PHYCOLOGICAL NEWSLETTER

A PUBLICATION OF THE PHYCOLOGICAL SOCIETY OF AMERICA

Volume 40 Number 2 Summer/Fall 2004

Editors:

Alison R. Sherwood
Dept. of Botany
Univ. of Hawaii
Honolulu, HI 96822

Morgan L. Vis
Env. & Plant Biology
Ohio University
Athens, OH 45701

Email: psa@psaalgae.org

INSIDE THIS ISSUE:

PSA 2004 Awards of Excellence

The PSA 2004 Awards of Excellence recipients were: **Maria Anna Faust**, **Paul James Harrison** and **Matthew J. Dring**. This lifetime achievement award was established to recognize phycologists who have demonstrated sustained scholarly contributions in, and impact on the field of phycology over their careers. These individuals may have also provided service to PSA, as well as to other phycological societies.

Maria Anna Faust

Maria began her professional career in 1951 with an undergraduate degree from the Agricultural University in Budapest, Hungary. In 1953, Maria and her husband risked their lives and escaped from their native Hungary and so began their odyssey through Europe, eventually to the United States. By 1962, she received her M.S. degree from Rutgers University in microbiology and in 1970 she completed her doctoral degree at the University of Maryland. In 1973, she joined the staff of the Smithsonian Institution where she has maintained a very active research career for over 31 years studying estuarine bacteriology, dissolved organic matter and phytoplankton physiology. Maria has published over 100 peer reviewed articles and has contributed significantly to our knowledge concerning the ecology, taxonomy, and life histories of tropical dinoflagellates. In 2002, Maria published a widely acclaimed monograph on "Identifying Harmful Marine Dinoflagellates." This comprehensive work details the diversity of known harmful algal bloom species and is being used to identify harmful algal species worldwide. The quality of scanning electron micrographs shown in this monograph and her numerous other publications are considered by many to be works of art (see *http://www.nmnh.si.edu/botany/projects/dinoflag/*). In her position at the Smithsonian, Maria is working tirelessly to build a premier U.S. National Dinoflagellate worldwide collection having initiated The Type Registry of Dinoflagellates and The Research Collection of Tropical Marine Dinoflagellates, which is part of the U.S. National Herbarium. She has organized numerous national and international symposia on topics ranging from phytoplankton-bacteria interactions, to "Phycology in the World of High Technology", to round tables on toxic dinoflagellates. Those fortunate enough to have worked with Maria speak of her kindness, humility, and respect for young scientists. She has been an inspiration to generations of students and has mentored numerous graduate students, summer interns and high school students. Over the years she has served the Phycological Society of America as a member of both the Editorial Board and the Provasoli Award Committee. It is at this time that the Phycological Society of America bestows its highest honor on Maria Anna Faust for a lifetime of achievement in phycology – the PSA Award of Excellence.

Paul James Harrison

Paul has had a remarkable career of great significance in terms of teaching, scholarship and service to phycology. He received his Masters Degree from the University of Guelph in 1965, and was a secondary school teacher of science in Ghana (West Africa) from 1965-1967. By 1974, he received his doctorate from the

University of Washington in Biological Oceanography. After being on the Faculty of the University of British Columbia for 27 years, he has moved on to new challenges as the Director of the Atmospheric, Marine and Coastal Environment Program (AMCE) School of Science at Hong Kong University of Science and Technology.

Over the past 30 years, Paul has mentored more than 40 graduate students, being the doctoral supervisor of 22 students! He has made significant contributions in many areas, including serving as an Associate Editor for the Journal of Phycology and as well a member of the editorial boards of several scientific journals. Paul has had a long record of excellence in scholarship. He has published over 220 peer reviewed papers (many of them in top journals such as the Journal of Phycology) and co-authored two books. His book on "Seaweed Ecology and Physiology" is a classic and is used worldwide. He has edited several other books and he has been the guest editor for several important volumes on the North Pacific Ocean. Paul's main contributions have been in nutrient physiology of phytoplankton and seaweeds. The development of the concept of different phases of uptake rates (including surge uptake, and internally and externally controlled uptake rates) has greatly increased our understanding of the dynamics of the uptake process and the ability of some species to out-compete others for limiting resources such as nutrients. He developed an excellent and now a widely used recipe for artificial seawater for coastal and oceanic phytoplankton. Most recently he has also completed a chapter in the new "Handbook of Phycological Methods on Marine Culture" and has been involved in large mesoscale field projects at Ocean Station Papa (a HNLC region). His group is using ecologically important and relevant phytoplankton species to understand their physiological role in ecosystem functions in the Pacific Ocean. For these contributions and others, Paul was elected a Fellow of the Royal Society of Canada and recently he was awarded the status 'ISI Highly Cited Scientist' in Plant Science. He also won the UBC Killam Research Prize and held a Chair position in the 'Ocean Environment & Its Living Resources' at the University of British Columbia. Paul has demonstrated the very essence of what it means to be nominated and receive the PSA Award of Excellence. He continues to be a model and an inspiration to a new generation of scientists in phycology and oceanography in Asia.

Matthew J. Dring

Matt received his B.Sc. in Botany from the University of Bristol in 1964. In 1967 he received his Ph.D. in Botany from the University of London. Later that year Matt joined the faculty at Queen's University, Belfast where he has been the past 37 years. Matt's contributions to phycology are in the biology, ecology and physiology of seaweeds. He has made major advances in the fields of sensing (photomorphogenesis and photoperiodism), energetics (photosynthetic), damage (photoinhibition and UV-B photodamage) and inorganic carbon acquisition in several marine algae. He has demonstrated the effects of phytochrome on development in *Porphyra*. Matt has written over 65 peer reviewed publications and in 1990 he received the Provasoli Award for his work on "Stimulation of light-saturated photosynthesis in *Laminaria* (Phaeophyta) by blue light." In 1982, his book (now in its fourth printing) on "The Biology of Marine Plants" received the 1983 Prescott Award. Matt has supervised more than a dozen postgraduate students at Queen's University, despite recruitment difficulties due to the "troubles" in Northern Ireland and being at an institution that was not eager to support postgraduate education. Nonetheless, his students have achieved considerable success in their subsequent careers in phycology as he provided and continues to provide a supportive environment for their work. Matt has brought a number of postgraduate students to his laboratory in Queen's through European contacts and more recently through establishment of a European Union Marie Curie Training Centre for macroalgal physiology. Matt has a long and impressive record of service to Queen's University and to the broader phycological research community. He has held many positions of authority at Queen's and is an effective leader and committee chair. He continues to put enormous effort into reviewing and editing for journals. Matt's work with the British and European Phycological Societies has been substantial; even when he has not held formal offices he has worked behind the scenes, offering advice and support. Matt Dring is an outstanding scientist; his abilities have been widely and effectively applied over a long period of time to the advancement of phycology that qualify him for the Phycological Society of America's Award of Excellence.

PSA 2004 Annual Meeting logo

PSA 2004 in Williamsburg, Virginia

The 58th Annual Meeting of the Phycological Society of America was held in Williamsburg, Virginia from 6 through 12 August 2004 and was hosted by local organizer Sharon Broadwater. The meeting venue, the Williamsburg Hospitality House, provided an ideal colonial setting for the meeting in this very historic colonial American city.

History was a major theme of the meeting. The afternoon of the meeting's first day was devoted to a symposium organized by Dennis Hanisak entitled "*The Phycological Society of America: Reflections on its History in a Historic Venue.*" The symposium featured presentations by Bruce Parker on the origin and early years of the Society, by Carole Lembe on the development of the *Journal of Phycology*, and by Dennis Hanisak on the origin and evolution of the PSA Endowment followed by a very interactive and well-received panel discussion on the Society's past, present, and future. The historical theme continued through the last full day of the meeting which featured a symposium looking back on the past 20 years of progress in green algal systematics since the landmark paper by Mattox and Stewart in 1984. The symposium was organized by Mark Buchheim, Fredrick Zechman, and Marvin Fawley and featured eight presentations by leaders in the field.

