



**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

May, 2002

SCAMIT Newsletter

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SUBJECT:	Ascidians
GUEST SPEAKER:	none
DATE:	17 June 2002
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	City of San Diego Marine Biology Lab 4918 N. Harbor Dr. #201



Octopus sp.
CSD E-9(2) 4 April 02, 381ft
Photo by Sarah Douglas, 5/02

Ron Velarde began the meeting, and the first order of business was to announce the SCAMIT election results. Leslie Harris had tallied the ballots and the officers are as follows: Secretary, Megan Lilly; Treasurer, Cheryl Brantley; Vice President, Leslie Harris; and the office of president has changed hands and our new president is Kelvin Barwick of the City of San Diego. I think that SCAMIT owes Ron Velarde a heart-felt thanks for his many, MANY years of tireless and dedicated service in the office of president. We would also like to welcome Kelvin and look forward to seeing what his leadership will bring to the membership.

Thanks to Rick Rowe (CSD) the 20th anniversary t-shirts have been completed!! They were a big hit at the party on June 1. There are however, some still remaining and they will be available for purchase through

specific request, either on the web-site or through one of the officers; the details of this are still being ironed out and will be announced in the next newsletter.

Our initial guest speaker for the day was Mario Londoño. Mario is a graduate student under Sergio Salazar-Vallejo at ECOSUR in Chetumal Mexico and is looking at the polychaetes of the Caribbean. He is particularly interested in the Terebellid genus *Spinoferra*. One of Mario's goals is to standardize the characters of the worms of the Caribbean in order to improve the descriptions of many species. He stated that there are many species in the Caribbean that are at the moment considered the same as those occurring in the Pacific. One example of this would be a *Spinoferra* species that is found in the Caribbean and is supposedly the same as that which occurs off the coast of California. He plans to call this into question and describe a new species for the Caribbean region.

Leslie Harris then had the floor and gave a wonderful talk on her trip to Sweden. She stayed at a marine research station on the small island of Tjarno. There is a deep fjord just offshore and she said it was only a 20 minute boat ride to waters over a deep canyon which was full of unique fauna. The big project at the moment is working up the marine invertebrate fauna of Sweden. Leslie had taken numerous, wonderful photos of live polychaetes which we all enjoyed perusing.

The next order of business was the main topic of the meeting, curatorial cares and concerns. For this portion of the meeting many of the curators from the Los Angeles County Museum of Natural History turned up to answer questions and share information. The curators present were Regina Wetzler (crustacea), Lindsey Groves, (malacology), Cathy Groves (echinoderms), Kathy Omura (the marine biodiversity processing center) and George Davis (crustacea). Regina took the lead in fielding questions. The first question posed

was, "what is the rationale for which lots should be kept wet (ethanol) and which should be kept dried?" Regina felt that in most situations the specimens should be stored wet whenever possible. She feels that the problem with drying animals, particularly the mollusks, is that only a portion of the animal (the shell) is kept and the rest (body) is discarded. To anyone who is interested in DNA work, this seems a waste.

Of course, keeping animals stored in ethanol brings up the question of acidity problems. Regina feels that it is not the ethanol itself that is causing the acidity problems, but rather residual formalin in the tissues which leaches out over time. One option would be to forego formalin all together and simply put the animals straight into ethanol. This, again, is of advantage to those interested in later doing DNA work. Tom Parker (CSDLAC) pointed out however, that by storing large collections in ethanol you often run into problems with the fire marshall and they recently had to reconfigure their collections so that they are always in a room with sprinklers and proper ventilation.

Regina recommended 95% ethanol for the original fixation of the animals, especially if DNA work is a possibility for the specimen. Larry Lovell (SIO) then asked what the LACMNH curators use as their standard storage solution. All groups responded 70% ethanol, except for the echinoderms which are stored in 85% ethanol. Cathy Groves stated that the 85% solution is her way of hedging her bets against inevitable evaporation problems.

Some of the curators then complained that they occasionally received specimens from consulting firms that smelled of acetone. When they would call and ask why the animals had been sent in acetone they were told that this wasn't the case and the samples were indeed in ethanol. This mystery was cleared up by Rick Rowe and Larry Lovell who explained that many of the consulting firms use "cheap"



ethanol which has been cut with Acetone. It is a bad choice as it has potential health problems associated with it, and is hard on the specimens over long term storage.

