



**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

May, 2002

SCAMIT Newsletter

Vol. 21, No. 1

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 Wetzter (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.

Departamento de Biología Marina

Facultad de Ciencias del Mar

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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



Department of Biological Sciences,
Flinders University of South Australia, G.P.O.
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>

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

President	Kelvin Barwick (619)758-2337	kbarwick@sandiego.gov
Vice-President	Leslie Harris (213)763-3234	lharris@bcf.usc.edu
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Chey1 Brantley (310)830-2400x5500	cbrantley@lacs.d.org

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.





Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

June, 2002

SCAMIT Newsletter

Vol. 21, No. 2

SUBJECT:	Nereids
GUEST SPEAKER:	Discussion leader - Leslie Harris
DATE:	19 August 2002
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Los Angeles Museum of Natural History Worm Lab 900 Exposition Blvd.



Molgula regularis
City of San Diego
Photo by M. Lilly

The meeting was commenced by our new president, Kelvin Barwick at approximately 9:30 a.m. He started by thanking the 20th anniversary party committee (Leslie Harris, Ron Velarde, Cheryl Brantley and Ann Dalkey) for the wonderful job they did with organizing and coordinating the party. It was also requested that anyone who took pictures that evening, if they have extras, send them to Megan Lilly and she will include them in future newsletters to share with the greater SCAMIT membership. It was then announced by Kelvin that SCAMIT has a new list-server which is up and running thanks to Paul V. Scott of the Santa Barbara Museum of Natural History who is graciously hosting our list-server and our ever-fearless webmaster, Jay Shrake who will be handling the archiving. Further on in the newsletter is an announcement for the list-server and instructions on how to subscribe.

Rick Rowe informed us that “special” t-shirts, designed by himself and his wife Rae (an excellent and successful artist) could be available for purchase, but he won’t have them made until a certain number of orders are placed. I have seen the design, which consists of a drunken crab with a lampshade on his head and a reference to 70% ethanol (don’t want to spoil the surprise) and it is quite hilarious as well as being beautifully drawn. If anyone is interested in receiving a t-shirt with this design, please contact Megan Lilly and let her know. If enough orders are placed, we may have a batch made.

Larry Lovell then had the floor to announce that the 2002 Ichthyology/Herpetology meetings will be held in Kansas City this year in the first week of July. He also stated that at the recent SCAS meetings he met Julie Kalman who is working on parasitic copepods and would be willing to look at some that we are encountering, especially those found on our *Mediomastus polychaetes*. Julie can be reached at SCCWRP, where she is currently working.

Rick Rowe then brought up the issue of trying to get SCAMIT and PEET funded researchers together. This idea was originally suggested by Meg Daly at the January Anthozoan meeting. SCAMIT would love to have a PEET grantee come to one of our meetings and tell us more about the PEET program as well as whatever specific topic they are researching. Please contact any of the officers if you are currently working under a PEET grant and would be willing to attend a SCAMIT meeting.

Don announced that the California and World Oceans Conference ‘02 will be in Santa Barbara this year and runs from October 27-30. Interested parties can get the necessary information at

http://resources.ca.gov/ocean/CWO_02/Call_index.html

With the business portion of the meeting completed it was time for the Ascidian lecture. Megan Lilly started with an overview of ascidian anatomy and proper dissection technique. She then showed digital images of various structures to be examined, such as the dorsal lamina, stigmata (spiral or straight), and branchial tentacles (branched or simple). She reviewed some of the species found in the City of San Diego’s monitoring programs, such as, *Cnemidocarpa rhizopus*, *Agnezia septentrionalis*, *Molgula regularis*, *Molgula* sp SD 1, *Molgula pugetiensis*, and *Molgula napiformis*. Species sampled in San Diego Bay during the B’98 regional program were also examined: *Microcosmus exasperatus*, *Styela plicata*, and *Ciona* sp (she did not speciate the *Ciona* specimens as they were all being examined after being fixed in formalin and any necessary color spots, etc, were unavailable). Some of the literature she uses for ascidian ID work is, The North and South American Ascidiaceae Van Name 1945, Three New Species of Stolidobranch Ascidiaceae (Chordata: Ascidiaceae) from the California Continental Shelf Lambert 1993, and The Ascidiaceae *Styela barnharti*, *S. plicata*, *S. clava*, and *S. montereyensis* in California waters Abbott et al 1972. However, this is just a small sampling of the available literature and a visit to the Ascidian website is also recommended:

<http://nsm.fullerton.edu/~lamberts/ascidian/>

She will be eventually making voucher sheets based on the power point presentation given that day. Contact her if you wish to receive copies.

CORRECTION

There was an error in the spelling of a polychaete genus in the minutes of last month’s newsletter. Please correct *Spinoferra* to its proper spelling of *Spinospaera*. Thanks to Rick Rowe (CSD) for catching this.

- (M. Lilly)



MEDIC ALERT!

George Davis, Collections Manager of the Crustacea Section of the Natural History Museum of Los Angeles County and SCAMIT member is among the wounded. George suffered a mild heart attack on Sunday 7 July, and when he was examined it was determined he required multiple by-pass surgery to open his arteries. He will have had the surgery by the time you read this, and will be in a long recuperation phase (about 6 weeks off work). There's nothing duller than being forced to relax for so long a period. If you would like to help out by being an irritant, write to him at his home with good wishes for a speedy recovery or even snarky comments about "doctor ordered loitering" or the fact that you are ambulatory and he is not. Comments like the latter can serve to focus his energies on recovery...if only to extract revenge. The address is George Davis, 1503 Stanford Drive, Glendale, California 91205.

UPCOMING SPECIES ID CLUB MEETINGS

The next species ID club meeting will be, August 14 with Nacho, Kristin, and Bonnie, discussing snails (for more information on the Species ID club meetings see the April 2002 newsletter).

DELTA WORKSHOP

The Natural History Museum of Los Angeles County is sponsoring the fifth Crustacean DELTA workshop. The workshop will run from 7-15 October, and space is limited. Please see the attached flyer at the end of the Newsletter for more details and enrollment instructions.

SCAMIT – A NEW EMAIL DISCUSSION GROUP

The Southern California Association of Marine Invertebrate Taxonomists (SCAMIT) is pleased to announce a new email discussion list. This list is intended to enhance communication between marine invertebrate biologists, in

particular on topics of California invertebrate taxonomy and ecology. All individuals or organizations interested in California marine invertebrate taxonomy are invited to join and participate in this new email discussion.

To subscribe to the list:

- 1) Send an email to: scamit-request@lserve.sbnature2.org
- 2) In the body of the email only include the word "subscribe" (not in quotes)
- 3) You will receive an email verification of your intent to subscribe. Simply open the verification request email, click on "reply" then "send" and you will be subscribed to the discussion list.

Make sure your email is sent in "plain text" format, not in "MIME" or "HTML" format. Remember you must go through the above procedure to receive any messages posted on the list server. This system is separate from the monthly email notification about the publication of the newsletter. If you have questions or problems, please send an email to: pvscott@sbnature2.org

We look forward to lively discussions on invertebrate taxonomy!

Kelvin Barwick
President, SCAMIT
kbarwick@sandiego.gov

IS YOU IS, OR IS YOU AIN'T MY WORMY?

Most of us are fairly careful and alert to problems of homonymy within the groups we are familiar with. Some residual problems come out of left-field from groups generally unfamiliar to those working on marine invertebrates.

Such was the case recently with member Sue Williams, who now does quite a bit of work in salt-marshes and other coastal areas where insects abound. While working with some of the older literature Sue came across records of a dipteran fly genus *Eulalia*. Sue's training as



a polychaetologist guaranteed her familiarity with a marine annelid genus of the same name. She contacted me to ask if I knew about the problem, and whether it had been resolved. I didn't know, but proceeded to find out.

It's one of those classic bad news-good news situations. Bad, the dipteran (a stratiomyid soldier fly) has priority under the Code being *Eulalia* Meigen 1800; predating the polychaete *Eulalia* Savigny by at least a decade. Good, the publication in which Meigen proposed *Eulalia* in 1800 was suppressed by ICZN action in 1963, and is unavailable for nomenclatural purposes. This removed the homonymy, making *Eulalia* Savigny available for us to use.

Ron Velarde pointed out that, although there was no mention of the earlier name in Fauchald's "The Polychaete Worms", and it was likewise unmentioned in the phyllocid section of the Atlas, Olga Hartman had noticed the earlier name and listed it in her Catalogue of the Polychaetous Annelids of the World (Part 1). While noting that there was an earlier name use she did not attempt to resolve the homonymy in that 1959 publication (prior to the ICZN suppression action). Thanks to Sue for catching this one on the fly, so to speak.

[As a side note: there appears to be controversy as to the original publication date of the genus. Hartman (1959) used 1817, Fauchald (1977) and later Blake (1994) used 1818, while Pleijel (1991) uses 1822. Since both Hartman and Pleijel refer to the same Savigny publication, and since the date of that publication was fixed at 1822 by ICZN action, it is likely that Pleijel's usage is in fact the correct one. Since the homonymy has been removed, this secondary date controversy has no impact on the availability of the name for an annelid.] - Don Cadien (CSDLAC).

AVAILABLE JOBS

New Brunswick, Canada

Position available at The Huntsman Marine Science Centre
St Andrews by the sea, New Brunswick
University programs coordinator

This position will coordinate university education and research activities at the Huntsman Marine Science Centre; a not-for-profit charity devoted to education, research and technology transfer to industry (www.huntsmanmarine.ca) located in the Bay of Fundy. The University programs coordinator will reserve facilities for visiting field courses and researchers at HMSC, including preparation of budgets and invoicing. The position will also manage a new student exchange program in marine biodiversity between Canadian and European Union universities. There will also be some opportunity for the candidate to teach field courses and conduct environmental research if they wish. It is a full-time position, initially for a three-year period but may be extended as funding permits.

Excellent organization and project management skills, strong computing proficiency, and at least a first degree in a biological science is required. Knowledge of the Canadian university system, and an interest in marine biology, would be useful.

The position may suit graduates with experience on project coordination and management, who are interested in living in a rural seaside village with a strong science community including the oldest (DFO) marine station in Canada, the Atlantic Salmon Federation headquarters, a community college, salmon farming, lobster and herring fisheries, and whale watching and outdoor ecotourism.



Applications containing a letter explaining why the position is of interest and relevant strengths of the applicant, with a full curriculum vitae and contact details (including email, fax) of 3 referees, should be sent by email, fax, or post to:

Ms T. Dean, Director of Education,
The Huntsman Marine Science Centre,
1 Lower Campus Road, St Andrews,
New Brunswick, Canada E5B 2L7.
Tdean@huntsmanmarine.ca
Fax +1-506-529 1212

Deadline for applications 15 July 2002, but late applicants may be considered.

Note this position was first advertised in December 2001. Previous applicants may reapply.

LACMNH

In addition to the Curatorial Assistant position recently announced, the Natural History Museum of Los Angeles County invites applications for two grant funded (2.5 years) curatorial assistants with expertise in crustaceans, mollusks and/or echinoderms. These positions in our Marine Biodiversity Processing Center (<http://collections.nhm.org>) will complement existing staff and reflect the institution's commitment to the Center's growth. We seek qualified persons to assist with the curation, sorting, databasing, and physical integration of orphan collections into the museum's invertebrate collections. Successful candidates should have appropriate degrees in Biology, at least one year of experience with one of the taxonomic groups noted above, and knowledge of contemporary museum collection and specimen conservation techniques. Good oral and written communication skills are essential and experience with collection databasing is desirable.

All two positions are full-time with benefits. Salary: \$30,000/year plus full benefits.

Review of applications continues until positions are filled. Please send your curriculum vitae, name and contact information for three referees, and a cover letter that describes your curatorial experience to:

Dr. Angel Valdes, Mollusca
Natural History Museum of Los Angeles
County
900 Exposition Boulevard
Los Angeles, CA 90007 USA
E-mail: avaldes@nhm.org

T-SHIRTS FOR SALE! HURRY, HURRY!

20th anniversary SCAMIT t-shirts are still available. Get them for the low, low price of only \$15. Contact treasurer Cheryl Brantley to order yours today! If you tragically had to miss the party, wear the shirt and pretend you were there.

LITERATURE REVIEW

A compilation of the differences between the SCAMIT's Edition 4 species list and Skoglund's recent review of the panamic gastropod literature.

By Kelvin Barwick

The recent publication of Skoglund's (2002) review of the Panamic Gastropod literature was the impetus for the following table (which is attached at the end of the newsletter). The table was compiled by making a line-by-line comparison between the species in current usage (SCAMIT, 2001) with what is indexed by Skoglund, (2002). All differences were noted. None of these proposed changes have been adopted by SCAMIT. They are offered up here as advisory only. No attempt was made to compare the higher level taxa. This is well beyond the ability of this worker and is best left to the professionals.

The table is divided into three sections (columns) separated by double lines. The first describes the affected taxa and its corresponding line number as it appears in SCAMIT, 2001. The second section is further



divided into 4 parts: first is the type of change proposed, second is Keen's (1971) original reference number (where applicable), next is the taxa as it appears in Skoglund, 2002, and lastly the corresponding page number. The third section contains this worker's comments that, in part, attempt to highlight and/or resolve apparent contradictions between Skoglund and other authors. In the case of some spelling changes, further research is needed to confirm the correct spelling.

NEW LITERATURE

As we move into summer, the question of the continuing and worsening coastal eutrophication, especially in the Gulf of Mexico, arises again. Nancy Rabalais has become the standard bearer for the campaign to address the issue of bottom water hypoxia at the source, through reduction in nitrogen inputs through the Mississippi River. In a series of articles she and her co-workers summarize the problem (Rabalais & Turner 2001; Rabalais, Turner & Wiseman 2001), describe the impacts to benthos (Rabalais et al 2001), zooplankton (Qureshi & Rabalais 2001), and demersal fish/megabenthos (Rabalais, Harper & Turner 2001), and consider the national policy issues that affect the situation and its future (Rabalais, Turner & Scavia 2002). While our desert climate and narrow shelf make it extremely unlikely that any such severe hypoxic conditions could be broadly established in the Southern California Bight, local hypoxia has occurred in the past around areas of organic oversupply (both natural and anthropogenic), and may well happen in future. Familiarity with the situation in the Gulf of Mexico can only help members, wherever they happen to be. The above papers present one perspective on the problem, but there are others. Interested parties should seek them out. An internet search on hypoxia will probably return more information than any of us has the time to pursue.

Geographic trends in trophic structure were investigated in northeastern Pacific gastropods through a comparison of carnivorous and non-carnivorous taxa frequency (Valentine, Roy & Jablonski 2002). They found that in intermediate latitudes (such as locally) predator/non-predator ratios were lower than in either tropical or arctic areas.

This pattern was at variance with terrestrial investigations that found the ratio fairly constant regardless of latitude. While the authors suggest some possibilities for further research on the factors underlying the observed pattern, they cannot account for it on the basis of current data. An intriguing subject which will hopefully be further examined.

Gene Coan continues his group by group examination of the eastern Pacific bivalves with a paper treating *Sanguinolaria* and *Psammotella* genera distributed generally to the south of us (Coan 2002). This completes the treatment of the psammobiid genera begun in 1973 with *Heterodonax* (Coan 1973) and continued recently with *Gari* (Coan 2000). Given the frequent larval incursions into the Southern California Bight associated with northward moving water masses, it is always wise to keep up with the taxonomy of the Panamic fauna; you never know when you might need to recognize them in your own samples.

Lodo confusion? Heapa trouble?

It pays to revisit older literature once in awhile, if only to find the things previously overlooked. Such a look at Lowry (1984) after nearly 20 years yielded potential problems that I, and others locally, appear to have disregarded. In his treatment of the pachynid amphipod *Prachynella lodo*, Lowry indicated the genus probably contains more than one species in California waters. His comparisons of the illustrations of the species by Barnard 1964 & 1967 with the holotype indicated that the name had been applied to several differing forms.



Barnard, in 1967, noted several varying characters, particularly that the deep water form (to 791m) was anoculate, while individuals from shallower water bore eyes. He also noted pigment patches in the head of the anoculate form matching the location of eyes in the shallower representatives. As there do seem to be other morphological differences between the shallow and deep representatives, perhaps this eye loss has meaning. We have seen, however, that in other forms such as *Heterophoxus oculatus*, eye loss in deeper

living populations is a regularly occurring phenomenon, and is not accompanied by other character differences. We take *P. lodo* in our samples, but seemingly always as single individuals. We have not noted morphological variation like that described by Barnard and Lowry, but then we haven't systematically looked either. Have other members taken a close look at their material for the variations noted by these authors? What did you find? - Don Cadien (CSDLAC)

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

SCAMIT OFFICERS:

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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.



A compilation of the differences between the SCAMIT's Edition 4 species list and Skoglund's recent review of the panamic gastropod literature. By Kelvin Barwick

Edition 4 SCAMIT, 2001		Skoglund, 2002			Comments	
Line #	Taxa	Changes, additions, deletions, etc...	Keen Ref. #	Taxa		Pg. #
815	<i>Finella</i> sp	Different family	--	Finellidae	53	As family Orbitortionidae in Turgeon, et al, 1998
829	<i>Barleeia subtemis</i>	Additional synonyms	--	<i>Barleeia rimata</i> <i>B. coronadoensis</i> <i>B. sanjuanensis</i>	33	
832	<i>Lirobarleeia kelsyei</i>	Additional synonyms	--	<i>Alba oldroydi</i> <i>Rissoina lapanza</i> <i>R. lowie</i> <i>Alvania bartolmensis</i>	33	
851	<i>Tienostoma supravallatum</i>	Additional synonym	418	<i>Tienostoma invallatum</i>	42	
876	<i>Caecum dalli</i>	Species name change	465	<i>Caecum quadratum</i>	44	
		Became junior synonym of <i>C. quadratum</i>	465		44	
879	<i>Cecum licalium</i>	Species spelling change	465	<i>Caecum licaum</i>	44	
886	<i>Hipponix antiquatus</i>	Subspecies change	766	<i>Hipponix antiquates panamensis</i>	70	
		Additional synonym	766	<i>Hipponix fimbriatus</i>	70	
887	<i>Patella antiquata</i>	Delete as synonym	766		70	
895	<i>Crepidula aculeata</i>	Additional synonym	808	<i>Crepidula intorta</i>	72	
897	<i>Calyptraea echinus</i>	Delete as synonym	808		72	
924	<i>Crepidula cerithicola</i>	Delete as synonym	814		73	
925	<i>Crepidula lirata</i>	Delete as synonym	814		73	
929	<i>Crepidula exuviatas</i>	Species spelling change	815	<i>Crepidula exuviata</i>	73	
932	<i>Crepidatella dorsata</i>	Additional synonym	819	<i>Crepidula orbiculata</i>	73	
941	<i>Crepidula orbiculata</i>	Delete Synonym			73	
944	<i>Crucibulum spinosum</i>	Additional synonyms	826	<i>Crucibulum piliferum</i> <i>C. arculatum</i>	74	
		Elevation of subgenus <i>Hespererato</i>	912	<i>Hespererato columbella</i>	86	Add parentheses to author . <i>E. columbella</i> becomes a junior synonym of <i>H. columbella</i> , fide Cate, 1977.
	Additional synonyms	912	<i>Erato panamensis</i>	86		
972	<i>Hesperato columbella</i>					Incertae sedis Fide Cadien, 1980 and Cate, 1977
973	<i>Erato vitellina</i>	Generic change	--	<i>Hespererato vitellina</i>	86	Add parentheses to author. <i>E. vitellina</i> becomes a junior synonym <i>H. vitellina</i> ,. fide Cate, 1977.

Edition 4 SCAMIT, 2001		Skoglund, 2002			Comments	
Ref. #	Species	Changes, additions, deletions, etc...	Keen Ref. #	Species		Pg. #
998	<i>Neverita reclusiana</i>	Additional synonyms	888	<i>Neverita secta</i> <i>Polinices reclusiana alta</i> <i>N. reclusiana imperforata</i> <i>P. reclusiana vanconverensis</i> <i>N. secta hemisecta</i> <i>N. reclusiana xena</i>	82	
1029	<i>Epitonium hindsii</i>	Additional synonyms	652	<i>Epitonium apiculatum</i> <i>E. compradora</i> <i>E. cylindricum</i> <i>E. musidora</i> <i>E. pazianum</i> <i>E. bakhanstranum</i>	59	
1050	<i>Epitonium pilotum</i>	Species gender/spelling change	655	<i>Epitonium polita</i>	58	
1062	<i>Epitonium (Crisposcala) catalinae</i>	Delete synonym	--		59	
1072	<i>Nodiscala spongiosa</i>	Lowered to subgeneric status	686	<i>Opalia (Nodiscala) spongiosa</i>	63	Remove parentheses from author.
1198	<i>Pteropurpura macroptera</i>	Additional synonym	--	<i>Murex carpenteri</i>	115	
1221	<i>Babelomurex oldroydi</i>	Species spelling change	--	<i>Babelomurex oldroydae</i>	121	As <i>B. oldroydi</i> in Turgeon, Et al, 1998.
1297	<i>Nassarius perpinguis</i>	Additional synonyms	--	<i>Nassa corrugata</i> <i>N. intastriata</i> <i>N. interstriata</i> <i>N. perpinguis</i> var. <i>bifasciata</i> <i>Alectrion (Hima) qwatkinanus</i>	141	
1389	<i>Kurtzina beta</i>	Genus/subgenus swap	1792	<i>Kurtziella (Kurtzina) beta</i>	179	As <i>Kurtzina beta</i> in McLean, 1996
1409	<i>Ophiodermella inernuis</i>	Additional synonym	--	<i>Surcula ophioderma</i>	178	
1421	<i>Pseudomelatoma penicillata</i>	Additional synonyms	1574	<i>Drillia moesta</i> var. <i>maculata</i> <i>D. eburnean</i> <i>Pleurotoma (Drilla) digna</i> "Probable synonym: <i>Pseudomelatoma stricta</i> "	170	
1468	<i>Rictaxis punctocaelatus</i>	Additional synonym	--	<i>Rictaxis coronadoensis</i> <i>Rictaxis vanconverensis</i>	201	
1511	<i>Trabecula laxa</i>	Additional synonym	2018	<i>Salassiella balchi</i>	193	
1526	<i>Turbonilla tenuicula</i>	Genus name change	2169	<i>Pyrgiscus tenuicula</i>	200	
1526	<i>Turbonilla tenuicula</i>	Additional synonyms	2169	<i>Chenuitzia terebralis</i> <i>C. cerebrifilata</i> , <i>Turbonilla jewetti</i> <i>T. antemunda</i> <i>T. macra</i>	198, 200	

Edition 4 SCAMIT, 2001		Skoglund, 2002			Comments	
Ref. #	Species	Changes, additions, deletions, etc...	Keen Ref. #	Species		Pg. #
1550	<i>Aplysiopsis enteromorphae</i>	Additional synonym	--	<i>Aplysiopsis smithi</i> <i>Hermacina enteromorphae</i>	213	
1601	<i>Acteocina inculta</i>	Additional synonym	2259	<i>Acteocina planulata</i>	204	
1735	<i>Melibe leonina</i>	Additional synonyms	2370	<i>Melibe pellucida</i> <i>Citioraera dalli</i>	221	
1740	<i>Doriopsilla albopunctata</i>	Additional synonyms	2360	<i>Doriopsis fulva</i> "See McDonald, 1983 for complete synonyms"	219	
1767	<i>Dendronotus frondosus</i>	Additional synonyms	2363	<i>Tritonia aborescens</i> <i>T. cervina</i> <i>T. reynoldsii</i> <i>T. lactea</i> <i>T. pulcella</i> <i>T. felina</i> <i>T. ascanii</i> <i>Amphitridae sacrici</i> <i>Campaspe pusilla</i> <i>C. major</i> <i>Dendronotus luteolus</i> <i>D. purpurens</i> <i>D. ellegans</i>	220	
1815	<i>Hermisenda crassicornis</i>	Additional synonyms	2389	<i>Aeolis opalescens</i> <i>Cuthona (Heruvia) emurai</i>	225	

Fifth Crustacean DELTA Workshop

7-15 October

Natural History Museum of Los Angeles County
Los Angeles, California, U.S.A.

The Natural History Museum of Los Angeles County will host the 5th Crustacean DELTA Workshop from October 7-15, 2002.

The aims of this workshop are to provide training in the use of DELTA taxonomic databasing software and to interest taxonomists in preparing electronic monographs for Crustacea.net.

Crustacea.net is a cooperative, international project of Crustacea taxonomists who are building a website (www.crustacea.net) that publishes electronic monographs on crustaceans at any taxonomic level. These monographs are prepared using DELTA. They include illustrated, interactive keys to each group, plus diagnoses, descriptions and illustrations of each taxon in the group. The objective is to use modern technology to bring together the current taxonomic information and improved identification tools for this major animal group.

DELTA is a computerized method of managing taxonomic research. It involves both the principles of using a database approach to recording, managing and using descriptive data, and a suite of specialized taxonomic software.

Each participant will construct a small database at family, genus or species level on a familiar group of crustaceans. During the construction of the database, participants will be introduced to the advantages of databasing taxonomic information and will learn to use the DELTA software package. The three main functions of the DELTA software system are: production of natural language descriptions; development of illustrated, interactive identification systems; and management of phylogenetic analyses.

If appropriate, finished databases from the workshop can be published on Crustacea.net. Participants will return home equipped to manage their taxonomic research using DELTA and to make subsequent contributions to Crustacea.net.

Participants will need to bring a notebook computer running Windows software (the DELTA software will be provided free at the workshop). They will need to bring dichotomous keys for their chosen group and pictures to produce character and taxon images.

Interested persons should register by completing the on-line application. Enrollment will be limited to 18 participants and determined on a first-come-first-serve basis. A course fee of \$125US applies.

For information on the registration, accommodations and/or schedule, contact:

Sarah Boyce (sboyce@nhm.org)

Todd Haney (todddaney@crustacea.net)

For other information about the course, contact:

Jim Lowry (jimlowry@crustacea.net)

Terry Macfarlane (terrym@calm.wa.gov.au)

Instructors:

Jim Lowry, Division of Invertebrate Zoology, Australian Museum, Sydney, Australia.

Terry Macfarlane, Department of Conservation, Western Australian Herbarium, Manjimup, Australia.

Todd Haney, Research & Collections, Natural History Museum of Los Angeles County, Los Angeles, USA.

Date: 7 to 15 October, 2002

Cost: \$125 course fee

Registration deadline: August 31, 2002



Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

July, 2002

SCAMIT Newsletter

Vol. 21, No. 3

SUBJECT:	Epitoniidae
GUEST SPEAKER:	none; Ron Velarde Discussion Leader
DATE:	9 September 2002
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	City of San Diego - Marine Biology Lab 4918 N. Harbor Dr., suite 201

DIDN'T SEE IT COMING



Gorgonocephalus sp - (juv) found on *Thesea* sp B
CSD Station SD 11, 9 July 02, 90m
disk diameter approx. 2-3mm

Dave Montagne recently circulated the following item among folks at CSDLAC. It's worth passing on.

"I note in the 24 May issue of Science a little sidebar that reports the following:

Happy to Be ... a Biologist

The best job in the United States is that of biologist, according to this year's ranking by the Jobs Rated Almanac.

Biologists have moved up from 23rd place a few years ago to displace financial planners at the top of the heap. The almanac rates jobs according to stress levels, pay, degree of autonomy, physical demands, job security, and market demand. The rankings are based on government labor and census data, combined with surveys conducted by trade and industry groups.

Two other scientific disciplines are also in the top 10: meteorology and astronomy.

Congratulations to all of us on our perspicacious choice of career!"

BUT THEN AGAIN...

The other side of this issue was recently circulated by John Ljubenkov, who provided a link to Dr. Milt Love's webpage and an entry entitled "So You Want To Be A Marine Biologist". You too can examine it (and in light of the Science report above, you should) at

<http://www.id.ucsb.edu/lovelab/biologist.html>

NEW LITERATURE

Well, it's almost that time again. Bight '03 is almost here, and the planning stage is almost upon us. One of the things that all those who participated in the trawling effort of B'98 recall was the stupendous waste of blindly applying random station location methodology in areas of mixed bottoms. This was particularly evident off San Diego, and in the Channel Islands. Many nets were needlessly sacrificed to inviolable randomness, and many man-days of labor lost in attempts to trawl at sites where the bottom was unsuited to use of trawl gear. One of the recommendations coming from that experience is that it not be repeated; that the locations of untrawlable bottom be treated as if they were land, and excluded from the random draw station location pool. To do so we will need to accurately characterize the bottom in question. Cochrane & Lafferty (2002) report on initial attempts to distinguish between hard and soft bottoms in the Channel Islands using sidescan sonar data.

This is of some importance. High relief reef structure can be observed with a fathometer by a boat pre-cruising the proposed trawl path, but flat or low-relief hard bottom cannot. Low reefs, especially when intermittently covered by thin sediments, pose little risk to trawling efforts as they offer little to snag the net.

Trawling across such bottoms will often will bring up interesting and unusual organisms which will allow the nature of the bottom to be reconstructed by shipboard observers.

If the bottom is, however, subject to little or no intermittent sediment cover, it will probably bear sessile organisms with the potential to snag and/or tear the net. Such bottoms can only be avoided by careful preparation, and investigative tools such as those used by the present authors. It remains to be seen if Bight '03 will again take us to the Channel Islands, and if so, whether we will trawl there. If we do, we must be prepared.

Another often mentioned possibility for inclusion in the scope of B'03 is sampling on the upper and middle slope, and perhaps the nearshore basins. Such a move, if taken, would allow examination of areas which either pass through or accumulate anthropogenically modified sediments. It will also expose taxonomists and ecologists familiar with benthic communities nearer shore to different animals forming unfamiliar communities. We might encounter seep/vent associated communities. There is limited development of this type of chemautotrophy-based community even in nearshore waters on Palos Verdes, where hydrothermal vents exist in several locations.

