



NO BONES NEWSLETTER

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Invertebrates and Vertebrates Unite

Marilyn Schotte and Lana Ong

Invertebrate Zoology and Vertebrate Zoology were recently merged by the Office of the Director into the museum's largest department, Zoology. Dr. Jonathan Coddington accepted the assignment as department chair and became head of a group of some 30 research zoologists and nearly 60 technical staff members. Ongoing committee meetings are now sifting through priorities and hierarchies to come up with a workable structure for the new unit.

Jon, a specialist in arachnids, has been a research scientist and curator in the Department of Entomology since 1983. He received his PhD. in Biology from Harvard University a year later. His thesis topic was on the systematics and behavior of orb weaving spiders. While at Harvard Jon trained as an invertebrate zoologist, with the thought of teaching after school and was a Teaching Fellow for several professors including Dr. E. O. Wilson. Prior to graduate school, he worked as a research assistant/technician to the non-game wildlife biologist for the Massachusetts Audubon Society. Since then he has been an invited faculty member in numerous academic courses abroad, especially in South America as he speaks fluent Spanish.

His current research interests are in the phylogeny and comparative morphology of the spider family Theridiosomatidae and higher systematics of spiders in general. Jon also studies

the comparative ethology of theridiosomatids and orb weavers, implications of phylogenetic analysis for evolutionary theory and theory and design of biological inventories. His field research areas include the USA, Antilles, Central and South America, Africa, Australia, Madagascar and Nepal. On a recent month-long trip to Thailand, he was successful in collecting specimens of *Liphistius*, a burrowing spider found only in Peninsular Malaysia, Sumatra, Thailand and East Myanmar. It is a member of the most primitive group of the order Araneae (all spiders) and is the only group to have a row of tergites on the dorsal abdomen, giving the appearance of segmentation.

Coalescing two departments into one is his main concern at the moment and involves surveys of staff personnel and their responsibilities, space issues, and collection management tasks. The latter topic is being discussed by the Collection Manage-

continued on pg 6



*Dr. Jon Coddington, head of the Department of Zoology
(photo by Yolanda Villacampa)*

I N M E M O R I U M

Celebration of a Life: Dr. Marian H. Pettibone, 1908-2003

Kristian Fauchald

The doyenne of polychaete studies died on 17 December 2003 at 95, and lived for the last few years in a retirement home in her hometown of Tacoma, Washington.

Marian took emeritus status in 1978, but that did not slow her down. All of her papers on the highly modified polynoids associated with various forms of vents, and several important revisions of genera and sub-

families, were published well after her retirement. She kept up her correspondence with scientists worldwide and maintained her enormous file of cut-outs. These are originals, when possible, and copies of everything found on every species of polychaetes, organized by family and alphabetically by genus and species. This developed into an important resource, which she shared while she was still active. These files are still available for study in the Worm Section of IZ. Contact Kristian Fauchald for access.

She was the leading expert on scale worms of the superfamily Aphroditacea, and contributed to important studies of acoetids, sigalionids, pholoids, polynoids and aphroditids. In addition, she was revising the total polychaete fauna of New England. Marian had issued one authoritative volume of a planned two-volume exercise. She had gotten as far as the spionoids and recognized that the revisions needed to clarify that family and several other sedentary families, would take more time and interest than she had left. After completing several minor reviews, she returned, I believe happily and with a sense of relief, to her scale worms and expanded the morphological scope of the group and demonstrated that even within the rather rigid pattern of a polynoid, the flexibility in structure and growth was remarkable.

Pre-submission manuscripts were sent to her from worldwide polychaetologists. If she did not grasp something, or felt that it may be incorrect, she would drag out specimens and even ask to borrow the specimens that the author had used. Many of us had gotten back manu-

scripts that she had bled all over with a red pencil in a very difficult to read scrawl. It was always worthwhile working one's way through the wilderness. She had understanding of the literature and of the niceties of systematic zoology as few did.

Marian was definitely an independent person, at a time when being independent was frowned upon. While standing in line for a job interview during WWII, she overheard that men standing in the next line were going to get paid much more than those in her line. She then switched lines and became a spot welder, rather than a typist. It did not take her long to become a quality inspector at the shipyard. But this did not last long, as she graduated from Linfield College a few years later and started graduate school at the University of Washington. She came to the Smithsonian Institution in the early 1960's, first on fellowship, later hired as the first polychaete curator in the Institution. She was able to organize the move of the collection from the center building to the west wing with marvelous efficiency. When she started work here, her conditions were that she would not have to be bothered with administration and could do what she wanted, and she did exactly that.



Marian Pettibone attending a polychaete meeting in Copenhagen in 1986.