There was then some talk about the possibility of the monitoring agencies collecting a few extra samples under a "special projects" provision and preserving them in 95% ethanol instead of formalin. This would allow the animals collected to later be used in DNA analysis. Regina feels that if we (the monitoring agencies) wrote to our respective Regional Boards and explained this as furthering the cause of biodiversity studies that it could potentially be approved in our permits.

Cathy Groves then had to floor to talk about some specific difficulties she had with the echinoderm collections. For example, "What do you do with large, over-sized specimens that you want to keep wet?" Many of the large asteroids will not fit in even the largest of lidded jars. So, they designed a mesh bag of plankton netting which the animal are placed in and then the top is drawn shut (draw-string type system). Multiple bags can be left submerged in ethanol in a sealed tank or bucket. The animals stay wet but are kept separate from each other so they can be selectively removed and studied.

She then discussed some of the very large, dry specimens that had been sitting on shelves for years and were subject to dust and possible damage. In order to solve this problem she set the animals on a piece of corrugated plastic to give them a stiff surface to rest on and help maintain their shape. Then both the animal and the plastic on which it rested were put in a very large plastic bag. The bag is not zip sealed, as you don't want to seal in stale air, but rather the top is just folded over and tucked under.

As for small, delicate dry things, such as heart urchins, she ordered small plastic jewel boxes and then used a high grade foam to make a border around the animal so it wouldn't get damaged by bumping into the sides of the box.

Cathy closed with an emphasis on how much easier it is to curate and store ophiuroids if they have been relaxed first.

TROPICAL CLASS

The following class announcement was forwarded from a member of the Annelida list-server:

I would like to invite list members wishing to learn more about tropical invertebrates to consider participating in the course offered below.

Cheers

Norman Quinn

Tropical Marine Invertebrate Biology
Discovery Bay Marine Laboratory - Jamaica
University of the West Indies
30 June - 14 July 2002

Faculty: Prof. Peter F. Newell, Former Head
Dept of Biology, University of the South
Pacific

Dr. Barbara L. Kojis, Director, Division of Fish
and Wildlife, Virgin Islands

Dr. Norman J. Quinn, Director, Discovery Bay
Marine Lab, University of the West Indies

Dr. George F. Warner, Director, Center for
Marine Science, University of the West Indies

Course Aims: To increase students' knowledge of the biology and biodiversity of marine invertebrate animals and of methodologies for marine biological fieldwork through intensive, direct experience. At the end of the course the students will be able to identify marine species within a range of invertebrate phyla. They will understand aspects of the biological relationships between these species and their environments and will be able to apply field and laboratory techniques to study these relationships. They will become proficient at scientific record keeping.



Instruction by a widely experienced faculty will be by extensive fieldwork, lectures, and laboratory practicals. This is a 4 credit University of the West Indies course and may be transferable to other universities.

Application: The course is open to undergraduates and graduates who have taken at least one year of biology - invertebrate zoology and ecology are recommended. All students must be confident of their swimming skills. Students with scuba certification are encouraged to enroll and will be able to utilize those skills in field activities. Applications should include a cover letter with a paragraph describing why you are interested in the course, transcripts, and two letters of recommendation. Applications will be reviewed on 22 May 2002. Late applications will be considered if space permits. Applications may either be sent by post or email.

Fellowships will be available to facilitate participation of students who have difficulty paying the full fee. The fellowships will not be available to assist with paying for meals and accommodation. Evidence for the fellowship must be included when the student submits the application.

Facilities: The Discovery Bay Marine Laboratory is a research and teaching institution of the University of the West Indies, ideally located for studies of coral reef environments. It has easy access to a shallow-water lagoon, rocky shores, shallow and deep coral reefs and fossil Pleistocene coral reefs. Diving equipment includes scuba tanks, several boats, compressors, a double lock hyperbaric chamber, digital imaging lab, wet lab, several dry labs, library and workshops. Accommodations include a 10 room dormitory and apartment block.

