

National Shellfisheries Association

QUARTERLY NEWSLETTER



Summer/Post-Meeting 1993

Lewes, Delaware

President's Message

I am delighted to take over from Ralph Elston who left an organization that has enthusiastic members and a treasury that is in the best shape in years. The Pacific Coast Section has been revitalized through the hard work of their members. We have an active student committee and the newsletter and journal that are delivering quality information to the members on time. In my view, the society should build on these strengths. The EXCOM and I need your help to continue this progress.

The joint National Shellfisheries Association Meeting with the Pacific Coast Section of NSA and the Pacific Rim Shellfish Sanitation Meeting in Portland, Oregon was a meeting not to be missed. The facilities were grand - there was easy access back and forth between sessions, the talks and panel discussions offered something for everyone, the student papers were superb, the food provided by the industry was first class and Ken Chew pulled off another first with his Chinese dinner and entertainment. This meeting will be hard to surpass, but Rick DeVoe and John Manzi (local arrangements) and Bill Fisher (VP and Program Chair) are already hard at work for the 1994 meeting in Charleston, South Carolina. If you have something you want on the program, please let Bill know.

As I indicated at the meeting, I have asked a number of individuals to provide specific reports to NSA concerning: financial goals, relationships with shellfisheries organizations in other countries, industry awards and how we can better serve our industry members. Throughout the year I will let you know how these initiatives are progressing.

Our strength as an organization hinges on your thoughts, ideas, gripes and willingness to help. We have a large cadre of individuals who take extra time from their schedules to make the organization function. The most obvious of these are the individuals listed on the back page of the Newsletter. Please take some time to communicate with them so we can have an organization that reflects the desires of the membership.

John Kraeuter

Recruits Corner

The 85th annual meeting of NSA in Portland, Oregon was a success and was enjoyed by all who attended. Congratulations to the 1993 Thurlow C. Nelson award winner, Jerome LaPeyre from VIMS, College of William and Mary, 1st runner up Kristine Feldman from University of Washington, and the 2nd runner up J. M. Kelly from the University of Washington. Nine students received student endowment

awards: Daniel Roelke, Julie D. Gauthier, Brian Beal, Dave Bushek, Aswani Volety, Gustavo Calvo, Kristine Feldman, Maria Celia Villac and Ami Wilbur.

A student mixer was held in conjunction with the NSA auction in the President's suite. Both were very productive. The former provided an opportunity to meet and talk with other students and Ralph Elston, Sandy Shumway, and Steve Tettelbach made sure there was plenty of food and drink available. Thanks to a stellar performance by Sandy Shumway as auctioneer, the auction earned over \$400 for the Student Endowment fund. Other fund raising activities were equally successful as many caps, pins and cookbooks were sold. Numerous books were also raffled and a hearty thanks to Recruit Tracy Potter for her record number of ticket sales. Our continuing thanks go to Sandy Shumway and Steve Tettelbach for their efforts on the behalf of the Student Endowment fund.

The Recruits organizers are already looking to the 1994 meetings in Charleston, SC. If you are interested in helping or have an idea for an activity or fund raising event please contact Dave Bushek (Haskin Shellfish Lab, Box B-8, Port Norris, NJ 08348) or Ami Wilbur (Graduate College of Marine Studies, University of Delaware, Lewes, DE 19958 email: awilbur@ravel.udel.edu).

A general thanks to all who helped out in Portland.

In Search Of....

We are in search of several "missing" members. If you know the whereabouts of the following individuals, please send their current address to (or have them contact) Steve Tettelbach as soon as possible (address on back cover of Newsletter). Thanks! The search is on for: Brian Emmett, Paul Guptill, Doug Haymans, S.J. Hughes, Mary M. Lee, Mark Leonart, Bill Lussier, Mr. Connie Muller, Dr. R.J. Rowley, Timothy Scott, and Denise Whitman.

We Made the Big Time!

Sandy Shumway has been working tirelessly for the past several years to have the *Journal of Shellfish Research* reinstated in Current Contents. Well, she finally won the war. Beginning with the most recent issue of JSR (12(1), June 1993), we will be included in Current Contents (Agriculture, Biology and Environmental Science), Science Citation Index, and SciSearch. Congratulations to Sandy for a job well done!