Another highlight of the meeting program was an educational workshop and symposium organized by Roy Lehman as the Chair of the PSA Education Committee. The audience was treated to two beautiful videos from Jeremy Pickett-Heaps along with discussions of how they might integrate into the classroom as well as educational presentations by Dina Mandoli and Roy Lehman. In the contributed presentations, history gave way to the future. Over one-third of all the contributed presentations were made by students including seven excellent talks during the Bold Award session that led off the first morning of the meeting.

Several delightful social events gave phycologists the opportunity to interact in less formal settings. These included an opening mixer, the PSA auction, and an evening poster session and mixer that all featured outstanding spreads of hors d'oeuvres. Mid-meeting field trips visited the historic sites at Jamestown and Colonial Williamsburg in addition to the Virginia Institute of Marine Science and the Williamsburg Winery. The night of the last full day was capped off by the PSA Banquet and Awards Ceremony at the world-renowned Mariners' Museum in Newport News. Attendees were able to view the USS Monitor's turret and other parts that are under restoration after being retrieved from the Atlantic in addition to the museum's outstanding displays on maritime history and were serenaded by colonial musicians before and during dinner. A fitting finish to the history-laden meeting!

Chuck Amsler
PSA Program Director

2004 BOLD AWARD

Congratulations to **Aimee Bullard** of California State Fullerton for her award-winning talk, "Shifting Macrophyte Abundances and the Primary Productivity of Southern California Shores". Aimee was one of seven students in this year's competition, at the Phycological Society of America's Annual Meeting in Williamsburg, Virginia.

FACULTY POSITIONS AT MIAMI UNIVERSITY (OHIO)

Applications are invited for two tenure-track Assistant Professorships, beginning August 2005 on the Oxford campus of Miami University (Ohio).

Evolutionary Biology: We are seeking candidates with expertise in the evolutionary biology of plants, fungi, or protists. Applications are encouraged from scientists who are investigating evolutionary questions at the molecular, cellular, or organismal level.

Bioinformatics: We seek a plant biologist with expertise in bioinformatics with strong computer and programming skills. Research areas may include (but are not limited to): genomics, functional genomics, proteomics, gene expression, or systems biology/modeling.

See *www.muohio.edu/botany* for additional information. Applications (curriculum vita; teaching statement including experience, interests, and philosophy; statement of research goals and experience; 3 reprints) and 3 reference letters should be sent to: Dr. Linda E. Watson, Chair, (indicate Evolutionary Biology or Bioinformatics Search), Department of Botany, Miami University, Oxford, OH 45056 fax (513) 529-4243. Screening begins 15 November 2004.

See the PSA website (www.psaalgae.org) for more position openings.

Deadline for submission of information for the next PSA Newsletter:

January 15th, 2005

Please contact Alison Sherwood (psa@psaalgae.org)

PHYCOLOGICAL TRAILBLAZER

No. 21: Edouard Bornet

Jean-Baptise Edouard Bornet was born on Sept. 2, 1828, in Guérigny, France, the eldest of four sons. His father was a cashier at the Chaussade Foundry. Bornet received his education at the college in Nevers. He often was an irritant to his instructors and was threatened with expulsion, but the fact that he was consistently at the top of the class saved him from being expelled (Flahault, 1924). His summers and holidays were spent collecting and identifying plants around his hometown. A senior official at the foundry where his father was employed noticed his interest and arranged to loan the young Bornet a microscope to encourage him, and that proved to be a decisive step in molding his future career.

Upon graduating from college with honors in 1846, Bornet was happy to escape from a possible bureaucratic life. His family directed him toward medicine because of his love of nature (and plants). He headed for Paris, where his life was eased by the support of the parents of the young lady who was to become his future wife and life-long companion. Ever the eager student, Bornet divided his time with the faculty of medicine, the Sorbonne, and the Museum. When he was appointed as an extern for the hospital, his momentum was interrupted by his being called to serve in the military. But his family came to his rescue and persuaded his younger brother to take Bornet's place, an arrangement that was then possible.

Bornet was able to continue his studies without problems. He came under the wing of Dr. J. H. Léveillé, an authoritative mycologist of the time. Léveillé was careful not to encourage Bornet into a scientific career without having sufficient means. Bornet was not deterred, and in 1851 he had his first publication in the Annales des Sciences Naturalles, a report on the fungal genus *Meliola*. The paper was accompanied by two plates, which revealed his artistic talents. Bornet became acquainted with the eminent botanists of the time who often gathered at Léveillé's home.

At a time when Bornet lacked the resources to complete his medical studies, upon the advice of Joseph Decaisne, Gustav Thuret proposed that Bornet become his assistant, an offer which Bornet accepted (Woelkerling & Lamy, 1998). The two went to Versailles in 1852, where they spent the summer collecting and studying plants, especially the cryptogams. Before the end of 1852, Bornet and Thuret established themselves in Cherbourg, and despite the rigors of the winter season, they initiated their studies on marine algae. They quickly realized that the marine vegetation and the reproductive state of the algae were very different in the winter months than that of late summer. But Thuret became ill, brought on both by exhaustion and the winter conditions at Cherbourg. Bornet recognized the need to complete his medical training, and so he returned to Paris to take his final exams in November of 1854. He presented a thesis on the sexual reproduction in both animals and plants, stressing the plants. He earned his 'medical qualification' in August 1855 and soon returned to Cherbourg.

The two men complemented each other perfectly. Despite having different personalities, a strong friendship and an effective working relationship developed between Bornet and Thuret. Thuret was tall, with a light complexion (maybe due to his grey hair), spoke slowly, and carried himself with a stately demeanor, while Bornet was short, with a dark complexion, and spoke with much animation. Thuret came across as slightly English, while Bornet was the quintessential Frenchman (Farlow, 1876). The young doctor was well trained and always ready to work, an expert photographer, a skilled artist, alert in body and mind. He had the agility to maneuver over slippery boulders, and he was preoccupied with lifting the spirits of his patient, Thuret.

The constant dampness of the Cherbourg climate eventually led to Thuret's decision to spend the winter at Cannes on the Riviera. He rented a villa and returned the following winter. Eventually, Thuret purchased a site on the Antibes coast where he built a home and where he, with Bornet, would carry out their research. The two colleagues had an ideal location to pursue their research on marine algae, the home becoming full of notes, drawings, and manuscripts in various

stages of completion. Their research encompassed every group of marine algae, and it was their collaboration that solved the difficult question of sexual reproduction in the red algae. Papenfuss (1955) credited Bornet & Thuret (1866, 1867) as the first to clearly describe sexual reproduction in a number of red algae. Thuret employed the artist Riocreux, who rendered the illustrations with both great accuracy and beauty. It was only during the heat of the summer that Thuret and Bornet would move northward to spend time briefly visiting family and friends in Paris and then on to the Atlantic coast before returning to Antibes in the autumn.

In 1875 Thuret suffered a fatal heart attack at the age of 57 (Bornet, 1875). He left his library, his collections, and a number of unfinished manuscripts to Bornet, along with a generous endowment to allow Bornet to continue his work independently. Bornet completed much of the collaborative work (Bornet & Thuret, 1876, 1880; Thuret & Bornet, 1878). Madame Henri Thuret, Thuret's sister-in-law, purchased the villa with the hope that Bornet would stay on and continue the work he had done with Thuret. But Bornet decided to retire to Paris, where he and his wife occupied the first floor of an old building. Their apartment became a meeting place for younger scientists. Even though Bornet had no formal links to a University, he was regarded as a font of knowledge, to whom many came for scientific advice. These included Maurice Gomont, E. P. Munier-Chalmas, Paul Hariot, Charles Flahault, and Anna Vickers (Woelkerling & Lamy, 1998). Bornet & Flahault (1889) collaborated on a detailed examination of the algae (e.g., *Ostreobium, Gomontia*, *Mastigocoleus*, et al.) that lived within calcareous substrates. Bornet had the highest reputation as a scientist and was a member, or corresponding member, of some 27 scientific societies around the world (Guignard, 1912; De Wildeman, 1913).

