those with the practical problem of providing names for field and other materials.

A fixed charge of £33. will be made to everyone attending the meeting, this charge covering accommodation for the nights of 17, 18, 19, & 20 August, meals and all other incidental expenses.

Further information may be obtained from Dr B.A. Whitton, Department of Botany, South Road, Durham (England).

DIATOM SYMPOSIUM

4th Symposium on Recent and Fossil Marine Diatoms will be arranged by Department of Marine Biology and Limnology, University of Oslo, Norway, 30 August - 3 September 1976. Scientists working in the fields of ecology, biostratigraphy, and taxonomy of marine diatoms are invited to attend the symposium and to present papers or demonstrate their work in a poster session. Size of the meeting and number of papers included in the programme may have to be limited. The deadline for preliminary registration and submission of titles of contributed papers and demonstrations is 10 December 1975.

For further information write to Dr C.R. Hasle, Department of Marine Biology and Limnology, Section of Marine Botany, University of Oslo, P.O.Box 1069 Blindern, Oslo 3, Norway.

SYMPOSIA & MEETINGS Contd

11th EUROPEAN SYMPOSIUM ON MARINE BIOLOGY, GALWAY,
5 - 11 OCTOBER, 1976

Aspects of Biology of Benthic Marine Organisms, to be held
at the University College, Galway.

Titles of proposed papers to be submitted by April 1 1976

For further details apply to: Symposium Office, Biology Dept.
University College
Galway
Ireland.

COURSES.

July 12 - 21 Marine Phycology

Further details from: Drs G.T. Boalch & J.C. Green
The Laboratory
Citadel Hill
Plymouth. PL1 2EB.

Closing date for applications March 1 1976.

SUMMER COURSE AT WOODS HOLE

Students will be accepted into a tutorial program in
COMPARATIVE BIOLOGY AND BIOCHEMISTRY OF ALGAE scheduled from June
21 to August 1, 1976 at the Marine Biological Laboratory, Woods
Hole, MA 02543, to acquaint them with the organisms and the types
of questions they can be used to answer. A series of co-ordinated
seminars by experts in algal physiology, biochemistry, genetics,
development, ecology, macro, micro and molecular morphology and
related subjects with evolution serving as the unifying concept
serves to introduce problems of current importance and future
potention while the laboratory provides lectures, projects and
field experience in the taxonomy, morphology and ecology of algal
groups, enrichment of microalgae, and experimental work on the
physiology, biochemistry and development of individual organisms.
Several scholarships will be awarded based on talent and need.
Catalogs and applications can be obtained from MBL (address above)
and should be returned to the Laboratory together with supporting
materials by March 15 1976.

FIELD STUDIES ASSOCIATION COURSES.

Among the many courses offered, the following may be of interest
to students and amateurs.

DALE FORT CENTRE.	Marine Ecology and Coastal Management By Dr A.J. Green	28 July - 4 August
FLATFORD MILL CENTRE	Freshwater Biology By G. Abbot	4 - 11 August
MALHAM TARN CENTRE	Freshwater Algae By Dr A Pentecost	14 - 21 July
ORIELTON FIELD CENTRE	Marine Plants By Dr W.E. Jones	28 July - 4 August
	Exploring Rocky Shores By R.G. Crump	28 July - 4 August

Courses on Marine Biology & Ecology & Underwater photography for Scuba
Divers are also available. For further details apply to Field Centre
Wardens or to: Information Office
Preston Montford
Montford Bridge
Shrewsbury SY4 1HW

NEW MEMBERS - JAN 31 1976

Acosta, Prof. Juan P	Museo de Historia Natural 'Javier Prado' Universidad Nacional Mayor de San Marcos Av. Arenales 1256, Apartado 1109, Lima - Peru.
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Magruder, William	University of Hawaii, Dept. of Botany, 3190 Maile Way, Honolulu, Hawaii 96822 USA.
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Mowat, Dr. J.A. (Mrs)	Dept. of Agriculture & Fisheries, Marine Laboratory, P.O. Box 101, Victoria Rd, Torry, Aberdeen AB9 8DB

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Munda, Dr Ivka Maria	Biol Institute, Slovene Academy of Science & Arts, Ljubljana, Yugoslavia.
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CHANGES OF ADDRESS - DEC. 1975

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RESIGNATIONS

Brown, Thomas E.	Atlantic Community College, Mays Landing, New Jersey 08330. USA.
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Menez, Ernari G.	Washington, USA.

DECEASED.

Joly, Dr. A.B. (Brazil)	August 1975.
Lund, Dr. S.,	April 1974.
Menez Dr. E.G. (Washington)	

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