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*Please submit news or articles
via email or disk by the 15th of
the month prior to publication.*

*Publication in this newsletter
does not constitute publication
in a taxonomic or any other
scientific context*

PUBLICATIONS

Ted Bayer Rescues an Unpublished Masterpiece

Steve Cairns

Addison E. Verrill (1839-1926) was one of the most prolific and influential marine invertebrate zoologists of the late nineteenth and early twentieth centuries, having published over 350 papers in which he described over 1000 new species pertaining to almost every marine group. When he died at the age of 87 he left behind an unfinished monograph on the western Atlantic octocorals consisting of over 1000 pages of text and 156 meticulously drawn plates, much of the artwork done by Verrill's son Alpheus Hyatt Verrill. The text was lost, but over the years **Dr. Frederick (Ted) Bayer**, curator emeritus in the Department of Zoology, accumulated a unique, complete set of plates and a copy of Verrill's captions to those plates, in which Verrill alludes to the names of several hundred new taxa.

Bayer painstakingly reassembled the plates, transcribed and annotated the captions, and then had 50 copies of the work published for general distribution. **Stephen Cairns** helped edit the volume and **Tim Coffey** scanned the 156 plates for publication. Ted Bayer carried out the compilation, after which Dennis Opresko, who discovered the plate captions at the MCZ in 1974, did the binding of the copies. Thus, 78 years after his death, at least a part of Verrill's *magnum opus* can be used to help illustrate the deep-water western Atlantic octocorals and constitute perhaps the last publication of this prolific naturalist. Copies are available for viewing in the NMNH library and in Steve Cairns' office.



One of the many beautiful and highly detailed illustrations in the publication (photo by Yolanda Villacampa)

LIBRARY

INVERTEBRATE ZOOLOGY LIBRARIES NEW TITLES

Nestor, E., Ardila, E., Gabriel, R., Navas, S., Javier, O., and Reyes, F. (eds.). **Libro rojo de Invertebrados marinos de Colombia**. Bogota, Colombia: INVEMAR, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Junio de 2002.

Clark, Helen, E. and McKnight, Donald G. **The Marine Fauna of New Zealand: Echinodermata: Asteroidea (sea stars): Order Valvatida. NIWA Biodiversity Memoir 117**. Wellington, New Zealand: National Institute of Water and Atmospheric Research (NIWA), 2001.

Imajima, Minoru. **Polychaetous Annelids from Sagami Bay and Sagami Sea collected by the Emperor Showa of Japan and deposited at the Showa Memorial Institute, National Science Museum, Tokyo (II): Orders included within the Phyllodocida, Amphinomida, Spintherida and Eunicida**. Tokyo, Japan: National Science Museum, 2003.

Molony, Brett and Bird, Chris. **Annual report on the monitoring of the recreational marron fishery in 2000, with an analysis of long-term data and changes within this fishery**. Fisheries Research Report No. 137, 2002. Perth, W. A.: Dept. of Fisheries, 2002.

Müller, Wolfgang. **Zoologie: Untersuchungen zur akutisch-vibratorischen Kommunikation und Ökologie tropischer und subtropischer Winkerkrabben**. Thesis PhD: Westphälischen Wilhelms-Universität, Münster, 1986.

Oliver, P. Graham and Killeen, Ian J. **Thysairidae (Mollusca: Bivalvia) of the British Continental Shelf and North Sea Oilfields: an Identification Manual**. BIOMAR 3 Cardiff, Wales: National Museum of Wales, 2002.

I N M E M O R I U M

Dr. Brian Kensley - April 19, 1944 - January 19, 2004*Marilyn Schotte*

Dr. Brian Kensley, research zoologist at NMNH for 25 years, mentor, former department chairman and world-renowned carcinologist, left us on January 19th after a long illness. He was 59. Brian came to the museum in 1978 as a post-doc from South Africa, drawn to the strength of a then large and vital group of researchers in the division of Crustacea.

He was drawn early on to the unique biogeography of southern Africa, first studying botany in a place where 70-80% of the plants were endemic. Brian had matriculated (finished high school) at age 15 after spending the junior years at a Catholic convent, and received a Bachelor of Science in botany and zoology at 19 years of age. A PhD. from the University of Capetown followed in 1974. He was a curator and Chief Scientist at the South African Museum from 1967-1978, and earned a D. Sc. degree from University of Capetown in 1984 for his work on the South African decapod crustaceans. During his years at South African Museum in Capetown he trekked across the Namib desert, snorkeled off the coast of Mozambique and crewed on many sea voyages in the rough waters around Cape Horn in pursuit of the study of natural history. Books about the sea were numerous in his library.