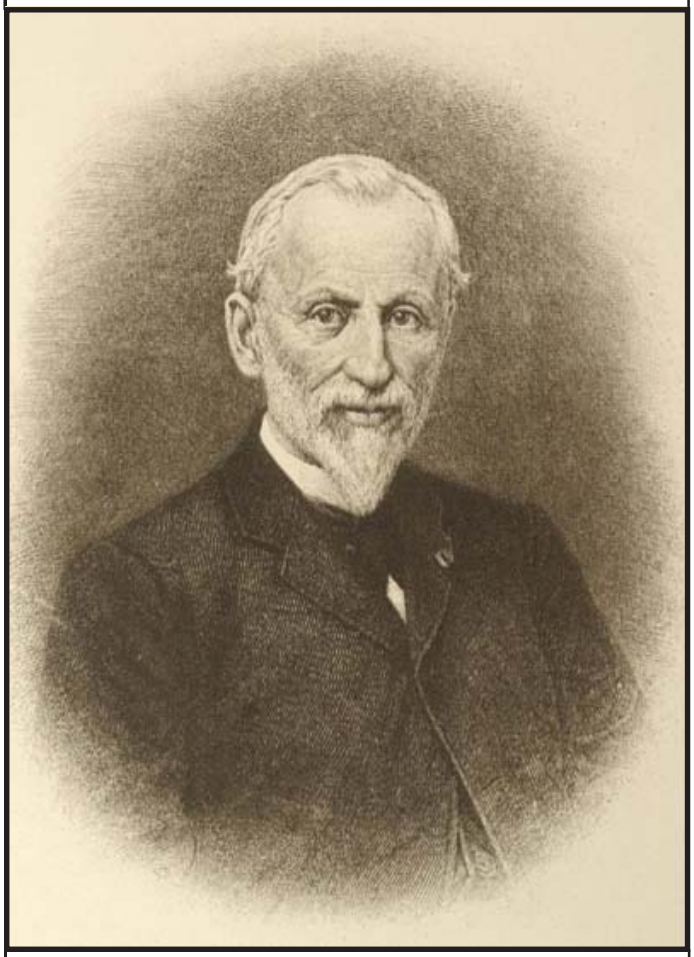


Fig. 1. Édouard Bornet [from Bulletin de la Société Mycologique de France vol. 29, 1913].

Bornet and his wife bought a holiday home at Cosne in the center of France, where they had both a garden and a working laboratory. The students were also welcomed there, as they were in their apartment in Paris. Bornet and the students would carry on stimulating conversations as they walked along the Loire River. The Bornets spent their summers at Cosne and spent the rest of the year in Paris. Toward the end of his long life, Bornet worked to put his algal herbarium and other affairs into order. He donated his collections, which included the Thuret herbarium, to the Paris Museum (Woelkerling & Lamy, 1998). His health declined toward the end of 1910, and he died on 18 December 1911, at the age of 83. His devoted wife was looked after by Bornet's many friends and survived him by another 10 years (DeToni, 1910; Flahault, 1924).

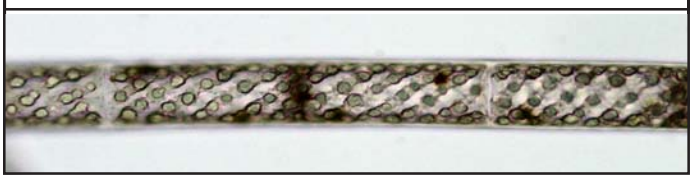
Bornet, É. 1875. M. Gustave-Adolphe Thuret. Equisse biographique. *Ann. Sci. Nat. Bot.*, sér. 6, 2: 308-360.

_____. 1888. Algues du voyage au Golfe de Tadjoura recueillies par M. L. Faurot. *Jour. de Bot.* 2: 17-20.

___. 1892. Les Algues de P.-K.-A. Schousoe, récoltées au Maroc & dans la Méditerranée de 1815 à 1829. *Mémoires de la Société nationale Sciences naturelles et mathématiques de Cherbourg* 28: 165-376, pl. 1-3.
___ & C. Flahault. 1889. Sur quelques plantes vivant dans le test calcaire des mollusques. *Bull. So. Bot. France* 36: 147-178, pls. VI-XII.
___ & G. Thuret. 1866. Note sur la fécondation des Floridées. *Mém. Soc. Imp. Sci. Nat. Cherbourg* 12: 257-262,
___ & ___. 1867. Recherches sur la fécondation des Floridées. *Ann. Sci. Nat. Bot*., sér. 5, 7: 137-166, pls 11-13.
___ & ___. 1876. *Notes algologiques 1*. G. Masson, Paris, 90 pp., 25 pls.
___ & ___. 1880. *Notes algologiques 2*. G. Masson, Paris, 123 pp., 24 pls.
___ & C. Flahault. 1888. Note sur deux nouveaux genres d'algues perforantes. *Jour. de Bot*. 2: 161-165.
De Toni, G. B. 1912. Edoardo Bornet (1828-1911). *Nuova Notarisia* 23: 25-42, portrait.
De Willdenow, É. 1913. Édouard Bornet (1828-1911). *Bull. Soc. Roy. Belgique* 52: 95-110.
Flahault, C. 1924. Gustave Thuret – Edouard Bornet. *Revue Algologique* 1: 4-23, 1 pl.
Guignard, L. 1912. Notice sur M. Édouard Bornet. *Bull. Soc. Bot. Fr.* 59: 257-301.
Papenfuss, G. F. 1955. Classification of the algae. In: *A century of progress in the natural sciences 1853-1953*. California Acad. Sci., San Francisco, pp.115-224.
Thuret, G., & E. Bornet. 1878. *Études phycologiques. Analyses d'algues marines.* [v] + iii + 105 pp., 51 pls. G. Masson, Paris.
Woelkerling, W. J., & D. Lamy. 1998. Non-geniculate coralline red algae and the Paris Muséum: systematics and scientific theory. *Muséum national d'Historie naturelle*, ADAC. viii+ 767 pp.

I am grateful to Mrs. Lynda Entwisle (Sydney, Australia) for her generous help in translating the Flahault (1924).

Michael J. Wynne
University of Michigan, Ann Arbor



LUIGI PROVASOLI AWARD

This award is presented by the Editorial Board and honors the memory of Luigi Provasoli (1908-1992), founding editor of the *Journal of Phycology*, and a scientist whose research on life histories and nutritional requirements of the algae continues to affect research in many fields of phycology. As a result of a generous bequest from Rose Provasoli, starting in 2004 up to three awards for outstanding papers are available each year. The award winners for 2003 papers are:

(1) Michael Higgins, Paul Molino, Rick Wetherbee, John Sader, and Paul Mulvaney for their pair of papers:

> Higgins, M. J. Molino, P. & Wetherbee, R. (2003) The structure and nanomechanical properties of the adhesive mucilage that mediates diatom-substratum adhesion and motility *J. Phycol.* 39(6): 1181-1193.
>
> Higgins, M. J., Sader, J. E., Mulvaney, P. & Wetherbee, R. (2003) Probing the surface of living diatoms with atomic force microscopy: the nanostructure and nanomechanical properties of the mucilage layer. *J. Phycol.* 39(4):722-734.

