

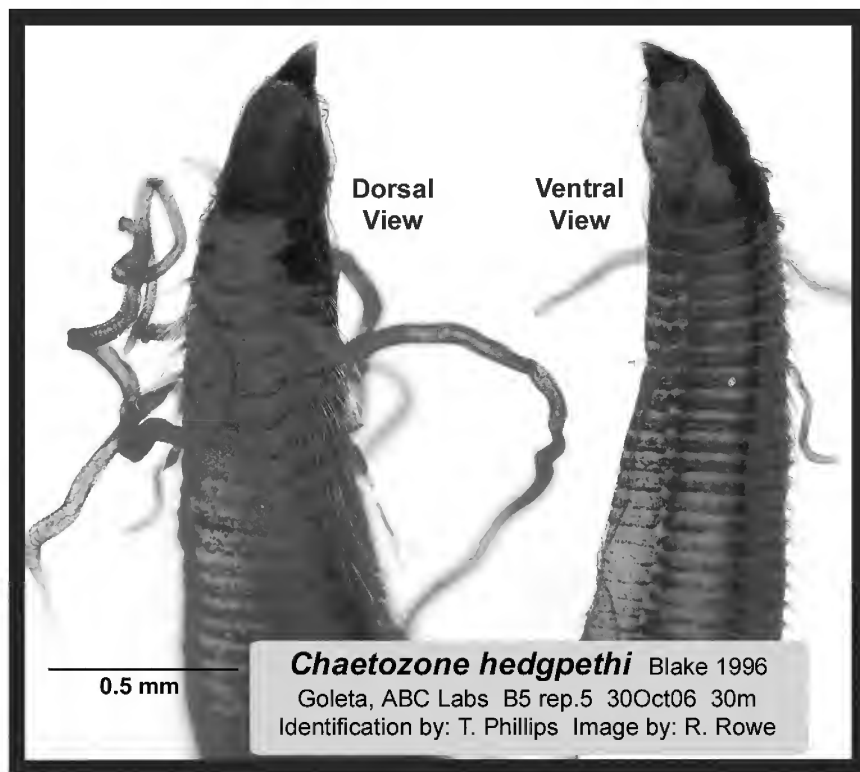
SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



May/June, 2007

SCAMIT Newsletter

Vol. 26, No. 1



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The SCAMIT newsletter is not deemed to be a valid publication for formal taxonomic purposes.

MAY 7 2007

This was a very small meeting at NHMLAC with a few of the polychaete taxonomists present to continue working on updating the SCAMIT Taxa list. Below is a list of the decisions made and actions to be taken on the next portion of the polychaete taxa list.

Magelona longicornis will be dropped from the list and not added as a jr. syn. of authors NEP under *Magelona* sp SD10.

Aphelochaeta sp HYP4 has been confirmed by Tony Phillips as *A. petersenae*. *A.* sp. HYP5 is still pending and *A.* sp. HYP6 is being dropped.

Aphelochaeta sp HYP2 is the same as *Aphelochaeta* sp SD2 of Rick Rowe.

Both *Caulleriella alata* and *Caulleriella pacifica* will be left on the list for now. According to Blake in the 1996 MMS atlas, both are valid and he describes differences between them.

Caulleriella sp SD2 will be added. There is a voucher sheet.

Chaetozone hedgpeithi will be left on the list for now. Since it is described from Tomales Bay, Rick Rowe thinks perhaps our local animal might be a provisional or belong to a complex. Further research needs to be done.

Cirratulus cirratus will be left on the list as *Cirratulus* sp.

Monticellina sp HYP2 will be dropped.

Notomastus sp SD2 and sp SD3 will be added and voucher sheets done by Rick Rowe. They are not the same as *N. hemipodus*.

Petaloclymene sp MEC1 still needs more review by Larry Lovell to see if it is different from *P. pacifica*. If so, a voucher sheet will be produced so it can be added to the taxa list.

Add *Ophelina* sp SD2 Rowe 2004. Rick will distribute a voucher sheet.

Eulalia sp LA1 of Parker from Bight '98 is what LACSD is calling their pigmented specimens of *E. levicornuta*. Leslie Harris, Larry Lovell and Tony Phillips are reviewing the material and will probably turn this name into *Eulalia levicornuta* Cmplx.

Nereiphylla sp 2 from San Diego Bight '03 will become *N* sp. A and B of SCAMIT and voucher sheets will be produced. There is also a third provisional from Leslie Harris that will be added to the list and a voucher sheet produced.

Paranaitis sp SD1 which is the unpigmented form of *P. polynoides* has a voucher sheet (see

UPCOMING MEETINGS

March 17, 2008: 9:30-3:00, at LACSD Marine Biology Lab. Amphipod meeting to be led by Don Cadien. The infraorder Bogidiellida will be the topic group. We will discuss the superfamilies Bogidielloidea, Hadzioidea, and Melphidippoidea containing the families Bogidiellidae, Hadziidae, Melitidae, Melphidippidae, Hornellidae, and Megaluroipidae.

April 14, 2008: 9:30 - 3:00; at Cabrillo Marine Aquarium. Parasitic copepods led by Dr. Julianne E. Kalman.

12 May, 2008: at the Santa Barbara Museum of Natural History. "Bivalves 101", led by Paul Valentich Scott.

June 2008: Wetland arthropods to be led by Don Cadien and Christopher Rogers (SAFIT). Date and location TBA.



newsletter Vol. 25 No. 5). It has been seen for several years by San Diego and LACSD.

Heteropodarke sp SD1 is still valid and Ron Velarde will do a voucher sheet and distribute.

Pilargis sp 2 of Harris is one of four provisionals that are all considered valid and Larry Lovell is working on a table so information can be widely distributed.

Exogone sp A of Williams is an old provisional from Sue Williams and different from *Exogone* sp A of Harris. Williams' animal is found in shallow water embayments. Larry will update the voucher sheet and redistribute.

Pionosyllis sp SD2, *Streptosyllis* sp SD1 Velarde 1995 §, *Syllides* sp SD1 Velarde 2004 §, *Syllis* (*Typosyllis*) sp SD4 and SD5 along with SD1, SD2, SD3 all need voucher sheets done by Ron for inclusion on the taxa list. Also, *Typosyllis* will be elevated to generic rank.

Nereis sp SD1 is different from *Nereis procera* and a voucher sheet has been issued by Bill Furlong as *Nereis* sp A of SCAMIT (see newsletter Vol. 25 no. 3). It can now be added to the taxa list.

Glycera sp BB from Ricardo Martinez-Lara will be dropped. It is similar to *G. capitata/nana* and was from a table in newsletter Vol. 21 no. 7 done by Ricardo. Ricardo also had *Glycera* sp C of Harris in the table and it is similar to *G. oxycephala* Ehlers 1887. If this provisional is still valid a voucher sheet will be issued. If not it will be dropped.

Also, on hold is *Glycera* sp. D of Harris which is close to *G. tessellata*. Leslie believes this is a valid provisional due to the fact that the type locality of *G. tessellata* is from the Mediterranean. See her comments in newsletter Vol. 21 no. 7.

Tom Parker also has a provisional, *Glycera* sp LA1 from 1999 and he will create a voucher sheet for newsletter distribution.

Scoletoma luti, was thought to replace *Scoletoma tetraura* complex on our taxa list. It has been reported from the last Bight project and the City of San Francisco. For now *S. tetraura* complex will also stay on the list.

Arabella iricolor is not properly identified in So. Cal. It should probably be listed as a complex. *A. endonata* should also be added to the list.

Diplocirrus sp LA1, a provisional from Bight '98, will not be added to the list.

Amphicteis sp SD1 of Barwick 2004 § will also not be added to the list.

However, *Amphitritinae* sp SD1 Barwick 1999 § has a voucher sheet already and will be added to the list.

Nicolea sp A of Harris from Bight '03 needs to have more information added to its voucher sheet for inclusion on the taxa list.

Pista disjuncta of authors NEP should be synonymized under *Pista wui*.

Lysilla sp SD1 of Barwick should be added to the list. A voucher sheet has been done.