In deep water these communities are scattered widely in the North Pacific. Kojima (2002) provides an overview of the distribution and constituents of such communities in the northwestern Pacific. One subset, the mussel bed community around thermal vents, is described in more detail by Van Dover (2002). While she describes the community at three sites on the southern East Pacific Rise, she found the same species there known from much further north. Focusing even further, Martell et al (2002) discuss the biology of a new species of buccinid whelk found on the Juan de Fuca Ridge in the Northeast Pacific. The species is from worm beds rather than



musselbeds, and the authors provide information on diet, reproduction and predation on the snail by large majid crabs. It is described in Harasewych and Kantor (2002).

The worm beds are formed of vestimentiferans, worms typically found around vents. These have in the past usually been treated as members of a separate phylum, although the first attempt at placing them within a classificatory context was as a subfamily of the polychaete family Sabellidae. A recent cladistic analysis of their relationships (Rouse 2001) found nothing to indicate a position differing from that proposed by Rouse & Fauchald 1997; placement as a separate family, the Siboglinidae, within the sabelloids. Rouse utilized a set of 30 characters in the analysis of siboglinid genera. He viewed all other vestimentiferan families as synonyms of this one family. Perhaps if we go deep enough we'll see some of these guys...I've been hoping to for years.

There is also a possibility that B'03 sampling will take us again into the shallow, particle-rich waters of bays and harbors. If we do sample there we will undoubtedly see the often large filter-feeding slipper snail *Crepidula onyx*. This species forms "stacks" under the right conditions (plenty of food and not too many predators). A path of protandrous hermaphroditism is followed, starting out as males and undergoing a sex change to female as they get larger. A male larva will settle from the plankton onto the back of a female, or of a preexisting male atop a female. As he grows he probably will accumulate another male on his own shell, eventually forming the stack. The question is, "why do they settle there, rather than just alongside the female [still allowing reproductive access]?" Zhao and Qian (2002) address this question, trying to parse apart the effects of chemical cues to settlement provided by other snails already there, and the cues provided by the biofilm which covers them, and nearly all hard surfaces subtidally.

From my point of view, what is even more interesting is how, when the one at the bottom of the stack dies, do the rest avoid falling to their burial and death in the surrounding soft sediments? They are only held in place by the adhesion of the foot of the bottom female; once she is gone, so is their attachment to the substrate. Suggestions?

A similar problem faces ectoparasites of animals that molt; how to stay on the host when it sheds its exterior? Behaviour of a clam symbiont and an isopod parasite of a mudshrimp are reported by Itani, Kato and Shirayama (2002). They used time-lapse video of the process of ecdysis (skin-shedding) in the host, and carefully monitored the timing and nature of movement of the symbionts.

They distinguish two strategies for symbionts to deal with ecdysis; 1) complete your life-cycle between molts and don't attempt to remain on the host, or 2) be mobile and leave the shed molt for the newly exposed surface of the host. There actually is a third method, hormonal control of host physiology and complete suppression or drastic extension of the host molt cycle. This is the method used by those physio-terrorists the ascothoracid barnacles, who are internal parasites with external reproductive structures and must also cope with molting. Of course if you are a parasite using so much of the host energy that it doesn't have any left for somatic growth, the need for molting largely disappears. The authors give a nice summary of the existing literature on the problem, and combined with their video, this is a nice concise treatment of the issue.

Remember the "Wanted" posters that Andy Cohen put out several years ago for the introduced crabs *Eriocheir sinensis* (the Chinese wooly-handed Crab) and *Carcinus meanas* (the European green crab)? While having a major impact in San Francisco Bay and associated estuarine areas (including the Sacramento Delta), neither of these two miscreants has



shown up in the SCB. Don't get me wrong, I'm glad they aren't here; I just wonder if they're coming at all. I heard that *C. maenas* has been taken as far south as Morro Bay, but I hope the report is erroneous.

Perhaps the answer is in the animals themselves. *Eriochir*, for instance, needs freshwater to complete its life cycle, and we have precious little of that here in Southern California. But what about *Carcinus*? The answer may be buried in the detail provided by Moksnes (2002). His studies indicate that early instars have very specific habitat preferences, they like to settle in mussel beds and filamentous red algal patches on rocky shores (or in eelgrass beds in bays). This should guarantee a virtually complete connection between San Francisco Bay and the shores of the Bight. Although there are some sandy stretches inbetween, rocky habitat should be within the dispersive reach of the planktonic larvae to either side. Such interspersed sandy beaches may deter young crabs, but not larvae. Given this information, we should brace ourselves for the eventual arrival of the green crab as the margins of the population push into open coastal areas outside of bays, followed by current driven lateral spread along the coastline. It may be that young crabs are also carried down the coast with boat fouling. The result will be the same – emergence of the green crab as an introduced pest in the SCB, unless, of course, they don't like it here...We'll see. Information on the species is available from many internet sources. I recommend the concise treatment at

<http://www.mdsg.umd.edu/MarineNotes/Mar-Apr96>

Keep your eyes open.

Morphometric analysis is only infrequently performed on non-hard body parts subject to shrinkage, contraction, and distortion in preservation. Voight (2002) applies it to a series of characters of reproductive structures

in male octopus. Characters of the hectocotylized arm, being primary sexual characters, should be strongly modified during growth. In consequence she analysed several hectocotylus characters with regard to mantle length in 43 different species.

MINUTES

The July 15th SCAMIT meeting was extremely well attended. The business meeting began with Kelvin reminding us of upcoming meetings: Aug 19, Nereids at LACMNH, Sept 9, Eptoniidae at CSD, and Oct 21, a review of the Glyceridae at LACMNH.

Kelvin also reminded everybody that 20th anniversary t-shirts were still available and he just happened to have some at the meeting on display and ready for purchase.

There has been an email change for the people employed by Hyperion (CLAEMD). Their new email addresses will now consist of the person's three initials followed by "@san.lacity.org".

After the business portion of the meeting was concluded Kelvin introduced a guest speaker, N. Scott Rugh from the Paleontology Department of the San Diego Natural History Museum. Scott gave a talk based on his presentation at the WSM meetings earlier this year. Following is the abstract from his paper:

“A Highly Diverse Holocene Invertebrate Fauna Collected After Beach Replenishment Operations at Cardiff State Beach, San Diego County

During the month of August, 2001 a phase of beach replenishment conducted by SANDAG (San Diego Association of Governments) transported ocean bottom sand from under 70 feet of water one kilometer offshore to the shore at Cardiff State Beach. Shells contained in the sand were sifted out by the tides, and for approximately two weeks beginning August 19, repeated collections were made from this deposited material. Specimens were brought to



the San Diego Natural History Museum, cleaned, sorted, and identified and placed in the Paleontology Department. Two hundred fifty invertebrate specimen lots were entered, mostly bivalves and gastropods, and three vertebrates, including individual teeth of a bat ray, shark, and Sheepshead Fish were also identified. The most common large gastropod, spread by the hundreds along the high tide line of the rocky berm, was *Bursa californica*. This species lives in shallow to deep water and shells usually are only occasionally brought on shore by winter storms. Other subtidal species common in the dredge material included *Turritella cooperi*, *Megasurcula carpenteriana*, *Terebra pedroana*, *Dentalium pretiosum*, *Pecten diegensis*, and *Glycymeris subobsoleta*. The specimens were empty and most were dull and slightly discolored. Although most specimens were probably derived from an offshore, buried Holocene deposit, a few of the deep water shells brought up by the dredging were clearly modern. Among these were *Halistylus pupoides*, a few of which still had operculi in the apertures, and specimens of *Sinum scopulosum*, *Lucinoma annulata*, *Tellina idae*, and other bivalves that still had periostracum attached.”

In addition to the information included in the above abstract, Scott discussed two species he discovered which were unusual. He found specimens of *Acmaea mitra* and *Cryptochiton stelleri* which are known from central and northern California but not from this far south. Perhaps this discovery indicates their presence, historically, in the Southern California region. Scott also brought a special gift for those present; he had a large bag full of frog shells (*Bursa californica*) which were passed around the room and people were encouraged to help themselves. You will find attached at the end of the newsletter a complete listing of the species collected during the project.

With Scott’s talk concluded it was time for the main portion of the meeting to commence. The presentation on digital imaging, given by Rick Rowe (CSD) and Kelvin Barwick (CSD) was so extensive and thorough that your secretary gave up the idea of trying to take down all the information after just a few minutes. Included below is a general overview of the topics discussed and some links that were used during the creation of the presentation. Kelvin started by covering the various file format options and modes when saving a digital file: Bitmap = TIFF, JPEG, GIFF, and Object oriented = PICT, EPS and Tilepic. As for the modes aspect he covered grayscale and and CMYK vs. RGB. He then discussed how to modify images in terms of if images are too dark or too light, out of focus, or need color corrections. Next was document production: Image processing (Adobe Photoshop, and Photoelements), Page layout (Adobe Pagemaker, InDesign, Quark Xpress, Word processor), Electronic publication (Adobe Acrobat), HTML/web publishing, and presentations (Microsoft Powerpoint). Finally he discussed the practical applications of using digital images. Digital imaging saves time and effort in terms of getting visual data processed and available. It’s invaluable in large labs for assisting with in-house communication and QA/QC as well as interlab calibration and communicating information quickly and efficiently with experts around the world.

Rick Rowe did a very thorough and detailed presentation with regards to the actual art and science of photography. Below is a list of links from sites where he garnered much of his information. Please take the opportunity to browse these sites and educate yourself as to the wonderful world of digital photography (these links are not hyperlinked in this newsletter, as there are too many of them; we will work on making this list available on the web in the near future).



**IMAGING HARDWARE POWERPOINT
PRESENTATION
SCAMIT 15JULY2002 BY RICK ROWE
— LINKS INCLUDED WITHIN THE
SLIDESHOW**

COLOR PERCEPTION

<http://www.cybercollege.com/tvp028.htm>

**DEFINITION AND EXPLANATION OF
COLOR TEMPERATURE**

<http://micro.magnet.fsu.edu/primer/photomicrography/colortemperature.html>

CHROMIC ABERRATION

<http://www.chm.colostate.edu/erf/teaching/c532/opaberfib.htm>

BASIC OPTICS

<http://www.overtonphoto.com/tech/optics.htm>

ADVANCED MICROSCOPY OPTICS

<http://www.microscopy.fsu.edu/primer/anatomy/components.html>

CONCEPTS OF MAGNIFICATION

<http://micro.magnet.fsu.edu/primer/anatomy/magnification.html>

**COMPOUND MICROSCOPE LIGHTING
VOLTAGE CONTROL**

<http://micro.magnet.fsu.edu/primer/photomicrography/colortemperature.html>
(scroll down below the color spectrum graph for a short statement about the photovoltage control)

MICROSCOPE LIGHTING HARDWARE

<http://www.olympusmicro.com/primer/anatomy/sources.html>

**GENERAL INFORMATION ABOUT
FILTERS AND FILTER TERMINOLOGY**

<http://www.edmundoptics.com/techsupport/DisplayArticle.cfm?articleid=273>

CONTRAST IN OPTICAL MICROSCOPY

<http://micro.magnet.fsu.edu/primer/techniques/contrast.html>

**SPECIALIZED MICROSCOPY
TECHNIQUES**

<http://www.microscopy.fsu.edu/primer/techniques/>

**SUMMARY OF SOURCES OF
MICROSCOPE RESOLUTION
ABERRATION**

<http://www.olympusmicro.com/primer/anatomy/aberrationhome.html>

NUMERICAL APERTURE (N.A.)

<http://www.microscopy.fsu.edu/primer/anatomy/numaperture.html>

OBJECTIVE LENS

<http://micro.magnet.fsu.edu/primer/anatomy/objectives.html>

KOHLER ILLUMINATION

<http://micro.magnet.fsu.edu/primer/anatomy/kohler.html>

ABBE CONDENSER

<http://micro.magnet.fsu.edu/primer/anatomy/condensers.html>

**CONDENSER NUMERICAL APERTURE
(C.A.N.)**

<http://www.olympusmicro.com/primer/java/mtf/modulation/>

USEFUL TOTAL MAGNIFICATION

<http://www.microscopyu.com/articles/formulas/formulasmagrange.html>

MICROSCOPE OPTICAL COMPONENTS

<http://www.microscopy.fsu.edu/primer/anatomy/components.html>

MARTIN MICROSCOPE ADAPTER

<http://www.martinmicroscope.com/MM99707%20&%20MMC00L5K.htm>

**ISOLATING PROBLEMS WITH IMAGES –
PROCESS OR HARDWARE?**

<http://micro.magnet.fsu.edu/primer/photomicrography/errors.html>



<http://micro.magnet.fsu.edu/primer/photomicrography/chromerelectfaults.html>
(works for digital also)

NIKON MICROSCOPY UNIVERSITY
<http://www.microscopyu.com/index.html>

MOLECULAR EXPRESSIONS
<http://micro.magnet.fsu.edu/primer/index.html>
Special thanks to Michael W. Davidson and Florida State University for the volumes of information.

CHARGE-COUPLED DEVICE (CCD)
<http://micro.magnet.fsu.edu/primer/digitalimaging/concepts/ccdanatomy.html>

WHY 72 DPI?
<http://www.scantips.com/basics1a.html>

RESAMPLING
http://www.designer-info.com/master.htm?http://www.designer-info.com/Photo/image_resample.htm

UNDERSTANDING DEPTH OF FIELD
<http://www.luminous-landscape.com/tutorials/understanding-series/dof.shtml>

DEPTH OF FIELD CALCULATOR SOFTWARE (FREE)
<http://tangentsoft.net/fcalc/>

CIRCLE OF CONFUSION
<http://www.nikonlinks.com/unklbil/dof.htm>

SMALLER DIGITAL SENSORS AND DEPTH OF FIELD
<http://www.wrotniak.net/photo/dof/>

HIGH END SCANNER
http://www.cameras-scanners-flaar.org/Fujifilm_Electronic_Imaging/Fujifilm_C550_Lanovia_scan.html

SCANNER REVIEWS AND ANOTHER LINK TO PROFESSIONAL PRINTING AND SCANNING AT THE FLAAR COMMUNITY OF WEBSITES
<http://www.flatbed-scanner-review.org/>

GENERAL AND STRAIGHT FORWARD SCANNING TIPS
<http://www.scantips.com/>

DEMO OF HOW A CCD WORKS
<http://micro.magnet.fsu.edu/primer/java/photomicrography/avalanche/>

CMOS OR CCD?
<http://www.kodak.com/US/en/corp/researchDevelopment/technologyFeatures/cmos.shtml>

CANON EOS-D60 - ONE OF THE BEST dSLR's
<http://www.dpreview.com/reviews/canoneosd60/page24.asp>

CANON EOS-D60 – REVIEWED AT MY SECOND FAVORITE PHOTO SITE (MAYBE THE THIRD ACTUALLY BEHIND LUMINOUS LANDSCAPE)
http://www.steves-digicams.com/2002_reviews/d60_pg5.html

NIKON D-100 REVIEWS
<http://www.dpreview.com/reviews/nikond100/>
http://www.steves-digicams.com/2002_reviews/nikon_d100.html

http://www.naturfotograf.com/index2_PC.html
A very serious photographer's opinion

SONY DSC-F707 REVIEW – THE 5Mp CAMERA USED BY THE CITY OF SAN DIEGO AND BY THE AUTHOR OF THIS LIST (WITH THE MARTIN MICROSCOPE ADAPTER FOR PHOTOMICROSCOPY)
<http://www.dpreview.com/reviews/sonydscf707/>

LUMINOUS LANDSCAPE – A WEALTH OF TUTORIALS AND EXCELLENT IMAGES
<http://www.luminous-landscape.com/tutorials/dq.shtml>

ONE OF SEVERAL LCD PROJECTOR SITES
<http://www.projectorcentral.com/>



Several sites on the Web deserve special recognition for content. Specific pages from these sites may have been included in the Imaging Hardware SCAMIT presentation, but I recommend browsing through the sites for more information.

For the photographer – everything from color theory to camera reviews with excellent guest authored articles and accompanying images – Select the “Understanding Series” and “Tutorial” dropdowns on the home page.

<http://www.luminous-landscape.com>

Reviews and user forums are a good way to add to your evaluation of equipment before purchase. My favorites are:

<http://www.dpreview.com> - Phil Askey's camera reviews

<http://www.steves-digicams.com/>

<http://www.imaging-resource.com/>

<http://www.dcresource.com/>

NEW BOOKS

Two new books may be of interest to readers. The first is available, the second is in the future, and is calling for participation by interested parties.

First – Australian Crustaceans

Just published, 2002: “A Field Guide to Crustaceans of Australian Waters” (new edition) by Diana Jones and Gary Morgan, 224 pp, Reed New Holland Publishers, Sydney. Price A\$39.95. Order by email from: bookshop@museum.wa.gov.au. Enquiries to: diana.jones@museum.wa.gov.au

The Book

“A Field Guide to Crustaceans of Australian Waters” is the most current, complete summary of all Australia's known crustaceans. It is the only book of its kind, giving an overview of Australia's tropical and temperate, marine and fresh-water, as well as terrestrial, crustacean species. A great deal of research has been

undertaken since the first edition of this book was published. This second edition incorporates up-to-date information, with each section checked by world experts, and even features rare, recently discovered subterranean crustaceans.

This beautifully laid out, easy to follow book, with its comprehensive bibliography, glossary and reference list, is aimed at naturalists, scientists, marine science students, commercial and recreational fishermen, marine ecologists and zoologists, fisheries departments and environmental agencies, who will find it useful for identification and other purposes. For the general reader, it will open a door to the biology of these often beautifully coloured and outrageously shaped animals. Lavishly illustrated with line drawings and stunning photographs, this is an essential guide for anyone with a crustacean interest.

The Authors

Diana Jones and Gary Morgan are experts in their field. Marine life teems around the vast coast of Western Australia and so it is no coincidence that both scientists work at the Western Australian Museum. Diana specializes in crabs in the mangrove areas and in barnacles, and also has an interest in introduced marine pests as well as the fauna of hydrothermal vents. She has published extensively on crustacean taxonomy and biology and she is the Curator of Crustacea at the Museum. Gary also specializes in crabs including hermit crabs; freshwater crayfish are another area of his research. He also has a particular interest in coral reef animals. Curator of Crustacea at the Museum for seven years, he is now the Executive Director.”

Your editor has not yet seen this volume, but it sounds very interesting.

Second – Eastern Pacific Crustaceans

“CALL FOR PAPERS: FIRST ANNOUNCEMENT, AUGUST 2002 SECOND VOLUME OF BOOK ON EAST PACIFIC CRUSTACEAN (sic)



The second issue of a series of volumes on marine crustaceans from the east Pacific is being prepared for publication in 2003 (December). The book will follow the format of individual contributions (one or several authors) related to any aspect (biology, taxonomy, fishery ...) of benthic and pelagic crustaceans, including synthesis or review papers. Contributions in Spanish or English will be accepted.

Each contribution will be reviewed by 1-2 referees to check for quality. However, the main objective of this series of books is to make available regional contributions as well as to rescue original and valuable information which has never been published in "tough" journals, like data in reports or thesis. Hence, criteria for accepting contributions will be softer than in major journals although care will be taken to provide a top quality to format and edition; in particular, style and correct use of language will be strictly examined.

Format will be aprox. 17 cm x 22 cm, two columns. Instructions to authors will be mailed to potential authors upon request or can be obtained at the following web site (September 2002): <http://ola.icmyl.unam.mx>

This site also displays Volume 1 contents and cover (volume 1 due August 2002). A volume will be published every year.

There will be a page charge of 15 US\$ (fifteen) per page in order to pay for part of the printing. Each issue will have 500 copies. Authors will be allowed to buy issues at cost and will receive 25 free reprints (extra reprints will be at cost). The editor will be Michel E. Hendrickx (Unidad Academica Mazatlan, UNAM, Mazatlan, Mexico) but an English co-editor will assist if necessary.

Please let me know of your interest to contribute to this second issue before the 15 of December 2002 at one of the following e-mails (preferably the first): mehendrickx@us.es or michel@ola.icmyl.unam.mx

Please include the following data:

1. Author(s), affiliation and institution address (mail and e-mail)
2. Tentative title for the contribution.
3. Number of pages (aprox.) of contribution (MS, double space, including figures and tables)
4. Maximum date for submitting the MS
5. Availability of PC equipment to send and receive electronic files.

Manuscripts can be submitted any time but the dead line for Volume 2 is May 2003. Contact editor first for details regarding the sending of manuscripts through regular mail, express mail and internet."

General thanks to Dr. Hendrickx for undertaking these volumes, we should be getting a glimpse of the first one any day now. Hopefully some SCAMIT members will choose to be involved in this project.

JOBS!!!

"I am writing to solicit applications for 4 new postdoctoral positions at the Centre for Coral Reef Biodiversity in Townsville, Australia. One is available immediately, and all 4 should ideally start by the end of this year. We can offer 1, 2 or 3-year positions (preferably 3-year), with a beginning salary of approximately A\$50K plus benefits. Funding is available for moving costs from overseas. We will shortly advertise these positions in Science/Nature.

The successful applicants will join Centre staff engaged in the study of coral reef biodiversity at a global scale. There is considerable scope for the successful candidates to shape a role that suits their particular strengths and interests. The successful applicants will be expected to publish her or his work in high-quality journals, and to collaborate with Centre staff to apply their skills to research problems in coral reef biodiversity. We are particularly interested in people with advanced training in macroecology, evolutionary biology,



biogeography, functional biology and paleontology. We also seek a biostatistician who will develop new statistical models for use in the study of the distribution, abundance, and ecological function of organisms at large scales. To be competitive, younger applicants will need to have already published some of the PhD results in better journals.

In our first year of operation, the CCRB has secured \$10 million in competitive research funding. (Applicants can find out more about the members and activities of the Centre at the URL below. A list of 50 publications by the Centre for 2001/2 is available on request).

Please ask potential candidates to contact me (or another CCRB Member if they prefer) by email for further details. Thanks for your time.

Prof. Terry Hughes, FAA
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VISIT THE NEW CENTRE FOR CORAL
REEF BIODIVERSITY

<http://www.jcu.edu.au/school/mbiolag/ccrbio/>

CORRECTION

In the June issue of the SCAMIT newsletter, reference was made to *Microcosmus exasperatus*. This name is no longer in use and the animal is now *Microcosmus squamiger*. Thanks to Ron Velarde (CSD) for catching my mistake – M. Lilly.



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

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Treasurer	Chey1 Brantley (310)830-2400x5500	cbrantley@lacs.d.org

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.



SAN DIEGO NATURAL HISTORY MUSEUM
DEPARTMENT OF PALEONTOLOGY
FROG SHELL HEAVEN: CARDIFF STATE BEACH DREDGE

LOCALITY NUMBERS	SPECIES	LOCALITY NUMBERS	SPECIES
4508		4508	
1	<u>Spirorbis</u> sp.	7	<u>Astraea undosa</u> (Wood, 1828)
4	<u>Balanus</u> sp. cf. <u>B. aquila</u> Pilsbry, 1907	1	<u>Melampus olivaceus</u> Carpenter, 1857
6	<u>Balanus</u> sp. cf. <u>B. pacificus</u> Pilsbry, 1916	1	<u>Trimusculus reticulatus</u> (Sowerby, 1835)
37	<u>Megabalanus californicus</u> (Pilsbry, 1916)	1	<u>Acteocina culcitella</u> (Gould, 1853)
1	<u>Tetraclita rubescens</u> Darwin, 1854	26	<u>Acteocina</u> sp.
9	Decapoda	4	<u>Acteon punctocaelatus</u> (Carpenter, 1864)
2	<u>Cancer</u> sp. cf. <u>C. antennarius</u> Stimpson, 1856	2	<u>Acteon traski</u> Stearns, 1897
3	<u>Cancer</u> sp. cf. <u>C. gracilis</u> Dana, 1852	4	<u>Bulla gouldiana</u> Pilsbry, 1893
9	<u>Randallia ornata</u> (Randall)	3	<u>Cylichna</u> sp.
1	<u>Loxorhynchus grandis</u> Stimpson, 1857	2	cf. <u>Cylichna</u> sp.
2	cf. <u>Pugettia</u> sp.	1	<u>Volvulella panamica</u> Dall, 1919
1	cf. <u>Isocheles</u> sp.	91	<u>Bursa californica</u> (Hinds, 1843)
5	<u>Heterocrypta occidentalis</u> (Dana)	1	<u>Caecum californicum</u> Dall, 1885
12	<u>Cryptolepas</u> sp.	88	<u>Caecum crebricinctum</u> (Carpenter, 1864)
1	<u>Platylepas</u> sp.	4	<u>Caecum</u> sp.
1	<u>Terebratalia transversa</u> Sowerby, 1846	1	cf. <u>Capulus</u> sp.
23	Bryozoa	1	<u>Cerithiopsis</u> sp. cf. <u>C. cosmia</u> Bartsch, 1907
45	<u>Cellaria</u> sp.	1	<u>Seila montereyensis</u> Bartsch, 1907
1	cf. <u>Coenocyathus bowersi</u> Vaughan, 1906	1	<u>Calyptrea fastigiata</u> Gould, 1856
1	cf. <u>Astrangia lajollensis</u> Durham, 1947	4	<u>Crepidula coei</u> Berry, 1950
24	<u>Dendraster excentricus</u> (Eschscholtz, 1831)	3	<u>Crepidula norrisiarum</u> Williamson, 1905
23	<u>Strongylocentrotus</u> sp.	9	<u>Crepidula onyx</u> Sowerby, 1824
6	Spatangoida	1	<u>Crepidula perforans</u> (Valenciennes, 1846)
2	<u>Acmaea digitalis</u> Rathke in Eschscholtz, 1833	15	<u>Crepidatella lingulata</u> (Gould, 1846)
30	<u>Acmaea insessa</u> (Hinds, 1842)	2	<u>Crucibulum spinosum</u> (Sowerby, 1824)
3	<u>Acmaea mitra</u> Rathke, 1833	1	<u>Cymatium</u> sp.
3	<u>Acmaea paleacea</u> (Gould, 1853)	8	<u>Cypraea spadicea</u> Swainson, 1823
4	<u>Acmaea</u> sp. cf. <u>A. pelta</u> Rathke in Eschscholtz, 1833	9	<u>Epitonium bellastratum</u> (Carpenter, 1864)
2	<u>Acmaea scabra</u> (Gould, 1846)	34	<u>Epitonium indianorum</u> (Carpenter, 1864)
9	<u>Diodora aspera</u> (Rathke in Eschscholtz, 1833)	2	<u>Opalia funiculata</u> Carpenter, 1857
5	<u>Fissurella volcano</u> Reeve, 1849	4	<u>Opalia wroblewskii</u> (Morch, 1876)
1	<u>Lucapinella callomarginata</u> (Dall, 1871)	1	<u>Erate vitellina</u> Hinds, 1844
4	<u>Megathura crenulata</u> (Sowerby, 1825)	3	<u>Trivia californiana</u> (Gray, 1827)
1	<u>Haliotis assimilis</u> Dall, 1878	4	<u>Trivia solandri</u> (Sowerby, 1832)
10	<u>Haliotis rufescens</u> Swainson, 1822	2	<u>Iselica fenestrata</u> (Carpenter, 1864)
39	<u>Tricolia compta</u> (Gould, 1855)	4	<u>Hipponix antiquatus</u> (Linnaeus, 1767)
4	<u>Calliostoma canaliculatum</u> (Lightfoot, 1786)	5	<u>Hipponix tumens</u> Carpenter, 1864
2	<u>Calliostoma gemmulatum</u> Carpenter, 1864	21	<u>Lacuna unifasciata</u> Carpenter, 1857
1	<u>Calliostoma gloriosum</u> Dall, 1871	4	<u>Littorina keenae</u> Rosewater, 1978
2	<u>Calliostoma supragranosum</u> Carpenter, 1864	2	<u>Littorina plena</u> Gould, 1849
7	<u>Calliostoma tricolor</u> Gabb, 1865	14	<u>Littorina scutulata</u> Gould, 1849
517	<u>Halistylus pupoides</u> (Carpenter, 1864)	15	<u>Melanella</u> sp.
4	<u>Lirularia</u> sp. cf. <u>L. parcipicta</u> (Carpenter, 1864)	18	<u>Polinices altus</u> (Pilsbry, 1929)
11	<u>Norrisia norrisi</u> (Sowerby, 1838)	11	<u>Polinices draconis</u> (Dall, 1903)
5	<u>Tegula aureotincta</u> (Forbes, 1850)	8	<u>Polinices lewisii</u> (Gould, 1847)
9	<u>Tegula eiseni</u> Jordan, 1936	2	<u>Polinices reclusianus</u> (Deshayes, 1839)
1	<u>Tegula funebris</u> (A. Adams, 1855)	10	<u>Polinices</u> sp.
5	<u>Tegula gallina</u> (Forbes, 1850)	2	<u>Sinum scopulosum</u> (Conrad, 1849)
1	<u>Tegula pulligo</u> (Gmelin, 1791)	2	<u>Cerithidea californica</u> (Haldeman, 1840)
2	<u>Turcica coffea</u> Gabb, 1865	2	<u>Rissoina californica</u> Bartsch, 1915
5	<u>Astraea gibberosa</u> (Dillwyn, 1817)	13	<u>Rissoina</u> sp. cf. <u>R. lapazana</u> Bartsch, 1915