(2) Keith Okamoto and Woody Hastings for their paper:

> Okamoto, O. K. & Hastings, J. W. (2003) Novel dinoflagellate clock-related genes identified through microarray analysis. *J. Phycol.* 39(3):519-526.

and

(3) Anne-Marie Schmid for her pair of papers:

> Schmid, A.-M. M. (2003) Endobacteria in the diatom *Pinnularia* (Bacillariophyceae). I. "Scattered ct-nucleoids" explained: DAPI-DNA complexes stem from exoplastidial bacteria boring into the chloroplasts. *J. Phycol.* 39(1): 122-138.
>
> Schmid, A.-M. M. (2003) Endobacteria in the diatom *Pinnularia* (Bacillariophyceae) II. Host cell cycle-dependent translocation and transient chloroplast scars. *J. Phycol.* 39(1):139-153.

2005 PSA AWARD OF EXCELLENCE A CALL FOR NOMINATIONS

The PSA Award of Excellence honors scientists for a record of sustained scholarly activity, including teaching and service, who have had a major impact on the field of phycology. The Award is a career achievement award for a living phycologist. Nomination packages should include a nominating letter from a PSA member highlighting the reasons for the nomination, a complete curriculum vita for the candidate (including information relating to teaching and service), any supporting documents and two additional letters of recommendation. Nominations will be welcomed for all fields of research/ teaching on algae and also should highlight the candidate's service to PSA and/or other phycological societies. Materials should be emailed to Professor Charles Yarish (charles.yarish@uconn.edu), Chair, PSA Award of Excellence Committee, Department of Ecology & Evolutionary Biology, University of Connecticut, 1 University Place, Stamford, CT 06901-2315 (Tel. no. 203-251-8432; FAX: 203-251-9534). In order to receive full consideration for the Award (s) that will be made at the 2005 annual meeting of the PSA, the complete nomination package must be received by December 15, 2004.

Previous recipients of the PSA Award of Excellence include:

1996	Greta A. Fryxell & Richard C. Starr
1999	Sarah P. Gibbs, Grethe R. Hasle & Paul C. Silva
2001	Robert R. L. Guillard, In Kyu Lee, Francis R. Trainor & C. K. Tseng
2002	James S. Craigie, E. Irme Friedmann, John A. Raven, Theodore J. Smayda,
2003	Isabella Abbott, Gary Floyd, Karen Steidinger
2004	Matthew J. Dring, Maria Anna Faust, Paul James Harrison

The 43rd Annual Northeast Algal Symposium

The 43rd Annual Northeast Algal Symposium was held over the weekend of April 23-25, 2004 at the Avery Point Campus of the University of Connecticut. Organizers of the symposium were Louise Lewis, Senji Lin and Charles Yarish (Univ. Conn.). The scientific program consisted of 29 platform presentations and 40 posters. Arthur Mathieson was named as the Honorary Chair of the symposium.

Graduate student presentations were eligible for the Robert T. Wilce awards. In the oral category, Andrew Bramburger (Univ. Windsor, Ontario) received the award for the paper "Taddampali had an inordinate fondness for the *Surirellas*: The ecomorphology of an unlikely diversity" by Andrew J. Bramburger, Paul B. Hamilton, Peter E. Hehanussa and G. Douglas Haffner. In the poster category, the award went to Karen Pelletreau (Univ. Delaware) for the poster "What's in the box? The search for a phlorotannin molecular marker in the brown alga *Fucus vesiculosus*" by Karen N. Pelletreau and Nancy M. Targett. The President's awards, given for the best undergraduate presentations, went to Meagan Brennan (Susquehanna Univ.) for her poster entitled "Acid-mine and sewage effluent: influence and persistence of the plume from the Shamokin Creek into the Susquehanna River in Central Pennsylvania" by Meagan E. Brennan and Jack R. Holt, and David Sakoda (Wheaton College) for his presentation "Effects of a putative male pheromone on oogenesis in the brown alga *Macrocystis integrifolia*" by David Sakoda, Katherine Wells and Raymond J. Lewis.

The distinguished speaker Patricia Tester (NOAA) gave a talk entitled "Copepodology for the phycologist with apologies to G.E. Hutchenson." The Sunday morning sessions were followed by a workshop organized by Senji Lin entitled "Molecular techniques in phytoplankton research."

Contributed by **Peter Bradley** (NEAS Secretary)

Business Meeting of the Phycological Society of America
Gleneden Beach, Oregon
16 June 2003

David Millie (president) convened the annual business meeting at 7:45 p.m. Richard Treimer moved to accept the minutes from last meeting, Ray Lewis seconded. There were no recommended corrections. The motion passed unanimously. Millie announced that a mixer was planned for the graduate students after the evening poster-session on June 17th, and that the society was providing some funds ($300 bar tab) for the start of that event. The president then gave his report.

President's Report (David Millie)

Several organizations contacted PSA for letters of support and interest. President Millie sent letters of support to DIALOG (Dissertations Initiative for the Advancement of Limnology and Oceanography), and accepted charter membership in the USGS Coalition. NEON (National Environmental Observing Network) recently asked us to join their coalition. All the AIBS societies were asked to nominate representatives to the NEON steering committee. We nominated representatives, but they were not elected. We would like them to lobby for research in the aquatic environment, and so are interested in greater involvement. An acceptance letter for the invitation to membership was pending as of the time of this meeting.

The committees were filled at the time of the annual meeting. We still had a need for student members on some of the committees. The leadership of the society has been concerned that with the continual changing of the presidents we do not always have continuity of activity within the committees. Past, present and future presidents plan to work together to keep initiatives they have started on track. They plan to work more closely in charging the committees in the future. President Millie saw a need to restructure the editors office and have centralized registration in the program office.

Board of Trustees' Report (Dennis Hanisak)

The Board of Trustees (BOT) is charged with oversight and growth of the endowment. The auction on June 15th was a great success, making about $3800 for the society. Members were encouraged to visit the headquarters and make donations in return for the excellent items (cups, t-shirts, books, buttuns, etc.) available there. June Moller designed the cup art for the 2003 meeting. The BOT is in charge of dispersing funds as well. One of the major projects underway was the publication of a new phycological handbook. Robert Sheath is chair of the publications committee, and Robert Anderson is the editor of the new handbook. Dennis projected that it may be ready as early as summer of 2004. Two other books were also being planned, a molecular handbook, and a book on the ecology of the algae. Another area of progress in 2003 was the initiation of an education workshop/symposium, spearheaded by the Education Committee (Roy Lehman, chair). The Executive Committee approved continuance of the program.

Bob Waaland then guided us through some of the progress, investment strategies, and outlays from the endowment fund. The endowments consist of three sources of funding: 1) the Endowment Fund which supports activities, prizes, and awards, 2) the life members account, from the purchase of life memberships, and 3) the Treasury Reserve, comprising excess funds in the treasury. The three accounts had been lumped for investment purposes, but were separated in 2002. We are in first full year of separate accounting. Bob then went over the report in some detail. The most newsworthy item was that for the first time the combined endowment had exceeded one million dollars. At the end of 2002 we received a large endowment from the estate of Rosa Provasoli, and it tripled the amount of funds available for that award. Next year the Provasoli Award will have $3000 available.

If interest rates remain low, it will affect the size and number of awards, as the endowment will be managed to maintain the principle. In 2003 (up until the time of the meeting) the endowment supported the following: 1 Bold Award @ $750, 4 Croasdale Awards @ $1000 each, 6 Education/Research Awards @ $1000 each, 1 Prescott Award @$500, 1 Provasoli Award @ $1000, 29 Hoshaw awards for the 2003 meeting at $200 each. For 2004 the fund added $250 to the Bold Award for discretionary awards for one or two extra students. The Publications Committee received $2400 for publication projects underway discussed above.

