NO BONES
NEWSLETTER

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CONTENTS: PAGE:

Dr. Mary E. Rice

Research Zoologist, Department of Invertebrate Zoology, NMNH 1966 - 2002
Director, Smithsonian Marine Station at Fort Pierce 1981 - 2002
Emeritus Research Scientist 2002 -

by Julie Piraino

You may have noticed Kristian Fauchald "remodeling" room W-214 recently. The room was vacated by Mary Rice this summer, as she retired as a Research Zoologist in the Division of Worms and as Director of the Smithsonian Marine Station on August 3rd after 36 years with the Smithsonian.

Mary came to the Smithsonian in June of 1966 immediately after receiving her Ph.D. in Zoology from the University of Washington under Dr. Robert Fernald. The Smithsonian was expanding its staff at that time, and Secretary Dillon Ripley personally interviewed each new curator. Richard Cowan was director of NMNH and Donald Squires was chair of IZ, soon to be replaced by Raymond Manning. Meredith Jones headed the Division of Worms, which also included Marian Pettibone and Duane Hope. Mary's dissertation had been "A Comparative Study of the Reproduction and Development in Sipunculans", and she was hired to curate the sipunculan and echiuran collections. Mary didn't know at the time that she would stay 36 years to serve under four Smithsonian Secretaries and 10 directors and interim directors of NMNH.

Mary brought a wealth of experience and determination to her job, as well as a good educational background and a love for marine science. She grew up on a farm and was educated in the public schools of Temple Hills, MD near Washington, DC in the 1930's and 40's. She worked her way through college and obtained an A.B. in Biology from Drew University in 1947 and an M.A. in Zoology from Oberlin College in 1949, and then worked in medical research at Columbia University and at the National Institutes of Health for 10 years before starting a doctoral program at the University of Washington in 1961. She carried out most of her dissertation research at the Friday Harbor Laboratories in the San Juan Islands, but also took 6 months off from her studies in 1963-64 to participate in the Bravo Cruise of the *Te Vega* as part of 10 years of Indian Ocean Expeditions funded by NSF. The many harrowing experiences aboard the *Te Vega* (engine explosions, seasickness, fire aboard the ship, rooming with the colorful chief scientist Dixie Lee Ray) as the ship sailed from Ceylon (now Sri Lanka) to its breakdown at a British Airbase on Addu Atoll in the Maldive Islands proved that Mary was both tough and resilient.

Mary's first years at NMNH were spent writing grants for equipment such as the ultramicrotome still in use in IZ, and in getting acquainted with the collections. One of her first assignments was to travel to the Royal Scottish Museum upon the death of fellow sipunculan expert A.C. Stephen to retrieve important specimens that had been borrowed from

continued on page 2

COVER STORY CONT.

SI. It was also in her first year in IZ that she was invited to take part in a Woods Hole Oceanographic cruise in which plankton tows were made across transects between Bermuda and Woods Hole. This was Mary's first introduction to oceanic larvae, which later became a focus of her research efforts.

During these early years at the Smithsonian, Mary received in-house funding to visit various laboratories in the Caribbean in order to study the reproduction of sipunculans, and she made brief trips to Puerto Rico, Barbados, the Netherlands Antilles (Curacao), Bimini and Venezuela. She also planned and carried out a major symposium on the *Biology of the Sipuncula and Echiura* in Kotor, Yugoslavia. The execution of this feat was not easy, as the symposium was originally planned for a location in India until the Indian government backed out at the last minute, after all arrangements had been made and airline tickets for participants had been purchased and distributed!

In 1971, Mary participated in an exchange agreement between the Smithsonian and the Rosenstiel School in Miami, FL and transferred to Florida to work on the oogenesis of local sipunculans while Frederick Bayer transferred to NMNH to work on octocorals. Since she was "in the area" when the Smithsonian was in the process of developing a new facility for marine science in Fort Pierce in 1972, Mary traveled from Miami to Fort Pierce to explore the location. She was soon assigned to the Fort Pierce Bureau of the Smithsonian located on an old Army barge at the fledgling Harbor Branch Foundation. This afforded the great opportunity to do long term studies on the reproduction and development of sipunculans at a Smithsonian facility, which meant that she no longer had to catch the reproductive periods at temporary locations.

