Captain's Corner

Let me begin by saying how thrilled I am to serve as the 1996 SCMEA President! I believe wholeheartedly in this wonderful organization because of the members who support and drive it. Julie Cliff did an outstanding job as last year's president. Her dedication to improving marine science education is awe-inspiring to say the least and I hope to be able to maintain her level of energy and leadership. Bravo, Julie! I'd like to welcome our newest Board Members: Sarah Mitchell, Denise Zacherl, Fanya Paouris, Mike Walker, and Rob Young. Congratulations to Fred James, our new President-Elect!

We had a terrific turn-out of 150 participants for the annual SCMEA conference this year! In fact, it was our biggest conference ever. The three days we spent at the Litchfield-by-the-Sea resort were packed with workshops, events, food and comradery, and I was glad to have the chance to meet and talk with many new friends. As with every SCMEA conference, the efforts of the members make it a success. The time invested by each of you who assisted is greatly appreciated. I’d particularly like to thank Julie Cliff for her assistance in keeping me on track (and providing numerous helpful hints!), and Phil Astwood for his devoted bookkeeping and registration efforts. Many thanks also to Cindy Renkas and her invaluable assistants, Jenna and Brock Renkas, and Fran Crist and Denise Zacherl for making the auction such a great success. We raised over $2000! Thank you to everyone who contributed such great items! As always, each board member contributed considerable time toward making the conference a success. Thank you many times!

We received many positive and helpful comments on the conference evaluations. Many of you enjoyed the site and resort-style facility. Certainly, the accommodations and setting were considerably different from the two previous conferences held at Camp St. Christopher. Several of you expressed a preference for the "rustic" flavor of Camp St. Christopher, while many others were appreciative of the resort life! In planning future conferences, we will attempt to do our best to please everyone. Most likely we will look at returning to Camp St. Christopher on the order of every third year. Unfortunately, there are few places to hold such an economical conference along other parts of our coast and we feel that it is important to move the site each year to provide different field trips and workshop opportunities. As President-Elect, Fred James assumes the responsibility of this year's Conference Chair. Mark your calendars now and reserve the weekend of October 4-6 to attend the 1996 Conference. We'll be anxious to hear the plans as they unfold.

Eco-Outings will be planned and offered (see the article within). These Eco-Outings have emerged in response to requests by many of you for SCMEA to offer more than an annual conference and a seasonal newsletter. Each Eco-Outing will introduce a new environmental experience to interested members. We encourage your participation as well as your input and ideas for future outings!

Have you ever attended the NMEA Conference? Julie Cliff, our Past-President, is gathering ideas and a list of members who might be interested in chartering a bus to attend this year's NMEA conference in New Hampshire (Aug. 1 - 5). And speaking of NMEA conferences, SCMEA will host the 1999 NMEA Conference in Charleston! This is an exciting opportunity for SCMEA to strut its stuff! Preliminary planning is already underway. Refer to the articles in this issue for more details on both NMEA conferences.

Wishing you a Happy 1996, filled with active marine science!

Leslie Sautter
SCMEA President
SCMEA Bulletin Board

Mark Your Calendar!
Deadline for all issues of SeaScripts are listed below. Members are welcomed to contribute articles, announcements, artwork, students’ work, etc. This is a great way to advertise your organization and/or projects. Please note: Rhet Wilson and staff at the SC Aquarium have been very helpful in compiling the information found in the section "Marine Happenings". If you have been listed there in the past and do not fill out a new form for the next issue and send it to the Aquarium your listing will be deleted!

Fall Issue June 15
Winter Issue November 15
Spring Issue March 15

If you miss the deadline your material will NOT be included.

Please send newsletter contributions (except those solicited by Rhet Wilson) to:
Elizabeth King, SeaScripts Editor
Baruch Marine Field Lab
PO Box 1630
Georgetown, SC 29442

SCMEA Scrap Book
Send photos to Fred James (see his address in Board Member list) from past conferences and SCMEA events for inclusion in the official SCMEA Scrap Book. The album will be available to members for perusal at conferences. It’s a great way to preserve our history!