Local Organizer's Report (Gayle Hansen)

A total of 294 people came to the meeting with 89 of those being students, and 8 being vendors. A total of 65 posters and 143 talks were scheduled. Gayle indicated that if we are going to have elecrtronic submission of abstracts, registration, etc., members will need to take better care in filling in all blanks, as some problems at the meeting occurred due to people not filling the electronic forms in completely. The cost of this meeting came in with a reasonable budget of $251 person. The difference was split between students and professionals ($200 for students, $300 for professionals). In the future, deadlines for decisions would improve the process of meeting organization.

Sharon Broadwater then gave a report on the 2004 meeting to be held in Williamsburg, VA. Williamsburg is a historical fun area, with nearby access to Busch Gardens, Water Country, and Colonial Williamsburg. It is also an expensive area. The meeting was scheduled to be held the second week in August. Sharon asked people to consider hosting the 2006 meeting (the 2005 meeting being scheduled to occur in Durban, South Africa).

Membership Director's Report (Rick McCourt)

The highpoint of membership in the society was in 1991. It dropped to 1200 people in 2002, and has hovered near this low point since. The membership were asked: "What is going on?" Rick indicated he would contact people and institutions. In 2003, it was slightly higher. Rick indicated that anyone having renewal problems should contact him first. He recommended that professional members consider giving membership as a holiday gift item to students.

Paul Kugrens asked if the society was going to issue a printed membership directory, and wanted to know how often the electronic membership directory was updated. Rick promised to talk to Morgan Vis about this latter issue. The print directory was put together the previous year but not produced. Robert Harington (Blackwell Scientific Publishers) indicated that Blackwell was building a separate membership directory associated with the journal. It could be built as a search engine and included as part of PSA's website.

The membership was also reminded about the PSA listserver. Some members do not want to be on it, but if you do not resubscribe you do not get it. The society is also looking at coupling of workshops with other organizations at our annual meeting. Steve Murray and Bob Clark offer a 3-5 day workshop on multivariate procedures. The society has no financial investment in it, but will get a financial return. It has sold out twice already in its 3-day format.

Editor's Report (Patricia Wheeler)

Dr. Wheeler handed out a 12 page report. She thanked Chris leBoeuf and members of the Editorial Board. The total circulation of the *Journal of Phycology* was increasing due to consortial sales. Only about 70% of those publishing in the journal are members. In 2002 the page charges were instituted for nonmembers only, and they were considering increasing it to $50/page, which is modest given that it costs $200/page to produce. The journal is in the top 25% of journals in the plant sciences. The impact factor has gone up: Algae highlights and minireviews are credited with at least some of that increase.

The journal now has a significant on-line presence, likely due to both marketing efforts and consortial sales. Electronic submissions of journal manuscripts decreases review time. The journal is going on-line early (actually published before print), and is available to members 1-2 months before print copy. Electronic offprints are PDF files, although we will continue to still sell them. Authors will be able to post their papers on their own webpage for back issues (back to 1998). Back issues are being converted to PDF files and will eventually be put on-line. With electronic publishing, access to journal articles for teaching is better. All of these changes are improvements that increase the strength and value of the journal.

The workload in the editorial office has been a recent problem. Journals vary in size, and to understand expenses one should normalize expense of the journal by calculating expense/pages published. Our office budget is 50% of the mean for scientific journals, so we are operating efficiently and reasonably. However, it is still a great deal of work to produce the journal, and the effort required has increased recently at least in part due to the high amount of business management required of the editor. This year an increase in the budget for the editorial office has been requested.

Abstracts for the meeting will be published on line only in the future, but they will be referenceable and citable. Abstract Central will be used to enter and publish the abstracts. Members will be able to log on 3-4 weeks before the meeting and look at abstracts.

Robert Harrington from Blackwell was at the meeting. He indicated he was happy to be at the Annual Meeting. He said that he was committed to making journal the best it can be. He was excited about Legacy (the project of putting back issues on line, and felt Synergy is a good platform. In marketing the journal he felt we could turn leadership in the field into membership in the society. In response to a question from Michael Guiry, Robert stated that journals with a broad field have the best impact factor. Those in a narrow field can never get that high a factor. In Europe the impact factor of journals is becoming increasingly important for scientist's careers. However, given the needs of the members to have a quality venue in which to publish, Blackwell's aim is to publish the best papers, and not to worry about impact factor.

Treasurer's Report (Sharon Broadwater)

Sharon handed out a printed report. The total monies available to society are about $1 million in the endowment and $89,000 in the operating budget. The plan of the executive committee was to keep a reasonable amount in the treasury for contingencies and put the rest in the endowment. Monies were moved from the operating budget to the endowment on a quarterly basis from expected profits from the journal. At the beginning of 2003 we anticipated a larger amount of profit than came to pass, because institutional memberships fell. However, we still came in about on budget. Last year we did a study of the history of the society, and we pay less than what they paid when the journal was started. Publishing and on-line presence is expensive. We agreed last year to raise the cost of the journal to members and institutions by a small amount every year rather than have periodic big increments. We are recommending a $5/year increase for everyone, with an 8.5% increase for institutions. Charlie Yarish moved that we accept the new rate structure, John LeClaire seconded it. It was approved unanimously.

Communications Director's Report (Thierry Chopin for Morgan Vis)

The website is being updated. A directory has been started for educational resources. The Membership Directory will be updated. Two newsletters were

published this year (2002-2003). The listserver continues to be maintained.

The Archive Committee made a CD about history of the society. You can sign up to get one or view one. An endowment donation of $5 is welcome for the CD. There were a few more announcements related to the society and the logistics of the meeting. Then with business concluded, John Le Claire moved we adjourn. Ray Lewis seconded. The meeting was adjourned.

Business Meeting of the Phycological Society of America Williamsburg, Virginia 09 August 2004

The meeting was called to order at 7:15 p.m., 9 August 2004 by President Thierry Chopin. There were 60 members counted near the start of the meeting, with over 70 present before the close of the meeting. The first order of business was to approve the agenda. It was approved without dissent.

President's Report (Thierry Chopin)
President Chopin reviewed the highlights of activities and plans for the year that were subsequently discussed in greater detail in the separate reports given by other members of the Executive Committee (EC). Highlights include: 1) the book on Algal Culturing Techniques by Robert Anderson will be coming out soon, 2) a contract with Scholar One/Abstract Central was initiated for electronic submission of abstracts and registrations at the annual meeting, 3) a new award for best student poster has been proposed and recommended by the EC and will be incorporated into the bylaws following review and approval by the society, 4) the 2005 meeting will be held with the International Phycological Congress in Durban, South Africa, and the support for student travel will be doubled in 2005, 5) an increase of 6.5% in institutional subscription rates for 2005 was approved at the mid-year meeting of the EC with Blackwell Publishing in Boston (no increase in membership rates), 6) the EC and its Program Director have been working on the next three years of meetings, and 6) the poster of the West Coast Seaweeds was provided to members free at the Williamsburg Meeting.

The election results were announced. The following officers were elected this year: 1) Vice-President/President-Elect will be Morgan Vis-Chiasson, 2) Membership Director will be John La Claire, 3) new members of the Editorial Board will be Annette Coleman, Karen Steidinger, Frederick Zechman, and Giuseppe Zuccarello, 4) Communications Director will be Alison Sherwood, 5) the Chair of the Board of Trustees will be Paul Kugrens, and 6) the new Fund Manager will be Tim Nelson.

The President then asked for the members to review, discuss and approve the minutes of last year's Business Meeting in Gleneden Beach, Oregon. Paul Kugrens made a motion to approve the minutes, it was seconded by Richard Triemer, and the minutes were approved without dissent.