From 1972 to 1981, the Smithsonian used trust fund monies donated by J. Seward Johnson, Sr. to develop and maintain the Johnson-Sea-Link I submersible and to carry out research in marine science at Fort Pierce, Florida on the grounds of the Harbor Branch Foundation (Link Port) under the auspices of the Fort Pierce Bureau. As one of the first Ph.D.'s on site during the infancy of Harbor Branch, Mary was friends with its founders Edwin Link and J. Seward Johnson, Sr. She set up the histology and electron microscopy laboratories at Harbor Branch, and Mary and Robert Gore were the chief resident Smithsonian scientists at the location which was also visited by Smithsonian scientists Martin Buzas, David Pawson and Richard S. (Joe) Houbrick, and a few others.

In March of 1981, the Smithsonian's Fort Pierce Bureau was dissolved as an organizational entity and the administrative responsibility for Smithsonian research programs at Link Port (still funded by trust money) was transferred to NMNH. The directive from the Office of the Asst. Secretary for Science to Richard Fiske, the new Director of NMNH, was that a strong research program in marine science should be established and that the program should be open to all marine scientists in the Institution. Fiske achieved this by reducing funding for the resident program and started the current program for visiting scientists administered by a "Scientist-in-Charge" which was Mary Rice. The name of the facility was changed to the Smithsonian Marine Station at Link Port.

Over the next 18 years, Mary became the Director of the Smithsonian Marine Station at Link Port and welcomed hundreds of Smithsonian scientists and their colleagues as they arrived to work in the Indian River Lagoon and offshore waters. She procured staff, boats, vehicles, working space, library access, and a host of other necessities for their use. In 1977, she started the Marine Station's fellowship program and has

continued on page 3

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COVER STORY CONT.

served as advisor for 27 postdoctoral fellows and for 20 graduate fellows. In 1997, she arranged for the Marine Station to maintain and expand the online database of the Indian River Lagoon Species Inventory. All the while she kept an active program of study on sipunculans and other marine invertebrates, sorting many oceanic plankton tows and breaking many rocks to extract burrowed adult peanut worms. Over the years, she published 71 scientific papers, edited 5 books, served as president of both the American Society of Zoologists (now SICB) and the American Microscopical Society, and was recognized as a Fellow of the American Association for the Advancement of Science (AAAS). A highlight of her career was her first dive in a Johnson-Sea-Link submersible in the Bahamas in 1988 as part of a study of deep-sea sipunculans funded by an NSF grant. This adventure was not topped until her dive in the *Alvin* amid the hydrothermal vents in the Pacific in 2000.

Dr. Mary E. Rice

During the late 1980's and throughout the 1990's, Mary dreamed of, and spent much of her time and effort planning for, a new laboratory for the Marine Station (SMS). In 1999, that dream became a reality when the Station moved to 8 acres of land at 701 Seaway Drive and changed its name to the Smithsonian Marine Station at Fort Pierce. The added space at an independent, land-based facility was much needed. The move was soon followed, in 2001, with the opening of the Smithsonian Marine Ecosystems Exhibit, an educational arm of the Station which came about through community support and Mary's efforts to bring the former NMNH Coral Reef Exhibit to Fort Pierce. It is this active, expanding, well-known facility that Mary is retiring both from and to this year. She has handed the administrative responsibilities to Valerie Paul, and has retired to her laboratory at SMS, and to a second home in Friday Harbor, Washington to further her studies of marine invertebrates as an Emeritus Research Scientist.

We congratulate you, Mary, on your many scientific accomplishments, your contributions to the Smithsonian over 36 years, and your perseverance and leadership at the Smithsonian Marine Station. We wish you well in your retirement.