Emeritus curator Dr. Fenner Chace, now 96 years old, took retirement in 1979 to allow Brian to become a member of the NMNH staff, and a few years later Brian became a naturalized citizen. He took to the seas again as a scuba diver, traveling many times to our station on Carrie Bow Cay, Belize to research the only barrier reef in the western hemi-

sphere. During the 1980's he was the Principal Investigator for several trips to the Seychelles and Aldabra besides spending months at a time on research fellowships in Brazil and Australia. He served as editor for the Proceedings of the Biological Society for many years and acted as scientific advisor to the World Bank, Seychelles Island Foundation and EPA. From 1999 until his death, Brian was Secretary for the American Association for Zoological Nomenclature.

In more than 35 years of active research Brian produced in excess of 150 papers on marine and terrestrial isopods, decapods, amphipods, tanaidaceans, copepods and Plio-Pleistocene mollusks. He is one of the few scientists to have produced two major field guides in two different groups of crustaceans, "Guide to the Marine Isopod Crustaceans of the Caribbean" and "Peneaeid and Sergestoid Shrimps and Prawns of the World - Keys and Diagnoses for the Families and Genera." While still in

South Africa he authored and illustrated "Guide to the Marine Isopods of Southern Africa" and "Sea Shells of Southern Africa - Gastropods."

In his own words, Brian felt it was his "aim over more than 20 years of research to take a major group of speciose crustaceans and document this group as thoroughly as possibleconcurrent with this aim has been my attempt to make such knowledge in usable form to the non-specialist student and applied biologist, driven by my belief that this is one of the prime responsibilities of the biological systematist...achieved mainly in the form of published keys and field guides."

We remember him as a trim, well-dressed man of high energy, a cheeky sense of humor, great integrity and authority, enhanced no doubt by his not-quite-British accent, and someone of considerable influence who left us too soon.



Brian Kensley with Roger Cressey and Marilyn Schotte, collecting in the Florida Keys (photo by Hillary Cressey)

V I S I T O R S

*Visiting Scientist Studies Mating Behavior of Shrimp**Marilyn Schotte*

For many years Dr. Martin Thiel has visited the Crustacea section, albeit infrequently, to chat with our scientists about common interests, in this case many aspects of the behavior of invertebrates, particularly parental care in isopod crustaceans. Originally from Germany, Martin is now a professor and researcher at Universidad Católica del Norte in Coquimbo, Chile.

On his latest orbit through D.C. he presented the first seminar sponsored by the newly-formed Department of Zoology on February 24. He titled it "Mating behavior in shrimp - males dominate but females are in control." Martin and his students have been doing in-lab behavioral studies on the spotted rock shrimp, *Rhynchocinetes typus*, found in shallow waters off Chile.



Rhynchocinetes typus, spotted rock shrimp

Through many hours of observations in the lab, Martin and his team of students were able to determine these facts: a male rock shrimp become sexually mature at a "typus" stage, which looks very much like the female but then goes on to become an intermediate, larger stage before molting into the terminal "robustus" stage, characterized by large claws

used in defense and fighting. These large males are dominant and out-compete other males. However combined field and lab experiments provide increasing evidence that the females may provoke interactions between dominant and subordinate males, inciting the "robustus" types to mate with them, who depend on visual cues instead of chemical cues to find a receptive (=recently molted) female. During the provocation phase, subordinate males will also mate with the female but she is able to delay spawning (shedding the eggs) and even remove spermatophores given to her by the subordinate males, thereby favoring fertilization by the larger males. The team's conclusion is that although males of all three stages take a very proactive role in mating, it is the female that ultimately controls the outcome of the union.

O U T R E A C H

*A Merging of Organizations for Science & Outreach**Linda Cole*

Several specialists in the Invertebrate Zoology section of the Department of Zoology are participating in a project originated by The American Fisheries Society (AFS). These specialists are providing checklists of names of aquatic invertebrates of the United States and Canada. The checklists are published as separate volumes by AFS; some volumes also include species of Hawaii, Guam, the US Virgin Islands and American Samoa. Most volumes include common names as well as scientific names.

The American Fisheries Society Committee on Names of Aquatic

Invertebrates (CNAI) was established in 1981. The Society's goal was to achieve uniformity and avoid confusion in nomenclature. The committee is chaired by Donna Turgeon who is excellent at raising funds for the project. Over the years, Donna has communicated with various affiliated agencies to put together a committee of specialists of taxonomy and nomenclature. She has successfully created a committee covering most of the invertebrate groups.

Since its origin, CNAI has accomplished the following: published first and second editions of mollusks

and cnidarians; published a first edition of crustaceans with a second edition in press and a tunicate volume scheduled for publication in 2004. Currently being prepared are checklists of echinoderms, polychaetes, nematodes and non-polychaete annelids. Invertebrate specialists affiliated with the AFS project are: **Cynthia Ahearn** (echinoderms), **Stephen Cairns** (cnidarians), **Linda Cole** (tunicates), **Kristian Fauchald** (polychaetes), **Duane Hope** (nematodes), the late **Brian Kensley** (crustaceans), **Bill Moser** (leeches), **Clyde Roper** (mollusks), **Marilyn Schotte** (crustaceans), and **Mike Vecchione** (mollusks).