Vice-president's Report (Curt Pueschel)
Dr. Pueschel indicated that in response to concerns about declining membership in the society and declining participation in the meetings he had had several frank and open discussions with members at the meetings about what the society means to them and their impressions of what could be behind the decline. He indicated he was interested in hearing from the members on how to improve the society and the journal so that the society might attract higher numbers of students and lapsed members.

Membership Director's Report (Rick McCourt)
The membership remains an organization with a majority of its members residing in the United States (54% of the membership). Residents of Canada and Mexico make up 5% of the membership, while 41% of the membership resides in other parts of the world. Professional members, students, and institutions make up 55%, 11%, and 34% of our membership, respectively. Membership peaked in 1994, but has declined in both professional and student memberships since, with smaller declines in institutional subscribers.

Board of Trustee's Report (Dennis Hanisak and Bob Waaland)
Dr. Hanisak announced the initiation of the of Best Student Poster Award, indicating that the funds necessary for the award were found in the general fund and so did not require establishment of a special endowment to cover the award. The first poster award will be given at the 2006 meeting. The Bold Award Committee would be asked to coordinate with evaluation (*i.e.* form a separate committee of annual evaluators under their direction). He also indicated that there would be more support for student travel to the meeting in South Africa, made possible by allocating funds set aside for meeting symposia to student travel (there will be no PSA sponsored symposia in Durban). Support for students will be higher than usual (multiple grants likely at $800-1000/student). The Publications Committee has been very active, and Bob Anderson's book on Algal Culturing Techniques will be published this year or early next year. A book on Molecular Techniques for Algae is under discussion.

The Board of Trustees is under transition. Bob Waaland and Dennis Hanisak are finished with their terms of service. Paul Kugrens will be the next Chair of the BOT, and Tim Nelson will be the next Fund Manager. There are additional openings on the BOT that will be filled before the end of the year, and recommendations from the membership on who might be good to serve will be welcome. The society made $2000 at the auction, which was a healthy sum given the size of the meeting. There

will be a silent auction of the full slide collection at this meeting.

Bob Waaland then went over the finances of the endowment fund. The market value as of 12/31/2003 of the endowment fund was $764,481. Additionally, we had the Life Members Fund ($178,289) and the Treasury Reserve ($74,200), giving total assets in excess of $1 million. The market value of the endowment fund alone was $751,758 as of 6/30/2004. The society is financially healthy. The estimated income for the year is used to make the spending plan for the following year, with notable expenses being the Bold Award, Hoshaw Award, Grants in Aid of Research, lectures and symposia, the Provasoli Award, Prescott Award, and publication projects.

Treasurer's Report (Michael Gretz)
Dr. Gretz thanked Sharon Broadwater for handing over an excellent ledger. Michael handed out the balance sheet for 2003, which showed total assets of $92,431, liabilities of $22,711, for a balance of $69,719. The balance in progress for 2004 currently shows a budget surplus of $21,481. The society has adequate cash and no financial difficulties.

Blackwell Report (Marjorie Spencer)
Marjorie highlighted some of the recent improvements to the journal. Blackwell is now publishing on-line early, meaning that papers go on-line as soon as they are formatted for the journal, which is often 4-6 weeks ahead of the time they appear in print. The Legacy Journal Project is underway, and the last five years of back issues will soon be on-line, with 5 more years of back issues going on line every year after that until the entire journal will be available to current subscribers. Blackwell is the society's membership partner as well, and stabilization is a big goal this year. In the future Blackwell hopes to see gains in students, authors, and lapsed members. They feel the USA phycologists should be especially targeted and brought in to the society. Blackwell is reviewing marketing materials, which include posters, brochures, postcards, and electronic advertising. They would appreciate feedback on the type of advertising which most appeals to the members. New institutional subscribers are hard to get, but Blackwell has made strides in reaching researchers through consortial sales.

Editor's Report (Patricia Wheeler)
A 10 page report with charts and text can be emailed to members on request. Carole Lembi was thanked for her retrospective on the journal given at the meeting, and Chris LeBeouf was thanked for her immense supportive role in the Editorial Office. Total circulation of the *Journal of Phycology* was about 3000 in 2003. Print circulation has dropped a bit, but on-line subscriptions are up. The journal currently has about 1300 pages/year, with a 40-50% acceptance rate. The papers are mostly in three categories; Ecology, Phylogeny and Taxonomy, and Physiology. Turn around time (time from when a manuscript is received until the Associate Editor makes the first decision) is two months on average. Accepted papers are published one month later on on-line early, and generally printed a month after that. Reminders for both reviewers and Associate Editors was credited with some of this success in shortening turn-around time. Nonmembers are now charged page charges of $50/page, which is modest given that the cost of production is $200/page. Authors can now pay $50 for a PDF file to post on their website, and as back issues go on-line, they will be able to add older publications for the same fee. There are fewer orders for offprints, but it is hoped that the purchase of these PDF files will make up the loss in offprint revenue.

The usage of the journal on-line has skyrocketed. On-line use in 2000 was 1500 hits/month for full text articles. Currently on-line usage is about 14,000 hits/month. Usage reports from Blackwell indicate that the greatest number of users used Google as the entryway into the journal.

Sometime next year the EC will begin searching for the next Editor. Members with suggestions should send them to the EC for consideration. Finally, with an additional contribution to the Provasoli Award Endowment, the number of awards will go up to three per year. A pamphlet on this year's awardees will be handed out at the banquet.

Communications Director's Report (Morgan Vis)
The communications director oversees the newsletter, website, and the listserver. Last year we sent out two newsletters (the typical number). The website will be revamped in the near future, and the new director, Alison Sherwood, will spearhead that effort.

Past President's Report (David Millie)
This past year the Past President's duties involved renegotiating and writing the Blackwell contract. That contract was deemed acceptable. The book contract (Robert Anderson's book) was also written, but not found acceptable by Dr. Millie, and was subsequently renegotiated byRobert Sheath and Thierry Chopin.

Student Representative's Report (Thierry Chopin for Daniela Bocioaga)
There are no particular issues being considered at present. Daniela would like more feedback from students. Please take advantage of the listserver and Alison Sherwood to communicate concerns and requests.

Program Director's Report (Chuck Amsler)
The Program Committee has been busy over the last year. One big change is the use of Abstract Central for the meeting abstracts. PSA has a contract with them for three meetings in which we control the program (2004, 2006, 2007).

In this meeting there were 105 contributed presentations and 15 symposium presentations. Fifty-six of these were posters. Students gave 35 of the presentations, 22 of which were posters, which supports the priority of the BOT/EC for the best student poster award to be first awarded in 2006.

In 2005 we will meet with the International Phycological Congress in Durban, South Africa. On the second night of the full days of the meeting, PSA will host the annual meeting and mixer. Awards will be presented at this meeting. The 2006 meeting will be in Juneau, Alaska, and the 2007 meeting will be in New Orleans. At these two meetings we will tap $7000/year in the Lecture Fund to bring very renowned plenary speakers to the meeting, and will invite them to designate up to two junior colleagues that they would like to participate in their plenary session.

Chuck then turned the floor over to Michael Stekoll to discuss logistics and advantages for the Juneau meeting. Michael showed a short video highlighting the touristic splendors of the city, which include access to Tongass National Forest, a large Convention Center, whale watching, Native artifacts, good seafood, great scenery, and those features of less interest to the normal tourist but of great interest to phycologists: 6 meter tides, freshwater streams and lakes, bogs, and freshwater and salt marshes. All air travel comes through Seattle or Anchorage on Alaska Airlines, and while not cheap, is not exorbitant ($450-700). If many people come, the meeting will likely be held in town at the Convention Center. If smaller (ca. 150 participants) it could be held at the university. Regardless, inexpensive dormitory housing will be available for students. The meeting will likely be scheduled for late June/early July.