JUNE 11 2007

Our newly elected President, Larry Lovell, opened the meeting at the Los Angeles County Sanitation Districts Marine Biology Laboratory. He announced the next SCAMIT meeting will



be in San Diego on June 25th and will cover non-polychaete groups for Edition 5 of the Species List. On July 9th, Rich Mooi will lead a meeting in San Diego on irregular urchins. Dave Pawson from the Smithsonian will be out this way in August, and he will lead a meeting in September on holothurians.

Larry announced that the end of August is the deadline for submitting documentation and distribution of that documentation for new provisional species to be included in Edition 5 of the SCAMIT Species List. There was a discussion about what qualifies as “distribution” for provisional species documentation. Publication in the newsletter is required (even if the author was not at the meeting); this way everyone will have access to the information. In addition, it will be posted to the taxonomic toolbox on the website after appearing in the Newsletter.

It is estimated that the final version of Edition 5 will be out in early October. Electronic copies will be available to members and will be password protected. There was a discussion about the distribution of Ed 5. Questions were raised about whom else it should be distributed to, how, and for how much? Should there be hard copies, CDs, and pdf's available? Should non-members be included? We also discussed the idea of having updates to the Species List every 6-8 months on the website. It was suggested to make new information on the website password protected and have older material accessible to everyone. SCAMIT officers have also discussed these ideas recently.

Larry informed us about an upcoming meeting in October that will include SAFIT and SCAMIT members and Dr. Robert Hershler. Weston Solutions will host the meeting at their Carlsbad office. Dr. Hershler will be talking about *Trionia* and *Hydrobia* during the morning session. Participants should bring specimens to the meeting. Some technical support will probably be requested from SCAMIT in terms of camera and computer equipment.

The LACSD lab shared a copy of a new book they received entitled “Quantitative Analysis of Marine Biological Communities: Field Biology and Environment” by Gerald J. Bakus. It includes “quantitative methods specifically tailored for the marine biologist”.

The remainder of the meeting consisted of continuing the discussion of proposed additions and changes to the polychaete portion of Edition 5 of the SCAMIT Species List led by Larry.

JUNE 25 2007

The 2nd meeting for the month of June was a continuation of the Ed 5 meetings and dealt with Miscellaneous Phyla.

John Ljubenkov gave an opening comment to warn other attendees about trusting images found on the web. He cited an example where 5 different species were pictured, but all had been assigned the same species name. Just a reminder to use caution and know the source when using/trusting taxonomic information gathered from various internet sources.

However, that being said, a valuable web source for those of you who work on nemertean is:

<http://nemertes.si.edu/>

If you haven't yet explored this site, please do so. I myself plan to try to become more familiar with the site and potentially involved.

Tony Phillips mentioned a new piece of literature of interest to anyone who works on Porifera.



See the new comprehensive book, "The sponges of California" by Lee, Elvin and Reiswig.

Speaking of new literature, Philip Lambert published part 3 in his series on the echinoderms of the British Columbia region. This latest book covers brittle stars, feather stars and urchins.

With that we moved on to additions and changes to the Miscellaneous Phyla portion of Edition 5 of the Species List.

- M. Lilly

NINTH INTERNATIONAL POLYCHAETE CONFERENCE

The 9th International Polychaete Conference (IPC9) was held in Portland, Maine, August 12-18, 2007. It was co-sponsored by the International Polychaete Association and the Darling Marine Center, University of Maine. International polychaete conferences are held every three years at international venues and draw polychaetologists from around the world. There were a total of 169 registered attendees from the Americas, Europe, Asia, Australia, and Africa with nearly one third (56) from the USA. Sixty-seven talks and one hundred sixteen posters were presented during the conference on a broad range of topics including polychaete biology and morphology, developmental biology, ecology and biodiversity, benthic ecology, systematics and phylogeny, and cosmopolitan species. All these topics of research are pertinent to long-term ocean outfall monitoring and research programs.

Proceedings of the IPC9 Conference will be published in the scientific journal, ZOOSYMPOSIA in late 2008 and will be supported in part by the National Science Foundation's Partnerships for Enhancement of Expertise in Taxonomy ("PEET" Grant Program, Award No. DEB-0118693). University student presentations were judged and awards were given to the best six talks and six posters during the closing banquet. Dr. Jim Carlton, an internationally recognized expert on invasive marine species, presented the keynote address at the banquet entitled, "Ship-worms: Global Humans and Global Polychaetes". He presented a fascinating look at 400 years of human-ocean interactions and the impact of ship voyages as vectors for the global dispersal of polychaete species. His talk ended with a real-time world map from the Internet showing the thousands of ships at sea, demonstrating the scale of their role as a vector for invasive species dispersal.

Though the conference does not allow oral presentations on polychaete systematics and taxonomy, there were many posters presented on these and other topics pertinent to taxonomy and marine monitoring work. There was a poster redescribing *Dipolydora armata*, a rare, but local polychaete species. There were several posters on the systematics of the polychaete family Cirratulidae, an important group in local monitoring programs. Major revisions to the genera and description of many new species locally and worldwide have confounded measuring population trends within this family. This family continues to yield new species here and elsewhere in the world. There was a poster reporting on the capitellid genus *Notomastus* from the Mexican Pacific region in which several species were reported in common with southern California. The authors detailed erroneous reports from Mexican waters of two locally occurring species as well as five species possibly new to science. This paper, when published, may help solidify our local knowledge about this difficult and confused group of polychaetes. Dr. Rodolfo Elias presented a poster assessing urban contamination of sandy beaches from a fisheries factory outfall and pluvial effluents using intertidal polychaetes. His preliminary data showed contamination related impacts to the intertidal polychaete community from the fisheries factory outfall and one of the pluvial effluent sites.



There were nine polychaete researchers from southern California in attendance: SCAMIT officers Larry Lovell, President and Cheryl Brantley, Treasurer; Dr. Don Reish, Professor Emeritus, California State University, Long Beach; Dr. Greg Rouse, Dr. Vincent Rousset, and Guillermo Mendoza, Scripps Institution of Oceanography; Ron Velarde and Ricardo Martínez-Lara, City of San Diego, Environmental Monitoring Division; and Verónica Rodríguez-Villanueva, Ecological Marine Research Laboratory ECOMAR. Most of these attendees presented talks and/or posters at the conference. Southern California has for many years been a nexus of polychaete research in the USA, particularly beginning with the USC Allan Hancock Foundation and Dr. Olga Hartman's seminal research on Palos Verdes and Santa Monica Bay polychaete taxonomy and ecology. The fact that 9 of the 56 conference participants from the USA work in southern California is validation of, and a continuation of, this heritage in polychaete research.

Many of the above-mentioned polychaete workers are members of SCAMIT. The conference allowed Cheryl and Larry to associate with these members in an international setting and to meet other members who live and work out of the southern California area in person. Larry and Cheryl set up a table at the front of the poster room to display SCAMIT related items; membership flyers, newsletters with taxonomic voucher sheets, a copy of the SCAMIT taxonomic species list, and several examples of high-quality digital color photos of polychaete specimens provided by SCAMIT Vice-President, Leslie Harris. A group photo of SCAMIT members in attendance at the conference appears below.

- Reported by Larry Lovell, SCAMIT President



SCAMIT members attending IPC9. L-R: Larry Lovell, Ricardo Martínez-Lara, Verónica Rodríguez-Villanueva, Dr. Don Reish, Ron Velarde, Cheryl Brantley, Howard Jones, and Barbara Dinkins. Not pictured: Drs. Victoria Díaz-Castañeda, Byoung-Seol Koh, Andrew Mackie and Greg Rouse.



CURRENT JOB OPPORTUNITIES

There are two job announcements attached at the end of this newsletter; one is for a curatorial assistant position at the Natural History Museum of Los Angeles County, and the other is for a Natural Scientist/Ecologist for the Marine Protected Areas Monitoring Enterprise.

The Department of Fish and Game also has an opening. Below is a copy of an email from Connie Ryan, regarding this position.