Next NSA Newsletter Deadline: September 1, 1993

85th Annual Meeting - Portland, Oregon

The 85th Annual NSA Meeting was held May 30 - June 3, 1993 at the Portland Marriott Hotel. The meeting was attended by over 200 members of NSA with a strong showing by members of the Pacific Coast Section of NSA. Rumor has it that a good time was had by all, particularly at the President's Reception, the NSA-PACRIM Reception, and Ken Chew's Chinese dinner - each was a gastronomic delight. Our thanks go to (now) Past-President Ralph Elston, Pacific Coast Section Chair Carolyn Friedman, Program Chair Tom Soniat, and all who assisted them in organizing the meeting.

Annual meeting session topics included: Parasites and Diseases; General Biology; Reproduction and Recruitment; Aquaculture, Ecology and Management; Harmful Phytoplankton and Shellfish Interactions; Non-Traditional Fisheries; Integrated Pest Management; Bivalve feeding and Nutrition; Genetics and Breeding; and West Coast Aquaculture. In addition, a special Panel on Alaskan Shellfish Industry was also convened. A total of 95 contributed papers and 16 posters were presented this year with a strong showing by NSA student members. Selection of the Thurlow C. Nelson Best Student Paper Award for 1993 was particularly difficult this due to the large number ($N = 24$, oral + poster) and high quality of the presentations. The 1993 winner is Jerome F. LaPeyre for his presentation entitled "Propagation of the oyster pathogen *Perkinsus marinus* in vitro" which was co-authored by M. Faisal and E.M. Bureson. Two runners-up were also selected: Kristine L. Feldman for her talk entitled "Burrowing shrimp recruitment to intertidal shell habitat: substrate selection, post-settlement survival, and the impact on shell longevity" (co-authored by D.A. Armstrong, D.B. Eggleston and B.R. Dumbauld) and J.M. Kelly, whose talk was entitled "Ballast water and sediments as mechanisms for unwanted species introductions into Washington State". Awards for the three winners this year were in the form of NSA memberships (six contributed by NSA, two contributed by the Pacific Coast Section of NSA) and were distributed as follows: LaPeyre - 4 years, Feldman - 3 years, and Kelly - 1 year. The 1993 panel of judges included Neil Bourne, Evan Ward, Chris Langdon, Fu-Lin Chu, Roger Newell and Monica Bricelj. Congratulations to the award winners and thank you to the judges for their time and effort. Travel awards, in the form of meeting registration and/or lodging, were given this year to defray the cost of meeting attendance. Recipients of lodging and registration awards were: Daniel Roelke, Julie Gauthier, Aswani Volety, Kristine Feldman, Maria Celia Villac, and Ami Wilbur; recipients of registration awards only were: Brian Beal, David Bushek, and Gustavo Calvo. Thanks are extended the Endowment/Student Awards Committee Dianne Brousseau, Jon Grant and particularly to Chair Susan Bower for a great job.

1992 was a banner year for the Student Endowment Fund, and 1993 promises to be even better. The First Annual Auction was held as part of the 1993 Portland meeting and by all accounts was a great success - not only fun, but profitable,

too! Our resident entrepreneur, Sandy Shumway, did a great job of organizing the auction which brought in almost \$500 for the Endowment Fund. Among the items auctioned: original volumes by Galtsoff and C.M. Yonge - see Evan Ward and Roger Newell for those goodies. Look for a Second Annual Auction in Charleston, SC next year and start looking in your closets and filing cabinets now for items to donate. Remember - one person's junk is another's treasure... so go through all your junk!

1993 Annual Business Meeting

The Annual Business Meeting and Awards Luncheon was held on Wednesday, June 2. The newly elected Executive Committee members are: Tom Soniat, President-Elect; Bill Fisher, Vice President; Bruce Barber, Secretary; Steve Tettelbach, Treasurer; John Ewart, 1993-1996 Member-at-Large. President John Kraeuter made the following committee appointments:

Audit-Budget-Finance: George Abbe (Chair), Ken Cooper, John Manzi, Steve Tettelbach

Awards: Susan Ford (Chair), Dave Relyea, Ken Chew, Neil Bourne

Arrangements: Charleston 1994 - Rick DeVoe (Chair)

Resolutions: John Ewart (Chair)