SAN DIEGO NATURAL HISTORY MUSEUM
DEPARTMENT OF PALEONTOLOGY
FROG SHELL HEAVEN: CARDIFF STATE BEACH DREDGE

LOCALITY NUMBERS	SPECIES	LOCALITY NUMBERS	SPECIES
4508		4508	
41	<u>Turritella cooperi</u> Carpenter, 1864	4	<u>Panopea generosa</u> (Gould, 1850)
1	<u>Petalocochus montereyensis</u> Dall, 1919	4	<u>Platyodon cancellatus</u> (Conrad, 1837)
9	<u>Serpulorbis squamigerus</u> (Carpenter, 1857)	8	<u>Parapholas californica</u> (Conrad, 1837)
2	<u>Vitrinella oldroydi</u> Bartsch, 1907	4	<u>Zirfaea pilsbryi</u> Lowe, 1931
2	<u>Kelletia kelletii</u> (Forbes, 1850)	1	<u>Modiolus capax</u> (Conrad, 1837)
1	<u>Neptunea tabulata</u> (Baird, 1863)	13	<u>Mytilus californianus</u> Conrad, 1837
9	<u>Cancellaria cooperi</u> Gabb, 1865	5	<u>Septifer bifurcatus</u> (Conrad, 1837)
1	<u>Cancellaria</u> sp. cf. <u>C. crawfordiana</u> (Dall, 1891)	43	<u>Nuculana taphria</u> (Dall, 1896)
11	<u>Amphissa versicolor</u> Dall, 1871	5	<u>Nucula exigua</u> Sowerby, 1833
76	<u>Mitrella carinata</u> (Hinds, 1844)	1	<u>Periploma planiusculum</u> Sowerby, 1834
1	<u>Nassarina penicillata</u> (Carpenter, 1864)	1	<u>Thracia</u> sp.
20	<u>Conus californicus</u> Hinds, 1844 MS Reeve, 1844	5	<u>Anomia peruviana</u> Orbigny, 1846
13	<u>Barbarofusus barborensis</u> (Trask, 1855)	11	<u>Pododesmus macroschisma</u> (Deshayes, 1839)
2	<u>Fusinus luteopictus</u> (Dall, 1877)	29	<u>Ostrea lurida</u> Carpenter, 1864
1	<u>Volvarina taeniolata</u> Morch, 1860	14	<u>Argopecten aequisulcatus</u> (Carpenter, 1864)
21	<u>Mitra idae</u> Melvill, 1893	2	<u>Chlamys hastata</u> (Sowerby, 1843)
10	<u>Acanthina spirata</u> (Blainville, 1832)	4	<u>Hinnites giganteus</u> (Gray, 1825)
1	<u>Ceratostoma nuttalli</u> (Conrad, 1837)	75	<u>Leptopecten latiauratus</u> (Conrad, 1837)
1	<u>Forreria belcheri</u> (Hinds, 1844)	20	<u>Pecten diegensis</u> Dall, 1898
8	<u>Maxwellia gemma</u> (Sowerby, 1879)	1	<u>Pteria sterna</u> (Gould, 1851)
1	<u>Maxwellia santarosana</u> (Dall, 1905)	40	<u>Americardia biangulata</u> (Broderip & Sowerby, 1829)
1	<u>Ocenebra atropurpurea</u> Carpenter, 1865	12	<u>Trachycardium quadragenarium</u> (Conrad, 1837)
6	<u>Ocenebra foveolata</u> (Hinds, 1844)	2	<u>Glans subquadrata</u> (Carpenter, 1864)
8	<u>Pteropurpura festiva</u> (Hinds, 1844)	2	<u>Chama arcana</u> F.R. Bernard, 1976
1	<u>Pteropurpura macroptera</u> (Deshayes, 1839)	4	<u>Pseudochama exogyra</u> (Conrad, 1837)
2	<u>Pteropurpura triolata</u> (Sowerby, 1841)	1	<u>Donax californicus</u> Conrad, 1837
6	<u>Roperia poulsoni</u> (Carpenter, 1864)	140	<u>Donax gouldii</u> Dall, 1921
2	<u>Thais emarginata</u> (Deshayes, 1839)	3	<u>Here excavata</u> (Carpenter, 1857)
1	<u>Trophon catalinensis</u> I. Oldroyd, 1927	26	<u>Luciniscia nuttalli</u> (Conrad, 1837)
1	<u>Nassarius delosi</u> (Woodring, 1946)	3	<u>Lucinoma annulata</u> (Reeve, 1850)
4	<u>Nassarius fossatus</u> (Gould, 1849)	11	<u>Parvilucina</u> sp.
1	<u>Nassarius insculptus</u> (Carpenter, 1864)	17	<u>Spisula dolabriformis</u> (Conrad, 1867)
9	<u>Nassarius mendicus</u> (Gould, 1849)	17	<u>Spisula hemphilli</u> (Dall, 1894)
56	<u>Nassarius perpinguis</u> (Hinds, 1844)	2	<u>Tresus nuttallii</u> (Conrad, 1837)
5	<u>Nassarius tegula</u> (Reeve, 1853)	12	<u>Mysella tumida</u> (Carpenter, 1863)
135	<u>Olivella baetica</u> Carpenter, 1864	10	<u>Pristes oblongus</u> Carpenter, 1863
78	<u>Olivella biplicata</u> (Sowerby, 1825)	4	<u>Petricola carditoides</u> (Conrad, 1837)
18	<u>Terebra pedroana</u> Dall, 1908	2	<u>Heterodonax pacificus</u> (Conrad, 1837)
5	<u>Crassispira</u> sp.	1	<u>Semele decisa</u> (Conrad, 1837)
25	<u>Kurtziella plumbea</u> (Hinds, 1843)	1	<u>Semele incongrua</u> Carpenter, 1864
31	<u>Megasurcula carpenteriana</u> (Gabb, 1865)	3	<u>Semele rubropicta</u> Dall, 1871
3	<u>Megasurcula stearnsiana</u> (Raymond, 1906)	1	<u>Semele rupicola</u> Dall, 1915
1	cf. <u>Mitromorpha</u> sp.	3	<u>Ensis myrae</u> Berry, 1953
7	<u>Ophiidermella ophiiderma</u> (Dall, 1908)	17	<u>Siliqua lucida</u> (Conrad, 1837)
1	<u>Pseudomelatoma penicillata</u> (Carpenter, 1864)	7	<u>Solen sicarius</u> Gould, 1850
3	<u>Tenaturris</u> sp. cf. <u>T. merita</u> (Hinds, 1843)	6	<u>Florimetus obesa</u> (Deshayes, 1855)
1	<u>Odostomia</u> sp.	1	<u>Macoma nasuta</u> (Conrad, 1837)
45	<u>Turbonilla</u> sp.	4	<u>Macoma secta</u> (Conrad, 1837)
167	<u>Glycymeris subobsoleta</u> (Carpenter, 1864)	6	<u>Tellina bodegensis</u> Hinds, 1845
71	<u>Corbula luteola</u> Carpenter, 1864	1	<u>Tellina idae</u> Dall, 1891
2	<u>Hiatella arctica</u> (Linnaeus, 1767)	7	<u>Tellina nuculoides</u> (Reeve, 1854)

SAN DIEGO NATURAL HISTORY MUSEUM
DEPARTMENT OF PALEONTOLOGY
FROG SHELL HEAVEN: CARDIFF STATE BEACH DREDGE

LOCALITY NUMBERS

SPECIES

4508

- 1 Diplodonta orbellus (Gould, 1851)
1 Amiantis callosa (Conrad, 1837)
1 Chione californiensis (Broderip, 1835)
3 Chione undatella (Sowerby, 1835)
6 Irus lamellifer (Conrad, 1837)
9 Protothaca staminea (Conrad, 1837)
12 Saxidomus nuttalli Conrad, 1837
2 Tivela stultorum (Mawe, 1823)
1 Transennella tantilla (Gould, 1853)
2 Ventricolaria fordii (Yates, 1890)
18 Cryptochiton stelleri (Middendorff, 1846)
1 Callistochiton palmulatus (Carpenter in Pilsbry, 1893)
1 cf. Callistochiton sp.
1 Nuttallina fluxa (Carpenter, 1864)
1 cf. Cyanoplax sp.
3 Stenoplax conspicua (Pilsbry, 1892)
1 Mopalia acuta (Carpenter, 1855)
2 Mopalia muscosa (Gould, 1846)
1 cf. Mopalia sp.
33 Dentalium neohexagonum Pilsbry & Sharp, 1897
73 Dentalium pretiosum Sowerby, 1860
17 Cadulus sp.
5 Porifera
4 Corallinaceae
1 Isurus sp.
1 Myliobatis californica Gill, 1865
1 Osteichthyes
1 Semicossyphus pulcher (Ayres, 1854)



**Southern California Association of
Marine Invertebrate Taxonomists**

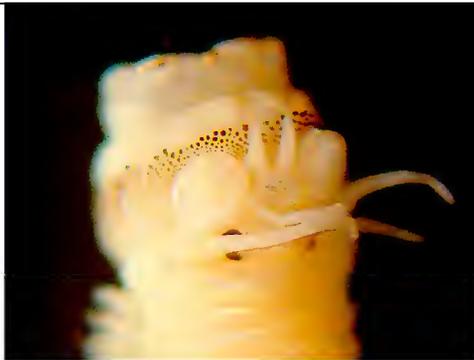
3720 Stephen White Drive
San Pedro, California 90731

August, 2002

SCAMIT Newsletter

Vol. 21, No. 4

SUBJECT:	Glyceridae
GUEST SPEAKER:	none; Leslie Harris Discussion Leader
DATE:	21 October 2002
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Worm Lab Los Angeles County Museum of Natural History 900 Exposition Blvd



Nereis eakini
Anterior dorsum showing paragnaths.
Images by L. Harris and K. Barwick 8-19-02



Nereis eakini
Anterior ventrum showing paragnaths.
Images by L. Harris and K. Barwick 8-19-02

DE(a)NOVO

Thanks to the efforts of Dean Pasko and his wife, Francine, we have another new SCAMITE. The following is taken from an email sent by Dean:

“Granger Dean Pasko was born on July 13, 2002 @ 8:15 pm. He weighed in at 10 lbs 1 oz, and was 23 inches in length (i.e., HUGE!). His taxonomic specialty: Pectus lactis (Homunculidea:Feminidae) and at 8 weeks, he is doing GREAT! Sleeping at long stretches through the night, and happy and gurgling during the day.”

We hope to have a picture for you later. Congratulations to all. It will be a while before he is adept at recognizing different vertebrates, with invertebrates a bit further along in the development path.

CREDIT

I forgot to give credit where credit was due in last month's newsletter. Rick Rowe, (CSD) took the wonderful digital image of the juvenile *Gorgonocephalus* featured on the cover. I also must apologize to the hard copy subscribers for the poor quality of the cover images in the last few issues of the NL. As it turns out, the stock of paper that we use for the letterhead is the culprit. I had some test prints run on our letterhead stock and on plain white stock and the images came out much clearer on the white stock. As a result, the cover page of the newsletter will now be printed on white stock paper, with the remainder of the newsletter being on the letterhead. When we run out of our current supply of letterhead, we will change the entire newsletter over to being printed on white stock. This will improve print quality and save SCAMIT the cost of having letterhead printed. Never fear, however, the address, logos, etc, will still be printed on all the pages in the appropriate places.

– M. Lilly (CSD)

AUGUST MINUTES

The meeting was held at the Natural History Museum of Los Angeles County polychaete collections room. President Kelvin Barwick began the business part of the meeting by announcing upcoming meetings. On September 9th, Ron Velarde will lead a meeting in San Diego on Epitoniidae. On October 21st, Leslie Harris will lead a meeting at NHMLAC covering Glyceridae. We anticipate that Steve Shaddack will be able to stop by this way in November and discuss Biolink. In keeping with SCAMIT tradition, there will be no SCAMIT meeting in December.

Leslie announced that a member requested having a meeting on ostracods. Any volunteers?

The Delta workshop was mentioned, and everyone was encouraged to attend the first day which is the introductory portion.

Kathy Langan passed out a voucher sheet on *Aonides* spp and a table comparing characters of *Aonides* spp specimens from City of San Diego, Los Angeles County Sanitation District, and City of Los Angeles. The voucher sheet and table are included with this newsletter.

There were two guests at the meeting. Curtis Cash was recently hired by the City of Los Angeles and is also working on his Master's degree at Cal State Northridge. His research involves marine parasites, and he said he would be willing to give a talk at a SCAMIT meeting in the future. Crissy Piotrowski is a curatorial assistant in the department of Invertebrate Zoology and Geology at the California Academy of Sciences in San Francisco. She is currently involved in the Bay 2K project which is a qualitative study of invertebrates in San Francisco Bay.

Rick Rowe produced 2 CDs as a result of the recent *Pista* exchange workshops. He passed out copies to representatives from each agency. CD #1, titled "*Pista* spp LHDDraws, 19Aug2002", contains Leslie Harris's drawings of morphology and stain patterns. CD #2, titled "*Pista wui* CSDImage, 18 Aug2002", contains images of the morphology and stain patterns of two specimens of *Pista wui* collected from San Diego. Rick also passed around prints of some of the images.

We then proceeded to the topic for the rest of the day, west coast nereidids. Leslie led the discussion. She first passed out a multi-page handout that she and Crissy Piotrowski (California Academy of Sciences, SF) prepared for a similar workshop she gave at CAS. This included information on several species of nereidids found in the San Francisco Bay area and elsewhere on the coast. Good diagrams of the paragnath-bearing areas of the proboscis can be found in Light's Manual (1975) and Hilbig's chapter in the MMS Santa Barbara Channel – Santa Maria Basin Atlas (1997). First we tackled *Nereis procera*. Leslie had examined Ehler's type specimen of *N. procera*



at the Museum of Comparative Zoology. The type, from the Gulf of Georgia, was approximately 120mm long and 4mm wide. It was in good condition except for the posterior third of the specimen (approximately 40mm). Leslie said the paragnaths were very tiny and colorless and thus difficult to see, even at 50X under the dissecting scope. Paragnaths were present on all eight areas of the prostomium, with a thin band of paragnaths on areas VII and VIII. Leslie commented that they were difficult to illustrate correctly since they were smaller than the point on her pencil as seen through a camera lucida. She had to exaggerate the size of the paragnaths on her illustration just so they could be seen. There were 8-9 teeth on the jaws. Leslie suggested using *Nereis* sp. A for the specimens we had previously called *N. procera* in southern California, since they don't match the type. After Leslie's description of Ehler's type specimen, we agreed this was indeed different from the common soft-bottom species we encounter.

Next we discussed *Platynereis bicanaliculata* which is usually associated with algae and epifauna on hard substrates. Leslie shared her knowledge of the color variation in live *Platynereis* along the coast. All the live specimens she has seen in southern California have been iridescent blue-green in color. The specimens in central California were bright yellow-red in color. The specimens from the Puget Sound area up to Vancouver were iridescent purple-green. Leslie noted there was no apparent correlation between color and substrate or associated organisms. Some ideas were discussed as to the taxonomic significance of color in live specimens.

Platynereis sp: We viewed the paragnaths in a specimen of *Platynereis* from the Olympic peninsula that Leslie provided. She used this specimen to demonstrate what dentate paragnaths look like. In areas VII and VIII on this specimen, the dentate paragnaths consisted of a line of multiple pieces fused together into one structure. We also examined the posterior

parapodia. The posterior dorsal cirrophores were longer and bigger around than our local *bicanaliculata* which have smaller, more triangular dorsal cirrophores.

We then discussed the following species:

Gymnonereis crosslandi: Everyone agreed that there were currently no problems identifying this taxon.

Ceratocephale pacifica: This is a deeper water species, and it was suggested that we keep an eye open for it during the next Bight project.

Ceratonereis paucidentata: This species was described from Alaska, rarely found in California, and SCAMIT has not reported it from southern California.

Cheilonereis cyclurus: This species is commensal with hermit crabs. No one reported finding it.

Neanthes acuminata: We discussed the general, unresolved debate as to whether *Neanthes* deserves subgeneric placement under *Nereis* and recent publications on the genetic make-up of different populations identified as *N. acuminata*. Refer to the Annelida-L archives for further discussion on these topics.

Neanthes brandti and *N. virens*: Both species have been reported from California. Their main distinction is the number of paragnaths: abundant in *brandti* and sparse in *virens*. This is not a reliable character as the number can vary with size and other factors.

Nereis eakini: This species occurs on rocks and algae. It is distinct in that it has numerous tiny paragnaths forming a wide band around the oral ring. There is also an anterior row of large cones. We viewed Leslie's specimen from the Olympic Coast National Marine Sanctuary, Washington, and passed around her illustrations of a specimen collected from an oil



rig in the Santa Barbara Channel. *N. eakini* is described from central California, intertidal. It also occurs subtidally and prefers hard substrate.

We diverged momentarily from the topic of nereidids to talk about micro-knives. Leslie found one that is very sharp, relatively cheap, and works well for polychaete dissections. It is a SharpPoint 15 degrees Microsurgical Knife, with a 5mm blade. They can be purchased for about \$15 from Fine Science Tools at FineScience.com. Leslie then described her dissection technique for exposing the nereidid proboscis. Other members prefer to make their own micro-knives by breaking off edge pieces from single-edge razor blades and gluing the pieces to wood dowels, or using flakes of obsidian which are incredibly sharp-edged.

Nereis latescens: This species has a distinct color pattern even when it's preserved. It has brown or rust-colored pigment on the prostomium and anterior segments, forming transverse, interrupted bands across the dorsum.

Leslie cautioned us about identifying juvenile nereidid specimens. Juveniles typically have a smaller number of paragnaths than adults and fewer paragnaths in areas VII and VIII. For example, a juvenile may only have a single band of paragnaths on the oral ring, while an adult may have a anterior band of large cones and multiple bands of smaller cones on the oral ring. Leslie passed around her illustrations of adult and juvenile specimens of *Nereis* sp. A which showed this difference. Another variable for specimens of all sizes is the loss of paragnaths due to re-absorption, epitoky, abrasion, fighting, etc. A primary character for some species of nereidids is the presence of enlarged dorsal cirri in the posterior region. The dorsal cirri of these species enlarge as the animals grow which means that small specimens may not exhibit this character. Also, these structures are soft and easily contracted.

An adult *Nereis vexillosa* in relaxed condition will have long, strap-like dorsal cirri while contracted specimens have short, broadly rounded cirri.

Nereis grubei: In 1954, Reish synonymized *N. grubei* (described from Chile) with *N. mediator* (described from Pacific Grove, CA) without seeing type or topotype material. While the two species may be the same, Leslie prefers to use *N. mediator* until the synonymy can be verified.

Nereis pelagica neonigripes: In Hartman's Atlas, the type locality is listed as Point Fermin, southern California, but according to Leslie, the actual type specimens are from Pacific Grove, Monterey County, CA (holotype, USNM 20201) and Kodiak Island, Alaska (paratype, LACM-AHF POLY 0830). This was originally described by Hartman as *N. (N.) neonigripes* (Hartman 1936), later she speculated that it might only be a subspecies or variety of *N. pelagica* (Hartman 1944), and eventually cited it as *N. pelagica neonigripes* (Hartman 1963, 1968). Hilbig (1997) synonymized *N. neonigripes* under *N. pelagica*. There are two things wrong with this synonymy according to Leslie. The first is that southern California specimens do not match Swedish specimens of *N. pelagica* she collected in April. The second is that Hilbig appears to have based her synonymy on 2 California specimens she compared to Hartman's 1940 description of *N. pelagica*?; Leslie examined the specimens on which Hartman's 1940 description is based and found that they actually belong to *Nereis* sp. A (= *N. procera* NEP auctt.). Incidentally, one of the characters considered diagnostic for *N. pelagica neonigripes*, the presence of darkened parapodial lobes, is useless since similar colored lobes occur in other species. Based on her examination of types and other specimens, Leslie feels *N. neonigripes* is a valid species and should not be considered a subspecies. It occurs in intertidal and shallow subtidal areas,



preferring algal and epifaunal overgrown substrates; preserved specimens in good condition are light pink with middorsal white and dark pink spots in a vertical line.

Nereis sp I: This was Leslie's specimen from San Diego Bay, collected August 11, 2001 from shallow water. There were several specimens of typical *N. procera* in the same sample, but this specimen stood out as being different. It had 5 very large irregular paragnaths in areas VII and VIII forming an anterior row; in addition there were 38 small paragnaths in scattered rows. There were no paragnaths in area I. Area II had 4/6 small paragnaths. Area III had small paragnaths. Area IV had 13/14 small cones. Area V had 0 paragnaths. Area VI had 1/3 medium paragnaths. Aside from the strikingly different large paragnaths in VII & VIII the specimen fit *N. sp. A* (= *N. procera* NEP *auctt.*) and Leslie wondered if this specimen was simply an aberrant *N. sp. A*.

Nicon moniloceras: Locally this species has been recorded only by Veronica Rodriguez (Universidad Autonoma de B.C.) and Leslie. It is unique in our area because the frontal antennae have distal articles.

Nereis neoneanthes: Dot Norris (CCSF) brought this specimen collected from just outside San Francisco Bay in sandy sediment at a depth of 25-30m. It was compared to the LACM paratypes for verification. Dot commented that *N. neoneanthes* is common right outside the Bay. *N. neoneanthes* was described from Alaska and Oregon by Hartman (1948). The CCSF specimens appear to be the first record for California. In this species the posterior dorsal lobe is elongated and strap-like, similar to that of *Neanthes succinea* and *Nereis vexillosa*. As in *N. succinea*, the cirrus is carried more proximally on the dorsal lobe than in *N. vexillosa*, in which the cirrus is carried distally. *N. neoneanthes* can easily be distinguished from these two species by the high number of paragnaths in area V, up to 10 arranged in an irregular triangle on some

specimens. Areas VII and VIII have an anterior row of large cones and multiple posterior rows of smaller cones. We then viewed a parapodium of this specimen under the compound scope and observed that there were homogomph falcigers in the notopodia which is diagnostic of the genus *Nereis*. In the neuropodia, there were two bundles of setae. The superior bundle was composed of heterogomph falcigers, and the inferior bundle was composed of heterogomph spinigers.

Crissy brought an interesting specimen from off Pt. Richmond, San Francisco Bay. It was collected from soft sediment in shallow water. Tentatively identified as *Neanthes succinea*, the tentacular cirri were longer than usual and had conspicuous bright white rings around the bases (when alive). We were unable to verify the ID on this specimen and Chrissy was advised to look at several specimens of *N. succinea* to establish the degree of variation in tentacular cirri.

SPECIES ID CLUB

Following is an email from Bonnie Becker regarding the species ID club:

“New listserv for the Species ID Club! Visit the Benthic, Fish, and Pelagic Collections for a free tour! Sorry to fill your boxes, but this is a quick email to let you know that there is a NEW listserv, species@sio.ucsd.edu.

For those of you who aren't aware of it, we have been meeting monthly to learn about local plants and animals, and how to identify them. If you are interested in this group, and want to keep posted on our events, sign up. Please let new students or other interested parties know as well.

We are open to all, from “hardcore” ecologists to interested physicists. Feel free to contact me with questions.

NEXT MEETING! Visit the Benthic, Fish and Pelagic Collections on Wed, September 18, from 3-5 pm. Snacks included!

Cheers,
Bonnie”



UPCOMING CONFERENCES

The “California and the World Ocean ’02 – Revisiting and Revising California’s Ocean Agenda” Conference will be held this year at the Fess Parker’s Doubletree Resort in Santa Barbara from 27 -30 October. For more information go to their website at:

http://www.resources.ca.gov/ocean/CWO_02/Call_index.html

B’98 UPDATE

The trawl portion of the B’98 report has been completed in draft and submitted to the Steering Committee for final editorializing. The benthic section is being drafted at this time, and will be submitted to the Steering Committee in October. Other sections on Oceanography and Chemistry are already done and waiting to be joined by the biological chapters. Seems like us biologists always slow up the process by our lengthy specimen extraction and identification, made even more lengthy by an involved QC process. The results are worth waiting for, however. The trawl chapter includes cladistic analyses of the catch for the first time (many thanks to Greg Deets of CLAEMD for his perseverance and hard work in preparing numerous analyses) as well as recurrent group analyses, and phenetic analyses in a cross-method examination of fish and invertebrate assemblages. The benthic analyses should be equally interesting when the results are finally presented.

Along the way several new indices were developed. All have very similar derivations to that of the BRI developed from the SCBPP benthic data. They cover the benthos of bays and harbors (since the biota of these habitats proved sufficiently different to warrant their own index), and indices for trawled organisms, fish alone, and invertebrates alone. All are indices of “pollution”, aka anthropogenic disturbance, particularly those types associated with POTW discharge of domestic waste, industrial metals, and chlorinated organic

compounds. They place a given site on a calibrated scale of pollution impact based on the organisms which have chosen to live at that site. As in the case of the BRI, nearly all of the biological information available is used, yielding a robust index which represents available information on the degree of naturalness of the biotic community measured; infauna of bays, trawl caught fish, trawl caught invertebrates or trawl fish and invertebrates combined in a single number.

Benthic data from Baja California was collected and made available through the cooperation of our Mexican colleagues. Taxonomy was standardized to ensure comparability, and a series of stations from the US/Mexican border to Todos Santos Bay were included in the analysis. These, and the island and bay/harbor habitats investigated, broadened the scope of the B’98 benthic survey beyond that of previous efforts. I think you will find the results quite interesting when they are posted. Papers in refereed journals will follow in time, and many aspects covered in the B’98 report will be available in the open literature eventually.

All the reports will be available in time to allow them to be read, and their recommendations considered, prior to the final organization of scope and effort allocation for Bight ’03. If we can incorporate the lessons learned in the first two regional monitorings in the third, we stand to learn even more and get an enhanced information return on the effort invested.

MORE NEW BOOKS

Davie, P.J.F. (2002). Crustacea: Malacostraca: Phyllocarida, Hoplocarida, Eucarida (Part 1). In, Wells, A. & Houston, W.W.K. (eds) Zoological Catalogue of Australia. Vol. 19.3A. CSIRO Publishing, Melbourne. 551 pp. [Hoplocarida co-authored with Shane Ahyong]



Davie, P.J.F. (2002). Crustacea: Malacostraca: Eucarida (Part 2) Decapoda - Anomura, Brachyura. In, Wells, A. & Houston, W.W.K. (eds) Zoological Catalogue of Australia. Vol. 19.3B. CSIRO Publishing, Melbourne. 641 pp.

These volumes form a comprehensive account of primarily taxonomic information on the Australian Malacostraca other than members of the superorders Pericarida and Syncarida (these volumes will be also published in the next few months by Gary Poore & Jim Lowry et al.).

Volumes are available for purchase separately (Aus\$140 & \$150), or at a discount for the pair (Aus\$260). See web sites listed below:

Volume 19.3A -

<http://www.publish.csiro.au/books/bookpage.cfm?PID=3243>

covers the shrimps, prawns, lobsters and yabbies, listing over 1200 species known from Australian waters (including Australian Territorial waters).

Volume 19.3B -

<http://www.publish.csiro.au/books/bookpage.cfm?PID=3244>

similarly details more than 1200 species of Australian crabs (Brachyura) and related groups such as hermit crabs, porcelain crabs, squat lobsters, mole crabs and their ilk (Anomura). Each genus and species includes a complete list of primary synonyms with full reference citations. All available species names include data on type localities, as well as information on where types are deposited etc. Also included are notes on ecology and distribution of species both inside and outside of Australian waters and hence the information is widely applicable to nations bordering the Indian and Pacific oceans.

All higher taxa, down to families and subfamilies, are fully diagnosed and available names listed, so hopefully this will become an important resource of worldwide interest.

Where possible, references are given to the best keys for identification at each taxon level. Great pains have been taken to check and provide accurate dates and full citations for all the older literature. A limited number of new taxonomic decisions are also taken.

NEW LITERATURE

The recent B'98 effort brought us into bays and estuaries for the first time in cooperative regional monitoring efforts. Both trawls and benthic infaunal samples were taken from several embayments within the Southern California Bight. San Diego Bay was prominent among these and Allen et al (2002) present a 5 year examination of the fish assemblages of that water body which complements the regional effort. Their sampling was performed in three areas of concentration, was seasonal, and provided a great deal of detail on the constituents of the bay fauna and how they change over time. Comparison of their results with those of B'98 will be fruitful, but they must be undertaken cautiously since the bay study used several different gear types to acquire their specimens.

We are all mass murderers, every one of us! We participate in the collection and preservation of biological samples which invariably results in the death of small marine animals. Some biologists are more concerned with this than others, and strive to kill as few animals as possible while performing their duties. On a smaller scale, everyone (field biologist or not) is a mass murderer of organisms; the washing of hands extirpates millions of bacteria. Adherents to the Jain religion believe that all life is sacred, and would view someone wielding a can of insecticide against a column of ants in a kitchen as a fiend incarnate. It is all in how you look at it...how your world view is framed.



A corollary concern is the inflicting of pain, especially in the vertebrates that we deal with, which means fish almost exclusively. Rose (2002) has reviewed the neurobiology of fishes, including development of behavior, relative to man and other mammals. He demonstrates that fish do not have the brains to feel pain. It is not that pain is a higher function *per se*, but that its perception is located in areas of the brain which are undeveloped in all fish. He reports experiments in which fish avoidance of unpleasant stimuli are shown to be the same in nature and intensity in normal fish, and in fish which have had their cerebra surgically removed.

By all means be as careful and humane as you wish with regard to handling the fish we catch, but do not be misled into thinking that they respond to stress and pain in the same way that we and other mammals do; they don't and can't. We can also probably conclude from this that the even simpler invertebrates which occupy most of our time are even less likely to experience pain, suffer remorse, stoically endure privation, etc. It's not NO PAIN NO GAIN, it's NO BRAIN NO PAIN!

The history of biology is filled with interesting arcana, especially surrounding those who are acknowledged giants in the field. Perhaps the most thoroughly investigated and recorded biological life is that of Charles Darwin. Love (2002) discusses Darwin and barnacles; not the three volume monographic treatise itself, but its place in Darwin's intellectual and social history. It has always seemed unlikely to me that Darwin, while considering the broadest view of the natural world, was fired by the desire to delve very deeply into small sections of that world.

The voluminous documentation that accompanies the *Origin of Species*, particularly the painstaking detail of selective breeding, should point out to us that he was a meticulous observer of the minutiae of nature. This, combined with the opportunities provided to

explore little known portions of the world on board the *Beagle*, and the value of barnacle tests as a link between zoology and geology (a major preoccupation of his during the voyage in South America) make Darwin's interest in and contributions to barnacle taxonomy seem part of the main stream of his research rather than a side branch. Love reviews Darwin's involvement with Maclay's Quinarian system of classification, with the argument between Thompson and Owen over the placement of barnacles as crustaceans or mollusks, and other currents in the thought of the era. He also discusses Darwin's failure to prepare a volume devoted to invertebrates in his *Zoology of the Beagle*.