Dave Millie then talked about New Orleans. Jim Wee and TJ Evans will act as local co-organizers. Both of them and Dave have lived in New Orleans. It will likely be held at Loyola University in the latter part of July or early August. Aquarium of the Americas will likely be the banquet venue.

Report from the American Society of Plant Biologists (Dina Mandoli)
Dina Mandoli wanted to tell us something about the American Society of Plant Biologists, in the hopes that the two societies can sponsor joint meetings or events in the future. The ASPB was organized in 1929. They publish *Plant Cell* and *Plant Physiology*, both of which They have a $6 million budget, which supports 13 full-time staff members. ASPB is concerned because membership is dropping, and they would like to restimulate membership and attract new members. Benefits of membership include a 40% discount from Sigma, which for some can recoup expenses of membership in just a few orders.

Thierry Chopin then closed the meeting with thanks to the many members who contribute to the vitality of the Society through services in various capacities. Although only 15 persons serve on the EC and BOT, there are 12 Committees, Associate Editors, Editorial Board members, and an Editorial Assistant, who often work unnoticed, but bring the number of elected and appointed members to 111 individuals, many of whom were at the meeting. The meeting adjourned at 9:00 p.m.

M.S. or Ph.D. Graduate Fellowships in Freshwater Algal Biodiversity &Stream Ecology

Graduate assistantships are available at the M.S. or Ph.D. level will be available for the Fall semester 2005 to study the relationship between biodiversity of freshwater benthic algal communities and ecosystem properties. Students should have a strong interest in conducting rigorous field research, with a focus on (1) taxonomic and community properties, and/or (2) stoichiometric and nutritional properties of algal communities in stream food webs. Students with interests in both descriptive and experimental (manipulative) approaches are encouraged to apply. Research will be based out of the Louis Calder Center, the biological filed station of Fordham University (www.forham.edu/calder_center). Successful applicants will be funded for at least two (M.S.) or five (Ph.D.) years, plus full tuition remission, and are eligible to apply for on-site housing at the station. Prospective students should contact Dr. John Wehr (wehr@fordham.edu; 914-273-3078, ext. 11). Applications can be obtained though the Graduate Arts and Sciences office: www.forham.edu//Academics/Colleges__Graduate_S/Graduate__Profession/Arts__Sciences/Admissions/

RESEARCH OPPORTUNITY

The species specificity of frustulin proteins may provide the basis for several powerful ecological and taxonomic applications. Their ubiquitous distribution in the organic casing of the diatom frustule coupled with ease of extraction and peripheral location make them excellent targets for labeling assays and a ready source for species determination. Systematic identification and characterization of these proteins from specific diatom indicator species of water quality has begun with the intent of initiating an understanding of the scope of their applicability. Due to the enormous diversity inherent in the group, this has become a daunting task that will require the efforts of several investigators working towards a common goal. Those interested in being a member of a research group focused on discerning novel frustulin proteins and developing techniques based on their specificity should contact: **Adam Schmidt (505) 454-3263, (505) 454-9694, aschmid1@student.nmhu.edu**

OBITUARIES

Vale Sophie Charlotte Ducker

Sophie Ducker passed away earlier this summer in Melbourne, Australia, at the age of 95. Further information on her life and accomplishments can be found at:

http://uninews.unimelb.edu.au/artcleid_1539.html

John Clayton Kingston

John Kingston was born 26 September 1949 in Austin, Minnesota and died from the effects of a brain tumor in Ely, Minnesota on 9 June 2004. With John's premature passing, our field lost an exceptional intellect, and a truly unique personality. John undertook his secondary education in the public schools of Austin Minnesota and obtained his B. S. in Botany from Iowa State University in 1970, his M.S. from the University of Delaware in 1975, and his Ph. D. from Bowling Green State University in 1980. Throughout his career John was an astonishingly active correspondent who was one of the first diatomists and paleolimnologists to appreciate the power of the internet. Those interested in diatoms and paleolimnology, in any part of the world and in any research capacity, but particularly students, benefited from his extensive experience, knowledge of the literature, and keen insights as well as his willingness to communicate.

Ramon Margalef

Dr. Ramon Margalef passed away at his home in Barcelona, Catalunya (Spain) on May 23, 2004. Dr. Margalef was known worldwide for his original and provocative research in the fields of ecology, limnology and oceanography. More information about the life and accomplishments of Dr. Margalef can be found at:

http://www.icm.csic.es/bio/personal/fpeters/margalef/margalef.htm

Lu Bao Ren

It is with deepest regret that we inform you that Prof. Lu Bao Ren of the Institute of Oceanology, Chinese Academy of Sciences, recently passed away while in Vietnam. Prof. Lu was a a close associate of Prof. CK Tseng, and had co-authored many papers on Chinese *Sargassum* with him.

Condolenscences can be sent directly to Mrs. Lu Bao Ren c/o Prof. Duan D.L of the Institute of Oceanology, Chinese Academy of Sciences, Key Lab of Experimental Marine Biology, 7 Nanhai Road, Qingdao 266071, CHINA

News from the University of Alaska Fairbanks School of Fisheries and Ocean Science

UAF scientists discover new marine habitat in Alaska
Rhodolith beds likely to fuel protection debate

PRINCE WILLIAM SOUND, Alaska-While researchers in Alaska this summer used high-tech submersibles and huge ships to plumb the deep-ocean depths in search of new species, a team of scuba diving scientists working from an Alaska fishing boat has discovered an entirely new marine habitat just a stone's throw from shore.

The discovery in June of a single bed of rhodoliths, colorful marine algae that resemble coral, was made near Knight Island in Prince William Sound by scientists at the University of Alaska Fairbanks (UAF) School of Fisheries and Ocean Sciences (SFOS). Rhodolith beds have been found throughout the world's oceans, including in the Arctic near Greenland and in waters off British Columbia, Canada. But they have never been documented in Alaska waters.

"This is exciting because it represents a new type of habitat scientists had not identified before in Alaska," said Brenda Konar, associate professor of marine biology at SFOS and staff scientist with the West Coast and Polar Regions Undersea Research Center at UAF.

Rhodoliths belong to a group known as coralline red algae that deposit calcium carbonate within their cell walls to form hard structures that closely resemble beds of coral. But unlike coral, rhodoliths do not attach themselves to the rocky seabed. Rather, they drift like tumbleweeds along the seafloor until they grow heavy enough to settle and form brightly colored beds. And while corals are animals that filter plankton and other organisms from the water for food, rhodoliths produce energy through photosynthesis.

Globally, rhodoliths fill an important niche in the marine ecosystem, serving as a transition habitat between rocky areas and barren, sandy areas. Rhodoliths provide habitat for a wide variety of species, from commercial species such as clams and scallops to true corals. The discovery of rhodoliths in Alaska is likely to fuel the debate over the protection of seafloor habitats.

"Now that we found them, we want to find more of these beds and learn precisely what their role in the Alaska marine ecosystem is," said Konar.

Mike Foster, professor emeritus at Moss Landing Marine Laboratory in California, has studied the global distribution of rhodoliths, and is the author of numerous scientific papers on the subject. He says the

discovery of rhodoliths in Alaska marks an important milestone in scientists' understanding of coralline algae.

"If these beds are anything like those elsewhere in the world, they are likely critical habitat for associated species, and there are probably more new species in them than just the rhodoliths," said Foster. "Such discoveries also send an important message about how little we know about the sea."

The discovery came after Konar and Katrin Iken, assistant professor of marine biology with the university's Institute of Marine Science, accidentally dropped a small strainer, or sieve, overboard. The scientists had been conducting nearshore surveys of marine life as part of an international study sponsored by the Census of Marine Life NaGISA program and funded by the Gulf Ecosystem Monitoring program.