Membership: Carolyn Friedman (Chair); Foreign - Tim Littlewood, Philippe Gouletquer, Kashane Chalermwat, Erik Baqueiro, Francisco Borrero, Janzel Villalaz; Industry - Bill Green, Carter Newell, Bill Dewey, Bob Rheault

Publications: Mike Castagna (Chair), Sandy Shumway, Karolyn Mueller Hansen

Endowment/Student Awards: Evan Ward (Chair), Brian Beal, Bob Stickney

Elections: Ralph Elston (Chair), John Kraeuter, Tom Soniat

Presidents: Ralph Elston and all living past-Presidents

Program: Bill Fisher

Site Selection: Tom Soniat (Chair), John Kraeuter, Bill Fisher

Student Organization: Ami Wilbur, Dave Bushek

Newsletter Editor: Karolyn Mueller Hansen

The Resolutions Committee, chaired by Carter Newell, proposed a Resolution recognizing Scott Siddall for his years of exemplary service to NSA. The EXCOM unanimously approved the resolution. Those of you who have had the opportunity to work with Scott know that he always goes over and above the call of duty for NSA and that this recognition is well deserved.

The Awards Committee, chaired by Neil Bourne, selected Dexter Haven as an Honored Life Member of NSA and Clyde MacKenzie as recipient of the 1993 David H. Wallace Award. Selection as an NSA Honored Life Member is truly a distinction and reflects exemplary service not only to the Association but also to the profession. The David H. Wallace Award is given to individuals who promote understanding, knowledge, and cooperation among industry members, the academic community, and government and who have brought together shellfish scientists and industry officials for the benefit of shellfisheries. Neil and Clyde are truly deserving of these awards. Congratulations!

Audit-Budget-Finance Update

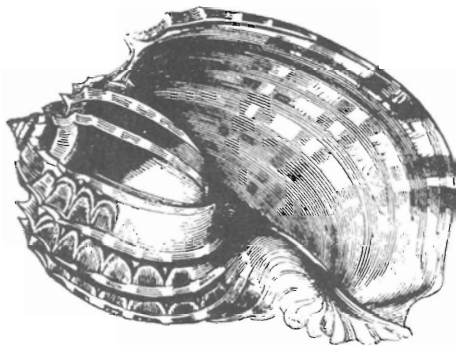
Total revenues for the 1991-92 fiscal year (October 1, 1991 to September 30, 1992) were \$97,901.52, and expenses were \$73,247.13 for a net increase of \$24,654.39. This compares rather well with our loss of \$834.47 for the 1990-91 year. A gain of more than \$27,000 from Aquaculture '92 in Orlando is the main reason for our healthy financial position at this time. Administrative revenues and expenses were \$27,778.52 and \$8589.02, respectively, for a net increase of \$19,189.50. Publication revenues totalled \$38,612.57 and expenses were \$60,414.99 for a net loss of \$21,802.42. Our meeting in Orlando brought in revenues of \$31,510.43 and had associated expenses of \$4243.12 for a net of \$27,267.31. We ended the 1991-92 fiscal year with a balance of \$34,809.38, compared to \$10,154.99 at the end of the 1990-91 year. NSA is probably stronger now financially than at any time in her history. Financial strength is due in large part to the increasing number of members who have supported NSA by prompt dues payment, by payment of JSR page charges, and by attending the annual meetings. A substantial increase in institutional subscriptions has also helped. With another gain from the Portland, Oregon meeting, and by careful management of the JSR, we should be able to add to our present balance by the end of the 1992-93 fiscal year.

The proposed budget for the 1993-94 fiscal year, which begins 1 October 1993, projects a gain of \$24,470 in administrative costs, a loss of \$21,250 in publication costs, and a gain of \$10,600 from our next meeting in Charleston, South Carolina. If these revenues and expenses are realized it would increase the Association's balance by \$13,820.

A-B-F did not conduct a detailed review of the NSA financial ledgers at the end of the 1991-92 fiscal year because one was conducted for 1990-91. This review is generally done every other year unless a new treasurer is installed.

The A-B-F committee for 1993-94 will consist of Steve Tettelbach, John Manzi, Ken Cooper, and George Abbe. One of our goals is to develop a long range financial plan for NSA which would put at least one year's operating expenses in the bank by 1998.