Also in the Works...
Fred James is designing and producing a SCMEA photo membership directory. If you missed the last conference or think that Fred may not have taken your photograph, please send him a passport sized photo to be included in the new directory. This will be a great way for members to learn each others faces!

NMEA Conference Info
The outlook is bright for a "renewal credit travel course" to the NMEA Conference in New Hampshire this summer. Look for details in the Spring Issue of SeaScripts!

Conference Scholarships Available
Each year, the NMEA annual auction raises funds to provide ten $250 scholarships to assist members in attending the annual conference. Scholarship awards are based on financial need. To be considered, the applicant must be a current member of NMEA. Applications are available from Bill Hastie, Oregon Department of Fish and Wildlife, 2040 SE Marine Science Drive, Newport, OR 97366. Work phone (541) 867-4741, fax (541)867-0311, internet hastieb@ccmail.orst.edu. Applications will be accepted until 5 pm PST March 1, 1996.

Come to a Board Meeting!
All members are invited to attend the quarterly Board Meetings. The next meeting is March 22, 1996 at 11:30 am. Please contact Leslie Sautter by March 15 for more details and directions if you wish to attend. (See the Board Member list.)
COASTTeams in Richland School District 1

The COASTTeam program came to the Midlands last summer for the first time. Designed by Leslie Sautter at the College of Charleston, and funded in part by the SC Sea Grant Consortium, the program was first offered in Charleston and Horry Counties during the summer of 1994. The COASTTeam Program offers teams of elementary teachers the opportunity to work together to learn about the geology and biology of South Carolina’s coastal areas, and become familiar with a collection of classroom activities specifically designed to teach this material. Each participating school sends a team of two teachers, one from the primary grades (K-3) and one from the intermediate grades (4 or 5). The year-long program begins with an intensive two-week summer workshop in which the teachers learn about the coast while they also learn to use a set of classroom activities (Sea Things Objectively) which have been developed to teach elementary school students about South Carolina’s coastal environment. Most days of the workshop began and ended with an activity from the collection. The time between was devoted to a discussion of the concepts which had been demonstrated and the data which is needed to completely understand those concepts. On the weekend between the two weeks of the workshop, everyone went to the coast to try out a number of activities in the marsh and on the beach. We also had a chance to visit the research and educational facilities at Fort Johnson, and find out how clams are raised for market at Atlantic Little Neck Farms.

Over the course of the year, each COASTTeam will test out the activities in their classrooms, and they will develop an in-service program for their school in which they will present the activities to their colleagues. Next spring the teams will meet again at the coast to compare results, and take a sampling cruise on a research vessel. This year’s program will come to an end in May with a final meeting at which each team reports on its success with the implementation of the COASTTeam activities in its school.

This year’s Midlands COASTTeam program was led by Beth Day from USC’s Marine Science Program and Phil Astwood from the Center for Science Education. The participating teams were: Terry Baker & Cheryl Bennett from Watkins Elementary; Andress Carter & Shannon Rush from Virginia Pack Elementary; Carol Charette & Elizabeth Lindler from Burton Elementary; Diane Chastain & Kathryn Webb from Denny Terrace Elementary; Marian Davis & Patricia Peter from Meadowfield Elementary; Joan Fulton from John P. Thomas Elementary; Briana Jones & Colette Wheeler from South Kilbourne Elementary; Betty Melvin & Grace White from Sarah Nance Elementary; Valerie Miller & Sarah Roberts from Webber School; Michelle Noeldchen & Tina Scotec from H.B. Rhamen Elementary; Kelly Perrou & Valerie Watson from Bradley Elementary; Olivia Saunders from the Center for Science Education at USC.

