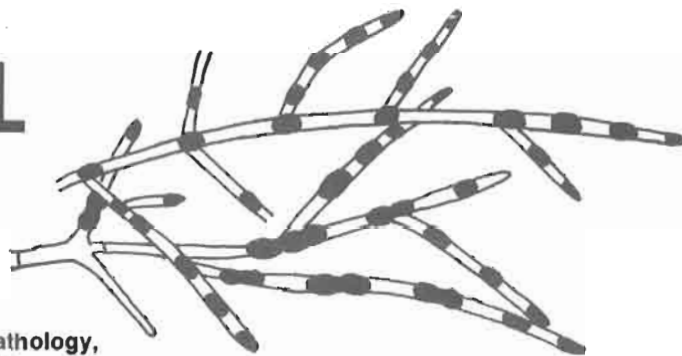


PHYCOLOGICAL NEWSLETTER



Volume 13, Number 2

Editor: Carole A. Lembi, Department of Botany and Plant Pathology,
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PLANNING FOR SANTA BARBARA MEETINGS IN FULL SWING

A news update, submitted by Norma J. Lang -- Early predictions that the phycological meetings on August 20-27 in Santa Barbara, California would probably be the best-attended in the history of our science are proving correct. By the early deadline date of January 15 some 671 expanded titles for contributed papers had been submitted, and near the March 31 deadline for abstracts, 397 had been received. Also, some 420 pre-registrations indicate that total attendance could be well over 500. The unprecedented combination of jointly-sponsored meetings of the IXth International Seaweed Symposium, Phycological Society of America and International Phycological Society has attracted the interest of phycologists throughout the world. Dr. Elizabeth Gantt, Vice-President of the P.S.A. and Program Chairwoman traveled to Santa Barbara in mid-April to confer with Dr. Michael Neushul on scheduling the contributed paper sessions and coordination of abstract publication by the *Journal of Phycology*.

Through the special efforts of Dr. Neushul, who is in charge of overall arrangements of the meetings, simultaneous translation services in Japanese-English will be provided in the principal morning symposia on three successive mornings. Some translation assistance in French is also being arranged. The full text of the special symposium on the use of marine algae in pharmaceutical science is to be published separately as a monograph in *Botanica Marina*. Symposia on *Macrocytis* and algal biogeography are being arranged, and special lectures by John Ryther, Maxwell Doty, Arne Jensen, and Keld Nielsen will be noteworthy features of the week-long program.

Dr. Isabella Abbott has reported that over 90 individuals have registered for the pre- and post-meeting tours, and while one of the post-meeting diving trips is already fully subscribed, some spaces remain available for the Channel Islands tour. Stauffer Chemical Company, Food Ingredients Division, of Oxnard, California has confirmed the tour of their plant for Wednesday, August 24 to highlight all stages of kelp processing from harvester unloading to final products. Kelco Company of San Diego will have a demonstration of kelp harvesting off-shore, and close observation of the kelp cutter in action will be possible from separate boats.

Among the various social events will be a reception sponsored by the British firm, Maxicrop, a beach banquet sponsored primarily by Kelco, a wine and cheese hour presented by various California producers, and a cocktail reception hosted by the Phycological Society of America prior to its annual banquet. Dr. Richard Starr who is chairing the P.S.A. Social Committee also reminds the American membership that voluntary contributions toward the social hour for all participants before the P.S.A. banquet on August 24 are being solicited. All contributions should be forwarded to the Treasurer, Dr. James Rosowski, Department of Botany, University of Nebraska, Lincoln, NB 68508. Those who have not yet pre-registered are urged to contact the Secretariat, IXth International Seaweed Symposium, Marine Science Institute, University of California, Santa Barbara, California 93106, U.S.A. See you in beautiful Santa Barbara by the sea!

IMPORTANT MESSAGE FROM JOURNAL EDITOR

Dr. Janet Stein, Editor of the *Journal of Phycology*, submits the following note -- Recently, the United States Postal Service threatened to revoke special mailing privileges for Journals that levy page charges and to require that such articles be labeled as "advertisements." To counteract this, a compromise has been reached whereby Journals must make it clear (in the Journal) that all contributions to page charges are voluntary and that decisions to publish are not related to page charges.

In view of this, the announcement in the *Journal of Phycology* (inside back cover) will read: PAGE CHARGES -- Due to increased printing costs, voluntary contributions for page charges are solicited. There are two classes of voluntary charges available: \$15 or \$40 per printed *Journal* page. For those whose budget allows the charge of \$40 per page, the authors will receive 100 free reprints (without covers).