The broad scale view usually espoused by Darwin is shared by the authors of a recent paper on longer term cycles in oceanographic conditions (Mantua and Hare 2002). They discuss the PDO (Pacific Decadal Oscillation), a regime shift cycle of flexible length which appears to correlate with major biological variables in the north Pacific. The causes of the cycle are not well understood, and its exact boundaries and recognition characters are still debatable. The main means of differentiating PDO shifts from ENSO events are their period (much longer for PDO), and their extratropical vs tropical (for ENSO) location. In addition, the causes of ENSO events are believed to be known, while the origins of PDO swings remain in question. The state changes between regimes can be very abrupt, however, if PDO boundaries have been appropriately defined. The current paper serves as a useful entry point to the varied literature on this phenomenon through reference to a variety of different viewpoints and earlier publications.

Environmental change at smaller, temporal scales also presents problems, especially to small organisms. It's hard enough to live in any given bottom or watermass, and even harder to occupy a habitat that can't make up its mind. This neither-here-nor-there condition pertains to the surf zone of sandy shores, where



constant resuspension of sediments by energetic water motion leaves benthic critters in limbo. Some animals adapted to this habitat seem to function equally well as benthic and water-column animals. They swim well in water, and also move easily through the upper levels of the sediments. Yu et al (2002) describe the seasonal patterns of a group of such animals; amphipods from the surf zone of Korean sandy shores. Seasonality is expected in this habitat because of seasonal differences in the frequency and intensity of wave motion. We have local representatives of several of the genera treated, and three of the animals – *Allorchestes angustus*, *Pontogeneia rostrata*, and *Jassa slatteryi* - also occur in the Southern California Bight. The authors provide interesting and potentially useful information on the life histories of the considered species, including feeding habits and food.

WHERE WE WERE

Those fortunate members who attended the recent 20th Anniversary party celebrating the founding of SCAMIT may have noticed some persons expected to be there weren't. I was one of those, as was Leslie Harris, SCAMIT VP. Both of us had planned to come, and were looking forward to it, but work intervened. Leslie and I were in Panama participating in an introduced species evaluation of the two ends of the Panama Canal. We were part of an 11 member team headed by Dr. Andy Cohen of the San Francisco Estuarine Institute (and handling the ectoprocts, entoprocts, and phoronids). It included two other SCAMIT members as well, Gretchen Lambert (and her husband Charles, both handling urochordates) and John Chapman (handling peracarids). On the Saturday evening of the party we were all sitting in a Panamanian fast food emporium having dinner. Leslie proposed a toast to SCAMIT during the meal, and we drank to SCAMIT's good health and continued progress. We thought about you often during the next few days of busy field and laboratory work.

I was a last minute addition to the team, but was delighted to be offered the chance to participate. Others involved were from the US (Brian Wysore, algae), Mexico (Sergio Salazar-Viejo, polychaetes; Ernesto Campos, brachyurans), Canada (Dale Calder, hydroids), Brazil (Fabio Pitombo, barnacles). The goal of the trip was to compare the degree of development of introduced species at the two ends of the Canal about 30 years after a relatively comprehensive examination of the fauna. The Canal offers a sort of natural invasion laboratory where continually introduced fouling organisms can interact with recently separated geminates in the Pacific and Caribbean.

Most of the participants came bearing their own microscopes and lab equipment, and left a trail of befuddled customs inspectors behind. Once assembled in Panama we set up our first base-lab at the Naos lab of STRI (Smithsonian Tropical Research Institution) just outside Panama City, whose use Andy had reserved. We then began collecting on the Pacific side at locations Andy had prechecked and found to meet our needs. After three days we loaded into vans and drove across Panama to the Caribbean coast, setting up our second lab at the STRI Galeta lab outside Colón. While the Pacific side had been breezy and fairly cool, the Caribbean coast was quite warm and very humid. We were beset by biting midges from the nearby mangroves that we warred with for the remainder of our stay. Leslie went down with an allergic reaction to the bites, and a reaction to the anti-histamines she took to reduce the bite reaction [she remained ill for weeks after her return].

We worked long hours, starting early and often not ending til midnight or later in the lab. Very late one night Andy took a long walk on a short pier while returning some specimens to the sea, falling to the exposed intertidal and breaking several bones in his foot. He still ended up going collecting later on, but eventually had to have his wounds tended to at the hospital. The



rest of us managed with just bug bites and general good health. Each day we worked up the material we had collected between 2 and 4 collecting sites, examining everything live. On a few occasions we had collected more than we could handle, and saved samples for examination the next day. They often survived in running sea-water, but not all did. While we took some photos through the microscopes, most notes were hand written. Identifications were as complete as available literature allowed. Most of us had traveled fairly light, and had to make notes to facilitate later identifications back home. The materials were all curated, addressed, and left with Andy to be sent back to us after the Panamanian export permits came through. He has since sent the samples, and we are finishing up our remaining ID's. We expect to publish the results in both comprehensive and fragmentary form. While it would have been wonderful to be at the party to celebrate our history, it was equally wonderful to work with this fine group of congenial and accomplished biologists. We'll keep you posted.

THE WAY WE WERE?

After 20 years of existence SCAMIT continues. It has accomplished some of its initial goals, and contributed substantially to others. It has broadened its focus beyond the Southern California area, and invited participation from interested parties anywhere in the globe. It has set its feet on the information superhighway [what an execrable phrase!] and now has a continuous electronic presence accessible to all. It is also being touted as a model of a workable approach to regional taxonomic communication.

How did it come to pass? Not having been at the Party, I missed out in seeing and hearing Ann Dalkey's presentation on SCAMIT history. I am one of 75 charter members, however, and am going to try and present a personal record of what has happened in our 20

year history. [Others may remember it differently. If they do, all corrections, elaborations, and alternative realities can be forwarded to the Editor in rebuttal.]

The man behind SCAMIT [I can't comment on the woman behind the man] is John Shisko. It was his effort that dug up and coalesced support for a continuation of the SCCWRP Taxonomic Standardization Project begun by Jack Word and carried through to its end by Leslie Harris.

I was working at a consulting firm at the time and found the whole idea of monthly meetings to discuss taxonomic problems interesting, but unworkable without a funded parent organization like SCCWRP behind it. Since SCCWRP was reducing its support of the Taxonomic Standardization Project to move that support to other tasks, I saw no other support forthcoming. John's vision was clearer. He saw that with commitment from a number of agencies to involvement of their staff we could form the nucleus of a new organization. I thought that no group or agency would be interested in having their staff go to such meetings on a regular basis, spend time preparing presentations for them, etc. I have fortunately been proven quite wrong.

The new organization formed from the ashes of the Taxonomic Standardization Project was not called Phoenix, but rather? for the first few months of its existence. The name was opened to debate, and the participating members all considered what would be appropriate. SCAMIT was chosen from the names submitted. I suspect it was not for the melifluity of the acronym, but for the aptness of the actual name that we became the Southern California Association of Marine Invertebrate Taxonomists. We had quite a roster of charter members, some now sadly departed (see attached list). Of these 75 starters, many are still associated with the organization, while others have drifted away.



Nearly all still work in marine science, and retain an interest in taxonomy even though they do not get to practice that discipline on a daily basis.

During our first year we were hosted by MBC Applied Environmental Sciences, which had a large central lab area and enough microscopes at hand for the examination of specimens. Meeting days were a disruption, but that was offset by having the MBC SCAMIT members (like me) not having to travel, and doing billable work before and after meetings. It was also fairly centrally located south of Los Angeles and North of San Diego, the two greatest areas of concentration of members. John Shisko served as the first President, with Tony Phillips as Vice-President, and Ann Martin as Secretary/Treasurer. This latter is, of course, Ann Dalkey, who continued as Treasurer until this year. The office of Secretary separated from that of Treasurer in our third year. This first slate was all drawn from employees of the City of Los Angeles Environmental Management Division, and served for the first two years of the organization.

(To continue next issue) -Don Cadien (CSDLAC)

THAT LIFE-CHANGING JOB

SCAMIT members might consider the following if they have the necessary qualifications. It looks like the perfect solution for those suffering from dry skin.

“The Los Angeles-based Reef Check Foundation is seeking to hire a mid-level coral reef fisheries scientist (Master’s Degree or higher) to carry out field monitoring of both fin-fish and invertebrates targeted by the marine aquarium trade to start as soon as possible. The primary task will be to gather population data on coral reef fish and invertebrates, and to test a new stock assessment monitoring protocol (MAQTRAC) specially designed for marine aquarium trade

organisms. The scientist will be based almost entirely in the field and will carry out the work primarily in the Philippines, Indonesia and Fiji. The scientist will be supported by a field network of Reef Check, Marine Aquarium Council and IMA scientists and managers and will collaborate with other partners including WWF and US NOAA. The position is funded for one year with possibility of renewal for a longer period.

Applicants should have:

- 1) Excellent species-level taxonomic skills with Indo-pacific coral reef fish and a good knowledge of coral reef invertebrate taxonomy;
- 2) At least two years experience field monitoring coral reef fish using underwater visual census methods in the Indo-pacific region;
- 3) Solid understanding of and ability to work with multivariate statistics and standard fisheries models including surplus production and yield-per-recruit models;
- 4) Ability to work independently and for long periods in remote locations where English is not commonly spoken;
- 5) Excellent health and be willing to spend at least 50% of the work days underwater;
- 6) Fluency in spoken English and demonstrated ability to write high quality technical reports;
- 7) A valid passport and ability to travel to and from the three target countries.
- 8) Certified diver (200+ dives).

For the right person, this will be a dream position to work in exotic locations and to carry out ground-breaking, much-needed research on a highly controversial fishery. This is an opportunity to develop the basic science needed to determine whether it is possible to sustainably manage the collection of coral reef fish and invertebrates for the marine aquarium trade. Applicants should send their CV, a list of



three references (with email address and telephone numbers), previous salary history and expected salary for this position in US\$, and a cover letter providing further details about how the applicant's experience matches the requirements to Program Manager Lena Maun at rcheck@ucla.edu Tel: (1) 310-794-4985 Fax: (1) 310-825-0758.

The position will be open until filled and is open to citizens of any country. The applicant should be prepared to start field work by January 1, 2003 at the latest."

Thanks to member Lisa Haney for sending this one along.

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

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

President	Kelvin Barwick (619)758-2337	kbarwick@sandiego.gov
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Chey1 Brantley (310)830-2400x5500	cbrantley@lacsdsd.org

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.



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Point Loma Wastewater Laboratory Biology
Section

PROVISIONAL SPECIES VOUCHER SHEET**Provisional Name:** *Aonides* sp SD 1**Taxon:** Spionidae**Taxonomist:** K. Langan**Authority:****Date:** 14May2002**Common Synonyms:****Specimen(s):** STATION DATE DEPTH STORAGE LOCATION VIAL#

B98: 2514 7/23/98 57m P-127

B98: 2081 7/24/98 50m P-127

See Related Species and Comments below.

Characters: Based on examination of 33 specimens from City of San Diego, Los Angeles County Sanitation Districts, and City of Los Angeles (Hyperion).

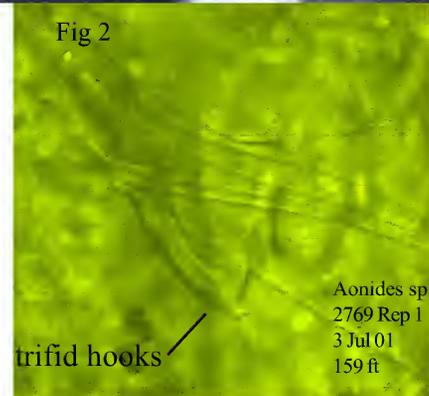
1. Occipital antenna present.
2. Prostomium rounded bluntly (Fig 1).
3. Branchiae start on setiger 2; 6-12 pairs, most specimens with 7 pairs (Fig 1).
4. Both bidentate and tridentate hooded hooks present (tridentate hooks are most common in posterior setigers) (Fig 2).
5. Neuropodial hooded hooks from setiger 11-34.
6. Notopodial hooded hooks from setiger 12-34 (Neuropodial hooded hooks usually start anterior to notopodial hooded hooks).
7. Pygidium with 4-8 anal cirri.
8. Methyl green staining pattern: Twenty-seven of the 33 specimens examined have thin, light staining bands on postbranchial setigers. Thirteen of the 33 specimens examined had light to moderate stain on the tip of the prostomium. (There was no correlation between stain pattern and collection location).

Illustrations:

Fig 1



Fig 2



Images by S. Douglass 5/02

Related Species:

- *A. glandulosa* Blake 1996. Hooded hooks bidentate. No occipital antenna. 8-11 pairs of branchiae, starting on 2. Bidentate hooded hooks from setigers 30-39 in neuropodia and from setigers 34-41 in notopodia.
- *A. mayaguezensis* Foster 1969. 15 to 16 pairs of branchiae. Bidentate hooded hooks from setigers 19 to 23 in neuropodia and from setigers 21 to 24 in notopodia. With 4 pygidial cirri.
- *A. paucibranchiata* Southern 1914. Hooded hooks tridentate. 10-11 pairs of branchiae.
- *A. californiensis* (Rioja 1947). Hooded hooks bidentate. 13-14 pairs of branchiae.
- *A. oxycephala* (Sars 1862). Hooded hooks bidentate. 20-30 pairs of branchiae.

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Diagnosis: All specimens examined have trifold hooded hooks which are most common in the posterior of the animal.
Branchiae start on setiger 2 on all specimens examined. Occipital antenna present

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern	length of first 10 setigers (mm)	
CSD: P-127 Bight '98 Sta.2514 7/23/98, 57 m KLC	spm 1	7	29	27	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.86	
	spm 2	9	34	34	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	no data	
	spm 3	7	30	29	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	1.12	
	spm 4	9	30	27	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	1.14	
	spm 5	7	28	26	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.88	
	spm 6	7	29	28	incomplete	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.98	
CSD: P-127 Bight '98 Sta. 2081 7/24/98, 50m KLC	spm 1	10	20	21	incomplete	few speckles on body	1.48	
	spm 2	12	17	17	incomplete	few speckles on body	1.76	
	spm 3	11	16	?	incomplete	few speckles on body	1.44	
	spm 4	9	14	14	incomplete	few speckles on body	1.02	
	spm 5	10	12	12	incomplete	few speckles on body	0.98	
	spm 6	8	12	12	incomplete	few speckles on body	1.28	
	spm 7	8	12	11	incomplete	few speckles on body	0.82	
	spm 8	8	incomplete	incomplete	incomplete	few speckles on body	1.1	
	spm 9	8	incomplete	incomplete	incomplete	few speckles on body	0.86	
	spm 10	7	incomplete	incomplete	incomplete	few speckles on body	0.92	
CSD: 127, 2769 (1) 7/3/01, 159 ft KB	P- Sta	spm 1	11	19	16	incomplete	few speckles on prostomium; few speckles on body	1

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern
Hyperion: #255 Sta. DN8 SMB 24m, 5/4/81 CAP	spm 1	7	21	18	5	post-branchial bands
	spm 2	6	28	27	incomplete	specking on prostomium; post-branchial bands
Hyperion: #455 Sta. A3 SMB 16m, 1/25/95 CAP	spm 1	7	28	21	4	stain on prostomium; post-branchial bands
	spm 2	7	26	21	N/A	post-branchial bands
	spm 3	7	24	21	N/A	post-branchial bands
Hyperion: #257 Sta. 2540 Santa Cruz Island 7/23/98, 24 m CAP	spm 1	7	25	19	5	moderate stain on prostomium; post-branchial bands
	spm 2	8	25	21	5	moderate stain on prostomium; post-branchial bands
	spm 3	7	22	22	5	post-branchial bands
	spm 4	6	23	21	5	post-branchial bands
Hyperion: #533 Sta. A1 SMB 17m, 1/5/98	spm 1	7	28	21	5	light stain on prostomium; post-branchial bands
	spm 2	7	25	19	regenerating	light stain on prostomium; post-branchial bands
	spm 3	7	24	22	regenerating	post-branchial bands
LA Co. San. Dist.: Bight '98 2393 LA 3 CB	spm 1	7	22	22	incomplete	none
	spm 2	7	?	22	incomplete	none

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern
LA Co. San. Dist.: Bight '98 2490 LA 1 CB	spm 1	7	32	30	5	light stain on prostomium; post-branchial bands
	spm 2	7	26	24	5	light stain on prostomium; post-branchial bands
	spm 3	7	31	26	incomplete	light stain on prostomium; post-branchial bands
	spm 4	7	30	26	incomplete	light stain on prostomium; post-branchial bands
	spm 5	8	incomplete	incomplete	incomplete	light stain on prostomium; post-branchial bands
	spm 6	7	33	29	incomplete	light stain on prostomium; post-branchial bands
	spm 7	7	incomplete	26	incomplete	light stain on prostomium; post-branchial bands
	spm 8	8	31	25	incomplete	light stain on prostomium; post-branchial bands
LA Co. San Dist.: 2393 LA 7 CB	spm 1	6	30	24	5	moderate speckling on post-branchial setigers
	spm 2	6	23	19	incomplete	moderate speckling on post-branchial setigers
	spm 3	6	23	20	incomplete	moderate speckling on post-branchial setigers
	spm 4	6	24	21	incomplete	moderate speckling on post-branchial setigers
	spm 5	7	23	21	incomplete	moderate speckling on post-branchial setigers
LA Co. San. Dist. 2491 LA 1 CB	spm 1	2	16	16	incomplete	tip of prostomium; post-branchial light speckling
LA Co. San. Dist. 0798-2D	spm 1	8	21	19	5	none
	spm 2	10	19	19	incomplete	none
	spm 3	8	22	17	incomplete	none
	spm 4	7	25	23	incomplete	none
	spm 5	7	incomplete	22	incomplete	none

Total= 50 spms

* Many branchiae missing on this spm. The only branchiae present are on the right side of setigers 3 & 4.



Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

September, 2002

SCAMIT Newsletter

Vol. 21, No. 5

SUBJECT:	Biolink; taxonomic databases
GUEST SPEAKER:	Steve Shattuck
DATE:	14 November 2002 (Thursday)
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Natural History Museum of Los Angeles County Times Mirror Room 900 Exposition Blvd



Epitonium bellastriatum (Carpenter 1864)
Station:CSD I22(2),1/4/02, 91 ft.
Image by K. Barwick 10/02

DEATH IN THE FAMILY

As you all must know by now we recently lost one of the noteworthy biologists of the last century. Stephen J. Gould died on 20 May 2002. One of the many commentaries on him (Lindberg 2002) emphasizes part of his life which is less well known, his work as a molluscan taxonomist. Greatly familiar through his graceful writings in *Natural History* magazine in a column which spanned decades (many of which were gathered into a series of books), Gould was more than just a philosopher and popularizer of biology – he was also a practitioner at many levels. His early study of the land snail genus *Cerion* contributed to the perception of variation in natural populations which would color all his work. Lindberg's brief, informative commentary should be read and savored by all SCAMIT members.

Apropos of S. J.G's appreciation of systematics and taxonomy's place in the world is the following (quoted from his 1996 book *Full House*); "But classifications are not passive ordering devices in a world objectively divided into obvious categories. Taxonomies are human decisions imposed upon nature – theories about the causes of nature's order. The chronicle of historical changes in classification provides our finest insight into conceptual revolutions in human thought. Objective nature does exist, but we can converse with her only through the structure of our taxonomic systems."

Though he will be missed, particularly as a champion of evolution against a resurgent creationism, he left a legacy of prose that we can draw from in continued contemplation of our world and our place in it. Thanks, and farewell.

SOME THOUGHTS FROM THE PRESIDENT

SCAMIT has accomplished much in the past 20 years. This includes the creation and maintenance of the species list, countless voucher sheets and monthly taxonomic standardization meetings, and the web site, just to name a few. This remains at the heart of what SCAMIT does. However, what of the challenges for the future? As we celebrate our past accomplishments what about the next 20 years? Our role in the digital future and the apparent attrition of our profession are just two examples of the new opportunities and challenges facing SCAMIT. I'm sure as you read this you will think of others.

To my knowledge this has not been discussed before, at least not in any formal way. Therefore, I would like to convene a general meeting of the membership in order to begin the debate. I have asked the vice president to set aside the regularly scheduled 10 February meeting, to be held at SCCWRP. The topic: Future directions for SCAMIT. I envision the meeting to be part brainstorming session and

part policy debate. As president I will lead the meeting but it is the responsibility of the membership to determine what direction(s) to take. It is your input that I'm seeking. I have no agenda. Unfortunately, not everyone that is interested will be able to attend. For those of you who can't make it I strongly suggest that you submit your suggestions either to the SCAMIT list server or, if you would prefer, to me directly. The list server could be a good place to begin this discussion. At any rate I will see to it that your ideas are introduced and discussed at the meeting.

What do I hope to get out of this meeting? Once a consensus is reached I hope to come away with not only a set of long term and short term goals but a plan for achieving said goals. This may be a little overly ambitious for one meeting. It will really depend on what is decided. However I'm confident we can come away from this meeting with concrete proposals that we can then move ahead on. I look forward to a spirited debate on the future of our fine organization.

NEW LITERATURE

While polychaete workers may find the following chilling, there is no avoiding the fact that polychaetes-in-the-tube is a tasty dish for one group of predatory isopod crustaceans. Anthurid isopods are quite varied in their food spectra, but at least one group, the genus *Eisothistos*, seems specialized on tube-dwelling polychaetes. Just to add insult to injury they attack the best defended tubes, those composed of hard calcium carbonate deposits. The attack is by stealth, however, and comes from the open end of the tube rather than by brute force through the side of the tube. No drilling; no breakage; just entry into the tube end and frontal assault on the prey. In species with operculi serving as tube closures the attack must come while the animal is out feeding at



the mouth of the tube. In non-operculate species the isopod, which is very narrow, can crawl down into the aperture and begin to gnaw on the worm alive in the tube.

The attack is always head first. This serves the purpose of leaving the pleopods exposed outside the tube to aid respiration. It also brings the isopod mouthparts into action against the soft tissues of the polychaete. A series of very small species in this genus which attacks spirorbid polychaetes is described by Knight-Jones and Knight-Jones (2002) from various locations. We have two undescribed species known from the Eastern Pacific (Cadien and Brusca 1993), and more undoubtedly await discovery in the Panamic region to the south. Distasteful as it is, polychaete workers are entreated to stay on the lookout for long narrow isopods in their serpulid and spirorbid bearing samples. Any found would be of interest. Please contact Don Cadien (dcadien@lacsds.org) with news of specimens.

Predation is also a concern for the large fleshy sea-pen *Ptilosarcus gurneyi* which we take locally in trawl samples. Weightman and Arsenault (2002) experimentally examined the defensive response of the sea-pen in the presence of three species of sea stars. One of these three (*Pisaster ochraceus*), is not a *Ptilosarcus* predator; one (*Pycnopodia helianthoides*) is a generalist predator, and one (*Dermasterias imbricata*) specializes on this prey species. The authors found that this sea-pen relies on physical contact with potential predators prior to any response, and did not respond to waterborne chemical cues released by nearby potential predators. Not surprisingly they also found that response was appropriate to risk, with the response (in this case complete colony withdrawal below sediment surface) greatest for the specialist predator, intermediate for the generalist, and equal to non-biological control stimulus for the non-predator.

Two important review articles grace the most recent issue of *Advances in Marine Biology*; Mikkelsen (2002) on shelled opisthobranch mollusks, and Zardus (2002) on protobranch bivalve mollusks. Not that the other articles in this issue are not of interest; but both the cited reviews are major contributions to problem areas.

Shelled opisthobranchs have had a confused history of research. Recent cladistic analyses have suggested major alterations of the relationships historically posited between groups, and transfers of taxa between major groups. Mikkelsen reviews the history, identifying the controversies and adopting positions based on her own research. She then proceeds to discuss each of the component groups (although pteropods, acochliaceans and runcinids are excluded) in terms of major organ systems. The result provides a firm basis for the consideration of the character states explicitly provided at the end of the article, and used in a new cladistic analysis by the author combining characters and character states applied in recent previous cladistic treatments of particular groups.

The emphasis of Zardus is less on protobranch phylogeny than on a summation of knowledge on the group. He discusses anatomy, morphology, diet and feeding, reproduction, development, physiology, ecology, evolution and zoogeography. This summary is a great complement to the detailed and (for the first time) complete treatment of all North Eastern Pacific group members by Coan, Valentich Scott, and Bernard (2000).

Another major review article, on the families of valviferan isopods, is that of Poore (2001). Erection of three new family level taxonomic units herein is based on cladistic analysis of the suborder. With over 500 species and 81 generic level units (currently) the valviferans are a large and fairly diverse group whose distribution centers in cooler waters. They are well represented locally, mostly by species of



Pentidotea and Syniotea, and several arcturids. Poore provides a key to the families and discusses a number of characters used in the identification of these animals.

In a seminal paper in 1991, Chapman and Carlton discussed the global distribution of a species broadly distributed by human agency, *Synidotea laevidorsalis*. As part of this they introduced a series of characteristics of “invasive” populations which are still used by those seeking to identify introduced species. While the case for *S. laevidorsalis* and the taxonomy of *Synidotea* has been debated without ultimate resolution, the introduced species criteria they suggested in their paper have found broad acceptance. Not all introduced species are difficult to distinguish, however, requiring close examination of life history and ecology in addition to morphology. Some just stand out like a sore thumb.

This is the case of one export from the North Eastern Pacific, an area better known for importation than exportation of taxa. The nudibranch *Polycera hedgpethi* has now been detected in New Zealand. Actually they were reported from New Zealand waters as early as 1975, but a description of the form from New Zealand has finally been released (Miller 2001). *P. hedgpethi* is easily distinguished from other local species and the introduced *P. fujitai* from Japan in New Zealand, but is much more closely similar to a suite of tropical American species from the Panamic (*P. gnupa*) or the Caribbean (*P. hummi*, *P. aurisula*). The author describes variants in color and pigment patterns in individuals from several geographic sources.

The small nest building clam *Musculista senhousia* is another introduced taxon both well known and easily recognized in southern California bays and harbors where it has profoundly affected some areas. Mistri (2002) describes the occurrence and behavior of the animal in Italy. The population described is from a brackish lagoon on the Po River Delta

in the Northern Adriatic and has apparently been in place since the beginning of the 90's. Comparison of Mistri's data with that on other populations of this invader are instructive, as each population seems to behave a bit differently. This has been a particularly densely established population, reaching up to 10,000/m² at some times. The present paper contributes to our knowledge of the reproductive ecology of this species, as well as to understanding of the growth and mortality rates which this invader may exhibit.

SEPTEMBER 09 MINUTES

Ron Velarde started the epitoniid portion of the meeting with two hand-outs, one concerning the genus *Epitonium* and the other the genus *Opalia* (these hand-outs, along with digital images by K. Barwick, are attached at the end of the newsletter). The charts he provided were based on the work of DuShane 1979 and McLean 1996, and were limited to just those species which are currently extant in Southern California. The generic placement of the species is open to debate and varies from one authority to another. The family is in need of a complete taxonomic review to resolve the valid genera and which species belong to each one. Therefore, the two charts were made to characterize the species and the generic placement is up to the user. There is also a new book out, “The Wentletrap book: Guide to the Recent Epitoniidae of the World” Weil et al 1999, which provides many beautiful pictures of these animals. Although all of the species are listed in named genera and subgenera, there are no justifications for their generic and/or subgeneric placement and thus again, open to debate.

He briefly reviewed their life history, stating that for the most part they feed on cnidarians. However, he stressed that they are a poorly known group with few internal characters having been studied. He suggested that looking at the radula and other body characters



would be a wonderful graduate project for some eager young malacologist. Currently the taxonomy of the group is based on shell characters.

We then proceeded to look at specimens of *Epitonium* and *Opalia* and compare them to Ron's chart. Species examined included *Epitonium bellastriatum*, *E. lowei*, *E. politum*, *E. sawinae*, *E. tinctum*, and several *Opalia*. Most of these were digitally captured by Kelvin Barwick for future reference. After completing our epitoniid discussion it was time to break for lunch.

Upon our return we dealt with *Neosimnia* as best we could. The primary references Ron uses are, Cate 1969 and 1973, and McLean 1996. The four species known locally are; *N. aequalis*, *N. barbarentis* (is *N. catalinensis* in Cate '69 key), *N. bellamaris* (found on *Renilla*, off San Diego only, to date), and *N. loebbekeana* (there is a conflict between Cate and McLean with regards to presence or absence of spiral sculpturing in this species). In San Diego's monitoring program we commonly find *N. barbarentis* on the sea pen *Acanthoptilum*. At the end of our discussion of the *Neosimnia* it was agreed that we need to have a meeting at the Natural History Museum of Los Angeles County (or possibly the San Diego Natural History Museum?) and look at specimens in their collection(s) to get a better idea of the taxonomy of this group. There is a feeling that we may be getting various morphs of the same species in our monitoring programs, or that we continue to be confused by existing confusion in the literature.