Research space is available to investigators, students and courses from other institutions. For details of fees and space availability contact:

Dr. Norman J. Quinn, Director,
Discovery Bay Marine Laboratory, PO Box 35,
Discovery Bay, St. Ann, Jamaica.
Fax (876) 973-3091, phone (876) 973-2241
Email: nquinn@uwimona.edu.jm

CRUSTACEAN CLASS

Yet another class announcement forwarded to SCAMIT for distribution through the newsletter.

First International Course on the Ecology and Taxonomy of Peracarids 23 September - 6 October 2002

The Faculty of Marine Sciences at the Universidad Católica del Norte, Coquimbo/Chile is offering the First International Course on the Ecology and Taxonomy of Peracarids, to take place between 23 September and 6 October 2002. This course is directed towards postgraduate students in Master or Doctorate programs at Latin-American universities or recent graduates of those programs. Students in corresponding programs in other geographic regions are also welcome to attend. The principal objective of the course is to introduce participants to the study of peracarid crustaceans. Students will obtain basic information on the ecology and biology of peracarids, and upon completion of the course will be able to successfully identify peracarid species with the aid of the appropriate literature.

The topics to be covered are: Morphology, Anatomy, Physiology, Ecology, Behavior, Reproduction, Taxonomy, Advances in molecular biology, and Electronic tools for analysis of morphological data (DELTA). Each day comprises a balanced combination of lectures, field trips and laboratory exercises. Course instructors:

Exequiel R. González Ph.D. Associate Professor, Universidad Católica del Norte, Chile.

Martin Thiel Ph.D. Research Professor, Universidad Católica del Norte, Chile.

Les Watling Ph.D. Professor, University of



Maine, USA.

Richard Heard Ph.D. Professor, University of Southern Mississippi, USA.

The cost of the course is US \$500, which includes course materials and accommodation in the guesthouse on the University campus. The course language will be Spanish, but students should have a basic knowledge of English.

For the full program and additional information, please contact:

Exequiel R. González Ph.D.

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GOVERNMENT JOBS

The U.S. Environmental Protection Agency's, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Gulf Ecology Division in Gulf Breeze, Florida, is seeking qualified post-doctoral candidates for the following projects:

GED-5/1/02-77: "Effects of Environmental Stressors on Growth, Reproduction, and Development in Estuarine Fish and Invertebrates".

This project focuses on development, validation, and evaluation of techniques for assessing the effects of natural and anthropogenic stressors on aquatic species. Research efforts will specifically address single and multiple stressor effects on growth, reproduction and development of fish and crustaceans with emphasis on population-level responses. A goal of this

effort is to couple molecular, biochemical and physiological endpoints with modeling approaches to enhance the Agency's ability to understand and predict how populations respond to environmental stressors. The incumbent will work within a multidisciplinary, cross-divisional research team to assist in the development of a framework for predicting risks to aquatic species. The preferred candidate will have expertise in molecular biology and have demonstrated expertise in molecular techniques, and a Ph.D. in Toxicology, Molecular Biology, Biological Sciences or related field.

Scientific Contact: Michael Hemmer (hemmer.michael@epa.gov).

GED-5/1/02-78: "Assessment of the Interactions and Relationships Among Environmental Stressors and Estuarine Condition"

Conduct research and develop models/analyses that examine the interaction of multiple environmental stressors and their effects on estuarine condition. These stressor interactions would include nutrient enrichment, sediment/water contamination, habitat alteration, and suspended sediments. The candidate will investigate the use of risk-based approaches and probabilistic monitoring data to develop assimilative capacity estimates for estuarine ecosystems in order to reduce uncertainties in TMDL (total maximum daily load) assessments. The preferred candidate will have expertise in quantitative ecology, mathematical modeling of environmental data, statistics, or biostatistics, and a Ph.D. in Ecology, Biological Sciences or Marine Sciences or related field.

Scientific Contact: Virginia Engle (Engle.Virginia@epa.gov).

GED-5/2/02-84: "Assessment of the Effects of Watershed/Landscape Characteristics on Estuarine Condition."