- "Yesterday, I noticed that open exams are being offered for Senior Biologist Supervisor (Marine/Fisheries) and Senior Biologist Specialist (Marine/Fisheries). The closing date is March 7. It is rare that we have an OPEN (i.e., open to all qualified applicants; non-promotional) exam for a Senior Biologist. This is a great opportunity to bring researchers into the Department. I would like to encourage you to spread the word about the exam to the various scientists with whom you are cooperating (professors, grad students, consultants, other agency staff, people on "soft money"). Remember that these lists can last for a long time.

Sincerely,
Connie

Connie Ryan
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350 Harbor Blvd.
Belmont, CA 94002
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fax: 650-631-6119
e-mail: cryan@dfg.ca.gov
For more information go to: <http://www.dfg.ca.gov/jobs/exams/>

EXCITING VOLUNTEER OPPORTUNITY!

An interesting volunteer opportunity for those of you so inclined...

The National Geographic Society and the National Park Service are organizing a BioBlitz in Santa Monica Mountains National Recreation Area on May 30-31, 2008. We invite you to join us.

A BioBlitz is a unique combination of taxonomic inventory, public outreach, and science education. Teams of about 8-10 volunteers, each led by a biologist with particular taxonomic expertise, go into the field to find, identify and map as many species as possible within a 24-hour period (noon to noon). While the inventory is not systematic, it can nevertheless yield valuable biogeographic information. Recent BioBlitzes, for example, have revealed new undescribed species of arthropods and bacteria in the middle of city parks. New county records and other indices of species distribution are common.

Apart from the inventory, other activities include presentations about biodiversity, structured field exercises for K-12 classes, demonstrations of field technology, and exhibits ranging from global biodiversity to local nature photography. These activities will occur mostly at our base camp at Paramount Ranch in the Santa Monica Mountains, but also at peripheral sites around the mountains. All told, a BioBlitz is a wonderful opportunity for scientists to meet each other, collect in the field, learn about possibilities for research in National Parks, and educate and inspire the public through hands-on field work.



The 2008 event will be our second annual BioBlitz and is part of a series that we are conducting in different National Park Service units around the country for the next decade. This year, we are joined by California State Parks and the Santa Monica Mountains Conservancy.

In addition, we are working with the City of Los Angeles to extend our range eastward to Griffith Park and the Los Angeles River.

We very much hope you will join us for all or part of the BioBlitz. The success of an event like this depends greatly on the knowledge and enthusiasm of trained scientists. Your participation in this festive “species marathon” will help make this a valuable celebration of biodiversity, and will contribute immeasurably to educating and inspiring the next generation of biologists and stewards of California’s natural heritage.

If you are interested in participating or would like more information, please register on-line at www.ngsednet.org/bioblitz/scientist, or reply to this message at bioblitz@ngs.org. Please let us know in particular if there are specific roles, like team leader, that interest you most. We hope to have all team leaders confirmed ASAP. If you wish to participate as a team leader or otherwise, we will keep you on our contact list and will be in touch with you again this fall.

Please note:

1. On-line registration for scientists is required (www.ngsednet.org/bioblitz/scientist), and closes on March 23.
2. We are hosting an optional (but encouraged) orientation session for scientists at Pepperdine University on Saturday, March 1, 9:00-12:00. Please RSVP to bioblitz@ngs.org and request details.

Please forward this message to your colleagues, graduate students, and others who you think would be able to provide scientific expertise to the BioBlitz. If you would like to print the attached flyer and post it in a public place, you are welcome to do so.

Sincerely,

Tim Watkins, PhD

National Geographic Society

BioBlitz Science Coordinator

and

Raymond M. Sauvajot, PhD

National Park Service

Santa Monica Mtns Nat Rec Area

What do scientists do at a BioBlitz?

Biologists like you participate by doing one or more of the following - leading field teams on 4-hour shifts (including at night, as appropriate), identifying species brought back to the base camp, preparing specimens for curation, working with school and community groups, interpreting for the public and media, talking about your own work and career, etc.

What is expected of team leaders?

Taxon team leaders will be responsible for taking volunteers into the field to find and learn about species of interest. In addition, team leaders must verify species names, ensure the accuracy of the inventory data, and coordinate with NGS staff concerning collected and/or curated specimens after the Blitz. About a week before the Blitz, team leaders will contact their assigned team members to advise about proper procedures, confirm meeting location and time, remind them



about appropriate field dress, etc. We will provide guidelines and support for that task.

Which biologists should participate?

Any professional or trained amateur who can lead people safely in the field, find and identify species (by sight, under a microscope, with a dichotomous key, etc.), and is willing to share his or her enthusiasm for organisms. Past participants have included academics, museum staff, members of amateur naturalist societies, public agency scientists, employees of environmental consulting firms, and graduate students.

Do I need to bring field supplies?

Yes. Please bring whatever field gear you need to find and identify species (waders, nets, microscopes, taxonomic keys, etc.). We will provide tables, chairs, general lighting, power, and some laptop computers dedicated to data entry.

Can I collect specimens?

Yes. We will obtain all necessary permits and can provide some general curation materials (e.g. glass vials and ethanol) on a case-by-case basis. Specimens collected from National Park Service lands are the property of the NPS, but may be loaned for long-term curation in an approved facility (e.g. a natural history museum). We will provide guidance on loan procedures.

Can I publish my results?

Yes, you are free to publish as you see fit. Furthermore, popular media, including National Geographic print and film crews, will be present at the BioBlitz and may wish to interview you about your activities and discoveries in the field.

Will I be paid?

No, unfortunately we cannot pay participants so your involvement is voluntary. We will provide gifts to recognize your valuable contributions of time and expertise, however, and host a dinner for registered scientists the night before the BioBlitz starts.

Will I be fed?

Yes. Boxed meals will be provided during the 24-hour inventory, and a celebratory BBQ will occur once the inventory is completed on Saturday afternoon. Coffee and snacks will be provided throughout the inventory.

Do I have to be present for the full 24-hours?

No, but we hope you'll be with us for most of them! The opening and closing ceremonies (noon on Friday and Saturday) will be big festive events where we hope to have as many scientists as possible. At the closing ceremony, we will ask team leaders to take the stage and announce their tallies, surprising or valuable finds, and tales from the field. We will provide dorm-style accommodations for registered scientists. Alternatively, many hotels serve the area. Campgrounds in the park will also be available to BioBlitz participants.

Do I have to stay up all night?

Only if you want to. Team leaders for nocturnal species will, of course, be out in the field at night with enthusiastic volunteers. Others may wish to use the dark hours to sort through specimens and enter data. The 24-hour marathon creates a fun "esprit de corps" that we hope you'll enjoy. And the longer you're awake, the more species we will have identified by the closing bell!

Your time and talent is very much appreciated and we look forward to welcoming you as a scientist at the Santa Monica Mountain BioBlitz.



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- Lee, W., et al. 2007. The Sponges of California. A Guide and Key to the Marine Sponges of California. Published by the Monterey Bay Sanctuary Foundation. Monterey, CA. 130 pp.



Please visit the SCAMIT Website at: 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	Larry Lovell (310)830-2400X5613	llovell@lacsds.org
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5605	cbrantley@lacsds.org

Hard copy 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 every two months and is distributed freely to members in good standing. Membership is \$15 for an electronic copy of the newsletter, available via the web site at www.scamit.org, and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All new members receive password protected website access to the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates ... in the Southern California Bight." 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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SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



July/August, 2007

SCAMIT Newsletter

Vol. 26, No. 2



Brisaster townsendi - Los Angeles County Sanitation Districts Trawl Survey, 9 November 2004.
 (unknown cause of spine loss during this survey)

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9 JULY 2007

We began the meeting with a presentation by Dawn Olson, from the CSD IT group, on behalf of Rick Rowe, who couldn't be present. Dawn gave us a synopsis and overview of morphbank, an image based website which is interested in working with SCAMIT to offer a place for, and toolbox to use, with our images. They are currently working within an NSF grant which runs through 2008, and are interested in expanding into marine images to augment their predominantly insect and plant image collections. Dawn fielded a number of questions from the group.

New President Larry Lovell gave a brief president's message thanking outgoing president Kelvin Barwick for all his service, and outlining some of the directions he thought SCAMIT might explore. He also summarized upcoming meetings.