OUTREACH

Lost Islands of the South Atlantic

Clyde Roper

I will participate as Study Leader for the Smithsonian Associates Study Tour called "Lost Islands of the South Atlantic", 5 October through 9 November. The trip is aboard the EXPLORER (formerly the LINDBLAD EXPLORER). We will visit, and land on the following islands in the southern Atlantic: Canaries, Cape Verde, Ascencion, St. Helena, Tristan da Cunha, Nightingale, South Georgia and Falklands. I suspect we'll see lots of sea birds, and I am hoping to see some squids and octopuses, as well, even if they are in the form of vomitus from excited birds! There is lots of ocean between these islands, allowing plenty of time to present the 10 or so lectures I've been asked to give. I always enjoy doing these trips, because the participants are far more interested in things than most undergraduate students. They are full participants because they WANT to learn.

American Malacological Society

Jerry Harasewych attended the 68th annual meeting of the American Malacological Society in Charleston, South Carolina on August 3-7, 2002. He presented an invited paper, co-authored with Glenn Goodfriend and Steven J. Gould, entitled "Relationships among *Cerion* Snails on Long Island, Bahamas, deduced from molecular (cytochrome c-oxidase I) and morphological data" in the special session on Multidisciplinary Approaches to Molluscan Phylogeny.

COLLECTIONS

Isopod Geocoding Project

Marilyn Schotte

"Geocoding" is a term used by catalogers and refers to adding map coordinates of latitude and longitude to a specimen record. This type of data is very useful for pinpointing type localities and for producing distribution maps.

Conservation International, a DC-based nature conservation organization, has planned an initiative to identify "hot spots" of freshwater biodiversity around the world. To do this, distribution maps are crucial in deciding which habitats are most endangered, and therefore, most in need of conservation efforts.

The USNM collection has more than 3,200 lots of freshwater isopod crustaceans from many countries; this taxon is one of the invertebrate groups selected for geocoding for the analysis of hotspots because of the number of specimens in museum collections worldwide. To this end, the NMNH's Director's Office has provided contract money to enter geodata on these isopods into the KEmu cataloging system, from which future distribution maps can be made to help fill in the picture of threatened and endangered isopod fauna. Contractor Cathi Paris is now working on this project.

One such threatened species is in our own backyard. The Madison Cave isopod, a freshwater species living in underground lakes, was identified in 1958 by the late curator Thomas Bowman and, due to its rarity and restricted habitat, was officially designated a threatened species in 1982. Madison Cave, the first cave in the U.S. to be surveyed (and by Thomas Jefferson, no less) exists on private land in Augusta County, Virginia near the South Fork of the Shenandoah River. The cave is also famous for George Washington's signature, carved into the cave's wall.

Madison Cave isopod.

PUBLICATIONS

Cairns, Stephen D. 2002. A new species of *Chrysogorgia* (Anthozoa: Octocorallia) from the Antarctic. Proceedings of the Biological Society of Washington 115(1): 217-222.

Hershler, Robert, Hsiu-Ping Liu and Craig A. Stockwell. 2002. A new genus and species of aquatic gastropods (Rissooidea: Hydrobiidae) from the North American Southwest: phylogenetic relationships and biogeography. Proceedings of the Biological Society of Washington 115(1): 171-188.

Thompson, Fred G. and **Robert Hershler**. 2002. *Tepalcatia*, a new genus of hydrobiid snails (Prosobranchia: Rissooidae) from the Rio Balsas basin, central Mexico. Proceedings of the Biological Society of Washington 115(1): 189-204.

Ivanov, Veronica A., Gregorio Bigatti, Pablo E. Penchaszadeh and **Jon L. Norenburg.** 2002. *Malacobdella arrokeana* (Nemertea: Bdellonemertea), a new species of nemertean from the Southwestern Atlantic Ocean entocommensal in *Panopea abbreviata* (Bivalvia, Heterodonta, Hiatellidae) in Argentina. Proceedings of the Biological Society of Washington 115(2): 359-367.

Kensley, Brian and **Marilyn Schotte**. 2002. New species and records of Asellota from the Indian Ocean (Crustacea: Peracarida: Isopoda). Journal of Natural History 36: 1421-1461.

Kornicker, Louis S. and **Elizabeth Harrison-Nelson.** 2002. Ontogeny of *Rutiderma darbyi* (Crustacea: Ostracoda: Myodocopida: Rutidermatidae) and comparisons with other Myodocopina. Proceedings of the Biological Society of Washington 115(2): 426-471.