The decision to publish will continue to be made by the Editor based on the scientific merits of the paper.

I also wish that the following information reprinted from "Steps toward Better Scientific Illustrations" by Arley Allen of Allen Press, Inc. be very carefully read and heeded by those of you who plan to publish in the *Journal of Phycology*. Much effort and expense is spent on authors who submit inferior or poorly prepared illustrations. So, **please** note the following points.

1. Preparation of illustrations for scientific articles demands the same professional attention that is required in the preparation of the text.

2. The ideal illustration is one which is prepared **specifically** for the publication to which the paper will be submitted.

3. Line copy should be clean and legible and designed for reduction to 2/3 original size.

4. Halftone copy (photographs) should be designed for reproduction at actual size.

5. Because material can be accidentally added or deleted in the engraving process, it is essential for authors to carefully proofread their illustrations just as they would their text.

6. If a change or alteration is to be made in an illustration after an engraving or negative proof has been made, the original artwork must be corrected and returned to the engraver with a proof showing the correction (this increases cost of production, too).

7. Illustrations which require special treatment (such as foldouts, color plates, or 300 line plates) **must** be discussed with the Editor so that production problems can be avoided.

SHORT NOTICES

A Symposium on Living and Fossil Diatoms will be held in Antwerp, Belgium on September 4-8, 1978. For more information, write John Barron, U.S. Geological Survey, Menlo Park, California.

The official "T-shirt" of the IXth International Seaweed Symposium will be available for purchase at the Santa Barbara meetings. For information or purchase directly, write Ralph E. Moon, Department of Biology, University of South Florida, Tampa, Florida 33620.

Note—The deadline for receipt of news items for the October issue of the *Phycological Newsletter* will be **September 23, 1977**.

PUBLICATIONS RECEIVED

Marine Ecology: Selected Readings was released in paperback form in October 1976. Edited by J. Stanley Cobb and Marilyn M. Harlin, both of the University of Rhode Island, the volume contains a collection of recent, pertinent articles on a large number of topics in marine ecology. The book is in two major sections. The first contains six chapters in trophic dynamics: productivity; grazing and predation; detritus, decomposition, and regeneration of nutrients; ecosystem energy flow modeling; characterization; and microcosms. The second section covers man's activities including both pollution and aquaculture. The volume is priced at \$16.50 and is available from University Park Press, Chamber of Commerce Building, Baltimore, MD 21202.

The *List of Strains 1976* of the Culture Centre of Algae and Protozoa was released in November 1976 by the Institute of Terrestrial Ecology of the Natural Environment Research Council of Great Britain. The catalog which also includes a list of bryophytes is available from the Culture Centre, 36, Storey's Way, Cambridge CB3 0DT, England. The price is \$1.59.

Distribution of Phytoplankton in Alabama Lakes, Working Paper No. 677, the first of 17 state phytoplankton summaries based upon data collected for the U.S. Environmental Protection Agency's National Eutrophication Survey (NES), is now available. The summaries include species lists by lakes and the results from the application of several water quality indices, e.g., Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and abundance and species diversity indices. State summaries in press or being finalized include Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Maryland, Mississippi, New Jersey, North Carolina, South Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. Copies of reports or placement of names on a mailing list can be accomplished by requests addressed to Victor W. Lambou, Chief, Water and Land Quality Branch, U.S. EPA, EMS1-I.V, P.O. Box 15027, Las Vegas, NV 89114.

Book Review: *Erstes Internationales Desmidiaceensymposium*. 1975. Edited by D. Mollenhauer. Beih. z. Nova Hedwigia 42: 1-316. \$74.00.

The long and eagerly awaited report from the 1971 International Desmid Symposium made its appearance in 1975. Since then, students of this group of algae, and biologists in general have been rewarded by a solidly packed volume of information enhanced by a plethora of thought- and discussion-inducing conclusions and theories. As is true in the exploration of any group of organisms, desmid students are confronted with four principle avenues of pursuit: 1) desmid biology, reproduction, morphogenesis; 2) taxonomy and phylogeny; 3) ecology and limnology; and 4) contributions to biological problems in general and to further the understanding of Life.