Don then introduced two pieces of new literature. The first concerned the commensal amphipod genus *Leucothoe*, which have been recorded from the floor of San Diego Bay. Megan Lilly discovered them during her dissections of simple ascidians from that habitat. The new paper is an open publication item on Zootaxa, and can be downloaded freely from the Zootaxa site. It is by J.D. Thomas and K.N. Klebba (2007) and describes 6 new commensal forms from invertebrates in the tropical West Atlantic (Florida and Belize). The discriminatory criteria require careful examination of the animals, all of which are relatively small, white, and shiny. The literature on the group is terribly confused, with large numbers of misidentifications, and frequent inaccurate reports of widely distributed taxa. Current investigations suggest that these peracarids are heavily speciated in many areas, with hundreds of new species to be described. Most of these would have been identified as *Leucothoe spinicarpa*, originally described from north-western Europe many years ago. Jim Thomas has been working on this for quite some time, and this is actually the second paper describing new *Leucothoe* with his coauthor.

It is likely that the species in the local ascidians is new, and probably also introduced along with the host. What has been known locally as *L. spinicarpa* in the past is almost certainly not that species, although *L. spinicarpa* may occur here as a package with an introduced eastern North Atlantic tunicate. Until more detailed information is available on the fine morphology of local species, the status of NEP specimens remains largely unresolved. Treating them as *Leucothoe* sp. might be a good idea. It is not clear if the locally described *L. alata* is in fact a single taxon, or represents a cluster of cryptic siblings such as is addressed in the paper cited above in the tropical West Atlantic.

UPCOMING MEETINGS

April 14, 2008: 9:30 - 3:00; at Cabrillo Marine Aquarium. Parasitic copepods led by Dr. Julianne E. Kalman.

12 May, 2008: at the Santa Barbara Museum of Natural History. "Bivalves 101", led by Paul Valentich Scott.

June 2008: Wetland arthropods to be led by Don Cadien and Christopher Rogers (SAFIT). Date and location TBA.



The second New Literature item is actually an entire constellation of items (97 different contributions) which constitute the 4th edition of Light's manual, now renamed the Light and Smith Manual by editor Jim Carlton. He co-edited the 3rd edition with Ralph I. Smith 32 years ago, but handled the current new one by himself; Ralph Smith having passed on in the mean time. The list of contributors is extensive and impressive. Collectively they have provided a slightly uneven but very satisfying volume that represents considerable improvement in most areas from the last edition. Most of the unevenness comes from determined contributors that pushed the envelope established by the sub-title of the volume "Intertidal Invertebrates from Central California to Oregon". Many of the section authors interpret this scope broadly ("Well, it could be found dead in the intertidal after a storm") and include items which are almost entirely distributed subtidally. This produces much broader utility in the resulting volume, along with unevenness in coverage.

The book was long anticipated, and many years in the making. The fact that Jim Carlton is still (last time I talked to him) sane is a tribute to his stamina. I know that he had many wrestling matches with at least some of the contributors. Others died in the process, and someone had to be found to complete their unfinished manuscripts. Myriad other problems were also overcome, and we can now enjoy the result. I haven't talked to Jim about this, but I assume that he can take comfort in the fact that HE will not be the editor of the next edition. Twice is more than enough! He deserves all our gratitude for his part in this major undertaking, as do the contributors of the individual sections. Rich Mooi, who co-authored two sections with John Pearse, noted that we could be very sure that Carlton expended a great deal of effort guaranteeing the taxonomic accuracy and currency of the contributions. Several of the changes incorporated into this volume were discussed briefly, including the return of *Alloccentrotus fragilis* to *Strongylocentrotus*, and the re-emergence of *Patiria* from synonymy with *Asterina*. We also noted that the synonymy of *Lytechinus pictus* and *L. anamesus*, which SCAMIT has recognized for many years, was adopted in the new manual. Anyone wishing to be sent a Pro-Cite database of the 97 individual contributions can contact Don Cadien at dcadien@lacsds.org for a copy.

We then proceeded to the main portion of the meeting, and had a very eventful interaction with Dr. Rich Mooi (California Academy of Sciences) regarding the discrimination of the two local *Brisaster* species. We had a free interchange, rather than a programmed presentation from Rich, with him fielding questions from the audience and loosely leading a discussion of echinoid biology and how it might impact *Brisaster* identification. A mini-workshop comparison of technique for caliper measurement of *Brisaster* specimens continued off and on for several hours. Megan produced a number of specimens of *Brisaster* collected at various sites by CSD, and Don Cadien brought out materials previously assembled by Lisa Haney from the LACSD collections. Megan also recapped the results of our earlier meeting with Boris Savic (in attendance) and used Boris' Powerpoint to show Rich a large variety of images of *Brisaster* examined in that meeting. The results of the comparative measurements of specimens from LACSD and OCSD by Lisa were presented as an overlay to the original plot of data from Hood and Mooi (1998). This showed that the LACSD materials, as well as those taken by OCSD, all fell within the *B. townsendi* cluster based on petaloid width vs. total length. At this point in the discussions it was still assumed that all we were getting locally was *B. townsendi*.

Megan continued to measure her material, and then have Rich repeat the measurements, and before long a series of specimens that fell into the *B. latifrons* cluster appeared. A few other specimens were intermediate between the clusters, and Megan decided to not identify them to species (leaving them as *Brisaster* sp). Rich also reexamined some of the LACSD specimens



previously measured by both Don and Lisa, and found them to fall into the *B. townsendi* cluster based on those measurements.

As part of Boris' powerpoint, photos of the *Brissopsis* sp LA1 specimens were seen. These were reviewed again (Rich had examined the specimens at the Cal Academy before returning them to LACSD last year) although the specimens themselves were not examined at the meeting. Don Cadien suggested that, based on their intermediate appearance and the nature of their spines and fascioles, these might just be intergeneric hybrids of *Brisaster*/*Brissopsis*. Rich agreed that this was a reasonable hypothesis, which he could support. No alternate hypotheses were advanced, and it is suggested that we adopt this position regarding those three specimens. Such a scenario helps explain why so few animals with this unusual appearance have been located. It was pointed out that we might be able to settle the issue with finality if the specimens were suitable for molecular analysis. They were, unfortunately, formalin preserved and thus poor candidates for such research.

The suggestion was made that it might be very easy to miss these among the mass of material that LACSD normally collects (often thousands of *Brisaster* per trawl), but this was rejected by Don. He mentioned that the sorting protocol used on-board was designed to find unusual specimens hiding among the masses of urchins present, and that obscuring mud was routinely removed to facilitate such recognition. Boris agreed with this, describing his experiences during the cruises on which he accompanied the LACSD crew prior to his 2005 presentation. Should additional specimens of the putative hybrid form be located, they will be frozen on-board rather than formalin preserved, and should be available in the future for molecular analysis to support (or refute) the present position. What to do about the name of the organism (currently *Brissopsis* sp LA1) if it is indeed an intergeneric hybrid remains for future determination. Since the two genera which are supposedly represented in these hybrids are in different families (Schizasteridae and Brissidae) a molecular analysis should prove quite interesting, and Rich urged further investigation if possible.

Over the next few hours the discussion continued and gaps in knowledge of the basic biology of these echinoids were noted. There are literature reports on the spawning season of *B. latifrons* (March as listed in Strathmann 1987), but nothing for *B. townsendi*. Strathmann also provides some information on length of larval life (67-167 days). Length of period of egg viability prior to fertilization, or of sperm survival, is not documented, so it is difficult to predict the likelihood of cross-fertilization and hybridization unless spawning in the two species is nearly synchronous. Such spring reproduction of broadcast spawners is often a matter of offering good survival prospects to planctivorous larvae by coordinating their production with the spring phytoplankton bloom. If this strategy is common to the two congeners, they may indeed spawn in near synchrony, or at least in strongly overlapping bouts. Strathmann also summarizes the literature on interspecies hybridization, which proves relatively common in West Coast echinoids. Although the hybridization of species of *Strongylocentrotus* was termed "ready" in the Light and Smith Manual echinoid section, no express mention was made of *Brisaster* hybridization. When asked about the probability of hybridization in the two species of *Brisaster*, Rich seemed to think that it was quite high. In Hood and Mooi (1998) the following comment appears in the discussion of *B. latifrons*: "To explain confusion of these two taxa [*B. latifrons* and *B. townsendi*], Mortensen (1951) raised the specter of hybridization between them". *B. townsendi* tends to be distributed only in the southern part of the range of *B. latifrons*. This high level of overlap makes it difficult to rule out the possibility of hybridization."