ASCIDIAN CORRECTIONS

- following is a series of emails I received from Gretchen Lambert in regards to the ascidian minutes and corrections in the June (Vol 21 No. 2) and July (Vol 21 No. 3) newsletters, respectively. – M. Lilly

“Hi Megan,

I just got around to downloading the June newsletter and read the part about the ascidian workshop. The *Microcosmus* in southern Calif. is not *M. exasperatus*; it is *M. squamiger*. Please see Lambert, C. C. and Lambert, G. 1998. Non-indigenous ascidians in southern California harbors and marinas. Mar. Biol. 130: 675-688. I would appreciate it if you would put an addendum in the next newsletter. There are a couple errors in the paper, unfortunately. The *Symplegma brakenhielmi* was actually a small sample of *S. reptans* so there is only one species of *Symplegma* in southern California. Secondly, I was very late in recognizing the presence of *Botrylloides violaceus* so it is missing from the paper. We have a sequel paper now in review in Mar. Ecol. Progress Series which includes data on many of the same southern Calif. harbors for the year 2000, and the paper also has a separate listing of the species data for each of the different marinas within the big bays like SD Bay and Mission Bay (we combined sites within bays for the 1998 paper). In our sequel paper we have corrected the errors listed above and re-examined the *Botrylloides diegensis* data in order to distinguish which records were for *B. diegensis* and which were actually *B. violaceus*. I will try to remember to send you an email when the paper gets published, which won't be for a while since it is still in review. Best wishes, Gretchen”

- Part II -

“Hi Megan,

... the July correction is not quite correct either. It says, “This name [*Microcosmus exasperatus*] is no longer in use and the animal is now *Microcosmus squamiger*.” These are 2 valid species. It happens that the one in southern Calif. is *M. squamiger*. *M. exasperatus* is very widespread, common in Florida, Hawaii, Guam, the Mediterranean and many other places. These 2 are easily confused but are different. I made the original mistake in identifying the southern Calif. species as *M.*



exasperatus a number of years ago, but during the '90's when we did our Sea Grant study (published in the Mar. Bio. paper of 1998) I sent specimens to Dr. Patricia Kott in Australia and she set me straight and pointed out how to tell the difference between these 2 spp. Best wishes, Gretchen”

AN ADDITIONAL OCCURENCE

- Ron Velarde sent an email requesting inclusion of the following information.

“...On page 5 of Vol.21, No. 4 under *Nicon moniloceras* add: City of San Diego. We have collected this species from the SCBPP samples in 1994 and from our outfall monitoring stations off Point Loma, San Diego, CA.”

DIGITAL CONFUSION RESOLUTION

Rick Rowe's and Kelvin Barwick's information packed SCAMIT presentation on digital microscopy gave everyone much to think about when planning to make and use digital images. Recently, Microscopy Today published a concise guide for acquiring and manipulating digital images. Jerry Sedgewick, Director of the microscopy/digital imaging facility at the University of Minnesota, wrote this article. A brief highlight summary is below:

Cheaper digital cameras use “mosaic” type chips.

Photoshop “throws out” about 1/3 of all pixels in its “channel” creation for color intensity.

JPEG formats typically reduce resolution by color averaging.

High magnification light microscopy loses more resolution from its own optics and specimen nature than by how pixels are manipulated.

Photoshop's “Image Size” (upper box) width/height counts represent “true” image resolution, while the lower box labeled “resolution”, represents the resolution when printed.

Many printers measure resolution as “dots per inch” or “lines per inch” and do not correlate with “pixels per inch” in Photoshop.

Images acquired by digital camera or by flat bed scanner are each handled differently by Photoshop. Photoshop arbitrarily assigns resolution of 72 or 96 ppi because the user of a digital camera does not preset output resolution. Flat bed scanner acquired images allow for this custom pre-set and avoid this arbitrary limit. The dogma that “72 is too low” often causes users to reset the value to 300 pixels per inch. “Don't do it”. You should retain original data if you wish to follow Good Laboratory Practices.

Uncheck “Resample” in the Image Size box in Photoshop to protect the original image state.

If attempting to squeeze additional images into a PowerPoint file, do not change the number of pixels in “Height and Width” boxes, instead save the original image as TIFF or PSD format and make a duplicate in JPEG for use in PowerPoint.

When submitting an image for publication or printing from a photographic or dye sublimation printer, open the Image Size box and check “Resample”.

When printing to an ink jet printer, do not check “Resample”. Change instead the Height and Width values. Laser jets reinterpret images and do not provide accurate results and should not be used for evaluation of an image.

These guidelines help to maintain original pixel resolution.

Tom Parker (CSDLAC)

NOTES FROM THE DELTA WORKSHOP

Between the 7th and 15th of October the Fifth Crustacean DELTA Workshop was held at the Natural History Museum of Los Angeles County [a description of this workshop is available on the web at <http://crustacea.nhm.org/delta>]. SCAMIT was well



represented with participants from the City of San Diego (Eric Nestler), the City of Los Angeles (Jim Roney), and the County Sanitation Districts of Los Angeles County (Don Cadien and Lisa Haney). Other members involved were Todd Haney (UCLA and NHMLAC) who was the workshop organizer, Regina Wetzler (NHMLAC), Jody Martin (NHMLAC), and for several days, SCAMIT VP, Leslie Harris.

Additional involvement occurred on the first day, which was an introductory presentation open to all interested parties and well attended by SCAMIT members who could not devote the full week. The instructors, Dr Terry Macfarlane from the Western Australian Herbarium and Dr. Jim Lowry of the Australian Museum, are both longtime users who have been party to the development and refinement of the programs involved. On the first day they presented an overview and introduction to the DELTA program and discussed its application and the nature of inputs to and outputs from the program. As their presentation ended they asked for and received numerous questions leading to a further protracted discussion of the program, its limitations and advantages, and its relationship with other available programs. The group broke up for lunch and discussions continued through until early afternoon when morning attendees departed.

The workshop was a “hands-on” event. Each participant arrived with a laptop computer to load the program onto, and to work on their own databases. The program(s) [DELTA is actually one base program with several peripheral programs which tailor input or output to the main program] were distributed on CD to each of the participants so we all could explore them at our leisure. Once distributed for a fee, DELTA is now freeware. Information on the program and its availability is available at the following web address

<http://biodiversity.uno.edu/delta>

While southern California was well represented among the participants, this workshop was a truly international affair, with attendees from New Zealand, South Korea, Brazil, Mexico, and Michigan (pretty foreign turf for an Angeleno). We met each day for a combination of tutorial lectures and supervised database development efforts. Along the way many problems were encountered and nearly all resolved. This workshop, as the four that preceded it, was devoted to crustaceans because of a large project of the Australian Museum revolving around <http://crustacea.net>. DELTA is, however, a program which can as easily be used for any group of organisms, either plant or animal. Part of our distributed example database resource was a database using grasses, for instance. Workshop participants concentrated on a variety of groups of crustaceans including marine and groundwater amphipods, cumaceans, freshwater crabs, marine shrimp, and both marine and freshwater isopods.

As a participant I was delighted to find a versatile and very flexible tool ready made for me to learn. As with all versatile tools, there is a learning curve. At least at the bottom (where I started) it wasn't too steep, and by the second day of the workshop my own database was established and being used as a learning tool. Missteps there were, but not too many, and not too severe. I began not knowing the program at all and ended by being excited about how it could be applied to the day-to-day operations of our laboratory, and how it might be used by other groups who participate in SCAMIT. I urge others who didn't have the chance to participate in the workshop (or who were excluded by its crustacean emphasis) to actively consider this program. It may not be what SCAMIT members eventually decide to use for morphological databasing, but it is a very strong candidate for that position, and one that each interested party should try personally.



Workshop participants have already begun to share their experience with their co-workers. Please look into the issue, I am sure you will find it rewarding.
Don Cadien (CSDLAC)

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Single back issues are also available at cost.



Epitonium Group (21 subgenera worldwide)

axial costae thin, basal disk absent, spiral sculpture not punctate

Species	Length (mm)	Width (mm)	Spiral Sculpture	Whorls*	Number of Costae/Whorl	Axial Costae Reflected	Shoulder	Umbilicus	Depth (m)
<i>bellastriatum</i> **	3 -20	2.33 - 11	present: 20 -25 / whorl	3 + 6 -7	15 - 17 (20)	yes	strong	yes	18 - 103
<i>lowei</i> **	3 - 30	1.5 - 9	present: fine	4 + 5 - 9	25 - 32	yes	slight to strong spine	yes	25 - 171
<i>minuticosta</i> **	3 - 35	1.5 - 17	present: 20	3 + 7 - 8	13 -21	yes	short, sharp	yes	18 - 137
<i>berryi</i>	3 - 22	0.75 - 8	absent	3 + 9 - 10	19 - 30	no	no	yes	20 - 360
<i>californicum</i>	4 - 11	2 - 4.5	absent	3 + 6 - 7	9 - 12	yes	small, sharp	no	0 - 36
<i>hindsii</i> **	3 - 26	1.5 - 10	absent	3 + 7 - 11	8 - 14	yes	slight to strong spine	no	0 - 195
<i>indianorum</i>	7.4 - 38	3.3 - 12	absent	8 - 10	10 - 17	slight	no(rare)	no	0 - 120
<i>politum</i> **	9 - 22	3.5 - 5	present or absent: fine	3 -5 + 7 - 12	9 - 5 (low)	no	slight	no	11 - 393
<i>sawinae</i> **	3.5 - 24	1 - 8	absent	2 - 3 + 7 - 12	14 - 21	yes	pronounced	no	18 - 360
<i>tinctum</i>	4 - 15	1 - 5	absent	3 + 4 - 8	11 - 14	slight	no	no	0 - 40

* formula = number of nuclear whorls + Range of the number of post nuclear whorls

** species examined at SCAMIT meeting

Epitoniidae
September, 2002
Images by K. Barwick



Epitonium bellastriatum (Carpenter, 1864)
Station: CSD I22(2), 1/4/02, 91 ft.
Length: 7.6 mm
Width: 4.4 mm



Epitonium minuticosta (DeBoury, 1912)
inset: shell detail
Station: CSD I28(1), 1/3/01, 185 ft.
Length: 16.3 mm
Width: 6.8 mm



Epitonium lowei (Dall, 1906)
Station: CSD B10(2), 10/12/93, 387 ft.
Length: 15.5 mm
Width: 7.9 mm

Epitoniidae
September, 2002
Images by K. Barwick



Epitonium sawinae (Dall, 1903)
Station: CSD B13(1), 2/7/92, 380 ft.
Length: 8.2 mm
Width: 4.2 mm



Epitonium politum
(G.B. Sowerby II, 1844)
LACSD



Epitonium hindsii (Carpenter, 1856)
Station: B'98 2252, 7/29/98, 10.9 m
Length: 19.1 mm
Width: 6.9 mm

Opalia Group (4 subgenera)

axial costae thick, basal disk usually present, punctate spiral sculpture

Species	Length (mm)	Width (mm)	Whorls*	Ribs/Whorl	Basal Disk	Depth (m)
<i>borealis</i>	6.5 - 43	3 - 13	1.5 + 8 - 11	7	present	0 - 180
<i>funiculata</i> **	5 - 17	3 - 8	3 - 4 + 5 - 7	12 - 16	present	0 - 30
<i>infrequens</i>	7 - 12	2 - 4	2 + 8	15 - 20	present	0 - 36
<i>montereyensis</i>	2.5 - 16	1.5 - 5	1.5 + 7 (6 - 9)	8 - 10	present	0 - 90
<i>spongiosa</i> **	7 - 13	2.5 - 5.5	2.5 + 7 (8 - 9)	10 - 15	weak	18 - 72

* formula = number of nuclear whorls + Range of the number of post nuclear whorls

** species examined at SCAMIT meeting

Epitoniidae
September, 2002
Images by K. Barwick



Nodiscala spongiosa (Carpenter, 1864)
Station: CSD I3(1), 7/5/00, 86 ft.
Length: 10.1 mm
Width: 3.7 mm



Opalia funiculata (Carpenter, 1857)
Station: SCBPP 1739, 7/28/94, 21 m
Length: 4.3 mm
Width: 2.5 mm



Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

October, 2002

SCAMIT Newsletter

Vol. 21, No. 6

SUBJECT:	Collections Moving Day
GUEST SPEAKER:	none
DATE:	6 December 2002
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Cabrillo Marine Aquarium & LACMNH

AN ASIDE

The reader will notice that although this is the October NL, the minutes below are from November's meeting. The October NL is taking longer to prepare and in my efforts to try and keep newsletters flowing, I am producing the October NL with the minutes and information I have available to me, which is November. Please look for the October minutes to be in next month's newsletter. Thank you for your patience and understanding – M. Lilly

NOVEMBER 14

Kelvin Barwick called the meeting to order at approximately 9:30 and began by discussing upcoming meetings. The December meeting will be held on the 6th and will consist of volunteers moving the SCAMIT specimen



CSD station SD-16
8 October 2002, 27m
Identified by D. Pasko

voucher and literature collections from their current location at the Cabrillo Marine Aquarium to LACMNH. Hopefully this will provide easier access to the collections.

The January meeting will be on the 20th at the City of San Diego's Marine Lab and will be the first in a series of meetings, entitled: Pre-Bight 2003 Familiarization Meetings. This first meeting will deal with deeper-water Crustacea, 200-500 m. The purpose is to acquaint taxonomists with the deeper water fauna they may not have encountered before. The meetings will be conducted prior to the next Bight survey to improve identifications.

February 10 will be the "Future of SCAMIT" meeting that our fearless leader, Kelvin Barwick, has called. Please start brainstorming now and have suggestions for the direction(s) that you would like to see SCAMIT go in the future. It will be held in the SCCWRP conference room.

It is under tentative discussion that there will be another DELTA workshop in March. As the details are finalized, we will let you know.

The April meeting will cover the Gastropod family Eulimidae. It will be conducted by Kelvin Barwick and will be at the City of San Diego's Marine Lab. Speaking of Eulimids, Kelvin has put out a call for any specimens people can spare. He is only interested in those from the Southern California Bight, as he is limiting his focus to the species encountered in our programs. He is particularly interested in their parasitic association with certain echinoderms. If you find Eulimids still attached to a host animal, he would request that you send both organisms if possible. If they have since fallen off, please send just the Eulimids but with a note stating with which echinoderm species they were associated.

With that the business portion of the meeting was concluded and it was time for the Biolink presentation. Following is Rick Rowe's gracious contribution to the NL. He offered to

write a brief biography of Steve Shattuck and concisely compile the massive amounts of information that were presented that day. The secretary would like to extend her thanks for his assistance.

The November 14th meeting of SCAMIT at the Natural History Museum in Los Angeles was led by an ant taxonomist, Steve Shattuck. Steve traveled from Australia to demonstrate the taxonomic data management software application BioLink. He leads the team developing the application, and has traveled across the globe as a key participant in the planning and development of efforts to catalog our planet's biodiversity.

Steve began his studies in taxonomy at Oregon State University, completed his masters at the University of Kansas, and in 1991 obtained his Ph. D. from the University of California, Davis. He moved to Australia to conduct postdoctoral studies and now considers Australia his home. His list of publications includes a monograph on Australian Ants (1999) and coauthorship of a bibliography of ant systematics (1996). For a complete biography see:

<http://www.ento.csiro.au/staffhome/sshattuck.html>

While his primary interests are taxonomic, Steve realized that managing his collections data and publications required computer tools that were overly complex to learn, inadequate to manage all of his taxonomic data, or nonexistent. Steve and several of his coworkers at CSIRO (Commonwealth Scientific and Industrial Research Organization, Australia) began developing Platypus, a taxonomic checklist and collections management software application in 1996 which has led subsequently to Steve guiding the development of an application that would



integrate the management of collections data (somewhat like Platypus) and descriptive morphological data (somewhat like DELTA) within a single software package, BioLink.

Increasing the efficient management of taxonomic data, and broadening its distribution are goals of the BioLink development effort. Steve considers those goals essential to improving the valuation taxonomic studies receive, and crucial to increasing the contributions of taxonomists defining biodiversity. Steve demonstrates how information can be shared at his Australian Ants Online website

<http://www.ento.csiro.au/science/ants/default.htm>

On Wednesday afternoon, November 13th, Steve met with SCAMIT members, Leslie Harris, Rick Rowe, and several others of the staff at the Natural History Museum of Los Angeles County to discuss applicability of BioLink to our museum and monitoring programs. Much of the time was spent introducing Steve to what SCAMIT is and does, and how we can organize and share the taxonomic information that our members use and generate. Steve is willing to work with our organization's members to test BioLink and provide customization specific to the requirements of our marine studies.

At Thursday's SCAMIT meeting, Steve spent most of the day demonstrating BioLink and answering questions about its functions. He used version 2.0, currently undergoing beta testing, that includes a module for working with descriptive (morphological) data. Because BioLink is being built by a taxonomist, the user interface contains terminology and structure familiar to SCAMIT members. The primary entry point into a database is through the Taxon Explorer, a hierarchical tree structure comprised of the familiar parent-child relationships (e.g. family-genus, genus-subgenus) provided by standard

nomenclature. As phylogeny changes, parents (higher taxa) can be moved by drag and drop and the changes cascade through the database. Some of the forms for entering data contain terminology that is slightly different than that typically used in marine studies, but Steve promised that customization of data entry forms will be added soon. There is an import wizard to assist bringing spreadsheet and other database files into BioLink and export tools for moving data out to interactive key programs (IntKey via DELTA and Lucid). BioLink uses SQLServer as its database engine and is designed to function in a multiuser environment.

The application can manage bibliographic materials, and Steve mentioned that he manages about 20,000 references of his own in the application. Multimedia files, including images, sounds, morphometric spreadsheets, and mpegs can be managed, and an electronic gazetteer is included for mapping and reporting distributional data. Typical information utilized by collections managers can be entered and accessed including everything from loan and storage information to label generation.

Of primary interest to SCAMIT members, who recently became officially introduced to DELTA (Descriptive Language for Taxonomy) through a weeklong workshop at the Natural History Museum of Los Angeles County, were the descriptive (morphological) data management components which are included in this latest version of BioLink. Steve spent considerable time demonstrating how BioLink can manage that data. Some of the procedures were very familiar to those who have used DELTA, but there are some differences that may be advantageous. Those differences will be evaluated by several SCAMIT members over the next several months. Many more features of BioLink and a much more detailed description of the application can be found at the BioLink website

<http://www.biolink.csiro.au/>



The meeting ended with Steve offering to come back to Southern California for a two-day BioLink workshop in the summer. He passed out some copies of BioLink 2.0 (beta) and stayed after the meeting to answer additional questions about the application. Several SCAMIT members will be testing the software (most of the Annelida section of the SCAMIT edition 4 species list has been imported into BioLink), and communicating problems to the BioLink team. A SCAMIT 20th anniversary tee shirt is on its way to Australia as a small token of thanks to Steve for his most generous service to our organization.

Directions: Take 110 Freeway to San Pedro. Turn left on Gaffey, left on 4th Street. Proceed to Mesa Street. Park on the street. Enter at 401 S. Mesa. The Loft Gallery 2 is on the 3rd floor.

POLYCHAETE FINE ART SHOW

- by Leslie Harris

Nearly two years ago I became acquainted with Libby Hartigan, an artist with a budding fascination with polychaetes. Since then she's made polychaetes a focal point of many of her artworks in a variety of media. Libby's intriguing & evocative artworks tend to be impressionistic, unlike the anatomically correct scientific illustrations with which we're all familiar. On December 5th, the Loft Gallery 2 will host a reception to celebrate the opening of an exhibit of Libby's paintings & prints. All wormophiles & other invert lovers are invited to attend. We hope to see you there- Leslie Harris

Show title: Habitat for an unknown polychaete
Paintings and prints by Libby Hartigan
with slides of San Pedro polychaetes by Leslie Harris

Date: Thurs. Dec. 5 to Dec. 31 2002

Location: Loft Gallery 2, 401 S. Mesa, San Pedro

The reception will be held on Thursday Dec. 5 from 6 to 9 p.m., coinciding with the "First Thursday" cultural outreach which occurs the first Thursday of each month in San Pedro. After the reception, the gallery is open by appointment only by calling the Loft Gallery (310) 831-5757.



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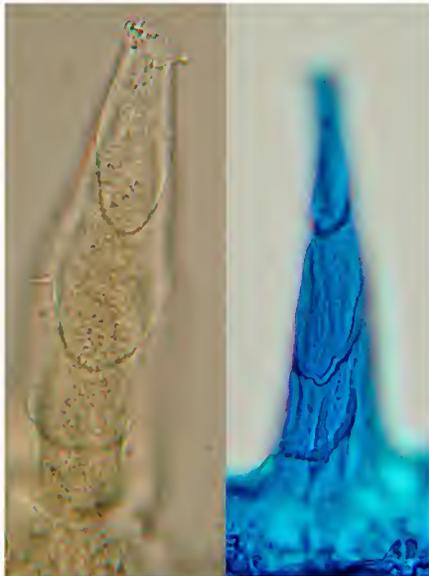
Southern California Association of Marine Invertebrate Taxonomists

November, 2002

SCAMIT Newsletter

Vol. 21, No. 7

SUBJECT: Bight'03 Q/A meeting - Crustacea
GUEST SPEAKER: Discussion Lead - Don Cadien
DATE: 21 January (Tuesday) 03
TIME: 9:30 a.m. to 3:30 p. m.
LOCATION: City of San Diego Marine Lab
4918 N. Harbor Dr. suite 201



Glycera pacifica Kinberg 1865
1000X (Oil immersion)

Proboscideal organs with three ridges

Right image of proboscideal organ that has been alcian
blue stained and dried.

City of San Diego ITP I-35 rep 2, 15 July 2002 18m

Identified by R. Rowe Deposited in DLZ 2120

Images with Sony 707 Nikon Optiphot 2 by R. Rowe

UPCOMING SCAMIT MEETINGS

January 21st - Don Cadien will begin a series of Bight '03 Quality Assurance meetings. It is currently planned that benthic community sampling will be extended down the Continental Slope to 500m depths. This meeting will address slope crustaceans to familiarize SCAMIT members with the constituents of, and ways of dealing with, the slope fauna.

February 10th - President Kelvin Barwick will discuss the future direction of SCAMIT at SCCWRP.

March - A possible 3-4 day Delta workshop (that may run over a weekend) for all interested SCAMIT members regardless of what taxonomic group you work on. Dates to be decided upon. Please contact Vice President Leslie Harris ASAP if you are interested so we may see what dates work for the most people.

Leslie is also looking for interested parties willing to lead a crustacean taxonomic workshop next year or meetings on other groups besides polychaetes.

SCUM MEETING

The annual meeting of the Southern California Unified Malacologists will be held Saturday, January 25, 2003 from 8:30am – 3:30pm at the: City of Laguna Hills Community Center
25555 Alicia Parkway
Laguna Hills
(949) 707-2610 or (949) 707-2680

NEW LITERATURE

Last year SCAMIT held a meeting at Dancing Coyote Rancho with John Ljubenkov and Meg Daly on edwardsiid anemones. Meg was unused to having a group of people together who were actually interested in the taxonomy, ecology, and behavior of these small burrowing cnidarians. We now have the results of her microanatomical studies (Daly 2002). She investigated many character states not normally used by taxonomists approaching the animals from the outside. Little or no dissection is the norm for most of us who deal frequently with edwardsiids. We believed that we could tell them apart based on external characters of body proportion, nemathyome size and distribution, nature of the investment, and other gross characters. She provides a revision of the family Edwardsiidae based on her studies and cladistic analysis of the characters developed in her anatomical study as well as molecular characters. The two data sources were in general agreement, although there were a few slight differences in detail. The family separated into the same two subfamilies suggested earlier by Carlgren, Milneedwarsiinae and Edwardsiinae. The genus *Edwardsia* appeared paraphyletic – a grade rather than a clade, and the genus *Edwardsianthus* was validated by the results as a separate taxon containing two species previously assigned to *Edwardsia*. *Scolanthus* also seemed to separate as a clade. Several

species and groups within *Edwardsia* still need to be further resolved before the paraphyly is fully removed. No nomenclatural actions are necessary in our local usage to bring it into agreement with Daly's results.

I am not one who cherishes nemerteans. It was heartening to me to find out that they are not very popular with more natural consumers either (not that my antipathy extends to eating them – which I haven't tried). McDermott (2001) reports on nemerteans as prey; he addressed their predatory behavior in an earlier paper (McDermott & Roe 1985). After a thorough canvas of the literature the author was only able to find a few species of fishes reported to consume nemerteans, mostly flatfishes. Since the frequency of identification of nemerteans in fish guts at sea was much lower than in the laboratory, part of their scarcity in guts may reflect lack of detection by observers. Consumed nemerteans were usually large heteronemertines such as *Cerebratulus* or *Micrura*. Birds and invertebrates also showed little dietary preference for nemerteans based on gut analysis, field observation, and food choice experiments. Since some tested nemerteans are toxic and/or distasteful, the infrequency with which they fall prey to other organisms seems reasonable. There was some indication that they were attractive as potential prey while swimming in the water column, but that predators that gobbled them up often regurgitated them. The author also explored the odd situation of two large species which support bait fisheries in the eastern US and in South Africa. While both appear toxic they are effective bait for some fishes and have been so for quite some time.

Biologists are notoriously difficult dinner guests to mix with a more general population of society matrons, tax accountants, professional hit men, lawyers and insurance executives. They tend to stray casually into conversational areas which appall and repulse others. Next time you are at dinner you might want to bring up for discussion Rouse 1999, a



comprehensive reexamination of the cladistic value of the ultrastructural analysis of worm sperm. The author masterfully pulls together prior research and recent developments into an up-to-date presentation of the state of knowledge on the subject. 'Nuff said'.

The Chinese mitten crab, which has bedeviled the Sacramento Delta region and San Francisco Bay in recent years as an invasive exotic, is usually considered to be an estuarine species dependant for at least a portion of its life cycle on fresh or brackish water. The report of Normant et al (2002) about the status of the animal in the Gulf of Gdansk in the Baltic indicates otherwise. The authors report that the species is often taken in the open Baltic (still a partially enclosed body of water, but very open compared to a bay), and that finding berried females offshore is not uncommon. They also report that according to previous work off Finland the species breeds in the North Sea. Many of these waters are not fully saline for some or all of the year, but the report of *Eriochir sinensis* breeding in the North Sea bodes ill for us here in California. So far there has not been any indication of movement of the San Francisco Bay/Delta infestation into offshore waters. *Eriochir* was originally introduced into European waters in the 1930's however (or earlier according to some), and the current situation there is a long-term result. We must carefully watch this species in California waters, and not be complacent in its current restriction to estuarine waters and embayments. The Polish experience shows that the potential for offshore movement is present, if presently unfulfilled.

MINUTES OF 21 OCTOBER MEETING

SCAMIT members reviewed the monograph on the polychaete family Glyceridae by Markus Boggemann. He examined over 4000 specimens from around the world and concluded that of the 172 published species only 42 taxa remain valid. He includes a detailed exploration of glycerid biology,

illustrated with numerous SEM photographs and line drawings. The bulk of this large work contains the scoring of 63 anatomical characters and re-characterization of valid taxa. Each taxa represented includes a detailed written description, distribution map, anatomical line drawings, and SEM photos of the proboscoidal organs. Taxa names impacted by Boggemann's conclusions include several that are included in the 4th edition of the SCAMIT List. These are:

Glycera nana is considered *Glycera branchiopoda* and *Glycera capitata*.

G. nana and *G. capitata* have been the subject of several reviews discussed at SCAMIT over the last 20 years. SCAMIT has followed Hilbig's 1992 conclusion that *G. nana* is a valid taxa that fits our locally collected material and that *G. capitata* is also a valid taxa that may occur. The specimens Boggemann examined from the west coast are mostly deep material (600-1400 meters) with a single specimen near San Diego in approximately 25-80 meters. Material examined by Rick Rowe differed from Boggemann's representation. The proboscoidal organ in local material appears to have a groove instead of the ridge shown in Boggemann's illustrations. Local material also has longer neuropodial presetal lobes than notopodial lobes which represents an opposite condition from that presented by Boggemann. This local material also has smaller ventral cirri than Boggemann's description. After examining the *G. nana* syntype at the SCAMIT meeting and noting that our local material did not match, it was decided that a provisional SCAMIT species would be created with a voucher sheet.

Leslie Harris commented that *G. branchiopoda* was a valid taxa. It is likely only collected from very deep samples. She also commented that the dorsal and ventral podial lobes were extremely long and not likely to be mistaken as typical for any other local *Glycera*. A



specimen identified as *G. branchipoda* was examined. It was collected from 590 meters in the San Pedro Channel by CSDLAC and appeared to fit the description available in the MMS ATLAS. The parapodia were long with very long lobes that were thin walled tubular structures resembling branchial conditions. CSDLAC routinely samples at 300m and has yet to see *G. branchipoda* there.

Glycera americana is considered *G. pacifica*.

Boggemann concludes that *G. americana* has only 2 proboscoidal organ ridges, while *G. pacifica* has 3 ridges. Up until this separation the organ ridge count considered acceptable for *G. americana* included 2-3 such ridges. It is unclear if this diagnosis is reliable. Even the SEM of *G. americana* used by Boggemann (pg. 139) appears to have at least one organ with a partial 3rd ridge at its base. A specimen identified as *G. americana* from San Francisco was examined at the SCAMIT meeting and no clear ridges could be observed. With ordinary light microscopy the prominence of such ridges may be problematic, while material coated and prepared for SEM may more clearly show such features. Additionally, it should be noted that the holotype of *G. pacifica* is from the Society Islands, in 1-2 feet, between corals at a coral barrier reef. It is suspicious that such an animal would find mud in deep water a good habitat. SCAMIT members are interested in the organ ridge count and will begin a small project to examine their own *G. americana* material to create a table of ridge counts for comparison and later review. SCAMIT will continue to list *G. americana* until this review is complete.

Glycera tenuis is considered *G. oxycephala*.

Boggemann has expanded the definition of *G. oxycephala* to include specimens with 5-20 proboscoidal ridges, thus removing the diagnosis that 9-10 ridges and 13-14 ridges are conditions of species diagnosis. Specimens of *G. tenuis* have only 1 presetal lobe and do not

fit the *G. oxycephala* condition of two presetal lobes. SCAMIT has decided to continue listing *G. tenuis* as a separate taxa from *G. oxycephala* until further information is available.

Glycera convoluta is considered *G. macrobranchia*.

This change was previously reviewed by SCAMIT during creation of the 4th edition of the SCAMIT list and has been adopted. Members should be aware that several taxa with “fingernail” type proboscoidal organs have been described, so any identification of *G. macrobranchia* should include an examination of the parapodial lobes and possibly the aileron structure.

Hemipodus is considered a nomenclatural error and should be written *Hemipodia*.