George Abbe, Chairman
Audit-Budget-Finance Committee



INTERNATIONAL ELECTRONIC DISCUSSION GROUP ON SHELLFISH

An electronic forum for the discussion of all issues relating to shellfish has been created on the Internet. The forum, named simply SHELLFISH, is open only to members of the NSA (including the Pacific Coast Section) and operates using electronic mail. The Internet is the international computing network which connects virtually all academic institutions, most federal and non-profit agencies and now many commercial interests. Internet spans the globe with more than 700,000 sites; approximately 10 million people have access to the Internet.

The SHELLFISH forum, or "discussion group" in Internet terms, will cover all areas of shellfish research, the shellfishing industry, funding and employment opportunities, meetings and conferences, as well as any other shellfish-related topics that the participants in this discussion deem suitable. Access to the Internet and this discussion group is free to individuals. The discussion will operate throughout the year; NSA members are free to participate at their convenience. Naturally, the more NSA members that participate, the more valuable this discussion will become. Once you are subscribed, you will be able to post an inquiry to the group and get feedback from all over the world, sometimes in only minutes. For instance, you recall hearing that someone in Australia is working on early life history of *Jasus*, but you don't know who it was...ask the discussion group. You heard about a position on the other coast but have no details...ask the discussion group. You heard there might be a crustacean fisheries session at the next meeting...ask the group. The opportunities are nearly limitless, and this discussion group can become a vital resource in shellfish research and industry. Please invest a few minutes to subscribe to this discussion group.

To subscribe to SHELLFISH, send electronic mail from your own computing account via your local computing service center to the following Internet address:

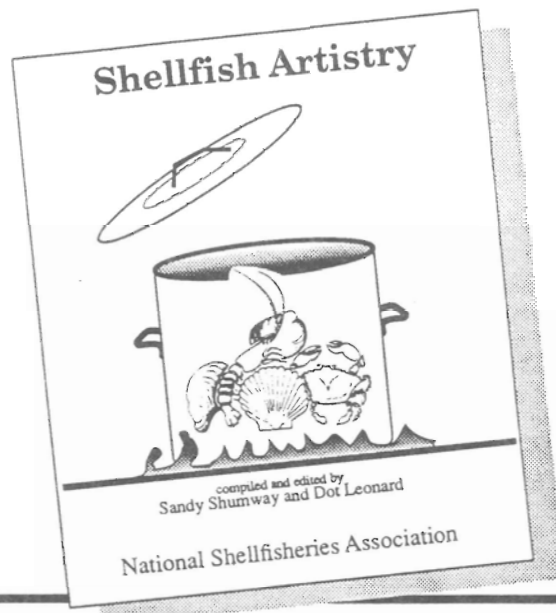
SHELLFISH-REQUEST@KENYON.EDU

The body of the electronic mail should contain only one word: **SUBSCRIBE** followed by your real name (as opposed to your username). For example,

SUBSCRIBE John Q. Public

The programs that manage the discussion group will determine where this subscription came from and will automatically add you to the list of participants if you are a current member of the Association. Once your request to subscribe has been processed, you will receive via electronic mail fuller instructions on how to participate in the discussion group. If you have any questions on how to send the subscription command, contact your local computing support people first. If you have any questions about the discussion group itself, call Scott Siddall at (614) 427-5696 or send e-mail to **SIDDALL@KENYON.EDU**

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| Whales (several designs) | |
| Fish (salt and freshwater) | |
| Birds (many designs) | |
| Mammals (many designs) | |

Send Check or Money Order
(made out to NSA) to:

Dr. Stephen Tettelbach
National Shellfisheries Association
Southampton College, Long Island University
Southampton, NY 11968 USA

Contact Karolyn Hansen for
additional designs!
(302-645-4275)

Five sweatshirts left, L and XL, \$10.00 - order today!

BOOK REVIEW

Aquaculture Desk Reference by R. LeRoy Creswell, Van Nostrand Reinhold, New York. 206pp. \$39.95.