As the day progressed, and more measurements revealed the mixed population of the two *Brisaster* species in the San Diego area, but not to the north in Orange County, or in the LACSD area, we began to search for an explanation of this counterintuitive distributional pattern. Given the complex physiography and current structure in the SCB, distribution of the two *Brisaster* species, and of hybrids between them, may hinge on the patterns of current supplied larvae. We may assume that the southward flowing California Current carries exclusively *B. latifrons* larvae as it enters the SCB since there is as yet no evidence for the occurrence of *B. townsendi* above Point Conception. *B. townsendi* larvae should be riding north on the northward flowing Davidson Current, transported during their long larval existence from origin points far to the south off Baja California. Current jets driven by thermal mixing and wind should combine these two larval streams in the passages between the Channel Islands, providing ample larval settlers to sustain mixed populations in the northern Santa Barbara Channel. Under such mixed conditions it may not be possible to maintain stable hybrid zones, and we should probably expect to find hybrids scattered throughout the entire area, rather than locally concentrated.

The basic larval source signal of *B. latifrons* in the California and *B. townsendi* in the Davidson would, of course, be overlain by mixtures of locally produced larvae within the SCB, and by larvae from one or the other “pure” sources transported via persistent eddies split from the main current flow. Settlement from an eddy spinning into the San Diego area from further offshore might explain their present mixture of the two species in samples. With the probable complexity of larval supply, and its fluctuations over time in response to ENSO forcing and longer-term PDO oscillations, any agency should be prepared to find either species at any time.

How we would tell hybrids from both of the adults, and whether maternal or paternal source morphologies would be dominant or evenly mixed, is currently unknown. This is the stuff of laboratory based experimental investigation, and not answerable in our field based programs. Hopefully assistance can be found in local academic institutions to answer questions concerning the likelihood of hybridization, its relative frequency, its outcome in terms of percentage fertilization and developmental viability of crosses, and the phenotype and genotype of resulting hybrids. By the way, McCauley’s contention (1967) that the two species are actually one, with *B. townsendi* a synonym of *B. latifrons*, was not completely discounted. Current data, however, including the analysis of Hood and Mooi, and our own material, suggests otherwise.

Attendees began to drift away towards the end of our discussions to begin their homeward trek. Conversation continued until dinner after the meeting. A bit earlier in the day Megan had also brought out several specimens of *Nacospatangus laevis* to donate to the California Academy Collections, for which Rich was very grateful. The CSD program takes these in relict red sands to the south of Pt. Loma in their International Treatment Plant (ITP) monitoring. Don Cadien described the sediment and environment in which a series of *Nacospatangus* had been taken in the Northern Channel Islands during Bight’03. These also came from a relatively coarse sediment, but not from relict red sands. It was instead strongly current-swept coarse sand with shell hash on a saddle between two islands. The trawls at this site contained a number of *Nacospatangus* as well as large numbers of *Acanthoptilum*, and *Florometra*. Rich pointed out that the pedicellariae of *Nacospatangus* bear very efficient poison glands which deliver their toxic load through terminal pores on the valves of the pedicellaria. The usefulness of this ability was discussed briefly, and suggested to be feeding deterrence. Megan also brought out for our examination (and Rich’s confirmation) a series of small, juvenile *Spatangus californicus*. When small these animals look like they might be immature *Lovenia*, but details of the fascioles prove otherwise.



AUGUST 2007

President Larry Lovell led the business portion of the meeting, providing details of upcoming meetings, the looming closure of the input window for SCAMIT Listing Ed. 5, and announcements of upcoming symposia and meetings outside SCAMIT.

Don Cadien then took over and distributed his large review of the lysianassoid amphipods of the North East Pacific. This is now also posted on the SCAMIT website and can be downloaded by members. In retrospect it would have been preferable to have distributed the review prior to the meeting, and this will be done in the future. This meeting on the lysianassoids is the first of what will be a series of meetings reviewing the status of NEP amphipods. This review, (as will others in future), grew out of internal LACSD training documents. Eventually all of the Infraorders, and their constituent superfamilies, of amphipods will be reviewed. Sections of this continuing effort will be posted to the Taxonomic Tools section of the SCAMIT website as they become available. They will be periodically updated as new species are described, and additional information is generated on already completed groups.

The Infraorder Lysianassida contains the superfamily Lysianassoidea, with 15 component families and/or unofficial family level groups, and the superfamily Stegocephaloidea, with only the Family Stegocephalidae. Since no members of the latter family have ever been recorded by SCAMIT members in their monitoring, the review of the Stegocephaloidea will only be posted on the website and not discussed in a meeting.

The superfamily Lysianassoidea was the subject of the day's meeting, and Don started out with a Powerpoint presentation giving a general overview of the lysianassoids. The systematic treatment of the superfamily has been steadily evolving over the past 3 decades, with most of the impetus for change in treatment coming from Jim Lowry of the Australian Museum. He, along with his associate Helen Stoddart, have been pumping out major review papers on groups of lysianassoids in recent years. Much of the change embodied in treatment of lysianassoids in SCAMIT Ed. 5 comes from their efforts. Their work is ongoing, however. Several of the recognized groupings of genera within the superfamily do not have families into which they comfortably fit. Consequently only informal group names are available for what will eventually be either family or subfamily level taxonomic units. Such a group is the "conacostomines", a sizeable group of genera which are all characterized by their conical mouthpart bundles (*Acidostoma hancocki* is a good local representative).

During his introduction Don made note of the some of the important characters of lysianassoid families: Gnathopods 1 and 2, mouthparts, coxae shape and size (relative and absolute), urosome shape and ornamentation, pereopod shape. These structures are good for distinguishing among the families and family groups. However, the characters uniting the family into the superfamily are synapomorphies in the antennae and gnathopod 2. We then went through slides of representative taxa as Don explained the contents of his tome. Don's handout includes details of the various families and genera, along with references providing diagnoses, revisions, and/or keys to the taxa we see in the SCB. He also pointed out certain issues to be cautious of: For example, Doug Diener's key to the *Hippomedon* (1991) (modified from Jarrett and Bousfield 1986), includes several species not reported from the NEP, including *H. dentatus*. *Hippomedon keldyshi*, a species described from abyssal depths off Central California, would key to *H. dentatus* using Deiner's key. Also, shallow water specimens that key to that point are of questionable identification as well. Even J. L. Barnard had great difficulty with species boundaries within the



genus *Hippomedon*. Doug's key, in conjunction with the presented review, should allow better ability to speciate members of this genus. This review took most of the morning and the afternoon included a haphazard review of different species and character states. Several noteworthy observations arose from the afternoon session. The SCAMIT voucher sheet for *Aristias* sp A lists gnathopod 1 as "simple" when it is actually sub-chelate. Specimens were examined and the Gn1 was definitely not simple, but as illustrated on the voucher sheet. Somehow the text of the voucher sheet recorded the character incorrectly. In addition, specimen(s) of *Pacychelium* sp SD1 were examined and confirmed, although we determined that the illustration on the voucher sheet needed to be amended. Finally, specimens of *Lepidepecreum serraculum* and *L. gurjanovae* were compared and they appeared to be the same species. Illustrated differences appear to have resulted from gnathopod 2 being mounted at an angle in one figure relative to the other. Confirmation of this speculation requires examination of the type material.

Both those in attendance, and those who later download and use the lysianassoid review, are asked to provide feedback to Don on errors and omissions in the text. Subsequent to the meeting Ron Velarde of CSD demonstrated a specimen from their monitoring that would not fit in the generic key to the lysianassoids provided in the review, so the necessity for change and refinement is already apparent. Email questions, problems and suggested fixes to Don at: dcadien@lacsds.org.