The Symposium papers (each with a resume in 3 languages) deal with or brush against all of these facets. Categorized, the papers fall into seven areas with obvious interlockings: electron microscopy, with special emphasis on cytology is the substance of papers by J.F. Gerrath, L. Kies and M. Mix, with additional studies on cytology by R. Chardard, B. Dobberstein and W. Kasprick; reproduction, mostly involving culture, by P. Biebel, I. Dubois-Tylski, R. Lenzenweger, O. Ihotsky and B. E. Lippert; culture with physiological implications by H. G. Schulle; taxonomical aspects by N. Andresen, C. Bicudo, and J. Ruzicka who discusses the laxity of authors in desmid papers; phylogeny and evolution by D. Mollenhauer; and a single report dealing with ecology by M. Tassingy. An over-all inventory reflects greater emphasis and interest on the part of the contributors for laboratory procedures whereas the great need for additional field investigations to support experimental results is ignored and mentioned only in one paper.

The success of the Symposium and the editing of the volume are due to the dedication, enthusiasm, and skill of Dr. D. Mollenhauer who earned the support of the Forschungsinstitut Senckenberg for the Symposium, and financial aid from the two business firms. As an introduction to the volume, he sketches the organization, the objectives, and the ideal philosophy of the Symposium (desmid research in relation to desmid biology and to biological problems in general). His introduction contains many generalizations, critiques, and queries which could form the basis for a continuing series of round-table discussions. He charges those who present phylogenetic schemes to support them by explanations and scientific studies. The problems surrounding phylogeny and desmid taxonomy are elucidated further, the discussion expanded and illustrations presented in his contribution dealing with the phylogeny of the Zygnematales. Here he introduces and expounds on the role of longitudinal symmetry in phylogeny, drawing on many representative genera from both within and without the Zygnematales. The paper is invaluable for the desmid student concerned with morphology in relation to evolution and taxonomy.

Micrasterias, a popular vehicle for cytological and morphological studies, appears in several papers. These include morphological details of pore and wall formation by Dobberstein; a critical and meticulous study of the nucleus by Kasprick suggesting a grouping of species based on chromosome numbers in contrast to Krieger's plan; Kies on papilla formation with new information on the behavior of gametes; cytology of conjugation cells and zygospore germination from a fortuitous culture contributed by Lenzenweger. Mix's informative paper is a contribution to a possible new concept of classification of the Conjugatophyceae. Her report on pores in *Gonatozygon* refers this genus to the Desmidiales (Placoderm). She recognizes 3 groups of families based on wall structure.

Two appropriate sermonettes are delivered by N. Andresen and C. Bicudo on the remises of authors and the use of the International Code. Bicudo typifies and corrects the authority for *Arthrodesmus* whereas Andresen presents examples of current and recent authors who have departed from strict adherence to the Code. Bicudo has since clarified the synonymy of *Arthrodesmus* species in his dissertation (1972). The purist will note immediately that, with one or two exceptions, the Code was not followed throughout the Symposium volume. Ruzicka also points out the failures of authors to follow the Code and presents some of the recurring problems leading to taxonomic invalidity. He deplores the giving of taxon status to ecological forms and suggests that more laboratory research is needed. He does not mention the dangers of relying upon artificial culture variants in taxonomy, nor the value derived from giving variants that appear in nature an epithet for reference—epithets which even though might turn out not to be true taxa, nevertheless render a 'tag' which becomes useful in discussion, in comparisons, and in ecological studies while also providing information on the degree and/or readiness of variability exhibited by a species.

It is a pity that this volume which will be given much hard use could not have been published by a book-maker in hard-cover binding especially considering the retail price.

G.W. Prescott
University of Montana
Missoula, Montana

A. Cardinal, Department of Biology, Laval University, Quebec 10, Quebec spent a year's sabbatical, ending this month, at the Biological Station of Roscoff, France, working with Dr. **Cabioch**. Dr. Cardinal would like to receive publications on marine benthic diatoms.

Also on sabbatical leave between February-June, 1977 is **Peter Fay**, Department of Botany and Biochemistry, Westfield College, University of London. Dr. Fay is at the Division of Life Sciences, Scarborough College, University of Toronto, West Hill, Ontario M1C 1A4.

Cinelli Francesco participated in the 11th European Marine Biological Symposium held at Galway, Ireland on October 5-11, 1976. He desires information on the ecology, systematics, and distribution of marine Delesseriaceae of the Pacific Coast of the U.S.A. and Central and South America and would appreciate specimens (fluid preserved or essiccata) of the genus *Branchyoglossum*. Write to him at the Laboratorio di Ecologia Marina della Stazione Zoologica di Napoli, Punta S. Pietro, 80077 Ischia Porto (Napoli), Italy.

Robert A. Rasmussen, Department of Biology, Humboldt State University, Arcata, California is on sabbatical leave as a visiting scientist at the Botanical Institute, University of Thessaloniki until August, 1977. He will be working with Dr. **I. Tsekos** on algal life cycles.