The preface states that this book is "A concise compilation of tables, graphs, conversion, formulas and design specifications useful to the aquaculture industry". It is. Over 230 tables are divided into 8 chapters: Conversions and equivalents, Water chemistry, Enrichment formulations, Hatchery systems and methods, Plumbing and materials, Aquaculture ponds, and Chemicals and treatments. The tables include the simple (but very useful) conversions from Centigrade to Fahrenheit, grams to pounds and meters to feet. Volume calculations of various shaped tanks and properties of seawater are also included, as are tables for transport conditions for various species, typical packing densities and shipping durations for various shrimp stages, and nutritional data for newly hatched brine shrimp. Some of the more applied tables include symbols used to designate standard pipe fittings, rates of flow through small pipes and the average elemental composition of organic manures. The tables are nicely displayed and easy to use. The book is hardbound with a plastic coated cover (semi-waterproof!) and a real bargain for the price. I highly recommend the book for anyone involved in hands-on aquaculture as well as scientists and educators who want to stay in touch with reality.

Sandy Shumway

Publications of Interest

Papers on Neogene Mollusks, by Axel Olsson. ISBN 0-87710-428-X. Special Publication #19 from the Paleontological Research Institution, 1259 Trumansburg Road, Ithaca, NY 14850. Reprint of three of Olsson's most useful and sought-after works, all of which have been long out-of-print: "Some Neogene Mollusca from Florida and Carolinas", by A.A. Olsson and R.E. Petit (1964); "Some Tertiary Mollusks from South Florida and the Caribbean", by A.A. Olsson (1967); and, "Notes on *Siphocypraea*", by A.A. Olsson and R.E. Petit (1968). The volume also includes a new forward by Richard E. Petit and a complete bibliography of Axel Olsson, compiled by Donald E. Moore. Price: \$15.95 plus \$2.00 per book (USA) or \$2.75 per book (non-USA). Send check or money order to the address listed above.

International Aquaculture Information

Publications from Auburn University's International Center for Aquaculture: *Economic Viability of Freshwater Aquaculture in Tropical Countries* and *Economic Viability of Farm Diversification Through Tropical Freshwater Aquaculture in Less Developed Countries*; contact Upton Hatch, Department of Agricultural Economics and Rural Sociology, ICA Auburn University, AL 36849-5406 USA.

Publication from the International Center for Marine Resource Development, 126 Woodward Hall, University of Rhode Island, Kingston, RI 02881 USA: *Coastal Aquaculture in Developing Countries: Problems and Perspectives*.

Publication from The World Bank Headquarters, 1818 H Street, N.W., Washington, DC 20433 USA: *A Study of International Fisheries Research, Policy and Research Series #19*.

Biology of Intertidal Animals, by R.C. Newell. Copies available through Roger Newell at \$25.00 each. Contact: Roger Newell, Horn Point Environmental Laboratories, University of Maryland, Cambridge, MD 21613. Phone: (410) 228-8200.

Shellfish Masters Roundtable Discussion, convened during the 1990 Annual Meeting of the National Shellfisheries Association, Williamsburg, VA. Recorded and transcribed by Dorothy Leonard and Eric Slaughter, Office of Ocean and Coastal Resource Assessment, NOAA. 26 pp. Topic: The Rise and Fall of the North American Shellfish Industry. Available for US\$3.00 from: Sandy Shumway, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME 04575.

Research News

From the Northeast Fisheries Science Center....

All animal cells contain cholesterol, a necessary component of all cell membranes. Thus, all animals must obtain cholesterol either directly from the food they eat, or indirectly by manufacturing it from the chemical compounds in that food. This represents an apparent problem for oysters though. First, oysters feed on phytoplankton, but no phytoplankton species were known to contain more than traces of cholesterol. Second, oysters would have to convert the phytosterols found in phytoplankton into cholesterol, but those phytosterols can differ greatly from phytoplankton species to phytoplankton species, which would require oysters to have many different phytosterol conversion systems -- an unlikely situation.

In screening almost 60 strains of cultured phytoplankton, though, we have now found several algal strains that do contain appreciable amounts of cholesterol. Further, our analysis of existing data on oyster growth rates and phytoplankton biochemical composition has suggested which phytosterols can be converted to cholesterol by the oyster.

Among the interesting implications of these findings is that -- in an oyster aquacultural operation -- the phytoplanktonic diet could theoretically be tailored in order to give the oyster just enough consumed phytosterols for it to manufacture the cholesterol it needs to survive, grow, and reproduce, but to deny the oyster any excess consumed cholesterol to keep its overall cholesterol level relatively low. Such a low cholesterol oyster would likely have marketing advantages.