- D. Cadien

JOB ANNOUNCEMENT

The following is taken from an email from member Kelvin Barwick concerning professional opportunities with the City and County of San Francisco.

"The City and County of San Francisco has two positions open in our Marine Biology section. They are both taxonomy positions. The deadline is April 1, no fooling. There are also positions open in our Fisheries and Wildlife section as well as Limnology. They are separate web links.

Thanks
Kelvin"

2483 Biologist I/II (Deep Class) Marine Biology Specialty

http://sfwater.org/JobDetail.cfm/MC_ID/18/MSC_ID/122/MTO_ID/368/CJOB_ID/713

2483 Biologist I/II (Deep Class) Fisheries and Wildlife Specialty

http://sfwater.org/JobDetail.cfm/MC_ID/18/MSC_ID/122/MTO_ID/368/CJOB_ID/744

2483 Biologist I/II (Deep Class) Limnology Specialty

http://sfwater.org/JobDetail.cfm/MC_ID/18/MSC_ID/122/MTO_ID/368/CJOB_ID/745



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Please visit the SCAMIT Website at: www.scamit.org

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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 every two months and is distributed freely to members in good standing. Membership is \$15 for an electronic copy of the newsletter, available via the web site at www.scamit.org, and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All new members receive password protected website access to the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates ... in the Southern California Bight." All correspondences can be sent to the Secretary at the email address above or to:

SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

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SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



September/October, 2007

SCAMIT Newsletter

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Thrissacanthias penicillatus. Sampled by LACSD during B'03 trawls.

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The SCAMIT newsletter is not deemed to be a valid publication for formal taxonomic purposes.

9 SEPTEMBER 2007

The business portion of the September SCAMIT meeting was opened by attending President, Larry Lovell. He started by telling us of something he'd recently read in the Proceedings of the Biological Society of Washington. In Vol 120 no. 2, there was a mention that this publication has now finalized a contract to have its journals made available on-line. It will be available along with a collection of other journals under BioOne. To learn more about BioOne and to see if you belong to another organization that already subscribes, and therefore allows you access to other on-line journals, go to:

<http://www.bioone.org>

Don Cadien had the floor next. He announced that Edition 5 of the Taxonomic Listing is in its final phase. The deadline for submitting new/provisional species for addition to Ed. 5 has come and gone. Stay posted for the expected publication date. The Taxonomic Listing will be posted in the Members Only section of the website where it can be downloaded and printed by members in good standing. However, SCAMIT unfortunately is no longer in a financial position to provide a printed, spiral bound copy, free of charge to all its members. We will only be trying to recover the production costs for those who order a hard copy, bound version, and as of now Cheryl Brantley, our treasurer, is predicting less than \$10. Plans for Edition 6 are already underway and the hope is to have an added, "habitat" category in that future List.

A picture from the International Polychaete Conference in Portland Maine was passed around by Larry Lovell. There was a total of 12 SCAMIT members present at this conference which was a sizeable turnout and one of which SCAMIT should be proud.

Speaking of polychaete conferences, Ron Velarde then announced that the location for the next International Polychaete Conference is being proposed as Lecce, Italy. For those of you who love Polychaetes **and** Italy, this is your chance to really enjoy the "best of both worlds".

Megan Lilly then had the floor and mentioned that Philip Lambert has published a new edition of his guide to the brittle stars, sea urchins and feather stars of British Columbia, Southeast Alaska, and Puget Sound (Lambert 2007). There were a few things of concern during her initial review of the book. It was agreed that at a meeting to review the Echinoderm Chapter in the new edition of Light's Manual (Carlton 2007) we would also review Lambert's new Echinoderm book; date of

UPCOMING MEETINGS

July - Due to the Bight '08 field sampling activities, there will be no SCAMIT meeting this month. Most of our regular membership will be on the high seas collecting.

August 11 - City of San Diego Laboratory. A discussion/reminder of non-polychaete changes in Edition 5 of the SCAMIT species list.

September 8 - LACSD Marine Biology Laboratory. A discussion/reminder of polychaete changes in Edition 5 of the SCAMIT species list

November 10 - This date is currently open with a topic to be determined.

December 6th - We may not have a regular meeting in December, because.....back by popular demand, the SCAMIT Christmas Party at Cabrillo Marine Aquarium will be held again. Details to follow.



the meeting is pending.

With that we were introduced to Dr. Dave Pawson, the guest speaker for the day. Dr. Pawson had graciously prepared not one, but two wonderful presentations for his visit that day. The first presentation was given in the morning to the SCAMIT members in attendance for the echinoderm meeting. It was an overview of holothuroid anatomy, physiology and natural history. He had some beautiful video clips showing bizarre deep sea forms. In one clip, we were treated to a video of an animal called *Enypniastes* swimming and feeding. The animal has well-developed veils which seem to be the result of a fusing of the tube feet. These veils are undulated to create lift. The animal is almost always seen swimming in a vertical position. During the course of the video, the animal slowly lowered itself to the sea bottom where it proceeded to “stuff its face” at an alarming rate. The feeding tentacles were rapidly reaching for the sediment, grabbing a portion of mud, and then shoving said portion into the mouth. With many of the tentacles working at once, and shoveling mud as fast as it could, the animal was able to fill its entire gut in a matter of seconds. The sight made most of us laugh out loud. It reminded me of a small, greedy child shoving in birthday cake as fast as possible before being told they’d had “enough”. Once the gut was full, the animal raised its body, “flapped” its veils, and resumed its vertical swimming behavior. Dr. Pawson said it is postulated that a sediment laden intestinal tract may act as ballast to help the animal maintain its vertical position in the water column.

We were treated to a second video of another deep-sea, swimming holothuroid, whose name I could not begin to spell or pronounce. This animal did not have swimming veils, but rather, large, elongate tube-feet which were modified for swimming. It initially reminded me of a very large polychaete the way it undulated through the water and appeared to have “parapodia”, this obviously was not the case however.

Dr. Pawson touched on the subject of holothuroid fisheries. In many parts of Asia and Indonesia, holothuroids are considered a delicacy. In some instances, with rare species, they can fetch as much as \$140/lb, which can be equivalent to the cost of blue fin tuna. A bizarre thought to most of us “westerners”. Sadly though, there is one species in particular, in Indonesia, which has been highly prized for food and it is now on the verge of extinction. It would appear that the holothuroid fishery is over-due for regulation.

Some of the deep water species are so rare with regards to sightings that they have only been seen in video and no specimens have ever been collected. One such species, *Peniagone leander* Pawson and Foell 1986, had to be described based only on photographs and video. Dr. Pawson was very hesitant to publish on a species for which he had no specimen to designate as a type. However, he was encouraged to do so by his peers at the Smithsonian Institution, as in this instance, photo and videos are currently the only information available on an animal which is obviously a new species.

Another new discovery that was quite unusual involved a deep-sea species of Molpadid, *Ceraplectana trachyderma* (Clark, 1908). Upon examination of specimens, it was discovered that their tentacles were coated with chitin, which previous to this, chitin was unknown in echinoderms. In fact, chitin is a material that has always been associated with protostomes, and this is the first discovery of its development/use in deuterostomes.

Speaking of strange chemistry, Dr. Pawson briefly discussed how some holothuroids, again with the Molpadids as an example, change their calcium carbonate ossicles into ferric phosphate, often as the animal grows and ages. This ability to change calcium carbonate into ferric phosphate is



unique to the Echinoderms. At this point no one knows how or why this feature has evolved.

As for reproduction, most holothuroids are seasonal spawners. They often have a pore near the anterior end of the body through which the gametes are released. During spawning season they will raise their bodies up off the sediment to send their gametes into the water column. Dr. Pawson had images showing this phenomenon.

With that, the first of Dr. Pawson's talks was over and we broke for an early lunch at the Museum Café. We returned by 12:00 for his second talk titled: "A distant mirror: deep-sea research on board the *Albatross* 100 years ago". Many other people from LACMNH joined us to hear this second presentation. It was another delightful and interesting lecture. He covered the history of deep-sea research and shared some insight into the lives of some famous historical researchers such as Alexander Agassiz, Walter Fisher, and Austin Clark. Dr. Pawson's talk was peppered with wonderful anecdotes and humor and was thoroughly enjoyed by all present. He was asked after the talk if he was working on a book detailing the history and lives of some of these famous researchers and his answer was in the affirmative. I, for one, look forward to the completion and publication of this book. If he writes as well as he lectures, it should be a wonderful read.