TEACHERS TEACHING TEACHERS

The Woodrow Wilson National Fellowship Foundation (WWNFF) in cooperation with the College of Charleston will offer one-week summer institutes for high school (grades 9-12) science, mathematics, and history teachers and for middle school mathematics, biology, and physical science teachers. This program is designed to improve the quality of education by enabling teachers in these critical disciplines to learn from each other. The one-week institutes are an outgrowth of WWNFF four-week institutes held at Princeton University. Outstanding participants at Princeton are invited to be members of teams who take material developed at Princeton to other teachers, sharing scientific papers, computer software and laboratory demonstrations that embody the latest knowledge of each discipline and the best techniques for teaching this knowledge.

The institutes are carefully structured by the team teachers. All participants receive a notebook of materials based on work done at the Princeton institutes. These include papers on content and technique, guides to laboratories and demonstrations, and computer software. The team teachers seek to encourage investigation through doing, to demonstrate up-to-date concepts and applications, and to introduce effective methods for using computers in teaching. Their intent is to offer material that can be integrated into existing courses. Biology, Chemistry, Physics and Physical Science institutes emphasize the use of laboratory demonstrations and equipment that are accessible and affordable even to schools with very few resources. Putting principle to practice, the participating teachers are asked to share their best ideas and favorite demonstrations.

Each one-week institute can accommodate 32 participants. A fee of $150 will be assessed each registrant to defray expenses. Housing will be available on the College of Charleston campus at modest rates. A registration announcement will be available in early February 1996. To receive announcements of the institute(s) of interest to you, please send a note to the College of Charleston, Charleston, SC 29424, to the attention of the appropriate person.

Middle School Biology: Dr. John Peters, (803)953-1422
Physics and Physical Science: Dr. Fred Watts, (803)953-8075
Chemistry: Elizabeth Martin, (803)953-5516
Mathematics (Secondary): Anne Pelligrino, (803)953-5733
Mathematics (Middle School): Hope Florence, (803)953-5635
Biology: Dr. John Peters, (803)953-1422.
Marine Happenings:

COASTeams Programs:
Unique graduate credit course in marine science for elementary teachers in Charleston County (June 19-29), Horry County, Richland I School District and Georgetown. Two participants (the COASTeam) from a school must enroll concurrently and lead teacher workshops as part of their graduate work. Charleston County contact: Dr. Leslie Sautter at the College of Charleston, 953-5586; Horry County, contact: Rob Young, at Coastal Carolina, 349-2277; Richland I, contact: Phil Astwood, USC Center for Science Education, 777-6920; Georgetown County, contact: Wendy Allen, Baruch Institute, 546-6219.

Dewees Island:
"People as a Positive Influence In the Environment" is offered every Tuesday, year round for grades 1-12 and above. Day-long tours of barrier island habitats and developments that emphasize people as an integral part of the environment. Positive impacts such as recycled building projects and environmental building practices are shown. Contact: Mark Madden, PO Box 361, Dewees Island, SC 29451-2662.

South Carolina State Museum:
"Sea Turtles: Older Than Dinosaurs!"; open through May 31, 1996. Why are turtles becoming extinct and what can we do to stop their disappearance? Programs in conjunction with the exhibit are offered. Contact: Michael Ray, Chief Curator of Natural History, (803) 737-4943.

South Carolina Aquarium:
The ground has broken! The aquarium will be a major environmental education center and is scheduled to open in 1998. Resources now available: Newsletter and speakers. Contact: Rhett Wilson, Program Manager, South Carolina Aquarium, 57 Hasell St., Charleston, SC 29401. (803)720-1990.

Travel to Hawaii, a Trip for High School Students:
Students experience the true Hawaii by hiking, camping, snorkeling, sailing, horseback riding and studying the natural and cultural history of the tallest mountains on earth. Opportunities to see humpback whales and active lava flows tumbling into the ocean abound. This nine day all inclusive tour of Kauai, Maui, and the Big Island of Hawaii takes place April 5 - 15, 1996. Land cost is $1295 with round trip air fare yet to be determined, however frequent flyer miles may be used. Contact: Julie Cliff, (803) 849-8367.