Conduct research and develop models to analyze the relationship between spatial patterns of landscape characteristics and conditions of and risks to estuaries and coastal waters. The project would include development of landscape indicators using GIS or statistical tools with existing data, evaluation of land use/land cover data for estuarine watersheds, analysis of land cover change data to predict trends in landscape indicators, and analysis of the relationships among landscape indicators and estuarine condition as expressed by biological response indicators. An example of an appropriate project would be developing a landscape characterization of the non-point source inputs of aquatic stressors (e.g., nutrients, toxics, suspended sediments) to an estuary and an analysis of the statistical relationships of the watershed/landscape characterization to the distribution and health of seagrass in the estuary. The preferred candidate will have expertise in quantitative ecology, mathematical modeling of environmental data, statistics, GIS, or landscape analysis, and a Ph.D. in Landscape Ecology, Ecology, Biological Sciences or Marine Sciences or related field. Scientific Contact: Virginia Engle (Engle.Virginia@epa.gov).

GED-5/2/02-85: "Modeling of the Population-Level Outcomes of Growth and Reproductive Effects of Contaminants."

This project focuses on development, verification and evaluation of population dynamics models for predicting risks to wildlife and aquatic populations from multiple stressor impacts, including chemical exposure, habitat loss, and disturbance. A goal of this effort is to develop modeling approaches and extrapolation methods to enhance the Agency's ability to understand and predict how populations respond to environmental stressors in a spatial context. Models and methods will be demonstrated in case studies supporting wildlife risk assessment. This project includes review and synthesis of the scientific literature

concerning population model verification and validation. The incumbent will work within a multi disciplinary, cross-divisional research team to assist in developing and evaluation a tiered framework for predicting risks to wildlife and aquatic species. The preferred candidate will have demonstrated expertise in the use of ecological and/or simulation models to address ecological problems and a Ph.D. in Toxicology, Ecology, Biological Sciences or Marine Sciences or related field. Scientific Contact: Dr. Charles L. McKenney (McKenney.Chuck@epa.gov).

These positions are excepted service appointments for up to three years. The selected candidate(s) will be eligible for full benefits, including relocation expenses, health insurance, life insurance, retirement, and vacation and sick leave.

The filing deadline is June 28, 2002. Application instructions and further information on the USEPA postdoctoral program and NHEERL's Gulf Ecology Division may be found at:

<http://www.epa.gov/nheerl/postdocs/>

A NEW POLYCHAETE BOOK

This announcement was again forwarded by a member of the Annelida list-server.

Dear friends and colleagues,
I am pleased to announce the publication of my new polychaete book.

Citation: Jirkov I. A. 2001. Polychaeta of the Arctic Ocean, Moscow, Yanus-K Press, 632 pp. For additional information see

<http://rav.sio.rssi.ru/~lena/book/book.htm>



In completing this book, I want to thank the colleagues who have contributed to the various chapters included in this book (see the list of contributing authors). This book would never have happened without financial support from Akvaplan-Niva (Norway) and the Russian Foundation for Basic Research.

This monograph is dedicated to taxonomy and distribution of polychaetes of the Arctic Ocean. Taxonomy of polychaete in general is notoriously confused and arctic polychaetes are not an exception. Although the first arctic polychaetes were described by Linne (1758), arctic polychaete fauna is still insufficiently known. Most original descriptions of earlier species are absolutely unsatisfactory, yet many of them are type species of genera. Later the same species names were also recorded from all over the world and the original cursory descriptions were extended according to the new material. As a result, species and genera became even less defined, often with being large species complexes. A long list of synonyms and incorrect identifications led to the widespread idea that polychaetes are poor biogeographic indicators and cannot be used in biogeographic studies. Thus, a detailed st graph is to put together up-to-date information on taxonomy and distribution of polychaetes within the Arctic Ocean.

The initiation of this project was originally stimulated by a surprising lack of a comprehensive account of the Arctic fauna, including polychaetes. Previous the most complete taxonomic guide to the arctic benthos was published in mid 20th century in Russian (Zatsepin, 1948). It included neither fauna of the Norwegian and Greenland seas, penetrating into the Arctic from the the Atlantic, nor deep-water fauna that had been insufficiently known at that time. It also became outdated in half of the century after its publication. A book by Berkeleys (1952) on the fauna of Canadian Arctic is too cursory and limited in geographic coverage. None of monographic treatments of individual polychaete taxa (Streltsov, 1973;

Uschakov, 1972, 1982; Khlebovich, 1996; Arwidsson, 1906; Fauchald, 1963, 1974, 1992; Holthe, 1986a; George, Hartmann-Schroeder, 1985; Gidholm, 1966; Muir, Chambers, 1998; Pax rs) treat all families, the studied areas only partly overlap, and most of these papers are outdated to some degree. The most recent taxonomic guide to arctic polychaetes (Jirkov 1989) included only selected polychaete families. Therefore, the current book is unprecedented in scope and coverage.