With that, many of the museum staff left and the remaining SCAMIT attendees spent the afternoon looking at specimens with Dr. Pawson and discussing holothuroid taxonomy. It was noted that there is a paucity of young, "up and coming" individuals who are working on the systematics of this group. There is much to be done, but this is sadly the situation with taxonomy in general. There are not enough new recruits to the field to replace the "old guard" as they retire and leave their posts. Hopefully a new trend for students to again become interested in applied taxonomy and systematics will develop.

- M. Lilly

15 OCTOBER 2007

The October 2007 SCAMIT meeting dealt with mollusks and was held at the Los Angeles County Museum of Natural History. Our guest speaker for the day was Dr. James McLean.

Larry Lovell had the floor and discussed the new changes to SCAMIT's Publication Support Policy. A copy of the new Grant Guidelines, as well as a Publication Support application, are attached at the end of this newsletter.

Rick Rowe (who has since retired and moved to Oregon) was working on a project which involved scanning older SCAMIT newsletters. In their new pdf format they are now searchable and can be safely and easily electronically archived. They are currently being reviewed for OCR scanning errors and will be placed on the website as soon as possible. They will be available to all visitors of the SCAMIT website under the section of past newsletters.

Larry had the floor again and mentioned an interesting taxonomic organization in South Carolina named SERTC (Southeastern Regional Taxonomic Center). SERTC was created by the South Carolina Department of Natural Resources (SCDNR), with funding from the National Marine Fisheries Service. It is housed within the SCDNR's Marine Resources Research Institute as well as the College of Charleston's Grice Marine Lab. It is a very interesting organization and I urge



SCAMITeers to go their website and see some of the resources available and learn more about the organization. There arose a discussion as to the possibility of a “SWRTC”, as this region could use such a center to standardize, even further, the efforts of local taxonomists. Of course, there are always the issues of funding and support to consider, but in at least one instance, a taxonomic center seems to be succeeding. For more information on SERTC go to their website at:

<http://www.dnr.sc.gov/marine/sertc/>

Tony Phillips then had the floor and brought a nemertean problem (with apologies to those present who were strict “malacologists”), to the floor. For those interested, what we locally refer to as *Tubulanus nothus* is the not the actual *T. nothus* of (Bürger, 1892). Tony had sent 5 or 6 specimens to the Smithsonian for examination. The conclusion is that our local *T. nothus* is an undescribed species. A provisional species designation and ID sheet are pending.

With the business meeting concluded, we moved on to the talk by Dr. McLean. He gave a detailed over-view of his pending publications and showed many wonderful plates and discussed a few of the upcoming changes to the systematics of our local molluscan fauna. Be afraid, be very afraid, as there will be over 400 new species described when his books are published. The book dealing with the southern fauna is scheduled to be out first and its impact will be great. I’ve copied below an abstract from the World Congress of Malacology, which provides a better idea of what to expect.

- M. Lilly

Updating the Gastropod fauna of the Northeastern Pacific

McLean, James H

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The northeastern Pacific marine mollusks were once considered well known, but we of the western U.S. now lag behind because a database approach to the entire fauna is years away, to be done by the next generation. Bivalves were monographed in 2000 by Coan, Scott, and Bernard, but no new species were included. A full revision of the shell bearing gastropods is underway, taking into account the large number of new species, and following recent advances in phylogeny and classification. Numerous new species result from deep sea sampling by the University of Oregon and Scripps Institution of Oceanography, and fishery monitoring expeditions along the Aleutian Islands from the Baxter collection and Roger Clark. With the exception of David Lindberg’s collaboration with patelliform limpets, I remain the only person committed to revision on a faunistic scale, so I am without collaborators to hasten the process. This is in contrast to the fauna of the northwestern Pacific for which there have been major checklists and well illustrated manuals produced by collaborating teams in Japan and Russia within the last eight years. Time is too short to begin with a checklist or with separate publication of the new species, so it is necessary to include them in my books. There are to be two separate but overlapping taxonomic manual/revisions, the first to treat the species from British Columbia south to central Baja California, the second to treat the north Pacific species from British Columbia and Alaska, west to Kamchatka, the Kurile Islands, and Hokkaido, considering that the north Pacific represents a continuous faunal region connected by the Bering Sea and the Aleutian Islands. The northwestern Pacific species can now be integrated with the northeastern Pacific species, thanks to the publication in 2006 of Kantor & Sysoev’s Illustrated Catalog of Russian gastropods. With the help of a part-time imaging assistant over the last five years, the working illustrations of about



400 half-page plates (for placement next to the text) for the southern book have been completed; work on the illustrations for the northern book is well underway. Publication of the first volume that treats 1400 species should be possible in two years.

- Reprinted (pp. 142-143) from: Abstracts, World Congress of Malacology, Antwerp, Belgium, 15-20 July 2007

Edited by K. Jordaens, N. Van Houtte, J. Van Goethem & T. Backeljau

ATTACHMENTS

This newsletter has two additional attachments to those I mentioned previously. First, you will find SCAMIT's annual treasury summary. Secondly, I've copied a flyer and membership application for SAFIT (Southwestern Association of Freshwater Invertebrate Taxonomists), a "sister" taxonomic organization. SCAMIT has now had two joint meetings with SAFIT and we are finding the relationship both enjoyable and beneficial. If any of you are interested in, or conduct, any freshwater research, please take time to review the information provided on SAFIT.

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- Pawson D.L. and E.J. Foell, 1986. *Peniagone leander* new species, an abyssal benthopelagic sea cucumber (Echinodermata: Holothuroidea) from the eastern central Pacific Ocean. Bulletin of Marine Science 38(2): 293-299.



Please visit the SCAMIT Website at: 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	Larry Lovell (310)830-2400X5613	llovell@lacsds.org
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5605	cbrantley@lacsds.org

Hard copy 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 every two months and is distributed freely to members in good standing. Membership is \$15 for an electronic copy of the newsletter, available via the web site at www.scamit.org, and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All new members receive password protected website access to the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates ... in the Southern California Bight." 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

900 Exposition Boulevard

Los Angeles, California, 90007

SCAMIT Treasury Summary 2007 – 2008

Below is the treasurer's report for 2007-08. As you can see our expenses for the year were more than our income, however that is due to the extra workshops SCAMIT organized this year, (i.e. SAFIT, Morphbank and Specify). These are not only of benefit to our members but also helps expose our organization to the greater science community at large. The figures below represent our current balances as of 6/16/2008 and our expenses to date since our newsletter is a little behind. SCAMIT is still spending almost twice as much for printing and mailing newsletters to hardcopy members as electronic members. We greatly appreciate the extra membership dues our hardcopy members pay to help us make up that difference. SCAMIT did not award any publication grants this year but as stipulated in our new grant policy (seen in this newsletter) we do have 25% of our budget (\$18,019.04) available for grants, which is currently about \$4,000. SCAMIT did host another holiday luncheon last December for all its members and we hope to host an evening event at the Cabrillo Marine Aquarium this year. Also, we are at an all time high for memberships (145). We keep growing every year. I know the income below doesn't reflect that but I'm confident renewal checks will keep trickling in. -Cheryl

Account Balances (as of 6/16/08)

Checking	\$ 5,081.52
Certificate of Deposit	\$12,843.75
Cash	<u>\$ 93.77</u>
Total	\$18,019.04

Income

2008 Membership dues	\$ 1,020.00
Interest from CD	<u>\$ 301.83</u>
Total	\$ 1,321.83

Expenses

Electronic newsletter (website/domain name)	\$ 310.39
Hardcopy newsletter (printing/postage).	\$ 554.70
Workshop expenses	\$ 742.80
Holiday luncheon	<u>\$ 655.26</u>
Total	\$ 2,263.15