Sandlapper Publishing Co., Inc.:
"Carolina Rocks!, The Geology of South Carolina" is hot off the press. This book by Carolyn H. Murphy includes photos, maps, diagrams and is an invaluable resource. Cost is $19.95. Contact: Barbara Stone, Sandlapper Publishing Co., Inc., PO Box 730, Orangeburg, SC 29116, (800) 849-7263.

SC Dept. of Education and SCETV:
"SC in the News" airs Fridays, 9:00 am - 12:45 pm, on open-circuit ETV stations, for middle and high schools. News series focusing on SC stories from the previous week. For more information, contact: Daniel H. Pipes, 2712 Millwood Ave., Columbia, SC 29205, (803)737-3279.

SC MAPS Workshops:
A manual outlining student cooperative learning activities and background information for teachers is supplemented with a variety of maps, illustrations, and diagrams. Cost for the manual is $25.00, the portfolio is $600.00. Contact: Cartographic Center, Land Resources Division, SC DNR, 2221 Devine St., Columbia, SC 29205, (803)734-9100.

SC Department of Natural Resources:
SC DNR is sponsoring an essay contest for grades 5-8. Students will write essays on a fictitious situation of Harmony Park becoming a landfill. Essays should take the form of a letter to the Buffington Daily News. Build a case and defend your position about wildlife conservation and solid waste issues. Local contests close March 8, 1996, state contest closes April 5, 1996. Four state winners will win $100 US Saving Bonds. Earth Day Poster Contest: The theme of the contest is "Save Habitat for Our Wildlife Friends" and is open to grades K - 4 and special education in counties where the contest is sponsored by the local Conservation District. Contact: SC DNR at (803) 734-9100 to get your Conservation District number.

Adopt -A Beach:
Individuals, civic and school groups participate by adopting a one-mile stretch of beach to pick up litter twice a year. Contact: Donna Bates, 4130 Faber Place, Suite 300, Charleston, SC 29405.
SC Wildlife Federation:
1996 Wildlife Week Educational Packet, April 16-20, 1996. The packet includes educational materials discussing the importance of wetlands, teachers guide, wildlife poster, stickers and information on SC wetlands. The deadline for requests was December 15 BUT has been extended. Rush your request in now! Backyard (Schoolyard) Habitat Week, February 4-10, 1996, encourages teachers to use the program as a mechanism to teach children about native flora and fauna and their backyard ecosystem. SC Wildlife Federation Earth Day Celebration, April 19, 1995 Exhibits, displays, and interactive workshops for elementary age children. Contact: Trish Jerman, SC Wildlife Federation, 715 Woodrow St., Columbia, SC 29205 or FAX (803) 771-6120.

SC State Parks:
Every park in the state offers an array of programs for school groups, families and individuals. There are festivals, holiday programs, as well as offerings on astronomy, geology, botany, and native American culture. For a complete listing of programs, contact: Kay White, SC State Parks, 1205 Pendleton St., Columbia, SC 29201.

The Georgia Conservancy:
The 29th annual conference will be held March 1 - 2, 1996 at Callaway Gardens. Speakers will describe changes that have occurred in successful communities around the nation. Grade K-12 teachers are invited to attend a special state approved teacher workshop led by Gail Marshall, Ph.D., a Georgia Conservancy trustee. A variety of exciting field trips are offered. For more information contact: The Georgia Conservancy, 1776 Peachtree St. NW, Suite 400 South, Atlanta, GA 30309. (404)876-2900.

American Chemical Society
Division of Chemical Education:
14th Biennial Conference on Chemical Education will be held August 4-8, 1996 at Clemson University. Some conference highlights include: symposia designed for the chemical education community, six NSF-sponsored Undergraduate Faculty Enhancement Workshops; an evening of barbecue, bluegrass music and square-dancing; and special events for non-chemistry spouses and children. For registration information contact: BCCE, Madren Conference Center, Clemson U., Clemson, SC 29634-5673. Fax 803-656-7154.