Additionally SCAMIT members discussed that local reports of *G. dibranchiata* may occur, but are to be expected mostly in shallow, intertidal, or estuarine samples. *Glycera tessellata* has been occasionally reported, but is possibly not the same animal as the Mediterranean and Southern California specimens which have a different body pigmentation pattern. A local *G. tessellata* specimen collected from 305 meters was examined. It was darkly pigmented over its body with reddish brown and biannulate body segments. Mediterranean specimens of *G. tessellata* have dorsal podial lobes noticeably shorter than the ventral podial lobes, while the local specimen has the dorsal podial lobe longer than the ventral. Also this local specimen’s lobes appeared to be more angular in shape with more pointed terminal ends. Leslie Harris has seen live specimens of *G. tessellata* from the Mediterranean and they have a distinct body pigmentation that consists of a red diamond reticulation pattern, whereas live specimens of our local *G. tessellata* don’t have this. For now SCAMIT has decided to keep using the *G. tessellata* name while members collect more data and specimens even though this may eventually be a different taxa.



Boggeman reports the species, *Glycera lapidum* occurring in the Gulf of California and he examined several specimens from there. He also states that an epitokous specimen reported by Ehlers 1868 from Mendocino county as *G. capitata* actually belongs as *G. lapidum*. Currently no SCAMIT members have ever seen this species in any of our samples, but according to Boggeman it does occur to the north and south of us. Rick Rowe pointed out that it would be difficult to miss the distinct ornamentation on the proboscis organs.

Specimens of *Glycera rouxi* have been re-examined by Leslie Harris and determined to be *Glycera robusta*.

Glycera robusta remains a valid taxa with a reliable description.

Boggeman's massive work contains some of the best illustrations of glycerid anatomy in publication and has provided the most extensive review of the family to date. Unfortunately some of the taxonomic changes are not accompanied by a thorough explanation or discussion and thus do not provide a basis for the changes. For example: When Boggemann concluded that *G. tenuis* belongs within *G. oxycephala*, he merely stated: "the holotype has been examined....and is referred to *G. oxycephala*". It would be helpful to know what features on the holotype were found identical to *G. oxycephala*. If the *G. tenuis* holotype is different from its description, it would be helpful to know how it was different. Boggemann was recently asked why should Hilbig's 1992 conclusions about *G. nana* and *G. capitata* be ignored? He replied: "...the type material of *Glycera nana* from the Puget Sound show clearly that this taxa is identical with *Glycera capitata*....some of the California material by Hilbig...belong to *Glycera branchipoda*...and the other part might be *Glycera lapidum*..." Unfortunately he did not specify the basis for this conclusion and this makes it difficult when evaluating specimens, illustrations, and descriptions.

In conclusion, Ricardo Martinez Lara (CSD) has created a table to the common shelf-depth Glyceridae in Southern California. It is attached at the end of the NL.

In the afternoon, SCAMIT members were treated to not only a presentation by a PhD student, Ana Claudia from Brazil, but a wonderful black bean stew with pork and sausage that she made for lunch. Ana is studying the phylogeny of the polychaete group, Magelonidae. She has examined lots of material from Brazil and is currently looking at material at LACMNH. She is doing a cladistic analysis and a comparative study of 56 distinct characters of the group. She is also looking at the group's biogeography, particularly with regards to the Pacific and Gulf of Mexico. For her preliminary conclusions, Ana believes that Magelonidae genera should be organized based on new phylogenetic information and that some features traditionally used in Magelonidae taxonomy (example: horns) are not useful. She has come up with a new genus, *Octomagelona* and 3 new species from Brazil. One of these new species she showed us has "arcuate" setae present in all abdominal setigers. These are curved, half-circular internal spines in the lamellae with large blunt rounded ends. Each lamella has a curved spine and they are not joined together near the body wall. They are best viewed under oil. Her research should add a great deal of knowledge to what we already understand about the Magelonidae. We greatly look forward to reading her dissertation in the future.

The Secretary would like to thank Tom Parker (CSDLAC) and Cheryl Brantley (CSDLAC) for taking the minutes at October's meeting. This unenviable task usually falls on the competent shoulders of Kathy Langan (CSD), who I would also like to thank again and into perpetuity for her continued assistance with the minutes. Since "yours truly" "doesn't do polychaetes" and therefore abhors the idea of



trying to keep up and take minutes at such meetings, any and all help is greatly appreciated, trust me.

- M. Lilly, Secretary

NEWSLETTER NOTE

The reader will notice that the box on the last page now contains additional information concerning membership dues and benefits as well as SCAMIT's new, official mailing address at the LACMNH. We have also removed the former address from the front page. In the next couple of months we will be developing a "new look" for the Newsletter so keep your eyes peeled for changes and feel free to give us your opinion.

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

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

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Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Chey1 Brantley (310)830-2400x5500	cbrantley@lacsds.org

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.

The SCAMIT newsletter is published monthly and is distributed freely through the web site at www.scamit.org. Membership is \$15 for the electronic copy available via the web site and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All new members receive a printed copy of the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates ... in the Southern California Bight." The current edition, the fourth, contains 2,067 species with partial synonyms. All correspondences can be sent to the Secretary at the email address above or to:

SCAMIT

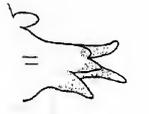
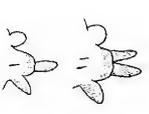
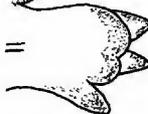
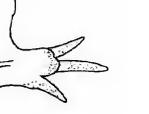
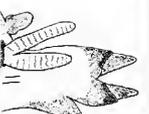
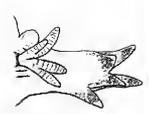
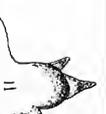
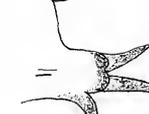
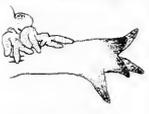
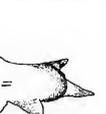
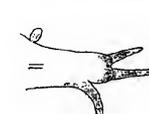
C/O The Natural History Museum, Invertebrate Zoology

attn: Leslie Harris

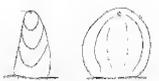
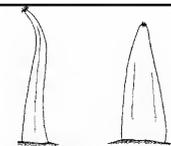
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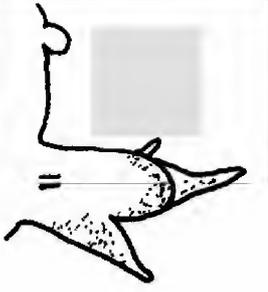
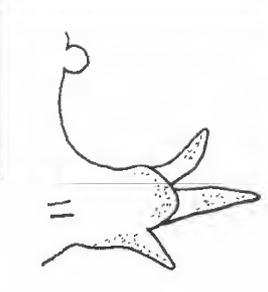
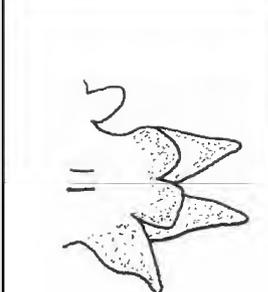
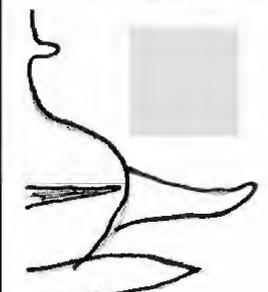
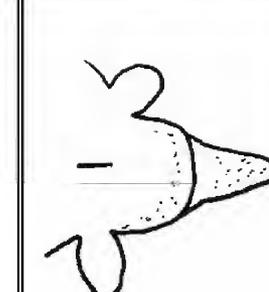
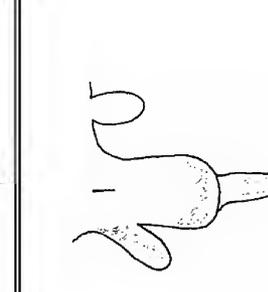
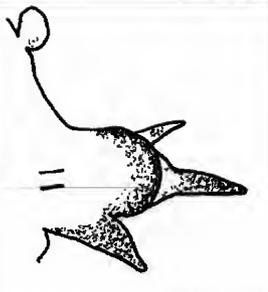
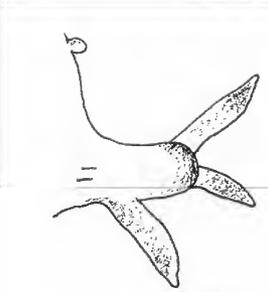
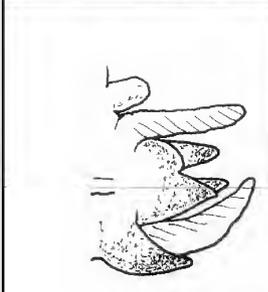
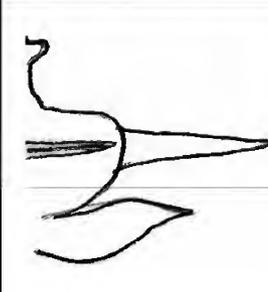
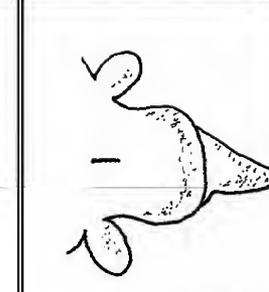
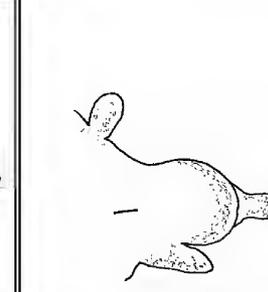
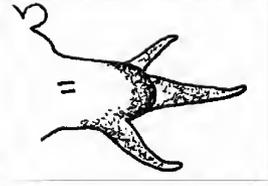
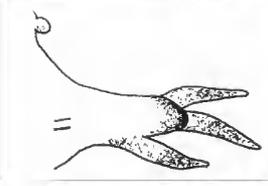
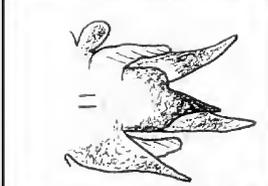
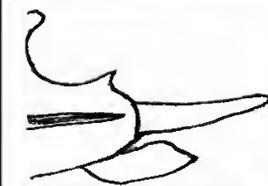
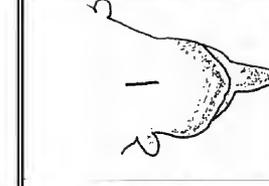
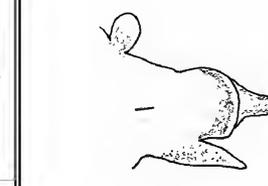
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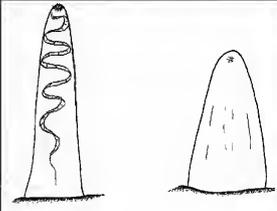
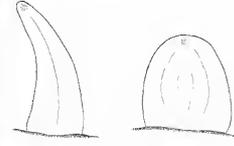
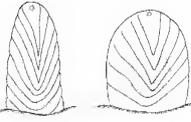
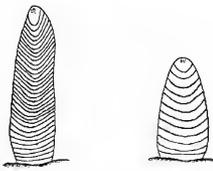
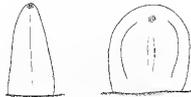


	<i>G. pacifica</i> Kinberg, 1865	<i>G. americana</i> Leidy 1855	<i>G. sp BB</i> (San Diego)	<i>G. capitata</i> Ørsted 1842 (= <i>G. nana</i>)	<i>G. oxycephala</i> Ehlers 1887	<i>G. sp C</i> (Harris)	<i>G. robusta</i> Ehlers 1868	<i>G. tessellata</i> Grube 1863	<i>G. macrobranchia</i> Moore 1911 (= <i>G. convoluta</i>)
Annotations from SCAMIT meeting 21Oct02	<ul style="list-style-type: none"> •Check presence of 2 or 3 ridges on proboscis papillae. This character is potentially difficult to verify, or may be unreliable. Ideally other corroborating characters should be established. According to Böggemann <i>G. americana</i> has 2 ridges, and <i>G. pacifica</i> 3 on proboscis papillae. •Review before adopting <i>G. pacifica</i>. 		<ul style="list-style-type: none"> •SD material differs from Böggemann's <i>G. capitata</i>. Proboscis papillae with groove instead of ridge. Longer neuropodial than notopodial pre-setal lobes, and smaller ventral cirri as opposed to <i>G. capitata</i>. SD material does not match, <i>G. nana</i> syntype. 		<ul style="list-style-type: none"> •??Böggemann synonymy with <i>G. tenuis</i>. San Diego does not report <i>G. tenuis</i> (1 pre-setal lobe), but <i>G. oxycephala</i> (2 pre-setal lobes) is common. •Check for variant condition fide Harris = <i>Glycera</i> sp C from Bahía de Todos Santos. 		No change in species concept.	<ul style="list-style-type: none"> •Harris notes SoCal. <i>G. tessellata</i> may not be the same as Mediterranean specimens, based on live material observations. 	Adopted in SCAMIT 4 th Ed. Species list
Anterior ppd (*All figs from Böggemann, 2002), except where noted	 Fig. 85d, p. 136	 Fig. 88d, p. 138	 Fig. 16d, p. 90	 Fig. 22d-e, p. 94	 Fig. 52d, p. 114	 Fig. 37d, p. 104	 Fig. 106d, p. 150		
Median ppd	 Fig. 85g, p. 136	 Fig. 88g, p. 138	 Fig. 16g, p. 90	 Fig. 22g, p. 94	 Fig. 52g, p. 114	 Fig. 37g, p. 104	 Fig. 106g, p. 150		
Posterior ppd	 Fig. 85j, p. 136	 Fig. 88j, p. 138	 Fig. 16j, p. 90	 Fig. 22j, p. 94	 Fig. 52j, p. 114	 Fig. 37j, p. 104	 Fig. 106j, p. 150		
Branchiae	Retractile, dendritic (emerge from posterior face of ppd)	Retractile, dendritic (emerge from posterior face of ppd)	Absent	Absent	Absent	Absent	Non-retractile, blister-like	Absent	Non-retractile, digitiform
Dorsal cirrus	On body wall Proximal	On body wall Proximal	On body wall distant	On body wall distant	Proximal on base of parapodium	Proximal on base of parapodium-triangular	On body wall Proximal	On body wall distant	On body wall Proximal
Pre-setal lobes	2	2	2 subequal	2	2-subequal	2-Superior very short	2	2	2
Post-setal lobes	2	2	1	1	1	1	2	2	2 (only 1 in Anterior)

* Böggemann, M. 2002. Revision of the Glyceridae Grube 1850 (Annelida: Polychaeta). Abh. Senckenberg. naturforsch. Ges. 555. 1-249.

	<i>G. pacifica</i> Kinberg, 1865	<i>G. americana</i> Leidy 1855	<i>G. sp BB</i> (San Diego)	<i>G. capitata</i> (= <i>G. Nana</i>)	<i>G. oxycephala</i> Ehlers 1887	<i>G. sp C</i> (Harris)	<i>G. robusta</i> Ehlers 1868	<i>G. tessellata</i> Grube 1863	<i>G. macrobranchia</i> Moore 1911 (= <i>G. convoluta</i>)
Annulations per segment (mid-body)	2	2	3	3	3	2	2	2	2
Proboscival papillae type; and # of lateral ridges	2 Types: 1.-Numerous conical with 3 U-shaped ridges; 2.-Isolated oval to globular without ridges	2 Types: 1.-Numerous conical with 2 U-shaped ridges; 2.-Isolated oval to globular without ridges		2 Types: 1.-Numerous digitiform with straight median, longitudinal ridge; 2.-Isolated oval to globular without ridges	2 Types: 1.-Numerous conical with 5-20 ridges with straight medianlongitudinal ridge; 2.-Isolated oval to globular with 4-11 ridges	~9-10	2 Types: 1.-Numerous conical with 4-9 ridges with straight medianlongitudinal ridge; 2.-Isolated oval to globular with 4-8 ridges	2 Types: 1.- Numerous digitiform with straight median, longitudinal ridge; 2.-Isolated conical with median, longitudinal ridge	3 Types: 1.-Numerous with terminal fingernail; 2.- Less numerous conical; 3.-Isolated oval to globular without ridges
Proboscival papillae	 Fig. 85b, p. 136	 Fig. 88b, p. 138		 Fig. 16b, p. 90	 Fig. 22b, p. 94		 Fig. 52b, p. 114	 Fig. 37b, p. 104	 Fig. 106b, p. 150

	<i>G. lapidum</i> Quatrefages 1866	<i>G. branchiopoda</i> Moore 1911	<i>G. dibranchiata</i> Ehlers 1868	<i>G. sp</i> LA 1 (Parker)	<i>Hemipodia californiensis</i> (Hartman 1938)	<i>Hemipodia simplex</i> (Grube 1857) (= <i>Hemipodus borealis</i>)
Annotations from SCAMIT meeting 21Oct02				Figures and character scores provided by Tom Parker •Possibly could be missidentified as <i>G. sp</i> BB (San Diego). Note: Dorsal cirrus on body wall distant from parapod.	Note nomenclatural change	Note nomenclatural change
Anterior ppd (*All figs from Böggemann, 2002), except where noted	 Fig. 19d, p. 92	 Fig. 25d, p. 96	 Fig. 58d, p. 118	 Fig. 133d, p. 168	 Fig. 127d, p. 164	 Fig. 127d, p. 164
Median ppd	 Fig. 19g, p. 92	 Fig. 25g, p. 96	 Fig. 58g, p. 118	 Fig. 133g, p. 168	 Fig. 127g, p. 164	 Fig. 127g, p. 164
Posterior ppd	 Fig. 19j, p. 92	 Fig. 25j, p. 96	 Fig. 58j, p. 118	 Fig. 133j, p. 168	 Fig. 127j, p. 164	 Fig. 127j, p. 164
Branchie	Absent	Absent	Non-retractile, simple digitiform	?	Absent	Absent
Dorsal cirrus	On body wall distant	On body wall distant	On body wall proximal	On body wall	On body wall proximal	On body wall proximal
Pre-setal lobes	2	2	2	?	1	1
Post-setal lobes	1	1	2	1	1	1

	<i>G. lapidum</i> Quatrefages 1866	<i>G. branchiopoda</i> Moore 1911	<i>G. dibranchiata</i> Ehlers 1868	<i>G. sp LA 1</i> (Parker)	<i>Hemipodia californiensis</i> (Hartman 1938)	<i>Hemipodia simplex</i> (Grube 1857)
Annulations per segment	3	3	2	3	3	3
# of Ridges on Proboscis papillae	2 Types: 1.-Numerous digitiform with undulating ridge; 2.-Isolated conical to oval without ridges	2 Types: 1.-Numerous digitiform with straight, median longitudinal ridge; 2.-Isolated oval to globular without ridges	2 Types: 1.-Numerous conical with 4-8 ridges; 2.-Isolated oval to globular with 3-6 ridges	2 Types No ridges	2 Types: 1.-Numerous digitiform with 9-40 U-shaped ridges; 2.-Isolated oval to globular with 7-15 U-shaped ridges	2 Types: 1.-Numerous digitiform with straight, median longitudinal ridge; 2.-Isolated oval to globular without ridges
Proboscis papillae	 Fig. 19b, p. 92	 Fig. 25b, p. 96	 Fig. 58b, p. 118		 Fig. 133b, p. 168	 Fig. 127b, p. 164



Southern California Association of Marine Invertebrate Taxonomists

Dec 02/Jan 03

SCAMIT Newsletter

Vol. 21, No. 8/9

SUBJECT:	The Genus <i>Spiophanes</i>
GUEST SPEAKER:	Dr. Karin Meissner
DATE:	14 March 2003 - Friday
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	LACMNH - Polychaete Collections Room 900 Exposition Blvd.



Rudilemboides stenopropodus
Male and female
Image by D. Pasko (CSD)

MORE LOSSES

Once again it is our sad duty to bring to your attention the death of several very prominent researchers; one local and one not. The first is Dr. Wheeler J. North who died of leukemia on 20 December of last year. Those of us fortunate enough to have known and worked with Wheeler over his long career (and there are a large number of biologists, algologists, ecologists and divers whose paths intersected his), knew that he was one of the family. When I was at MBC Applied Environmental Sciences he was part owner, collaborator on kelp survey work, and father of my co-worker Wheeler O. North. Of recent years Wheeler O. married Robin Gartman and she acquired "Big Wheeler" as her father-in-law. Many of us also heard Wheeler speak at conference after conference as he passed on his accumulated wisdom and experience to yet another generation of investigators. His pioneering work with the ecology and natural history of kelp beds remains to help us all. His recent

memorial service was held at the Orange County Ocean Institute at Dana Point Harbor on Saturday 22 February. All California coastal science workers are in his debt to one degree or another. He will certainly not be forgotten, but will be fondly remembered and missed by many. He was 80 at the time of his death.

The other loss is more recent; that of the ostracodologist Richard Benson, who died the morning of February 19th of an apparent heart attack. He was Curator of Ostracod(e)s at the Smithsonian Institution.

Interested parties are directed to the OSTRACON list server for a continuing series of reminiscences and comments on his life and regrets of his loss.

NEW BOOKS

- Thanks to Tim Stebbins (CSD) for providing the following information:

The first volume of CONTRIBUTIONS TO THE STUDY OF EAST PACIFIC CRUSTACEANS is now available and can be obtained from Michel E. Hendrickx for 25 US\$ in Mexico and Latin America, and 35 US\$ elsewhere, plus shipping cost. Shipment will be through regular air mail, book rate, unless the buyer requests special shipment (EXPRESS mail, special delivery service, etc...).

Request should be sent by e mail (michel@ola.icmyl.unam.mx) by FAX (addressed to Michel E. HENDRICKX, FAX 669 – 9 – 82 61 33) or by mail (Michel E. HENDRICKX, ICML – UNAM, P.O. Box 811 Mazatlan 82000 Sinaloa, Mexico). Please indicate your name, postal address or street address, FAX number, number of copies requested and the type of shipment we should use (regular air mail, DHL, UPS, etc ...).

The first volume content and instructions to authors for the second volume are now available at the following web site:

<http://ola.icmyl.unam.mx>

“Someone also just sent me a copy of the book listed below, which may be relevant to those interested in crustaceans and/or introduced species. I’ll have it available for perusal at the Jan 21 meeting here in San Diego. – T. Stebbins”

Galil, B., C. Frogliã, and P. Noël. 2002. CIESM Atlas of Exotic Species in the Mediterranean. Vol. 2. Crustaceans: decapods and stomatopods. [F. Brand, Ed.]. 192 pages. CIESM Publishers, Monaco. ISBN: 92-990003-2-8

NEW LITERATURE

Acrobatic Digital Images

Jerry Sedgewick from the University of Minnesota has produced another helpful article on digital image methods in Microscopy Today. This article features the use of Adobe Acrobat to handle images and produce TIFF files. Below is a brief summary.

He recommends the use of the full Acrobat version as best for maintaining and controlling original resolution. He has found this is superior to relying on plug-ins from other programs. Acrobat also can be used to make files from programs such as PowerPoint and Excel into TIFF files.

When making files in Acrobat, do not use the Save or Export feature as this results in compression. Instead only have the files “Printed” to Acrobat. The resulting drop down box includes print of “acrobat distiller” or “create adobe PDF”. Always choose “create adobe PDF” if this option is available.

You will need to search through the Acrobat settings tools under “Options”, “Settings”, or “Edit” until you find the dialogue box that includes “downsampling”. Uncheck the “downsampling” box and save these settings.



Search also for the tab that sets “Color or Grayscale” and correctly specify.

When creating files from PowerPoint or Word documents containing images, you likely will need to create PDF files page by page. Change the print options to “Background printing” to direct machine resources to the printing.

Once “printed” to a PDF file, it can be opened in Acrobat or PhotoShop for inspection and to set resolution between 300-400 dpi. The screen resolution is much less and displays reductions in clarity for some horizontal lines and small lettering. Zoom to see these features of the underlying file.

You may save the file as a PDF with the “Save As” command or as a TIFF. When choosing TIFF be sure to check the compression button to “None”.

If the resulting file is too large for the final use, a copy can be saved as a JPEG in PhotoShop. Choose the “Quality: Maximum” slider when using this feature.

Some problems may occur. “Bulleted” items may be converted to symbols due to the odd font used to create “bullets”. Use the Text Touch Up tool in Acrobat to delete any symbol and the Circle Tool to make “bullet circles”. Some images, drawings, or objects may be shifted or lost. This is more common when files are transferred between PC and Mac operating systems. Original images may have to be reinserted or the PDF can be opened in PhotoShop and re-saved as a “PhotoShop PDF”. – Tom Parker (CSDLAC)

FORMALDEHYDE FACTS

Also from Microscopy Today, is a concise review of formaldehyde penetration and fixation reactions. Below is a brief summary.

Formaldehyde penetrates tissue rapidly, but chemically “fixes” tissues slowly. Peter Medawar (Noble Prize winning immunologist and author of “Memoirs of a Thinking

Radish”) studied penetration rates using plasma clots and determined that fixatives obey diffusion laws, where penetration is proportional to the square root of time. Thus the formaldehyde constant is 27.5 mm of tissue penetration in 25 hours. Denser tissues likely take somewhat longer. Lipid levels in cell membranes appear to reduce penetration rates. Results from other tissues produced penetrations of 18 mm in 25 hours and 3.9 mm in 25 hours. Using the more conservative rates, penetration rates are likely:

1 hour = 3.6mm
9 hours = 10.8 mm
16 hours = 14.4 m
100 hours = 36 mm

Fixation rate is actually a combination of both penetration and binding time. Using carbon-14 labeled formaldehyde, equilibrium binding occurred in 24 hours at 25 C, but took only 18 hours at 37 C. When using tissues of brain and kidney as thick as 8mm, equilibrium was not reached until 50 hours. Formaldehyde fixes by reaction with basic amino acids (e.g. lysine and arginine) resulting in hydroxymethyl groups capable of forming stable methylene lines between proteins. This creates the cross-linking termed fixation.

Both 1mm and 4mm tissue slices reach minimum stabilization in 24-25 hours at ambient temperatures. This is not complete fixation as the fixation cross-links are relatively weak and can be reversed by water or alcohol. Opinions on complete tissue fixation range from 48 hours to 7 days.
– Tom Parker (CSDLAC)

MEMBERSHIP RENEWALS

It has recently been decided by the SCAMIT Officers and those members that attended the “Future of SCAMIT” meeting in February that starting this year membership renewals will be due once a year in May. This is the beginning of our fiscal year and this will hopefully simplify the renewal process for not only the



Treasurer but all members. This also allows SCAMIT a general yearly operating budget with which to plan major expenses. General reminders will be posted on the website and in the newsletter and if members haven't renewed by the end of May, separate personal reminders will be sent in June. Since the majority of our membership renews between April and June we feel this change will impact the least number of members. If you have just recently renewed we will give you 4 - 5 months of free membership, so your membership would last until May of 2004. New members may join at any time and will be informed of our annual dues then.

It has always been SCAMIT's policy not to drop members late with their dues, especially long term members. This will continue. As always if this presents any sort of difficulty for anyone please contact the Treasurer, Cheryl Brantley (cbrantley@lacsds.org or 310-830-2400 ext. 5500) directly to see what can be worked out.

SCAMIT WEB WORLD

We have been noticed. SCAMIT web is currently listed on the NOAA web site (U. S. Dept Commerce) as an "Oceanography Resource". SCAMIT appears and is described in the Electronic Journal Miner web site. SCAMIT is also listed as a resource by Hypography- Gateway to Sci-Tech, the Journal of International Wildlife Law and Policy, and the National Biological Information Infrastructure (part of USGS). In keeping with this international influence, SCAMIT has just been added by UNESCO (United Nations) to its International Oceanographic Commission (IOC) directory.

– Tom Parker (CSDLAC)

JANUARY MINUTES

Don Cadien opened the meeting at the request of Kelvin Barwick who was unable to attend as he was out sampling in the field. Kelvin had sent Don an email listing of things he wanted

mentioned. First, he thanked LACMNH for providing space for SCAMIT's collections. He also wanted to thank Tom Parker (LACSD) and his fellow officers for helping with the move.

Secondly, Don will be making a preliminary assessment of our literature collection and is hoping to get everything into Procite. Eventually the goal is to establish some sort of lending policy for the members.

Tim Stebbins (CSD) then had the floor and reviewed some of the plans for the upcoming Bight'03 project. More details will be given on this in the February newsletter as this issue was raised again at that meeting and covered in detail by Dave Montagne.

Don Cadien then had the floor and started the Crustacea meeting. The purpose of this meeting was to review the deeper water fauna that might potentially be encountered during this summer's Bight project. He passed around hand-outs which accompanied his presentation and which have been included below. Some additional notes and comments have been added which were discussed at the meeting.

Introductory Comments

While preparing for this meeting I reviewed the literature regarding the division of the offshore environment by depth. There was little agreement as to zone boundaries or nomenclature. I decided to adopt divisions that seemed to match what we see locally in terms of change in communities with depth. I suggest the following:

Sublittoral zone – 2-200 meters. Essentially the continental shelf. While the shelf break (where the angle of the bottom changes, and depth increases more rapidly with increasing distance from shore) can be as shallow in some areas as 80m, by 200m we have reached the outer edge of the shelf throughout the Bight.



Archibenthal transition zone – 201-800m. The upper slope. Change in community is gradual, with no dependable break points independent of local topography.

Archibenthal zone – 800m-2000m. The middle and lower slope.

Abyssal zone – 2000m-6000m. The abyssal plains and their shoreward aprons.

Hadal zone - >6000m

The existence of the Southern California Borderland with its complex topography of basins, canyons, sea valleys, banks and islands complicates this classification somewhat since we view the “slopes” as ending at the rims of the nearshore basins. The shallowest nearshore basin has a sill depth of 735m, so we typically conceive of the slope as ending at these basins. Only the upper slope does, the descent continues at the seaward edge of the Borderland, with nearly all mid and lower slope zone located seaward of the Patton Escarpment.

We are currently concerned then with only the upper slope.