Beatrice M. Sweeney, Department of Biological Sciences, Univ. of California, Santa Barbara traveled to the meetings of the American Society of Photobiology in Puerto Rico, May 11-16, 1977.

Traveling to several meetings in 1976 was **Anitra Thorhaug**, Department of Microbiology, University of Miami. She attended the Workshop on Creation of Coastal Ecosystems, Sapalo Island, Georgia; the 1st International Symposium on Tropical Estuarine Pollution, Dajakarta; and the IOC (UNESCO) Caribbean Pollution Workshop, Trinidad. Dr. Thorhaug also desires the exchange of seagrasses and specimens of tropical and subtropical marine algae.

Harold E. Schlichting, Jr., BioControl Company, Port Sanilac, Michigan will teach the Freshwater Algae course and supervise research projects at the University of Minnesota Forestry and Biological Station, Lake Itasca, First Session, June 12 to July 16, 1977.

Planning to attend the Santa Barbara meetings in August are **Terumitsu Hori**, Toho University, Japan; **Ivka M. Munda**, Slovene Academy of Science, Ljubljana, Yugoslavia; and **Ooki Nakayama**, Yamanashi University, Japan. Dr. Nakayama will bring several specimens of microalgal cultures which he would like to exchange at the meetings. Also traveling to Santa Barbara will be Prof. **V. J. Chapman** of New Zealand. Prof. Chapman would welcome any invitations to give lectures on salt marshes, mangroves and algae at that time.

KUDOS

John J. Bolton, formerly of Liverpool University, arrived January 1, 1977 as a postdoctoral fellow to work with **G. Robin South**, Department of Biology, Memorial University, St. John's, Newfoundland, Canada on benthic marine algae.

Michael A. Borowitzka recently received a Queens Fellowship in Marine Science to study calcification in reef-forming coralline algae at the Australian Institute for Marine Science, Cape Paralendra, Townsville, Queensland, Australia.

As of August, 1976, the address for **G. Gordon Guist, Jr.** has been Marine Colloids, Inc., P.O. Box 308, Rockland, Maine 04841.

Gordon Robilliard is presently with Woodward-Clyde Consultants, Three Embarcadero Center, San Francisco, Calif.

Alida Ortiz Sotomayor is currently directing the Marine Advisory Program of the Sea Grant and coordinating the new B.S. degree program in Marine Biology at the Colegio Universitario de Humacao, P.O. Box 428, Humacao, Puerto Rico 00661. Dr. Sotomayor is interested in obtaining reprints of algae from the Caribbean area and Southern Atlantic Ocean. Her dissertation title was "The Genus *Gracilaria* in Puerto Rico."

Since September, 1976, **David N. Young** has been an assistant professor and Curator of Algae, Alan Hancock Foundation, Department of Biological Sciences, University of Southern California, Los Angeles, Calif. 90007. Dr. Young reports that phycology is alive and well at USC!

George A. Zoto is with Aquacultural Research Corporation, P.O. Box 597, Dennis, Massachusetts 02638.

RECENT GRADUATIONS

Jens Aage Hansen received his Ph.D. degree in January under the direction of E.G. Jorgensen. His dissertation title was "The Relationship between the Structure of Chloroplast, Pigment Content and the Photosynthetic Activity of Algae." He is seeking a postdoctoral or teaching-research position and can be contacted at the Institute of Plant Physiology, University of Copenhagen, O. Farimagsgade 2 A, DK-1353 Copenhagen, Denmark.

Jonathan Krupp recently completed his M.A. thesis on "An Electron Microscopic Study of *Roya anglica*" at Humboldt State University. He is presently pursuing a Ph.D. degree at the University of California, Davis under the direction of Norma J. Lang.

Kenneth L. Litchfield will receive an M.S. degree in August from Illinois State University, Normal, Ill. under the direction of Jerome R. Cain. The title of his thesis is "Qualitative and Quantitative Analysis of Benthic Diatom Communities in the Mackinaw River." Mr. Litchfield is seeking a position with an environmental consulting firm as a phycologist.

In September, 1976, **Joan Conway Lockhart** obtained a Ph.D. degree under the direction of Robert T. Wilce. Her research was conducted on "Factors Determining Morphological Form in *Cladosiphon zosteræ* (J. Ag.) Kylin (Chordariaceae)," and she is seeking a postdoctoral position to work on any aspect of algal development, morphogenesis, or life history. Write to her at the Department of Botany, Morrill Science Center, Univ. of Massachusetts, Amherst, Mass. 01003.