For more information please contact NSA member Gary H. Wikfors at (203) 783-4225.

General News

Aquaculture Magazine is interested in acquiring aquaculture production figures for their Buyer's Guide '94 "Status Of The World Aquaculture Report". Anyone who is interested in contributing materials should contact Kimberly Mann, Assistant Editor, *Aquaculture Magazine*, P.O. Box 2329, Asheville, NC 28802 USA or phone (704) 254-7334. Deadline: August 15, 1993.

NOAA Aquaculture Financing Program

(from Spring 1993 Waterlines, Newsletter of the Western Regional Aquaculture Center)

The Department of Commerce has authorization under its Fisheries Obligation Guarantee (FOG) Program to provide financing for long-term fixed assets (equipment and facilities) associated with any type of aquaculture - freshwater or marine. There is no cap on the loan limit, and Congress expanded the program in 1992 to include aquaculture. The amount appropriated for FY93 is \$47 million.

It is important to understand that this program has had a 2-year moratorium for funding and present funds are being allocated to applicants on a waiting list that goes back two years. Any financing during FY93 (before October 1, 1993) is unlikely. However, it is important for any interested parties to contact NOAA as soon as possible to submit applications for possible financing for the next fiscal year.

For information on obtaining an application packet and for placement on the waiting list, contact Leo C. Erwin, Chief, Northwest Financial Services, National Marine Fisheries Service, One Blackburn Drive, Gloucester, MA 01930, (508) 281-9203.

Aquaculture Database

Information on the current regulatory status of FDA-approved drugs and EPA-registered pesticides is now available to you by a simple phone call. In addition, information needed for INADs (Investigational New Animal Drugs) is also available in the form of bibliographic citations and references. Call the FARAD Access Center at the University of Florida for further information, (904) 392-4085. Two other Access Centers will open at the University of California and the University of Illinois this Fall. Eventually, this information on approved compounds and label indications will be available on diskette.

Recent Workshop

U.S. Congressman Gerry Studds and the University of Massachusetts Cooperative Extension System and others sponsored a workshop, "The future of Marine Aquaculture: Developing an Agenda for Action", held June 4, 1993. Participants included industry members, regulators, research and development organizations and Congressional State Legislative members and staff. Workshop goals: 1. Define regulatory, environmental and political constraints to marine aquaculture; 2. Identify industry requirements and regulatory concerns; 3. Recommend specific actions necessary for marine aquaculture development, and; 4. Assemble key industry, regulatory and policy personnel in order to forge federal marine aquaculture legislation. For additional information please contact: Karl Rask, (508) 362-2511.

NSA Member Serving at NSF

Dr. Richard Dame of South Carolina is currently serving a 2-year term as Program Director of the Ecosystems Program of the Division of Environmental Biology (DEB) with the National Science Foundation in Washington, DC. Dr. Dame, a long-time NSA member, is pleased to be of service to his colleagues in NSA and encourages any who wish to apply for the resources administered by NSF to contact him for program information. Send inquiries to: Richard F. Dame, Ecosystems, National Science Foundation, 1800 G Street, NW, Washington, DC 20550. Phone: (202) 357-9734.

Electronic Mail Discussion Group

In addition to the electronic Shellfish Discussion Group available to NSA members (info elsewhere in this newsletter), another Discussion Group has come on-line courtesy of Andrew G. McArthur of the University of Victoria, Canada. Group: Mollusc Phylogeny and Systematics. Purpose/focus: Discussion of phylogenetic hypotheses and the construction of classifications within the Mollusca at all taxonomic levels. Our intention is to foster greater interaction between researchers from different methodological and philosophical backgrounds by welcoming viewpoints from ethology, molecular biology, anatomical and ultrastructural investigations, developmental biology, paleontology, theoretical biology, and any others. To join, send the following information in the body of an E-mail message to LISTSERV@UVVM.UVIC.CA or on BITNET to LISTSERV@UVVM:

SUBSCRIBE MOLLUSKA YourFirstName YourLastName
Name

Or contact Andrew McArthur at
Internet: AMCARTHU@UVVM.UVIC.CA or
BITNET: AMCARTHU@UVVM