Kornicker, Louis S. and Jill Yager. 2002. Description of *Spelaeoecia saturno*, a new species from an achialine cave in Cuba, (Crustacea:

continued on page 6

RESEARCH

If I never saw another nemertean...

Colin Brinkman

How does a third year Biochemistry major end up spending his summer doing histological analysis of a species of marine worm? Well, it was late May, and I still didn't have a summer job, so I turned to the Smithsonian Institution. I eventually contacted Jon Norenburg about a summer position, partly because his description sounded interesting and partly because few others were looking for interns. What Jon really seemed to need was a web designer to take charge of the task of overhauling his web site. Having no practical experience, knowledge or skill in web design, the most intriguing and really only viable alternative seemed to be histology. My experience with histo-technique was limited to basic tissue recognition and some quick overviews of embedding, sectioning and staining. Jon proposed that I collaborate with him on a species description of an undescribed nemertean of the genus Zygonemertes. Although I had no concept of the full scope of the project, the prospect was intriguing, so I said yes.

Unfortunately, Jon was leaving that very day for Florida and wouldn't be back for a few weeks. My histological training was provided by

Zygonemertes sp.

Barbara Littman during which point I was given a crash course in embedding, blocking and sectioning specimens and their subsequent transfer to slides. After three days Barbara too was gone. In fact most of the floor was empty and I was on my own for two weeks putting to practical use the techniques that I had learned.

After the return of the collecting team from Belize I managed to stain my slides and began to examine them under the microscope. I quickly developed characters to distinguish one species of nemertean from another by looking at their brightly colored internal structures. I compiled as much data as I could from my own observations and from previous publications. I summarized information for about 18 morphological characters for the 19 species in the genus. Jon will complete the full description sometime this Fall, armed with the data I have compiled, and no small amount of his own observations. I am grateful for the practical laboratory and research experience I have gained and even if I am never involved in nemertean research again the experience was a beneficial one, and just maybe scientifically productive as well.

LIBRARY

INVERTEBRATE ZOOLOGY LIBRARIES NEW TITLES

Clark, H.E.S. and D.G. Knight. **The Marine Fauna of New Zealand: Echinodermata: Asteroidea (Seastars)** and D.G. McKnight. **Order Notomyotida.** Wellington, New Zealand: National Institute of Water and Atmospheric Research, 2000. QL384.A8M37 2000 Invz

Martin, Joel W. and George E. Davis. **An Updated Classification of the Recent Crustacea**. Los Angeles: Natural History Museum of Los Angeles County, 2001. QL438.M37 2001 Invz

continued on page 6

Ostracod Database

Azalea Millan, now a junior at McLean High School, worked as a summer volunteer in the Division of Crustacea, Invertebrate Zoology Section, Department of Systematic Biology, from July 17 through August 22, 2002 sponsored by Lou Kornicker and Elizabeth Nelson.

Azalea researched information for an ostracod distribution database as well as scanning images of ostracods for another publication.

As a non-specialist on this group of animals she offered valuable insights and suggestions into what would constitute interesting information for a poster to be displayed in the public exhibit spaces of the museum or made available for downloading from the Invertebrate Zoology website. After reading several general works about the animals she wrote text, scanned images, and provided a suggested layout for a final poster.

Azalea arrived in the United States from the Philippines two years ago. When she's not working hard at her studies, Azalea enjoys swimming and playing the keyboard. She hopes to study psychology when she enters university.