"A sieve is worth about $75, so we wanted to get it back," said Konar. "We descended into about 60 feet of water and found the sieve right away. But then I noticed these little pink tumbleweeds everywhere. I thought I was looking at a rhodolith bed, but rhodolith beds had never been described in Alaska. We were shocked to see how many there were down there."

Konar said she knew right away the find was significant. She'd seen rhodoliths in places like Baja California, Mexico. But in her more than 15 years of diving Alaska waters, she had never come across them.

"The biggest ones may have been about the size of a ping-pong ball, but many were smaller. They have lots of branches that come out of a centerpiece. They look like toy jacks, except they are pink. It was a very large bed, at least 60 meters (197 feet) long. It was very exciting."

Konar and Iken collected several rhodolith specimens and sent them to Rafael Riosmena-Rodriguez, an internationally recognized marine taxonomist who specializes in identifying rhodoliths. During the past several months, Riosmena-Rodriguez conducted a number of tests aimed at identifying the rhodoliths at his laboratory at the Marine Botany Program at Autonomous University of Baja California Sur in La Paz, Mexico. Some of the tests involved slicing the specimens into thin sections and comparing their structure and reproductive parts to a global database of known rhodolith species.

"I believe we have at least two rhodolith species in the samples I received," said Riosmena-Rodriguez. "One species is *Phymatolithon calcareum*. This species is widely distributed in the North Atlantic Ocean."

While scientists agree that ocean currents are key to distributing rhodoliths around the world, debate centers on where *P. calcareum* originated. Riosmena-Rodriguez says the species may have actually originated in Alaska waters. More research on the species' evolutionary history is needed to be sure.

The other rhodolith specimen collected by Konar and Iken is potentially a species new to science.

"It does not seem to match anything we have seen," said Riosmena-Rodriguez.

Riosmena-Rodriguez said the as-yet unidentified species is similar to a type of rhodolith found in eastern Canada, called *Lithothamnion glaciale*. But in important ways the Alaska rhodolith is different.

"It has very large conceptacles, the reproductive structures," explained Riosmena-Rodriguez. "And the thallus is very thin. This is something unique that you don't find in very many species."

Riosmena-Rodriguez said additional samples and further testing are needed to confirm whether the second species is indeed new.

Scientists believe rhodoliths have been present in the world's oceans since at least the Eocene epoch, some 55 million years ago. Because rhodoliths probably grow very slowly in Alaska's cold waters, Riosmena-Rodriguez said they probably have been in Alaska a very long time, perhaps long enough to have evolved into an entirely new species.

While they search for funding to look for and identify additional rhodolith beds, Konar, Iken, and Riosmena-Rodriguez will submit a scientific paper on their discovery to a marine journal. And if one of their rhodoliths turns out to be a new species, they'll have the honor of naming it.

Web Resources:

News Release and Photos on the Web:
http://www.sfos.uaf.edu/news/story/?ni=66

Brenda Konar faculty profile:
http://www.sfos.uaf.edu/directory/faculty/konar/

Katrin Iken faculty profile:
http://www.sfos.uaf.edu/directory/faculty/iken/

Natural Geography in Shore Areas NaGISA
http://www.coml.org/descrip/nagisa.htm

Census of Marine Life
http://www.coml.org/coml.htm

Gulf Ecosystem Monitoring Program
http://www.evostc.state.ak.us/gem/index.html

Member Survey

As one of my last acts as Membership Director, I wish to find out the opinions of members on what they like and dislike about PSA. I hope to use the information to help the next Membership Director grow the membership base in our organization. Please take a few minutes and answer the following questions. Mail the form to me at:

Dr. Rick McCourt; Botany, Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia PA 19103

E-mail comments are also welcome; mccourt@acnatsci.org.

1. Please indicate whether you are a regular _____, student _____, joint _____, life _____, retired _____ member.

2. How long have you been a member of PSA? _____

3. Do you come to the annual meeting on a regular basis? _____
If not, why?

---

4. If you are a student (or former student) what programs have you participated in?
Bold Award (Best Student Paper at annual meeting _____
Croasdale Fellowships (field station scholarship) _____
Grant-in-Aid Award _____
Hoshaw Travel Award (for annual meeting) _____

5. What other Societies do you belong to?

6. Which societies would you like to see PSA meet with periodically?

7. Please rate the following in terms of their importance to you in deciding to attend PSA's annual meeting (1= very important; 2 = somewhat important; 3 = not a factor)
Research paper sessions _____
Symposia _____
Plenary or other high profile speakers _____
Field Trips _____
Nice Location _____
Social Events (auction, banquet) _____

8. What do you like best about PSA?

9. What do you like least?

10. Other comments:

MEETING ANNOUNCEMENTS

PSA 2005

The next annual meeting of the Phycological Society of America will be held August 13-19, 2005 in Durban, South Africa as part of the 8th International Phycological Congress. For further information, visit the Congress web site (*www.ipc8.org.za/*). Students should note that PSA has committed $14,000 to the Hoshaw Travel Awards for this meeting. Individual awards will be between $800 and $1000 each. Students should check the Student Grants web page: *www.psaalgae.org/student/stugrants.html* in early 2005 for updated details on applying.

PSA 2006

The 2006 annual meeting will be held July 7-12 in Juneau, Alaska. PSA will sponsor several plenary speakers and probably also associated mini-symposia. Mid-meeting field trips will include freshwater and marine collecting trips and a variety of other recreational activities. A 2 to 3 day field trip to the open coast (Sitka area) is planned immediately following the meeting.

PSA 2007

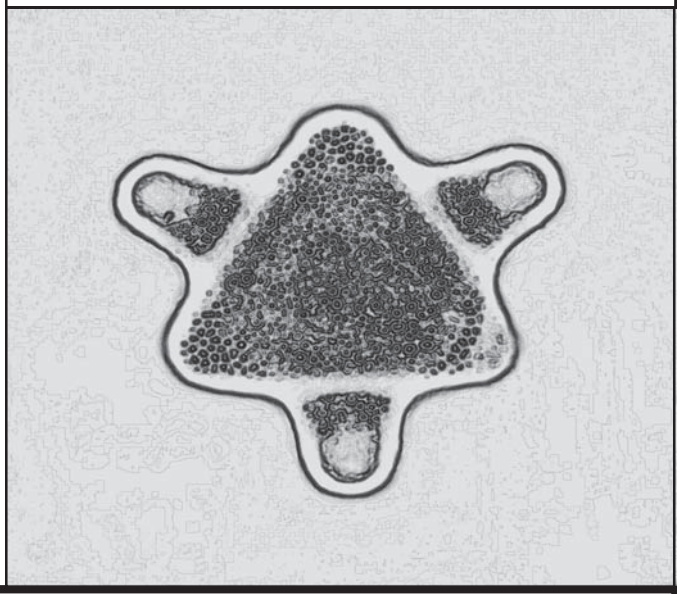
The 2007 annual meeting will be in New Orleans, Louisiana. Tentative plans are for the latter half of July or early August.

International Botanical Congress 2005
Vienna, Austria, July 18-23, 2005. website: www.ibc2005.ac.at/
There are half dozen or more symposia on algae scheduled.

NEAS 2005

Next year, the 44th Annual Symposium of the Northeast Algal Society will be held at the Samoset Resort in Rockland, Maine over the weekend of April 15-17, 2005. For information contact the Membership Director, Christopher Neefus at Chris.Neefus@unh.edu. NEAS has a web site at *http://www.e-neas.org* for all symposium information and forms.

Please see the PSA website for more conference announcements (www.psaalgae.org).



Phycological Society of America
Department of Environmental & Plant Biology
317 Porter Hall
Ohio University
Athens, OH 45701-2979

NONPROFIT ORG.
US POSTAGE PAID
ATHENS OH
PERMIT NO. 100