C O V E R S T O R Y C O N T.

ment Task Force consisting of **Cheryl Bright, Bill Moser, Marilyn Schotte, Linda Ward** and **Chad Walter** from IZ plus Jim Dean, Linda Gordon, Traci Hartsell, Charley Potter and Jeff Will-

iams from VZ. Central to operations in the new organization is our front office administrative staff, who will be joined by Carol Youmans, former administrative assistant in Entomology.

V I S I T O R S C O N T.

Christine Meyers, Biology Department, American University, Washington, DC (1/1-5/1) is working with transmission & scanning electron microscopy of crustacean tissue. **Sponsor: Chris Tudge.**

Nancy Budd, University of Iowa, Iowa City, Iowa (1/5-1/9) examined fossil corals; consulted with Cairns. **Sponsor: Steve Cairns.**

Norella Cruz, INVERMAR, Santa Marta, Colombia (1/5-2/5) studied decapod crustaceans from Pacific coast of Colombia. **Sponsor: Rafael Lemaitre.**

Delia Pinto-Houbrick, Gove Elementary School group, Glade, Florida (2/1) was given a conducted tour of the mollusk alcohol and dry collections. **Sponsors: Jerry Harasewych, Yolanda Villacampa**

Sarah Trunnell, George Washington University, Washington, DC (2/1-12/1) is studying hermit crab anatomy using scanning electron microscope. **Sponsors: Chris Tudge, Rafael Lemaitre.**

Dan Fong, American University, Biology Department, Washington, DC (2/1-12/1) is using histological sectioning to study amphipod neuroanatomy and working on a photographic database of cave crustaceans. **Sponsor: Chris Tudge.**

Zachary Prag, American University, Biology Department, Washington, DC (2/1/04-1/1/05) is also working on histological sectioning of amphipod neuroanatomy. **Sponsor: Chris Tudge.**

Jyotsna Sharma-Srinivasan, University of Texas at San Antonio, Texas (1/23) worked on identification of nematodes from the coast of Texas. **Sponsor: Duane Hope.**

Stefan Austermuhle, Mundo Azul, Lima, Peru (2/13-2/20) worked with Lemaitre on hermit crabs, consulted with Zoology staff, library work, presented seminar. **Sponsor: Rafael Lemaitre.**

Martin Thiel, Universidad Catolica del Norte, Coquimba, Chile (2/14-2/27) studied isopods and presented a seminar. **Sponsor: Marilyn Schotte.**

Magda Blazewicz-Paszkowycz, University of Lodz, Poland (2/21-2/29) studied Antarctic Tanaid Collection. **Sponsor: William Moser.**

Daniel Geiger, Natural History Museum of Los Angeles, Los Angeles, California (2/24) assessed mollusks in general collection. **Sponsor: Jerry Harasewych.**

P U B L I C A T I O N S C O N T.

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Ivanenko, V.N. & F.D. Ferrari. 2003. A new genus and species of the family Dirivultidae (Copepoda: Siphonostomatoida) from a deep-sea hydrothermal vent at the Juan de Fuca Ridge (the northeastern Pacific) with comments of dirivultid distribution. *Arthropoda Selecta* 11(3): 177-185.

Lemaitre, R. & J. Poupin. 2003. A strikingly coloured new species of *Paragiopagurus* Lemaitre, 1996 (Crustacea: Decapoda: Anomura: Parapaguridae) from French Polynesia. *Zootaxa* 386:1-11.

Lemaitre, R. & P.A. McLaughlin. 2003. New species of *Goreopagurus* (Decapoda: Anomura: Paguridae) from Tasmania and reevaluation of sexual tubes in hermit crab systematics. *Memoirs of Museum Victoria* 60(2):221-227.

Kornicker, L. 2004. Morphology and musculature of a new species of *Thaumatoctypis* based on specimens previously referred to *T. echinata* Mueller, 1906 (Crustacea, Ostracoda, Halocyprida, Thaumatoctypidoidea). *Journal of Crustacean Biology* 24 (1): 54-71.

Poupin, J. & R. Lemaitre. 2003. Hermit crabs of the genus *Calcinus* Dana, 1851 (Decapoda: Anomura: Diogenidae) from the Austral Islands, French Polynesia, with description of a new species. *Zootaxa* 391:1-20.

Tudge, C.C. & R. Lemaitre. 2004. Studies of male sexual tubes in hermit crabs (Crustacea: Decapoda: Anomura: Paguroidea). I. Morphology of the sexual tube in *Micropagurus acantholepis* (Stimpson, 1858), with comments on function and evolution. *Journal of Morphology* 259:106-118.