VISITORS

Joana Zanol, George Washington University (8/5-8-5) worked on *Eunicid* polychaetes. Sponsor: **Kristian Fauchald**

Slava Ivanenko, Department of Invertebrate Zoology, Moscow State University, Moscow (8/6-9/30) worked with Frank Ferrari at the Museum Support Center to study the developmental stages of *Euryte longicauda* (Cyclopoida) and *Doridicola sp.* (Poecilostomatoida), from specimens collected in the White Sea. Using literature from the Wilson Copepod Library, Slava compiled a list of ectosymbiont copepods from Arctic invertebrates, such as sponges, bryozoans, echinoderms, and soft corals. Sponsor: **Frank Ferrari**

Jorge Cortes, CIMAR, San Pedro, Costa Rica (8/20-9/6) examined Scleractinia from the Eastern Pacific. Sponsor: **Steve Cairns**

Daphne Fautin, University of Kansas (9/3-9/6) worked on type specimens of anemones. Sponsor: **Steve Cairns**

Kathy Price, NOAA (9/5-9/5) consulted with Steve Cairns on CITES. Sponsor: **Steve Cairns**

Alberto Linder, Duke University (9/9-9/20) was here to do research on stylasterids. Sponsor: **Steve Cairns**

Ronald Feldman, Kent State University, Department of Geology (9/13-9/14) visited, along with one of his students, to compare a fossil with the polychaetes and tubes in our collection. Sponsor: **Linda Ward**

Rebeca Gasca, ECOSUR, Chetumal, Quintana Roo, Mexico (9/16-9/1/2003) is here studying hyperiid amphipods. Sponsor: **Frank Ferrari**

Eduardo Suarez-Morales, ECOSUR, Chetumal, Quintana Roo, Mexico (9/16-9/1/2003) is here doing research on monstrilloid copepods. Sponsor: **Frank Ferrari**

Paul Fofonoff, SERC (9/24-9/24) was here to consult on a "mystery" crab found in the Chesapeake Bay. Sponsor: **Rafael Lemaitre**

Jess Jones, Virginia Tech, Department of Fisheries and Wildlife Sciences (9/26-9/26) worked on the taxonomic analysis of the genera *Epioblasma* in the family Unionidae from the Tennessee River System. Sponsor: **Robert Hershler**

Charlene Dindo, NSF (9/27-9/27) is a marine science elementary teacher with an "A. Einstein Distinguished Educator Fellowship" at NSF, who toured our collections and obtained digital photos of hermit crabs. Sponsor: **Rafael Lemaitre**

Rich Mooi, California Academy of Sciences (10/14-10/22) will be doing echinoid research. Sponsor: **Dave Pawson**

Steve Donovan, National Museum of Natural History, Naturalis, Leiden, Netherlands (10/28- 10/30) will be doing echinoid research. Sponsor: **Dave Pawson**

PUBLICATIONS CONT.

Ostracoda: Myodocopa: Halocyprididae). Proceedings of the Biological Society of Washington 115(1): 153-170.

Kornicker, Louis S. 2002. Orientation of the Maxilla of the Sarsiellinae (Ostracoda). Journal of Crustacean Biology 22(2): 268-278.

Thompson, Fred G. and **Robert Hershler**. 2002. Two Genera of North American Freshwater Snails: *Marstonia* Baker, 1926, Resurrected to Generic Status, and *Floridobia*, New Genus (Prosobranchia: Hydrobiidae: Nymphophilinae) Veliger 45(3): 269-271.

Tudge, Christopher C. and David M. Scheltinga. 2002. Spermatozoal morphology of the freshwater anomuran *Aegla longirostri* Bond-Buckup, 1994 (Crustacea: Decapoda: Aeglidae) from South America. Proceedings of the Biological Society of Washington 115(1): 118-128.

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McKnight, D.G. **The Marine Fauna of New Zealand: Basket-stars and Snake-stars (Echinodermata: Ophiuroidea: Euryalinida)**. Wellington, New Zealand: National Institute of Water and Atmospheric Research, 2000. QL384.O6M15 2000 Invz

Slugina, Z.V. and Ya.I. Starobogatov. **Guide and Key to the Bivalvia of Lake Baikal**. (In Russian) Novosibirsk: Siberian Branch of the Russian Academy of Sciences, Scientific Publishing Center of the UIGGM SB RAS, 1999. QL430.6.S65 1999 Moll

Soliman, Gamil N. **Invertebrate Zoology: The Mideastern Invertebrate Fauna, Part II, The Coelomates**. Cairo: Palm Press, 2001. QL334.M53S65 1996 pt.2 Invz