Joachim August Rother will receive his Ph.D. degree this year from the University of London, Department of Botany and Biochemistry, London NW3 7ST. Directed by Peter Fay, Dr. Rother's dissertation is entitled "The Annual Cycle of Growth and Reproduction of Planktonic Blue-green Algae in the Salopian Meres." He is currently seeking a postdoctoral or research position with emphasis on the physiological ecology of blue-green algae.

Two students who recently graduated under Herman S. Forest, SUNY College, Geneseo, N.Y. are **James J. Secosky** ("Season Changes in the Algae of Sodus, Bay, New York") and **Gail M. Galbraith** ("The Limnology of Sodus Bay, First Trophic Assessment").

C. B. Singh obtained a Ph.D. degree from Banaras Hindu University, Varanasi-5, India with a dissertation entitled "Genetic Basis of Sporulation in Blue-Green Algae." The degree was under the direction of the late R. N. Singh who passed away March 9, 1977.

Walt Jun Uwate graduated with an M.S. degree in September, 1976 from the University of California, Davis. Under the guidance of Norma J. Lang, Mr. Uwate's thesis was entitled "Characterization of a Unique Purple Bacterium (Suborder Rhodospirillineae)." He is presently a research assistant in the Pomology Department at Davis.

A 1976 Ph.D. recipient was **Patricia A. Wheeler** who received her degree from the University of California, Irvine under the direction of Grover C. Stephens. Her dissertation title was "The Uptake and Metabolism of Amino Acids by Marine Phytoplankton." Dr. Wheeler is currently a research fellow at the Kerekhoff Marine Laboratory, California Institute of Technology, Corona del Mar, Calif. working with Wheeler J. North on the nutritional requirements of *Macrocyctis*.

THE EXCHANGE DEPARTMENT

Alan L. Baker would like to exchange ideas with anyone who is involved with quantitative studies which have led them to develop computerized data files. In particular, he is interested in ways to code taxa, and he has developed a simple system (which will translate to other codes) for ease of data recording, recall, and exchange. Write to Dr. Baker at the Department of Botany and Plant Pathology, University of New Hampshire, Durham, New Hampshire 03824.

Boudewijn H. Brinkhuis desires information and/or publications pertaining to heavy metal and radioisotope studies in marine plants including algae. His new address is Marine Sciences Research Center, State University of New York, Stony Brook, N.Y. 11794.

The Department of Environmental Health at the GSPH, University of Pittsburgh is currently involved in research to separate and to identify the toxins in *Schizothrix calcicola*. They are having difficulty in locating cultures of *S. calcicola* and would appreciate any help in locating these cultures. Please respond to **John T. Coyne**, IEHS-Env. Health, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Penn. 15261.

Herman S. Forest writes that he has 2-300 mounted 2x2 color photomicrographs of algae and will furnish a list and/or respond to inquiries. He will swap or sell for the cost of reproduction. In addition, Dr. Forest would like to purchase one or more copies of his own book, *Handbook of Algae*. Write to him at the Bailey Science Bldg., SUNY College, Geneseo, N.Y. 14454.

Greta A. Fryxell, Department of Oceanography, Texas A & M University, College Station, Texas, 77843 is interested in chain-formation in diatoms and would appreciate fixed samples from marine or freshwater habitats, living or fossil.

Donald F. Kapraun, Department of Biology, Univ. of North Carolina, Wilmington, N.C. 28401 has a large number of duplicate herbarium specimens of marine algae from Florida, N. Carolina, and Bermuda for exchange with interested persons.

Charles O'Kelly would welcome any cultures and/or herbarium specimens of marine chaetophorean algae. He would especially appreciate receiving examples of the genera *Entocladia*, *Ectochaete*, *Ochlochaete*, *Pringsheimiella*, and *Ulvella*. Write him at the Department of Botany, AK-10, University of Washington, Seattle 98195. He is working on his Ph.D. degree under Richard Norris.

J. L. Perez-Cirera is now in the Department of Botany, Facultad de Farmacia, Universidad Complutense de Madrid (3), Spain. He would appreciate the exchange of publications and herbarium specimens of the Atlantic Coasts of America and Europe.

Milan Povolny, Department of Horticulture, Fac. of Agronomy, University of Agriculture, Prague 6, Suchbát, Czechoslovakia would welcome any exchange of publications, pamphlets, etc. on experimental research with seaweed extract application on the yield, quality, and self-life of field and glasshouse crops.

Kuno Thomasson, Vaxtbiologiska Institutionen, Box 559, S-751 22 Uppsala, Sweden would appreciate being placed on mailing lists to receive reprints on freshwater phycology: taxonomy, ecology, and distribution.

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