The MAURY PROJECT:
"Exploring the Physical Foundations of Oceanography" is a summer workshop for teachers of oceanographic topics. July 8 - 19, 1996 at the US Naval Academy in Annapolis, MD. Workshop will include lectures, tutorials, seminars, research cruises, laboratory exercises and field trips. Application deadline is April 5, 1996. Contact: Dr. Ira Geer, American Meteorological Society, 1701 K St., Suite 300, Washington, DC 20006.

USC, Center for Science Education:
SMED 729, "Coastal Tropical Environments of Belize", June 10-14 and July 8-12 in Columbia, SC and June 17-28 in Belize is open to 25 K-12 SC teachers. The course will explore the biology and geology of the tropical rain forest and coastal environments of Belize including hiking in the Jaguar Preserve, snorkeling in mangrove and coral reef environments, a river boat trip, and more. Cost of $1,500 - $1,750 includes tuition, airfare from Miami to Belize, all food, lodging, travel within Belize, and some books and materials. A $200 deposit must be received by February 15, 1996 to hold your reservation. Contact: Center for Science Education for information and registration. Beth Day at (803)777-3938 or Phil Astwood at (803)777-6920.

Roper Mountain Science Center:

Compiled with assistance from the Staff of the South Carolina Aquarium.
Spineless Wonders: Plants that Eat Animals - Part 3
By Fred James, Presbyterian College

The last type of passive trap to be discussed in this 3 part series is the "flypaper" or adhesive traps. This type of trap is represented by Drosera (sundews) and Pinguicula (butterworts). I have often found sundews, pitcher plants, Venus fly traps, and butterworts in the same sandy area in North Carolina near Beaufort.

Sundews all form a basal rosette of leaves and fibrous root system. The leaf is composed of a narrow petiole that often forms a round blade bearing beautifully stalked glistening glands. The glands look like small match sticks and are often bright red. At the tip of the stalks are dew-like drops of nectar. The genus name Drosera is Greek in origin and means "glistening in the sun". The glands can be divided into two types: longer outer peripheral glands function mainly in entrapment and shorter, stalked to sessile (stalkless) glands found in the middle are primarily used for digestion.

Prey is typically attracted to sundews by the bright coloration and sweet nectar secreted by the glands. In some instances insects may just land on these leaves since they appear to be such good landing platforms. The prey that walks on the blade of the leaf become stuck in ropes of molasses-like material secreted by the glands. As the insect struggles, the other gland cells bend over to further entrap the insect. Scientists are still trying to determine why these hairs bend toward the insect. In several species of sundew there is a very slow folding of the leaf blade which further entraps the prey. The flowers of the sundew are white to pink and open during the day when they are cross pollinated by insects or wind. During the night the flowers close and self pollination is possible. This double pollinating mechanism insures the production of a multitude of seed. The seeds are black and about 1 mm long. By looking at the surface pattern on the seed, it is possible to identify sundews to the species level. Most of the sundews reach sizes of up to 5 cm. One variety of sundews, D. filiformis v. tracyi, produces leaves that are up to a half meter long!

The butterworts (Pinguicula l.) form a rosette of stalkless leaves. The leaves are flattened except along the rolled margins. The surface of the leaf is covered with microscopic stalkless glands. The leaf surface typically feels greasy to the touch. The name Pinguicula comes from the Latin "Pinguis" meaning fat and the suffix "ula" meaning "little one." I guess we could call this plant the "little fat one!" The plant bears a single flower at the top of a stem. Prey crawling on the leaf surface becomes stuck and held fast until digested and absorption takes place. Scanning electron microscopy reveals two types of glands on the upper surface. There are stalked glands which are thought to play the major role in entrapment and sessile glands which may be more important in digestion. These small, inconspicuous, greasy plants are often overlooked by the novice. The single flower which comes from the rosette of leaves is the only item which might bring attention to this plant.
And the winners are ....