Arthropods of the Upper Continental Slope of the Southern California Bight: A Resource guide.

Donald B. Cadien, CSDLAC, 21 January 2003

With Bight '03 sampling scheduled for this year, the Quality Assurance process for taxonomic identifications which SCAMIT performed in previous regional monitoring efforts must begin. Plans are not finalized, and technical committees have yet to meet, but sampling on the upper Continental Slope as well as the Continental Shelf is anticipated. In Bight'98 sampling extended no deeper than 200m, with few sites near that depth. Projected sampling for Bight'03 will extend down to 500m. Since the biota of slope and shelf differ, and POTW monitoring programs seldom sample the slope, taxonomists participating in B'03 will need to familiarize themselves with

new animals. The CSDLAC sampling grid incorporates a line of stations at 305m, so we have become familiar with some of the slope fauna. The material presented below will draw on that experience as well as slope sampling associated with other programs. Two goals will be pursued: presentation of the known arthropod fauna of slope depths in the Bight and adjacent portions of the Eastern Pacific, and presentation of a bibliography of relevant source articles on which participating taxonomists can draw.

The fauna of the slope, especially the upper slope, shares many species with the outer Continental Shelf. There is no clear line of demarcation between the two, and change is gradual along the gradient of increasing depth. There are special assemblages interspersed along the general soft-bottom gradient, such as the pavement/coarse sediment assemblage which occupies the current-swept shelf break below which the slope begins. Other variants are also associated with differences in bottom topography and/or sediment type (such as the “deep water coarse” assemblage identified in SCBPP data). General population trends with increasing depth from the shelf to the slope are decrease in abundance (see Barnard 1966) and decrease in average size of individuals. More and more of the arthropod diversity will be missed with increasing depth as adult size of many species approaches mesh size of the 1mm screens used on shelf depth sediment samples in virtually all programs. This was demonstrated by use of nested 1.0mm and 0.5mm screens in some previous programs. The effect was particularly noticeable with peracarid crustaceans; less so with polychaete worms, mollusks, and echinoderms.

The fauna of the Bight reported by previous investigators in the literature, or sampled directly in the CSDLAC deep stations (305m), will be presented below by taxonomic group,



with range information if available. Species whose distribution reaches no shallower than 200m are included, as are those which occur as shallow as 500m.

Pycnogonida

Ammothella setosa

Nymphon stipulum

Ostracoda

no additional species known from local slopes not already represented on the shelf

Copepoda- no comment

Cirripedia

no additional species known from between 200-500m (see Pilsbry 1907, 1916)

Leptostraca

no additional species known from this depth segment in the SCB

Stomatopoda

no additional species added to shallow water biota

Mysida

only bathypelagic species added in this depth range

Cumacea

Diastylis sp C

Diastylis quadriplicata

Eudorella redacticurris

Leucon armata

Leucon bishopi

Leucon declivis

Leucon magnadentata

Leucon sp G

Leucon sp J

Tanaidacea

no additional taxa added in this depth range to the list from the shelf (see Dojiri & Sieg 1997)

Isopoda

Ananthura luna

Belonectes sp A

Caecognathia sanctaerucis

Desmosoma sp A

Eurycope californiensis

Ilyarachna profunda

Metacirolana joanneae

Momedossa symmetrica

Munna magnifica

Munnopsurus sp A

Nannonisconis latipleonis

Paramunna quadratifrons

Prochelator sp A

Amphipoda

Ampelisca furcigera

Bathymedon kassites

Bathymedon vulpeculus

Byblis bathyalis

Harpiniopsis emeryi

Harpiniopsis epistomata

Harpiniopsis naiadis

Heterophoxus affinis

Leptophoxus falcatus icelus

Liljeborgia cota

Melphidippa amorita

Mesometopa neglecta roya

Monoculodes glyconica

Monoculodes latissimanus

Paraphoxus oculatus

Pseudharpinia excavata

Uristes californicus

Valettipsis dentatus

Decapoda

Calocarides quinqueseriatus

Calocarides sp A

Discussion of the Species

The species identified above as members of the upper slope fauna will not all be familiar to you, particularly the provisional species. They will be discussed below by group:

PYCNOGONIDA – Shelf and upper slope species are the same for the most part. Two species are added in the 200-500m portion of the slope which interests us here. Child's 1994 paper deals with species from much greater depths, and is not applicable to the current bathymetric zone.



Ammothella setosa. Poorly described by Hilton (1942) and more completely redescribed as *Ammothella killix* (Dojiri et al 1991). The synonymy was established during reexamination of Hilton's types by Child 1996. The species is known to occur at 366-372m, but the depth of Hilton's type lot has not been established.

Nymphon stipulum has been taken but once, off the northern Channel Islands in 375m. Child (1990) provides good illustrations and differentiates his new species from other *Nymphon* species.

CUMACEA – Bodotriids are generally shallow water (with vaunthompsonines being an exception), as are lampropids. Nannastacids are usually at shelf depths, although they also range down to the upper slope. All of the slope taxa not also known at shelf depths in the SCB come from either the Diastylidae or the Leuconidae. In terms of literature, the cumacean descriptions in the MMS Atlas are brief and lacking in detail. Use the keys and descriptions with a grain of salt. In regards to the Leucons, also see Cadien's SCAMIT key from 1986 which includes the provisional species mentioned here. If voucher sheets are needed, contact Don Cadien.

Diastylis sp C was originally taken from the LA 2 Dump Site in 197m. It has subsequently been taken off Palos Verdes just to the west of the original capture site. A voucher sheet was prepared and is available to those who have not seen this form. This provisional species is not discussed or illustrated in any published source.

Diastylis quadriplicata was originally known as *Diastylis* sp E, and later described by Watling & McCann (1997). The form is not yet recorded from the SCB, but occurs in the adjacent Santa Maria Basin. The depth range in the literature is 290-310m, but additional specimens were taken as shallow as 180m.

Eudorella redacticruris was also described by Watling & McCann (1997), from off the northern Channel Islands at 430m.

Leucon armatus was described by Given (1961), and SEMs are also presented in Watling & McCann (1997). Although it can be taken in waters shallower than 200m, it is mostly distributed lower on the slope. This species has fewer records than any other of the local *Leucon* species. These congeners are distributed in overlapping bathymetric ranges descending from the shelf down the slope, with each species first co-occurring with its predecessor, then replacing it at greater depths.

Leucon bishopi was originally referred to locally as *Leucon* sp. B, then as *Epileucon* sp. B, and finally as *Leucon (Crymoleucon) bishopi*. Records in the SCB are centered around 500m, with specimens from about 1000m in the Santa Maria Basin to the north. The species is discussed in Watling & McCann 1997.

Leucon declivis was known as *Leucon* sp. H prior to its description by Watling & McCann (1997). It is a very large species which is distributed throughout the SCB, and also to the north. The majority of records are centered around 400m, but the species also has been taken as deep as 1000m.

Leucon magnadentata Given 1961, overlaps much of the bathymetric distribution of *L. declivis*. Although it also occurs as shallow as 100m, it is typically taken at about 400m and deeper. Poorly represented in the SCB, it is quite common just to the north in the Santa Maria Basin. Its relative scarcity in our area may reflect only a lack of samples at appropriate depths. SEMs of the animal are available in Watling & McCann (1997).

Leucon sp. G MBC 1985 § was erected during the Santa Maria Basin project, and proved common in the area to the north of Pt. Conception. Several lots of specimens from the investigations of submarine canyons along



the California coast (Hartman 1963) identified as *Leucon* nr. *subnasica* may prove to be *L.* sp G on further examination. Only three verified records of the taxon in the SCB currently are known; two around 400m and one at approximately 700m. A voucher sheet is available. The species is included in the key prepared for a SCAMIT meeting back in 1986, as are all the leuconids discussed.

Leucon sp J Cadien 1985 § was also first noted during the Santa Maria Basin project, but remains represented by few individuals. It has not yet been taken in the SCB, and the few specimens known originated off Diablo Canyon in Central California at 406m. This is quite similar to *L. magnadentata* in most respects, but can be differentiated in both sexes by the truncation of the lower portion of the rostrum.

Given the broad continuity of the slope biota at these depths, it may show up in the SCB. A voucher sheet is available illustrating the carapaces and a few other details of both sexes.

ISOPODA – In the bathyal and abyssal zones, asellote isopods become particularly prominent in the isopod fauna. General handbooks for NEP isopods which include the slope fauna are those of Schultz (1969) and Kussakin (1979, 1982, 1999).

Although it has been taken as shallow as 70m within Santa Monica Canyon, normal distribution of the anthurid *Ananthura luna* is much deeper. The species was discussed and keyed by Cadien and Brusca in their SCAMIT handout on the group. The original description, as *Bathura luna*, is in Schultz (1966). An over all comment with regards to literature on the Isopods; the MMS Atlas is very valuable, however its focus is on males. As for Schultz, 1969, Don hesitates to use its key, but draws on it for illustrations. Be wary as the publication is saddled with errors and much of the taxonomy associated with the

illustrations is out of date. There is also no discussion or description of species. In summary, it is a good resource for narrowing an animal down to a few choices.

***Belonectes* sp A is described as such in Wilson 1997. This species has been taken once off Palos Verdes at 305m. It is otherwise known from about 400m in the Santa Maria Basin.

Caecognathia sanctaecrucis (= *G. hirsuta* of Schultz 1966, not of Sars) is discussed in Wetzer and Brusca (1997) as *Gnathia sanctaecrucis*. It occupies the zone we are projected to sample, with the type locality at 226m. The key provided by the above authors will separate this form from other local gnathiids. It was transferred from *Gnathia* to *Caecognathia* by Cohen and Poore (1994).

Desmosoma sp A is also illustrated and described in Wilson 1997. The desmosomatids are a deep water group, and only begin to show up in the SCB near 200m. They are also small, and tend not to be retained on 1mm screens because of their size and elongate shape. This species is currently known only from the Santa Maria Basin, but probably also occurs locally. Also see Hessler, 1970.

***Eurycope californiensis* was originally described by Schultz from canyon samples at 478m. You can either consult the original description (Schultz 1966) or use that provided by Wilson (1997). It is presently known from Newport Canyon to the Santa Maria Basin.

Ilyarachna profunda is typically found deeper, but does occur in 400-500m depths in the SCB. Care must be exercised that specimens not be confused with *Ilyarachna acarina* which have had many or most of their pereonal spines knocked off. Briefly illustrated and keyed in Schultz 1969, with the original description in Schultz 1966. Carefully clean sediment from these animals as the spines come off easily.



Metacirolana joanneae was listed by Schultz in 1964, but not described until 1966 (as *Cirolana*). It was originally taken at 218m in the Santa Cruz Canyon in central California, but also occurs in the SCB. It is broadly distributed but limited to deeper waters.

Momedossa symmetrica is another desmosomatid which occurs in the SCB. Schultz (1966) described the taxon, illustrating a female. A male is illustrated by Wilson (1997). Originally described in *Desmosoma* by Schultz, it was transferred to his new genus *Momedossa* by Hessler (1970).

Munna magnifica is still known only from the type lot taken at 500m south of Santa Barbara Island. Schultz's 1964 original description provides the only illustrations. While sharing very long legs with *Munna* sp A (see Wilson 1997), it can be distinguished from that species easily by its concave frons and posteriorly narrowed pleotelson.

***Munnopsurus* sp A, described and illustrated by Wilson (1997) has been taken once at 305m off Palos Verdes. It is otherwise known from 393-582m in the Santa Maria Basin, and is common at 732m in a sample from the Oregon slope.

Nannonisconus latipleonus is a rare animal, with two specimens known. The type came from 465m in the Redondo Submarine Canyon. It is also known from the Santa Maria Basin at 294m. Schultz (1966) illustrates and describes the type, and Wilson (1997) illustrates and describes the second specimen. Siebenhaller and Hessler (1981) provide additional information on the genus which remains monotypic as *Nannonisconus carinatus* Mezhev 1986 appears to be a synonym.

Paramunna quadratiformis was described from 197m in the SCB (Iverson & Wilson 1981). It has been taken again somewhat deeper (about 450m) also within the SCB. The original description is quite adequate to identify the animal, if any of us are fortunate enough to

find it again during B'03. *Paramunna* sp A is found on the shelf rather than on the slope. It is differentiated from *P. quadratiformis* on the SCAMIT voucher sheet. See the SCAMIT web-site, taxonomic tools, for this sheet.

Prochelator sp. A is quite common in SCB samples, reportedly occurring as shallow as 154m. In the Gulf of the Farallones it is also common at depths of 2900-3000m (Wilson 1997). This third desmosomatid can be easily separated from *Desmosoma* and *Momedossa* by its parachelate pereopod 1. Wilson (1997) warns of another undescribed *Prochelator* found in the Gulf of the Farallones, and provides characters which should allow its separation if it also occurs on the slope in the SCB. These animals are small and are common on .5mm screens; only seen occasionally on 1.0mm screen samples.

** - compare these three images side by side as they are relatively similar animals.

AMPHIPODS - No comments will be offered on the amphipods on the list, as all come from references which we use routinely to identify shelf species. All the additional forms in the 200-500m slope bathymetric band are described, with descriptions and illustrations (and often keys) available for their identification. Phoxocephalids predominate (7 of 18 species), with 4 oedicerotids, 2 lysianassoids, 2 ampeliscids, a liljeborgiid, a melphidippid, and a stenothoid also among the listed forms.

DECAPODS – There are few additions to the shelf taxa among the decapods. Bathymetric distributions of decapods can be reviewed in Wicksten 1989.

Calocarides quinqueseriatus is taken occasionally off Palos Verdes at 305m which is close to the minimum depth recorded for this species of 288m (Martin & Zimmerman 1997).



It is keyed, along with the remaining SCB thalassinids, in the SCAMIT handout on the group. It has been taken from Point Sur in central California, to Palos Verdes.

The provisional *Calocarides* sp A is listed as *Calocarides* sp in Martin & Zimmerman (1997), who illustrate salient characteristics. The species was taken originally at 394m in central California, and has since been taken once off Palos Verdes at 305m.

ADDITIONAL AMPHIPOD NOTES

Dean Pasko (CSDMWWD), Don Cadien (LACSD), Lisa Haney (LACSD) Tony Phillips (CLAEMD) and Jim Rooney (CLAEMD) met to address the problem of *Rudilemboidea stenopropodus* vs *Rudilemboidea* sp Hyp1 and *Rudilemboidea* sp A. The group met at the Los Angeles County Museum of Natural History where the type specimen of *R. stenopropodus* J.L. Barnard 1959, as well as many other specimens examined by Dr. Barnard, reside. Upon careful examination of many specimens, the group determined that *R. sp Hyp1* was actually a large, more mature specimen of *R. stenopropodus*. The original type specimen of *R. stenopropodus* is a damaged, immature male specimen. During their examination of the type, the group also discovered that Dr. Barnard had apparently missed one important character in his original examination and description of *R. stenopropodus*. It turned out that the type specimen does possess ventral processes on the sternum of several pereonites. The omission of this characteristic from the original description has been the cause of some confusion for years. Lisa Haney and Jim Rooney are now working on a re-description of *R. stenopropodus* based upon material recently collected during the Southern California Bight (SCB) regional sampling efforts.

In addition, Dean Pasko and Lisa Haney have been working on the formal description of *Rudilemboidea* sp A SCAMIT 1998. This animal definitely represents a distinct species, and quite possibly a new genus. The characters

of *Rudilemboidea* sp A seem to fall somewhere between the genera of *Acuminodeutopus* and *Rudilemboidea* (see the *R. sp A* voucher sheet). Lisa is in the process of conducting a cladistic analysis to determine *Rudilemboidea* sp A's place within the Aoridae.

The often difficult and confusing genus *Americhelidium* (Amphipoda: Oedicerotidae) was also discussed. Taxonomists at the City of San Diego Marine Biology laboratory have been recognizing two species of *Americhelidium* over the past several years that had previously been identified as one, *A. shoemakeri*. The description of *A. shoemakeri* is not detailed enough to distinguish among the two forms occurring off San Diego, CA. *Americhelidium* sp SD1 and *Americhelidium* sp SD2 look very similar to *A. shoemakeri*, but differ from each other in two readily recognizable characters. First, *Americhelidium* sp SD1 has a pair of long, erect setae located dorsally along the posterior margin of pleonites 2, 3, and 5. These setae are generally equal to one-half the length of their respective pleonite/ urosomite. In contrast, in *Americhelidium* sp SD2, these setae are either absent or very small (i.e., less than one-fifth the length of the pleonite or urosomite). Secondly, the propod of gnathopod 2 is more robust (L:W = 5 – 6) and sparsely setose in *Americhelidium* sp SD1. There are typically 0 – 3 setae along the ventral margin and 0 – 3 setae along the dorsal margin; excluding the distal most bundle of setae located at the junction between the propodus and dactyl. In *Americhelidium* sp SD2, the propod of gnathopod 2 is more slender (L:W = 8 – 9) and more setose (3 – 7 ventral marginal setae, and 2 – 4 dorsal setae). Dean Pasko will be making an effort to examine the type material in order to sort out the problem these three species present. In the meantime, Dean will produce provisional voucher sheets to help other taxonomists working in the SCB distinguish among the two provisional species.



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

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

President	Kelvin Barwick (619)758-2337	kbarwick@sandiego.gov
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5500	cbrantley@lacsds.org

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SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

attn: Leslie Harris

900 Exposition Boulevard

Los Angeles, California, 90007





Southern California Association of Marine Invertebrate Taxonomists

February, 2003

SCAMIT Newsletter

Vol. 21, No. 10

SUBJECT:	Eulimidae
GUEST SPEAKER:	Discussion leader - Kelvin Barwick
DATE:	14 April 2003
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	City of San Diego Marine Biology Lab 4918 N. HarborDr. suite 201

FEBRUARY MEETING MINUTES



"Perigonimus" sp
ID by J. Ljubenkov
Commensal on *Aphrodita armifera* Moore, 1910
CSD - B9(1), 10/3/02, 98 m
Image by K. Barwick 20DEC02

The February meeting began with president Kelvin Barwick thanking SCCWRP for hosting the meeting and providing the delicious bagels and other goodies. Upcoming meetings were then announced. The April meeting will be held on the 14th at the City of San Diego Marine Lab and will focus on Eulimids. May 12 will have Paul Scott hosting a pre-bight'03 meeting series, by reviewing the deeper water bivalves, at the SBMNH.

Kelvin then called for nominations for next year's officers. Megan Lilly nominated Kelvin Barwick for president and the motion was seconded. Shortly thereafter Kelvin nominated the current suite of officers and this motion was seconded as well.

Dave Montagne (CSDLAC) then had the floor. He reviewed the coastal ecology component of the Bight '03 project. It looks very similar to the B'98 study, with 11 strata being considered.

The major areas being investigated are open coast, which would include five depth ranges; 5-30m, 30-120m, 120-200m, 200-500m, and 500m-1000m. This last, deepest contour will only be sampled for chemical analyses, not biological. The other strata are, Islands, Harbors, large and small POTW's, and Estuaries. The Island component contains 30 sites, but at this point, does not include Catalina. The Harbor area has been divided into Marinas and Ports and other bay bottoms.

An interesting additional investigation this year will be analyzing tissue chemistry from forage fish, which includes, anchovies, sardines, and *Loligo opalescens* (obviously not a "fish", but being studied just the same). These animals will be sub-sampled from commercial catch and tested for toxins.

Cheryl Brantly, our fearless treasurer, then gave us an overview of SCAMIT's financial status and it looks good. She passed around a summary of our accounts and we are solvent and maybe even slightly ahead (some of this is due to our cost reduction in production of the newsletters, and from t-shirt and mug sales). Let's hope this trend continues as it will allow us to potentially provide more publishing grants or perhaps small student grants. Cheryl has also moved the financial accounts from Excel into Quicken. She asks that you give her advance notice if you are going to need a large sum of money as most of our funds are in a CD account and she doesn't keep much in the checking account.

Kelvin then brought up the idea of printing SCAMIT business cards that would have our web address and perhaps a mission statement. Many people ask about SCAMIT and these cards would be a quick, efficient method for giving them a way to tap into more information.

Since the real purpose of the meeting was to brainstorm and discuss future directions for SCAMIT there are no minutes, per say, to report. What follows is a summary of topics

that all those present thought were worth further investigation. Being taxonomists we immediately grouped into four broad categories. Then after some friendly persuasion and arm-twisting, small ad hoc committees of two or more people were formed to establish the feasibility of what was proposed. Each report should contain as many specifics as possible. How much will it cost? What kind of staff is required? How long would it take or will it be ongoing? What does SCAMIT, as an organization, have to do? Is it even possible? In short, what will it take to make the proposal(s) become a reality? Each ad hoc committee will bring their proposals forward in about six months to a second general meeting of the membership that will include the executive committee. Each ad hoc committee should come with a short written summary to be included in the newsletter minutes. (ed note - each topic and committee is listed below with the main points to be investigated and is then followed by the ideas which created these categories. – M. Lilly)

Funding for SCAMIT

Kelvin Barwick, Cheryl Brantley, and Christina Thomas: a) grants - NSF, Sloan, Peet, etc, b) B'03 committee funds, c) hire staff to achieve long term goals.

It was suggested that if we succeeded in getting a grant, some of this money could be funneled to students who are studying local fauna.

Taxonomy Database

(Much of what follows builds on an ongoing effort by member Rick Rowe (CSD) who has been investigating and evaluating taxonomic database software for SCAMIT (see Vol 20 no. 4) as well as the CSD laboratory.) Rick Rowe and Shelly Walther: a) incorporating the species list into a database system, b) include NAMIT's species list (potentially), c) add ecology, descriptive taxonomic data, and the index to the species list, d) add list-server information to the database and the newsletter, e) look into creating unified data formats.



We need to build an online taxonomic database with the SCAMIT species list. This could include taxonomy, species characteristics, distributional maps and/or ranges and diagnostic images of the selected species. Also we should develop an online illustrated key for identification of selected invertebrate groups. The necessity of eventually getting much of our information into Delta or Biolink was raised. At this point the idea of hiring a consultant to do this work was discussed, since it is a full time job in of itself. It was thought that perhaps SCAMIT could apply for either a NSF or a SLOAN grant to help cover this cost. It was pointed out that actually a student would probably need to apply for the grant, using the SCAMIT databasing issue as their project.

An additional item that needs to be investigated is having SCAMIT decide on the best format for reporting data. For example, the regional format that is used at HYP is different than what MEC uses. It is difficult to compare two data sets in different formats using electronic means.

Recruitment/Training

Lisa Haney and Ron Velarde: a) outreach at all levels of education, b) teacher workshops, c) scholarships, science fair awards, etc., d) support research and training at the graduate level, e) attend and sponsor taxonomic seminars, f) conduct workshops on the science of taxonomy, g) encourage research on local fauna.

There was a general consensus among members present and those who sent in emails that there is a real need for training new people to be our next generation of taxonomists. There is a drastic decline in the number of people willing and able to do the science of taxonomy and in funding for those who do. As well, we need to try to develop a plan to entice more undergraduates and graduates into marine invertebrate taxonomy. Outreach programs that would work with public schools were also mentioned. Not just at the college level but

elementary through high school students as well. The idea being to at least give students a general idea of what taxonomy is, and how it can be an employable skill (perhaps leave the more sophisticated info and employment details for high school level). SCAMIT could also host and fund taxonomy workshops for public school teachers so that they can return the message and information to their classrooms. There was also the idea of small scholarships for graduating high school students. A survey of local schools to find out which ones currently have taxonomy programs would help assess the current situation.

Advocacy

Megan Lilly and Lisa Haney: a) taxonomic certification (Rick Rowe and Tony Phillips), b) poster and prepared speech to promote the SCAMIT model, c) general promotion, d) professional development, e) publishing our own journal (Shelly Walther).

The overall concept of advocacy was revisited. It was broken down into the following components: 1 - validation, 2 – attending conferences, 3 - taxonomic certification, 4 – creating a poster to promote taxonomy and SCAMIT, 5 - support for NAMIT, 6 - SCAMIT publishing its own journal. It was suggested that SCAMIT could hold seminar series, with topics being such subjects as, “Opportunities in Taxonomy” and “Applied Science aspects of Taxonomy”. For professional development we thought about having workshops on preparing publications. We were reminded by a member of SCCWRP that SCAMIT sets a regional standard for taxonomy and that we need to market ourselves more as the basic underpinning for these large scale investigative projects, such as the Bight and EMAP projects.

Newsletter Modifications

This will be addressed by the Executive Committee. Some subjects to be investigated are: More frequent updates of the index. Having the newsletter consist, if necessary, of just meeting minutes and future meeting



announcements, etc, and then having quarterly contributions of things such as, literature reviews, general taxonomy discussions, etc. There will also be deadlines established for contributions to assist with getting the newsletter out in a more timely fashion (obviously anything of interest submitted prior to the deadline will be included). It was also discussed that we have some minor presentation guidelines, requiring that a speaker at a meeting, at the minimum, give the secretary an outline or notes on the presentation to assist her with the minutes. The issue of one column versus two column format was raised, with most of the electronic members present requesting a one column format. This will also be further investigated by the committee.

It was suggested that the newsletter have a section that reports on list server activities. This will commence its trial run in next month's newsletter.

Other general notes

It was requested that SCAMIT establish guidelines or a template for voucher sheet formats and post them on the website. This would help standardize the way information is presented for provisional species.

The problem of in-house provisional species versus SCAMIT provisional species needs to be addressed. Dave Montagne (CSDLAC) offered to print a list of the provisional species now in the Species List and it will be sent to Kelvin. There will be a coordinated effort to SCAMIT'ize in-house provisional species from the various agencies.

In summation, Tom Parker agreed to review the present SCAMIT constitution and by-laws to bring them up to date. The changes would then be voted on by the membership.

CALL FOR NOMINATIONS

Here ye, Here ye, Here ye, we are officially calling for nominations for SCAMIT officers. If you have someone you'd like to nominate other than those people mentioned in the above

minutes, please contact any of the officers and tell them of your nominee, or there is always a "write in" space on the ballot. Candidate statements and ballots will be included in the next newsletter (March). Please be sure to vote this year.

PYCNOGONIDA REQUEST

"Dear All,
We are currently working on the first 'big' attempt to propose a molecular phylogeny of the Pycnogonida or commonly called sea spiders. These are fascinating, bizarre small arthropods, usually cryptic and not abundant. However, they inhabit all marine habitats around the world and this is why I am kindly asking for your collaboration.
In case you find pycnogonids in your samples, e.g. trawlings, dredging, associated to molluscs, echinoderms, washings of algae or intertidal samples, etc, I would enormously appreciate you could keep and preserve any specimen in 90% Ethanol and refrigerated. These creatures are difficult to find and not very well-known so collaboration from marine invertebrate specialists or basically anyone going out to the sea is very much appreciated. I can run with shipping charges and any other costs.
I hope to hear from any of you soon, any relevant information or assistance would be greatly appreciated and any collaboration would be acknowledged as it corresponds. Please excuse the liberty I've taken sending this email through the E-lists.
My best wishes to all,
Claudia P. Arango
Division of Invertebrate Zoology
American Museum of Natural History
Central Park West @ 79th St.
New York, NY 10024-5192 USA
1-212-769-5614 (Voice)
1-212-769-5277 (Fax)
E-mail: carango@amnh.org"



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Treasurer	Cheryl Brantley (310)830-2400x5500	cbrantley@lacs.org

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900 Exposition Boulevard

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Southern California Association of Marine Invertebrate Taxonomists

March, 2003

SCAMIT Newsletter

Vol. 21, No. 11

SUBJECT: Pre-Bight'03 Information Meeting on Deeper Water Bivalves

GUEST SPEAKER: Paul Scott

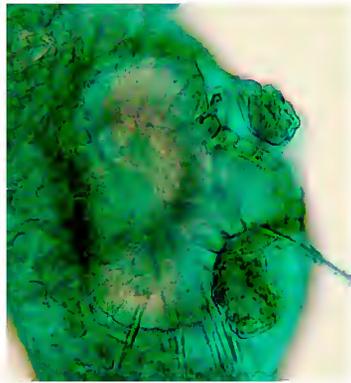
DATE: 12 May 2003

TIME: 9:30 a.m. to 3:30 p. m.

LOCATION: Santa Barbara Museum of Natural History (for directions go to their website listed below)

<http://www.sbnature.org>

MARCH MINUTES



Chaetal spreader from the 5th parapod of a new species of *Spiophanes* being described by Karin Meissner. Image by R. Rowe, Mar03.

The meeting was held at the Los Angeles County Museum of Natural History worm lab. President Kelvin Barwick opened the meeting by asking if there were any nominations for officers. Since there weren't, he moved on to upcoming meetings. On May 12th, the topic will be a pre-Bight information meeting on deeper water bivalves, led by Paul Valentich Scott, at the Santa Barbara Museum of Natural History. On June 9th, the topic will be a pre-Bight information meeting on deeper water Cnidaria and Taxonomic Nomenclature, led by John Ljubenkoy, at the San Diego Lab. On July 14th, the topic will be a pre-Bight information meeting on deeper water echinoderms, led by Megan Lilly, at the San Diego Lab. On August 11th, the topic will be a pre-Bight information meeting on deeper water polychaetes, led by Larry Lovell, at SIO or San Diego Lab (to be determined). Kelvin asked for volunteers to lead future meetings.

We then reviewed Tom Parker's voucher sheet of *Poecilochaetus* sp A. It will be distributed in the newsletter soon.

Tom then passed around a handout entitled "Short Course and Workshop on Computer-Assisted Image Analysis and Measurement" which outlines a course that generally follows the sequence of topics in "The Image Processing Handbook" (3rd edition, John C. Russ, CRC Press, Boca Raton, 1998). The main topics this course covers are Image Acquisition and Storage, Image Processing, Discrimination, Measurement, and Interpretation. For more information, see

<http://members.aol.com/ipcourse>

Tom passed around his voucher sheet of *Arabella endonata* Emerson 1974. He believes this is the species they are getting at Los Angeles County, which was previously being identified as *A. iricolor*.