The book consists of two parts. The general part describes external polychaete morphology as well as methods of material collection, preservation and storage. It also contains detailed analysis of biogeographic distribution of polychaetes within the Arctic basin. The taxonomic part is based on extensive material deposited in numerous taxonomic collections in Russia and around the world (see the list of studied collections). The sampling area covers most of the Arctic Ocean, from the Faeroe Islands to the Bering Strait, from the upper shelf to abyssal depths. In total, more than 10,000 samples and over 200,000 specimens have been studied. A total of 458 species descriptions, (including 265 based on newly studied material) species are presented in the guide of which nine are descriptions of the species new to science in the Chaetopteridae (1); Flabelligeridae (2); Nephtyidae (1); S s easy to use because of its user-friendly pictorial taxonomic keys to the families, genera and species. Detailed species descriptions are abundantly illustrated by 566 figures (more than half of them are original illustrations not published anywhere else before), and accompanied by 211 original distribution maps.

I believe that the book will be a valuable resource to polychaete researchers and benthic biologists working on the Arctic fauna and the fauna of adjacent regions. If you would like to buy a copy, please write to Lena Kupriyanova Lena.Kupriyanova@flinders.edu.au



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Box 2100,
Adelaide, SA, 5001 Australia.

Please include a check drawn from an US bank or an international money order for US\$35.00 if you want a book plus \$5 postage international (via surface) or US\$15.00 if you prefer a CD (PDF file of the book plus a bonus of pdf files of all my publications in Russian with their English translations) plus \$2 postage international (via air)

Despite the scope and detail level of the edition, the project is not yet completed. Although we tried to include all polychaete families in the guide, the coverage of the families is not uniform. This situation reflects the state of taxonomy of various families. Families Ampharetidae, Aphroditidae, Eunicidae, Flabelligeridae, Glyceridae, Goniadidae, Nephtyidae, Nereidae, Onuphidae, Pectinariidae, Phyllodocidae, Sabellariidae, Scalibregmidae, Serpulidae, Spionidae, Spirorbidae and Terebellidae are relatively well studied and therefore, the book contains the most reliable information on these families. In contrast, families such as Capitellidae, Cirratulidae, Hesionidae, Magelonidae, Polynoidae, Syllidae, remain unstudied. Although there is a large number of publications on these families, the original collections were either studied partially or the results of our study only showed. In case of Polynoidae, Sigalionidae, Pholoidae, Lumbrineridae, Sabellidae, and some others very preliminary overviews were compiled from the literature. For Capitellidae, Cirratulidae, Hesionidae, Magelonidae, Syllidae, and some others only family diagnoses are provided. Remaining families (Opheliidae and Sabellidae) hold intermediate positions: taxonomic keys are given and unresolved taxonomic problems are pointed out.

Another obvious downside is that the book is in Russian, although this problem is partly alleviated by numerous illustrations and distribution maps. We recognize that this limits the potential users of the book and are currently looking for a source of funding to translate the existing book into English. Also we would like to extend the book by studying arctic material deposited in North American museums in order to balance the geographic coverage that is currently biased towards Euro-Asian sector of the Arctic Ocean. Another way to improve the book is to extend the coverage of individual families. The result of such a project would be a publication of the most comprehensive up-to-date source of information on arctic polychaetes. We appreciate any suggestions and hints about possible source of funding for such a project and are open to collaboration with the interested colleagues.

Wormly Igor Jirkov

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Please visit the SCAMIT Website at: <http://www.scamit.org>

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Back issues of the newsletter are available. Prices are as follows:

Volumes 1 - 4 (compilation).....	\$ 30.00
Volumes 5 - 7 (compilation).....	\$ 15.00
Volumes 8 - 15	\$ 20.00/vol.

Single back issues are also available at cost.