For the 1995-1996 Education Grant Awards of $250 each:

Susan Roark, Sea Island Academy, Charleston
Susan Roark will be using her skills as a teacher and environmental consultant to build a saltwater aquarium that represents the sea life of the South Carolina coast as part of an interactive science lab being developed by the school. The aquarium will also be used in the family science programs being implemented at the school.

Carole McAfee, West Pelzer Elementary School, Easley
A winner of past SCMEA education grants, Carole McAfee is using the grant to help purchase a modem to link her classes with the classes they have met in Beaufort for exchange of information on marine topics.

Chuck Traynor, Colleton Preparatory Academy, Walterboro
Chuck Traynor has been capturing, raising and releasing tarpon in coastal South Carolina. Students learn to apply the scientific method and learn about marine habitats through the program. The SCMEA grant will be used to help with transportation and capture of the tarpon by students and teachers.

NMEA Travel Award of $500 for the 1995 Annual Conference in La Jolla, California:

Dr. Elaine McClure, Fort Jackson Schools, Columbia
Dr. Elaine McClure was the winner of the annual travel award to the NMEA conference in La Jolla. She attended the 1993 NMEA conference in New Orleans and wanted the opportunity to apply the information available through the NMEA to her teaching of a 6-week ocean unit to fifth graders.

Become a Member of the South Carolina Marine Educators Association

and join a group of dedicated teachers, naturalists, scientists and others interested in studying and teaching about the world of water, both fresh and salt. SCMEA provides a communication network for members to share information and ideas through newsletters and an annual statewide conference. Membership dues are $10.00 a year and include three newsletters, a discount on the registration fee for the annual conference, and an opportunity to interact with some of the most dynamic educators in the state!

Name: __________________________ Place of Employment: __________________________
Address: __________________________ HOME OR OFFICE PHONE: __________________________
Street or PO Box: __________________________ City: __________________________ State: __________________________ Zip: __________________________

Home Telephone Number: __________________________ Work Telephone Number: __________________________

___ One year - $10
___ Three years - $25
___ Five years - $40

Please send completed form with your membership fee (make checks payable to SCMEA) to:
Phil Astwood, Treasurer, SCMEA, Center for Science Education, University of South Carolina, Columbia, SC 29208.

Join the National Marine Educators Association

and begin to network with educators around the country sharing a common love and concern for our water world. Membership benefits include a subscription to Current: The Journal of Marine Education, the newsletter, NMEA News; and registration discounts for some of the best annual conferences you will ever attend!

Name: __________________________ Occupation: __________________________
Address: __________________________ (Street or PO Box)
City: __________________________ State: __________________________ Zip: __________________________

Indigual Memberships

___ Student - $15
___ Active, 1 year - $25
___ Active, 2 years - $48
___ Active, 3 years - $68

Please make check payable to NMEA and mail to: National Marine Educators Association
PO Box 51215, Pacific Grove, CA 93950.
The Gulf of Maine is a unique ecosystem bounded by New England and the Canadian Maritimes on one side and shallow underwater banks on the other. Since the 1600s, the history, economy, and environment of the entire region have been intertwined with the wealth and health of this "sea beside a sea." Fishing, shipping, and shipbuilding were the nation's first industries. Whales feeding in the Gulf of Maine launched many a New England fortune. Waters rushing to the sea fueled the Industrial Revolution. Exploitation of the resources that led to our prosperity now threatens the very fabric of the Gulf's ecosystem.

The legacy of our use of the Gulf of Maine and its watershed mirror economic and environmental practices on a global scale. But there are hopeful signs on the horizon with individual and community efforts to revitalize the Gulf of Maine.

Joins us as we follow the watersheds of New England from the mountains to the sea, exploring how education, advocacy, and research are striving to reconnect the threads that weave the tapestry of life in this spectacular region.

For more information, contact the University Conference Office at (603) 862-1900.
Conference Partners Gulf of Maine Marine Education Association, New Hampshire/Maine Sea Grant College Program, University of New Hampshire Cooperative Extension, Gulf of Maine Council on the Marine Environment

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