Tony Phillips reported a distinctive specimen of *Trichobranchus* found in a sample from Goleta. It is similar to specimens of *Trichobranchus* which he found from Catalina Island. Leslie Harris now has the specimen for examination and further identification.

Tom brought in a couple of pieces of literature that may be of interest. The first is: Salen-Picard, Chantal, Denise Arlhac and Elisabeth Alliot, 2003. "Responses of a Mediterranean soft bottom community to short-term (1993-1996) hydrological changes in the Rhone River" in *Marine Environmental Research* Vol. 55 Issue 5:409-427. The other is a Medline abstract: AC Roach, AR Jones, and A. Murray. "Using benthic recruitment to assess the significance of contaminated sediments: the influence of taxonomic resolution" in *Environmental Pollution*, January 1, 2001; 112(2):131-143.

Leslie Harris then introduced our speaker for the day, Karin Meissner from "IFAO" and Rostock University, Germany. Until recently she had worked on a post-doc with Pat Hutchins on the genus *Spiophanes*. According to the last revision of the genus by Maciolek, 2000 there are 13 species and 1 subspecies of *Spiophanes* worldwide. This number will increase considerably with the publication of Karin's paper. Five diagnostic characters and their usefulness in species identifications were discussed. Prostomial shape can range from bell-shaped to sub-triangular to having horns. It can be used to a certain degree in species identification, and Karin concluded that this character is of limited usefulness. The shape of the nuchal organs is species specific and of high importance in identification. The third character discussed was genital pouches. This is a presence/absence character. Genital pouches develop in juveniles, so they are present from a small size and are a good character to use. The neuropodial hooks are of limited usefulness. Karin has examined hooks on many specimens with SEM and found that they are quadridentate, and the position of the pair of uppermost teeth can vary. These hooks are very difficult to access accurately under the light microscope, and consequently, there are some incorrect reports in the literature based on light microscopy. The fifth character is bacillary setae. Karin examined these setae with SEM and concluded that observed differences only represent different states of condition/preservation of these structures. It was concluded that they cannot be used for species identifications.

Söderström 1920 concluded that bacillary setae are used as sort of a brush to distribute mucous secretions during tube construction. These setae extend from an opening in the parapodia, and Karin has discovered that the shape of this opening is species specific. She uses the term chaetal spreader to describe the tongue-like



structure representing the opening of the glandular organ. She has found the chaetal spreader to be an important diagnostic character.

There are five morphological types of chaetal spreaders: 1) simple horizontal slit, 2) "0+1" with semicircular opening (is sometimes heart-shaped), 3) "0+1" with undulate opening, 4) "1+2" with undulate opening, and 5) "2+3" with undulate opening.

Karin then reviewed several species of *Spiophanes* that are included in her manuscript. *Spiophanes kroyeri* Grube 1860, *Spiophanes fimbriata* Moore 1923, *Spiophanes lowai* Solis-Weiss 1983, *Spiophanes berkeleyorum* Pettibone 1962, *Spiophanes duplex* (Chamberlin 1919), *Spiophanes bombyx* (Claparede 1870), *Spiophanes wigleyi* Pettibone 1962, *Spiophanes anoculata* Hartman 1960 as well as three newly described species.

After lunch we studied specimens. The animals were first stained with methyl green. We focused particularly on viewing the chaetal spreaders since it was a character with which most of us were not familiar. We examined two specimens identified as *S. fimbriata* from Los Angeles County Sanitation Districts, station 2A, at a depth of 300m. One specimen had a "0+1 type" chaetal spreader, and Karin confirmed the identification as *S. fimbriata*. The other specimen however had a "2+3 type" chaetal spreader and was identified as one of Karin's new species. Characters that are traditionally used by SCAMIT members to identify *S. fimbriata*, e.g. ventral stain pattern, prostomial shape and presence of occipital antenna, were identical in the specimen of the new species.

Next we examined a specimen of *S. berkeleyorum* from the LACM collection 5027-57. On setigers 5-7 the specimen had a "1+2 type" chaetal spreader which is distinct for *S.*

berkeleyorum. Another distinct feature of *S. berkeleyorum* is the shape of the nuchal organs (see above) which were easily visible with methyl green stain.

We then looked at a specimen of *S. kroyeri* from the LACM collection, LH02-425, from Sweden. It had the "0+1 type" chaetal spreader with a semicircular opening. We noted that the ventral stain pattern was very similar to that of *S. fimbriata*. Both *S. kroyeri* and *S. fimbriata* have ventrolateral intersegmental genital pouches, although there is a slight difference in the setiger number where they start.

A specimen of *S. wigleyi* from City of San Diego (station B-1 Rep 1, 7-13-88, 210 ft., RV) was up next. The prostomium was oval-shaped, and the nuchal organs were dorsal loops. The chaetal spreader on setigers 5-8 was in the shape of an indistinct horizontal slit.

The next specimen was *S. duplex* which had the "2+3 type" chaetal spreader most easily visible on setigers 5-7. The specimen was from LCH-AHF V.5702.

Then we examined some slides of neuropodial setae under the compound scope. In *S. fimbriata*, two types of neuropodial setae are present, striated and granulated. These were somewhat difficult to differentiate under the compound scope

Many thanks to Karin Meissner for her well organized and informative presentation. We look forward to seeing her upcoming publication.

ELECTION TIME!

It's that time again. Unfortunately we have fallen behind (again) in newsletter production so the candidate statements and ballots are being distributed late. However, please take the time to look them over and cast your vote. The ballot is attached at the end of the newsletter and will be due by May 31st. Remember, write-in candidates are always welcome...



CANDIDATE STATEMENTS**PRESIDENT**

Kelvin Barwick

I graduated with a B. S. degree in wildlife and fisheries sciences from Texas A&M University in 1983. Currently I work for the City of San Diego's Ocean Monitoring Program as a marine biologist/taxonomist. My taxonomic specialties are Mollusks and Polychaetes. In the past I have worked both as an independent taxonomic consultant, and for private environmental consulting firms, accumulating over 14 years experience in invertebrate taxonomy. I have been an active participant in SCAMIT for over 10 years and served as its Secretary in 1991-92. I hope to continue to develop our goals and plans for the future.

VICE-PRESIDENT

Leslie Harris

Collections manager of the Allan Hancock Foundation Polychaete Collection, at the Los Angeles County Museum of Natural History. Ongoing research centers on taxonomy of the polychaete fauna of Pacific North America, polychaete-algal associations (especially in *Macrocystis*), introduced species, and Caribbean reef polychaetes.

SECRETARY

Megan Lilly

Graduated from Humboldt State University in 1991 with a B.S. in Marine Biology. From 1991-1993, worked at the Santa Barbara Museum of Natural History where the taxonomy of marine mollusks was studied under Dr. Eric Hochberg, Paul Valentich Scott, and Henry Chaney. Currently working as a marine biologist for the City of San Diego's Ocean Monitoring Program. Specialties include echinoderms, miscellaneous phyla and mollusks with an emphasis on cephalopods.

TREASURER

Cheryl Brantley

Cheryl is a marine biologist with the County Sanitation Districts of Los Angeles County. She has worked for the Districts for 16 years

primarily as a polychaete taxonomist. She graduated with her B.A. degree in Aquatic Biology from the University of California, Santa Barbara in 1985. She has formerly served as Secretary of SCAMIT from 1994-98.

MEMBERSHIP RENEWALS

Please remember all membership renewals are due in the month of May. Please make all checks out to SCAMIT and send to the Treasurer:

Cheryl Brantley
JWPCP – Marine Biology Lab
24501 S. Figueroa
Carson, CA 90745

Also include with your check any changes to your address, email, phone number or specialty. If you would like a current membership directory please don't hesitate to ask. We are not mailing out individual hardcopy directories unless members request them to help save on postage.



BIBLIOGRAPHY

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SCAMIT Treasury Summary 2002-2003

During the past fiscal year April 2002 – March 2003 expenses totaled \$2589.16 while our income, mainly from membership dues (\$1929.00) totaled \$2801.42. We actually made a small profit this year of \$212.26. As usual, our major expense came from the hard copy publication of the newsletter. We have reduced the costs associated with that publication a little this year by finding a less expensive printer in the San Diego area. We have also decided not to purchase any more letterhead stationery for the printed newsletter and will just use the paper the printer supplies. We had some extra expenses this year associated with our 20 year reunion party but we also recouped some of those costs by selling newly designed T- shirts and some of our SCAMIT mugs. We had no publication grants awarded this year only an honorarium. It was given to Karen Meissner from Rostock University for all the extra effort she put into a wonderful polychaete lecture at the Natural History Museum. SCAMIT remains solvent thanks in large part to all its loyal members. We hope to increase our assets this fiscal year as we pursue some new funding resources. Listed below is a summary of our expenses and income.

Account Balances

Checking	\$1238.56
Certificate of Deposit	<u>\$9363.42</u>
Total	\$10,601.98

Expenses

Hardcopy newsletter	\$827.32
Letterhead – Stationery Supplies	\$272.17
Postage	\$352.59
Electronic newsletter	\$334.85
20 year Reunion party	\$154.75
Reunion T-shirts	\$547.48
Honorarium	<u>\$100.00</u>
Total	\$2589.16

Income

Membership dues	\$1929.00
Bank interest	\$231.42
T-shirt & Mug sales	<u>\$641.00</u>
Total	\$2801.42



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

SCAMIT OFFICERS:

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President	Kelvin Barwick (619)758-2337	kbarwick@sandiego.gov
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5500	cbrantley@lacs.org

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Volumes 1 - 4 (compilation).....	\$ 30.00
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SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

attn: Leslie Harris

900 Exposition Boulevard

Los Angeles, California, 90007

BALLOT FOR SCAMIT OFFICERS 2003-2004

Vote for one (1) nominee for each office. Please mail or return completed ballot to Leslie Harris by May 31st, 2003. You may return it to the Secretary or other attending officers at the May meeting. The address to mail it to is:

Attn: Leslie Harris
Worm Lab
Los Angeles County Museum of Natural History
900 Exposition Blvd
Los Angeles, CA 90007

President - The president presides at all meetings and represents SCAMIT in external business affairs.

___ Kelvin Barwick

___ Write in: _____

Vice-President - The Vice-President chairs ad hoc committees, supervises the specimen exchange, tabulates election ballots, and fills in for the President as necessary.

___ Leslie Harris

___ Write in: _____

Secretary - The Secretary keeps minutes of the meetings, is responsible for the newsletter, and preparation of the ballots.

___ Megan Lilly

___ Write in: _____

Treasurer - The Treasurer collects dues, makes disbursements, keeps financial records, and makes an annual statement of the financial status of SCAMIT.

___ Cheryl Brantley

___ Write in: _____





Southern California Association of Marine Invertebrate Taxonomists

April, 2003

SCAMIT Newsletter

Vol. 21, No. 12

SUBJECT:	Pre-Bight Information Meeting on Deeper Water Cnidaria
GUEST SPEAKER:	Discussion Leader - John Ljubenkov
DATE:	9 June 2003
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Dancing Coyote Ranch (contact Megan Lilly for directions)

APRIL MINUTES



Prometor sp LA1 in situ

Photo: Tom Parker, CSDLAC Marine Biology Lab

The morning began with Kelvin Barwick discussing upcoming meetings. June 9 will be a Pre-Bight information meeting on deeper water Cnidaria, and Taxonomic Nomenclature by John Ljubenkov at Dancing Coyote Ranch. Email or call Megan Lilly for directions. July 14 will be another Pre-Bight information meeting, this one on deeper water echinoderms, conducted by M. Lilly at the City of San Diego's Marine Lab. And finally, on August 11, Larry Lovell will hold a Pre-Bight information meeting on deeper water polychaetes. This meeting will also be held at the City of San Diego Marine Lab.

Next to have the floor was Don Cadien, who wanted to discuss the concept of "specialist taxonomy" for the upcoming Bight'03 project. He feels that this option benefited the data during the B'98 project and seems worthwhile to do a second time. He recommended the following groups be identified by a specialist -

all Anthozoa, which has subsequently been given to John Ljubenkov for ID, and the Aplacaphorans, which Don has volunteered to do with help from Kelvin Barwick. The following three groups were also suggested as an area for specialization - nemerteans, enteropneusts and polyclads. To date, Tony Phillips of CLAEMD has offered to do the polyclads. The nemerteans and enteropneusts will be tackled individually by each participating agency. A meeting to gather the nemertean workers for a pre-survey workshop is in the planning stages. We need to coordinate our efforts and decide what we can and cannot do to guarantee comparability of generated data for the regional effort.

The question of screen size for field processing of benthic samples was raised for consideration during the planning phase of Bight'03. LACSD has already run some trial tests using both 0.5mm screens and 1.0mm screens.

Comparison of the community retained on the two suggested the effort required for 0.5mm samples is greater than the benefit of the data gathered. A parallel test run by CSD reached a similar conclusion. CLAEMD was not able to perform a comparison, but found the 1.0mm fraction in their area in deep samples similar in quality and quantity to that seen in the other two areas. The reason that this option was considered at all is that declining community density with depth had the potential to make sampling in the newly added stratum of 200-500m a problem in multi-habitat comparisons. It was feared that catch would be too low on a 1.0mm screen to provide unbiased analytic results, with deep samples combining with inner harbor samples, to form a depauperate group in analysis. The results of the comparison allay these fears considerably, and show that adding the fraction of the community which passes a 1.0mm screen but is retained on a 0.5mm screen would not offer much additional resolution. A brief discussion then arose as to whether we shall be using the Bight Listserver established by SCCWRP for the last Bight project, or if we would be using the

SCAMIT listserv to distribute information and questions regarding the project. It was decided that we will probably use the SCCWRP Bight server and "CC" the SCAMIT listserv.

Ron Velarde (CSD) then proceeded to tell us about the Marine Bioinvasions Conference at Scripps that he attended and presented at, earlier in the month. According to Ron, the primary theme of the meetings was early detection; how to develop techniques to discover invaders quickly and dispose of them as effectively as possible.

A second theme was the biology of the invasions themselves; what vectors are being used for transportation and the actual life history and biology of the invaders? One interesting subject was the technique of "molecular detection", where molecular markers are used to identify an invader and its place of origin. For example, an invasive Whelk found in Chesapeake Bay was thought to have been introduced from Japan, which is its native habitat. However, molecular marker work revealed that the animals actually had come from the Baltic, where they had previously been introduced.

In addition to animals, algal invasions have become a big area of concern. In Hawaii invasive algae is harming coral reefs. And, we've all heard of the *Caulerpa taxofolia* scare and the damage it can cause in an environment.

NEW SCAMITeer

SCAMIT Member Bill Power (LACSD) and his wife Kimberley had their 3rd child, a daughter, named Charlotte Ainsley. She was over 9 lbs at birth, which is pretty average for the Power kids. Younger siblings Mac and Darby are very excited by the birth of a new baby sister. All are doing well. A big "Congratulations" to the whole family.



MEMBERSHIP RENEWALS

Just a reminder. The month of May is now our membership renewal month. For those of you that sent your checks in we greatly appreciate it and thank you very much. For those of you who have perhaps lost your calendars (or stylus for your palm pilot) would you please take a minute to write a check. SCAMIT greatly depends on your monetary contributions. We decided to switch to a single renewal month to make it easier for everyone to remember. We hope the small response we have received so far is just due to this transition phase. Please don't hesitate to let us know if there is some other reason why you aren't renewing other than forgetfulness (which we all suffer from at times and do understand). We welcome all feedback. It can only help us improve.

Thank you,
Cheryl Brantley
SCAMIT Treasurer

BIGHT '03 INTERCALIBRATION

The first set of Bight'03 Intercalibration Trawls have finally been completed. The initial attempt on the 28 of March was memorable. On a blustery day with clouds rushing overhead we set out from Los Angeles Harbor with a full load of participants, about 21 including staff and guests, on the R/V Ocean Sentinel. The sea was rough, still suffering from recent storm events. Unfortunately, on our way out to our first trawl at 500m depth the weather freshened, and by the time we reached our selected trawl site the wind was howling with gusts in the 40-50mph range and heavy wind whipped surface chop. Although the vessel was being tossed about quite a bit (not to mention the participants, who were holding on for dear life) we set the net and did our first tow. Several of the participants were cheered by watching me get drenched by waves breaking over the side of the vessel and by water thrown over the cabin from waves breaking on the bow. I stayed out on deck because the cabin was not only very crowded,

but there was less to get thrown into in the open. I was soon wind-dried anyway. In that first tow, which was successfully retrieved, we had a fair selection of organisms from the middle slope depth stratum at 500m. These included the barrel anemone *Liponema brevicornis*; the lithodid crab *Glyptolithodes cristatipes*; the holothurian *Pannychia moseleyi*; the asteroids *Leptychaster* ? sp., *Thrissacanthias penicillatus*, and *Ceramaster leptoceramus*; the echinoids *Brisaster latifrons*, *Brissopsis pacifica*, and *Allocentrotus fragilis*; the cephalopod *Octopus californicus*; the galatheid crab *Munidopsis depressa*; and the shrimps *Bentheogennema burkenroadi*, *Spirontocaris sica*, *Pasiphaea californica*, *Pasiphaea emarginata*, and *Sergestes similis*. A selection of fish were also taken including both species of thornyheads, Dover sole, northern lamp-fish, California grenadier, Pacific hake, and dog-faced witch eel.

With conditions so rough that on-deck photography was like a keystone cops routine, and most people just happy to stay vertical we headed back into the dock for a very abbreviated day. After regrouping and selecting a day to complete this first intercalibration effort we went back to sea on 1 May. Conditions had improved markedly, and nearly the same complement of participants as on the first attempt experienced smooth sailing. We completed trawls at 200m, 140m, 80m, 60m, 40m, and 20m along a transect extending towards Angel's Gate along the west side of the San Pedro Sea Shelf. The invertebrate catch is listed in the attached spreadsheet. A second Intercalibration Trawl series will be conducted on 10 June at nearly the same sites. A trawl taxonomy meeting will also take place on 28 May at SCCWRP, where the identity of the encountered species, and those which might be reasonably expected to additionally occur, will be reviewed. We should be ready to tackle our trawling effort when we head out to sea during the index period later this year. A Quality Assurance bucket test is being created based on recently taken and archival specimens that



should verify our readiness. As in B'98, the voucher collection resulting from trawls will be reviewed by the team of Jim Allen (SCCWRP), Ron Velarde (CSDMWWD), and Don Cadien (CSDLAC).

- Don Cadien (CSDLAC)

NEW KID IN THE BLOCK?

For several years we have been taking mudstone chunks from the bottom off Palos Verdes during our regular sampling. Tom Parker has been assiduous in breaking apart these soft blocks of bottom to search for burrowers living inside. He has extracted a number of polychaete species, and occasionally an interesting echiuran. Previous attempts to relax and preserve these delicate worms have not been successful; they have disintegrated in relaxant. In our most recent outing we encountered mudstone substrate at several stations again, and this time extracted echiurans with more success. Animals were preserved in formalin without relaxation in the field and did NOT drop their spoons in the process. With animals in hand in the laboratory it became possible to determine their identity. They belong to the genus *Prometor*, a bonelliid echiuran lacking a bifid spoon (see Stephen and Edmonds 1972). There are two local species; the generotype *P. benthophila* of Fisher 1948 and *P. pocula* of Hartman & Barnard 1960. They are included in Thompson's 1986 Key to the Echiura of Southern California, and are listed in his treatment of echiurans in Straughan and Klink 1980 (with reversed authorship for the two *Prometor*, unfortunately).

At first glance our specimens seem most closely allied to *P. pocula* (originally described as *poculum* but emended by Stephen and Edmonds) in that they have distally spatulate setae and a cucumber shaped body rather than pointed setae and a pear shaped body as in *P. benthophila*. They do differ in several respects, however, and I am treating them as new (*Prometor* sp LA1) until I can make a

definite connection with *P. pocula* by examination of the holotype at the Los Angeles County Museum of Natural History. Our specimens were sampled from 102m and 139m this time, but have been taken at 150m previously. The other species are known from limited material in much deeper water; 1670m (*P. pocula*) and 1955m (*P. benthophila*).

Our specimens are much smaller than either the types of *P. benthophila* (110mm body length) or the type of *P. pocula* (95mm body length), ranging from 8 – 14mm in body length. They also have much longer spoons, which are 1 1/4-4 times the body length preserved. Unlike the type of *P. pocula* as illustrated in the original description, the spoon does not increase markedly in width terminally, and also lacks the lobe-like expansions illustrated by Fisher (1949) for *P. benthophila*. In our specimens the spoon is nearly linear, expanding only slightly beyond the basal width over its length. The basal cup characteristic of *Prometor* is evident in the photograph of the live animal *in situ* and in our preserved material.

The present specimens have a structure not described by either Fisher or Hartman & Barnard, a lateral glandular opening atop a prominent, rounded tubercle near the top of the body. These paired tubercles (one on each side in each specimen) are undescribed in the other two species, and in the diagnosis and discussion of the genus provided by Stephen and Edmonds. Their function may become clear once full dissection is undertaken.

Perhaps the most interesting feature of these animals is their boring habitat. Their U-shaped burrows are almost certainly self-formed; they fit them perfectly as you can see in the *in situ* photograph (see cover photo). Neither of the local described species of *Prometor* is known from burrows. The worms are not visible from outside the burrow except as the spoon, which exits the burrow mouth and can be expanded over the adjacent surface, or into the water. A spoon from a second animal can be seen lower



in the photograph, and that of the animal whose burrow has been opened disappears out of the burrow mouth at the top. Living coloration is strongly reminiscent of *Arhynchite californica*, a dark red brown overlain by forest green anteriorly. The spoon is translucent white, with more opaque white margins.

If you happen to bring up bored mudstone in trawl sampling, you might make an effort to see if these guys are also present in your area.
– Don Cadien (CSDLAC)

SPECIMEN REQUEST

The following was received earlier. I am passing it along as an item of interest to all SCAMIT members. We could probably help out.

WANTED: ALCOHOL-PRESERVED SPHAEROMATIDAE (CRUSTACEA, ISOPODA) SPECIMENS FOR MOLECULAR ANALYSES

Regina Wetzer, Niel Bruce and Jody Martin, are working on an NSF-supported morphological and molecular-based phylogenetic and biogeography study of sphaeromatid isopods (ca. 97 genera and 670+ species). Our goals include accumulating taxonomic, literature, specimen, and other data and making this information available in web accessible databases at a website devoted to the group.

We are soliciting donations of sphaeromatid isopods from around the world preserved in 95-100% ethanol for the molecular work. Specimens for morphological studies are also welcome.

Coastal benthic habitats that are most productive include coral reef habitats (dead coral heads, coral rock and coral rubble), algae, sand, mangroves, sponges, oyster and barnacle tests, and similar. In temperate and cool waters, algae often have associated isopods. If

you are collecting in these habitats and can preserve specimens in ethanol, we would be most grateful to receive them. We will happily pay for shipping and acknowledge your donation.

We have an active collecting program (California, Baja California, Caribbean, Great Barrier Reef, East Africa, Seychelles) and as we collect and sort samples for sphaeromatids, we retain most of the associated fauna. We will gladly exchange invertebrate specimens with you.

At present any and all alcohol-preserved specimens are welcome. If you don't want to or cannot sort to family, we will happily accept all alcohol-preserved isopods.

For further information regarding priority regions, taxa or aids to identification of sphaeromatids please contact one of us.

Please direct your questions regarding habitats, collecting techniques to NLB or RW.
Specimen exchanges: contact RW

Thanking you in advance for your sphaeromatid donations, Regina

1. Regina Wetzer, Ph.D.
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BROKEN RECORD

Trawling is always a delight. The weather might be terrible, as it was when we attempted to do our first Bight'03 Intercalibration Trawl on 28 March, but as long as samples come aboard, it is wonderful. You never know when an animal new to you, or even just new, will turn up among the contents of the trawl net. Such was the case in a recent trawl on the slope off Palos Verdes at 486m depth. The catch was peppered with interesting things including the large sea-pens *Halipterus californica* and *Ombellula magniflora*, the seastars *Myxoderma platyacanthum* and *Thrissacanthias penicillatus*, and the ophiuroid *Asteronyx longifissus*. While happily processing these animals the real find showed up inauspiciously as a dirty little ball placed in the invertebrate tray. A closer look revealed this to be an *Eryonicus*, a deep sea lobster. We had Schmitt's 1921 Decapods of California with us, which has a fine plate of an animal identified as *Eryonicus agassizi* from off California. I thought...Great! a new record for the SCAMIT list. Not so.

While I was working on the animal later in the lab (cleaning off net gunk prior to preservation) Lisa Haney called me from home to relay a conversation she had just had with her husband, Todd, and Jody Martin of the Natural History Museum of Los Angeles County. They asserted that the animal was a larva of a polychelid lobster rather than a member of the family Eryonidae as indicated in Schmitt, having just published a paper on the larva in a recent review volume. The cautionary comments of Schmitt concerning capture of *Eryonicus* in midwater closing nets well away from the bottom makes sense if the thing is a larva living mesopelagically.

Sadly their statement concerning the larval nature of the animal is incontestable. The reptant family Polychelidae is represented off California by the genus *Stereomastis*, so this animal is probably the larva of one of the

described *Stereomastis* species. As a holoplanktonic larval form the animal is not reportable as part of our survey activities. Should anyone encounter it in deeper trawls for Bight'03 the same exclusion would apply. Despite the fact that the thing is about the size of a golf ball with a tail, it still doesn't qualify. My new record (at least for the SCAMIT list) is broken on the reporting rules. Ah, well, there is always another trawl..., and at least I got to see this striking larva in the flesh (we have it vouchered, and will bring it to a future meeting for examination by other SCAMIT members).

JOB ANNOUNCEMENT

Position: Curatorial assistant
 Job Number: 871
 Issue Date: 16 May 2003
 Closing Date: June 1, 2003 or until position is filled

The Department of Malacology at the Academy of Natural Sciences in Philadelphia has obtained funding to rehouse its dry Recent mollusk collection, America's second largest. A curatorial assistant is sought for the three-year period of the grant. The job offers a rare opportunity to work in all sections of one of the World's great systematic collections, and to gain experience with state-of-the-art archival rehousing.

Responsibilities:

- Move large cabinets between areas and transfer contents from old into new cabinets. Work involves standing for considerable periods daily.
- Rehouse specimens by replacing cardboard trays, vials and cotton with archival materials
- File specimens and documents
- Computerize incoming specimens
- Assist collection manger with other curatorial tasks.



Requirements: Bachelors degree; familiarity with basic computer operations. Experience with mollusks or in natural history museums preferred.

To apply, please send resume and cover letter including contact information for three references to:

Paul Callomon
Malacology Department
The Academy of Natural Sciences
1900 Benjamin Franklin Parkway
Philadelphia, PA 19103 - 1195

BIBLIOGRAPHY

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Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5500	cbrantley@lacs.org

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SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

attn: Leslie Harris

900 Exposition Boulevard

Los Angeles, California, 90007

BASELINE TRAWLS

Depth (M)	20	40	60	80	140	200	500
Transect	T6	T6	T6	T6	T6	T6	T6
Acanthoptilum sp		1		1			
Addisonia brophyi						3	
Alloccentrotus fragilis					40+	230	30
Armina californica		1				1	
Armina sp A				1			
Astropecten ornatissimus					22		
Astropecten verrilli	10	50+		1			
Bentheogennema burkenroadi							2
Brisaster latifrons						30+	10
Brissopsis pacifica						17	80
Cancer anthonyi	2						
Ceramaster leptoceramus							24+
Cerebratulus californianus						1	
Dendrodoris fulva		1					
Glyptolithodes cristatipes							2
Hemisquilla ensigera californica	2						
Kellettia kelletii	29						
Leptychaster? sp							1
Liponema brevicornis							15
Lophopanopeus bellus		3					
Lovenia cordiformis						1	
Luidia armata		1					
Luidia asthenosoma				1			
Luidia foliolata		1	1	1			
Lytechinus pictus		10+	400+	400+			
Mediaster aequalis			2				
Metacrangon spinosissima						1	
Metridium farcimen			2	1			
Molpadia intermedia					1		
Munidopsis depressa							1
Nassarius insculptus				1			
Neocrangon resima						3	
Neocrangon zacaе						14	
Octopus californicus						2	1
Octopus rubescens					1	1	
Ophiopteris papillosa		1					
Ophiothrix spiculata	2	50+					
Ophiura luetkenii		1	1	1	1		
Pagurus spilocarpus	1						
Pannychia moseleyi							35+
Parastichopus californicus		3	2	2	2		
Philine alba				1			
Philine auriformis						1	
Pisaster brevispinus	3						
Pleurobranchaea californica						2	
Pyromaia tuberculata	2						
Rossia pacifica						2	
Schmittius politus						1	
Sicyonia ingentis					4		
Spatangus californicus				1		5	
Spirontocaris holmesi						9	

BASELINE TRAWLS

Spirontocaris sica							2
Styela montereyensis	1						
Stylatula elongata	3						
Thesea sp B	2+	2					
Thrissacanthias penicillatus							1
Travisia sp						1	
Urticina columbiana		3					

**SCAMIT MEMBERSHIP
Renewal Form**

Dear SCAMIT Member:

Your membership expires this month. We hope that you are interested in continuing your SCAMIT membership. To renew your membership and continue to receive the newsletter, please fill out the form below and return it with a check or money order made out to SCAMIT in US dollars to the SCAMIT Treasurer:

Cheryl Brantley
Marine Biology Laboratory
County Sanitation Districts of Los Angeles
24501 S Figueroa
Carson CA 90745

Type of Membership: ___ Individual e-mail membership, \$15.00 per year
 ___ Individual hard-copy membership, \$30.00 per year
 ___ Institutional membership, \$60.00 per year

Name:

Address:

Specialty:

E-mail:

Phone:

Would you like to be listed in SCAMIT's list of members who perform consulting work?

We maintain a comprehensive list of SCAMIT members, their areas of taxonomic expertise, and include their availability for taxonomic consulting work. This list is available for distribution to the SCAMIT membership at large to promote the exchange of taxonomic information.