Shrimp Futures Join Commodities Market

From *USA Today*, May 26, 1993:

In the high-stakes world of commodities trading, there is a new player. The shrimp. This summer, the shrimp joins the likes of gold, oil and coffee as a mover and shaker of the world markets. The Minneapolis Grain Exchange will begin to trade in shrimp futures and options contracts. Shrimp will be the sole representative of the seafood family in the trading pits. It's not any stranger than pork bellies when you think about it. Besides, exchange president James Lindau says, the shrimp deserves its new status. "Shrimp is a multi-billion-dollar industry in which hundreds of companies produce, distribute, process and sell the product," he says. A futures contract is an agreement to buy or sell a fixed amount of a commodity in the future for a set price. Shrimp prices are volatile, which should stimulate interest in futures contracts, Lindau says. The Minneapolis Grain Exchange already trades in wheat and oat futures. Shrimp will join the mix on July 12.

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AMU GOES FOR A CRUISE!

At the 1992 AMU meeting in Sarasota, Florida, President Fred Thompson presented a detailed plan for an ocean-cruise meeting, June 21-25, 1993, aboard the Royal Caribbean "Nordic Empress". After a lengthy discussion, the AMU Executive Council (some members a little hesitatingly) unanimously endorsed the plan.

The Nordic Empress, with over a thousand passengers (of whom 108 were AMU'ers representing 10 countries) departed from Dodge Island, Miami, and steamed mostly at night. The ship was remarkably stable so that ship motion was scarcely noticed. She docked at Freeport, Bahamas, the first day, Nassau the second day, and moored off Coco Bay the third day where field-trippers were lightered ashore. Field trips (Grand Bahama Island, New Providence Island, and Little Stirrup Cay) were successful except that activities were somewhat dampened by wind and rain at Coco Bay. Marine excursions were led by Tucker Abbott, and non-marine trips by Kurt Auffenberg. A special collecting permit was issued by the Bahamas Government for a limited number of live specimens to be taken by AMU'ers.

The logo for the meeting, depicting the Hispaniolan terrestrial prosobranch *Nymphophila rhecta* Thompson, 1978, represented the focal point, the product of localized speciation, of the single symposium "Patterns of Speciation", convened by Kenneth Emberton. The symposium and

contributed paper sessions were scheduled around the field trips on late Tuesday afternoon, Wednesday morning, and Thursday morning.

The President's reception opened festivities aboard on Monday evening, and special meetings were scheduled throughout the three-day period of the cruise. Meals and entertainment were outstanding -- even the midnight buffets. The highly professional evening programs and other social activities scheduled by the ship's staff occasionally diverted some AMU'ers from AMU activities - understandable.

Because of cost, however, few students were aboard, and were seriously missed. Also, seating in the beautiful main dining rooms was fixed, so we were not at liberty to dine with different friends during meals.

In the overall, though, the cruise meeting was an unusual experience enjoyed by all, especially by the many spouses present. We are looking forward to the 1994 meeting in Texas (July 8-14) under the presidency of Connie Boone, and the 1995 meeting in Hilo, Hawaii (June 8-12) under Alison Kay.

Melbourne R. Carriker
University of Delaware, Lewes

HOW TO JOIN THE NATIONAL SHELLFISHERIES ASSOCIATION

Fill out and mail a copy of the application blank below. The dues are US\$40.00 per year (\$25.00 for students) and that includes the *Journal* and Newsletter!

NATIONAL SHELLFISHERIES ASSOCIATION - APPLICATION FOR MEMBERSHIP (NEW MEMBERS ONLY)

NAME _____ For calendar year _____ Date _____
Mailing
Address _____

Institutional Affiliation, if any: _____
Shellfisheries Interests: _____

Regular or Student membership: _____
Student members only - Advisor's signature **REQUIRED** _____

Make checks (**MUST** be drawn on a US bank) or international postal money order for \$40.00 (\$25.00 for students with advisor's signature) payable to the National Shellfisheries Association and send to Dr. Stephen Tettelbach, Division of Natural Sciences, Southampton College, Long Island University, Southampton, New York 11968 USA.

Dr. Carolyn Mueller Hansen
NSA Quarterly Newsletter
College of Marine Studies
University of Delaware
Lewes, DE 19958



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Membership Committee and Pacific
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