SCAMIT's Taxonomic Publication Support Policy

1. The officers will decide at the beginning of each grant season whether there are sufficient funds to offer grants. The amount available for any grant season will not exceed 25% of the total moneys in the SCAMIT accounts as of the first day of the grant season. The available amount will be determined by the Treasurer. This policy is subject to change at the discretion of the duly elected officers.
2. If money is available, applications for publication support will be accepted between June 1st and December 1st of each year. An announcement to this effect will be posted on the members-only portion of the SCAMIT web site.
3. Accepted grants will be announced and the disbursement of funds will be completed prior to April 30th of the following year.
4. Support will be limited to publications that are pertinent to the purpose and goals of the Association as outlined in Article 2 of the constitution.
5. Disbursement of funds directly to the party or parties providing the professional services is preferred.
6. Funds shall only be granted in support of costs associated with the completion of works intended for publication in peer-reviewed journals.
7. Funds shall be offered for the defraying of costs to prepare a manuscript (e.g. typing, text processing), illustrations (e.g. drawings, photos, SEM) and journal page charges.
8. No support will be provided for travel, time, or any costs incurred in the development or conduct of the research leading to the preparation of the manuscript.
9. Authors receiving SCAMIT support shall agree to acknowledge that support in the publication.
10. Support is provided only to members in good standing.
11. Applications are available from the Secretary at:

Megan Lilly, SCAMIT Secretary
City of San Diego EMTS Laboratory
2392 Kincaid Rd.
San Diego, CA 92101-0811

**Southern California Association of
Marine Invertebrate Taxonomists**

Publication Support Fund Application

1. Authors(s) name:
2. Address:
3. E-mail:
4. Phone:
5. Title of manuscript:
6. Topic, scope, and size of manuscript:
7. Estimated date of manuscript completion:
8. Estimated date of submission:
9. Name and address of publisher to which it will be submitted:
10. Submit evidence that manuscript is complete or nearing completion. A folder containing a copy of the text, drawings or photos, and literature section would be adequate to determine the degree to which the paper is completed.
11. Submit an itemized list of all work for which you are seeking support. Include the names and addresses of those parties providing the services, with a written quotation of their fees.
12. All authors must sign and date this entire form and return it to the SCAMIT Secretary. This signature demonstrates the applicant's agreement to the terms and conditions contained within the application form.

1) Name:

2) Name:

Signature

Date

Signature

Date

3) Name:

4) Name:

Signature

Date

Signature

Date

13. Please return this completed form and any attached sheets to the SCAMIT Secretary:

**Megan Lilly
City of San Diego Marine Biology Lab
2392 Kincaid Rd.
San Diego, CA 92101
mlilly@sandiego.gov**

*Below is for official use
only.*

Date received:

Date reviewed:

Comments:

Accepted: Yes / No

Grant Number:

Amount:

Payee (s):

Date:

Treasurer's Signature: _____ Date: _____

Southwest Association of Freshwater Invertebrate Taxonomists



**Promoting
taxonomic
standardization &
collaboration
throughout the
southwestern United
States**



The **Mission of the Southwest Association of Freshwater Invertebrate Taxonomists (SAFIT)** is to promote a better understanding of the taxonomy and systematics of macroinvertebrates in support of the assessment of biotic conditions in the inland aquatic ecosystems of the southwest United States. Fundamental to this mission is the standardization of the identification and reporting of taxa. SAFIT fosters research, education, training and professional development of environmental scientists, as they pertain to inland aquatic macroinvertebrates.

SAFIT Membership Benefits

- Annual Meetings with the latest updates in our field
- Taxonomic Training and Workshops
- Procedural Workshops Hazardous Materials Shipping, QA/QC and others
- Free or Reduced Fees at Workshops, Training and Fieldtrips
- Latest Literature Announcements
- Employment and Business Opportunities
- Members Email List
- Listing in Membership Directory
- Collecting Trips
- Collaboration Opportunities
- Access to Taxonomic Experts
- Opportunities to Participate in Establishing Taxonomic Guidelines for the southwestern US



Application For SAFIT Membership

Please start my SAFIT membership for the year January, 20____
(Memberships apply to the calendar year.)

Payment in U.S funds drawn on U.S. bank is required. Checks and Money Orders should be made payable to the Southwest Association of Freshwater Invertebrate Taxonomists (or SAFIT).



Name _____ Dr / Prof / Mrs / Ms / Mr

Address _____

Address _____

City _____ St _____ Zip _____

Tel. () _____ FAX () _____

E-mail _____

Membership Category

___ Regular Member (voting).....\$25

___ Student.....\$15

___ Agency or Institution.....\$75

I enclose my check or money order for \$ _____

Mail this application to: SAFIT Secretary
Dr. Kim Kratz
17114 Tualatin St.
Lake Oswego, OR 97035

Information for SAFIT Membership Directory (see codes listed below)

Employment: _____ (select all applicable codes)

Education: _____ (select all applicable codes)

Professional Profile (select three codes for each category, preferred first):

Taxa Group(s): _____

Primary Interest Area: _____

Habitat: _____

Employment:

- A – Academic
- C – Consulting
- F – Federal Government
- S – State/ Provincial/ Regional Government
- T – Tribal Government
- P – Private Industry

Education:

- B - Bachelor's Degree
- M - Master's Degree
- P - Doctoral Degree
- O - Other

Taxa Group:

- X01 - Aquatic insects/invertebrates
- X02 - Oligochaeta, Polychaeta, Hirudinea, Branchiobdellida, Acanthobdellida
- X03 - Zooplankton
- X04 - Crustacea
- X05 - Ephemeroptera
- X06 - Odonata
- X07 - Plecoptera
- X08 - Megaloptera, Neuroptera, Hemiptera
- X09 - Coleoptera
- X10 - Trichoptera
- X11 - Chironomidae
- X12 - Diptera: other
- X13 - Mollusca
- X14 - Other aquatic organisms

Primary Interest Area:

- A01 - Environmental impact assessment
- A02 - Toxicology / bioassay
- A03 - Fisheries biology
- A04 - Power plant / industrial impacts
- A05 - Taxonomy / systematics
- A06 - Primary / secondary production
- A07 - Nutrient / organic matter processing
- A08 - Life history / behavior studies
- A09 - Statistics / computer science
- A10 - Administrative
- A11 - Teaching

Habitat:

- H01 - Rivers/streams
- H02 - Lakes / reservoirs
- H03 - Marshes / estuaries
- H04 - Oceans
- H05 - Wetlands
- H05 - Other

SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



November/December, 2007

SCAMIT Newsletter

Vol. 26, No. 4



Tryonia imitator (Pilsbry 1899)

Voucher no. 983004
 B' 98 Sta. 2253
 5AUG98
 7.4m
 San Diego Bay

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1-2 NOVEMBER 2007 HYDROBIIDAE WORKSHOP

The November 2007 SCAMIT meeting was a two-day workshop on Hydrobiid snails hosted by Weston Solutions Inc in Carlsbad California. SCAMIT was fortunate enough to have Dr. Hershler from the Smithsonian teaching attendees the fine intricacies of trying to speciate snails in the family Hydrobiidae.

There are no detailed notes on the two-day workshop as your Secretary was struggling mightily with the task of dissecting small snails and looking for delicate soft parts. However if you visit the Taxonomic Tools Section on the SCAMIT website you will find documents, images, and a PowerPoint presentation which deal with information covered at the workshop.

This meeting was a joint venture with our sister organization SAFIT (Southwest Association of Freshwater Invertebrate Taxonomists). Hydrobiid snails are mostly fresh water in habitat, but there are those species that exist in estuarine environs. It is here the worlds of SCAMIT and SAFIT overlap. Of particular concern is being able to identify *Potamopyrgus antipodarum*, the New Zealand mudsnail, which is an invasive known from much of the transmontaine west, including the Santa Monica Mountains. This animal, to the untrained eye, can be mistaken for the local, native hydrobiid, *Tryonia imitator*, which is a species of concern. For bioassessment and monitoring purposes the ability to recognize a foreign invasive species from an indigenous species is of obvious import. I think most attendees left the two-day workshop with at least the tools in hand to attempt this task.

Our gratitude goes to Dr. Hershler for his invaluable assistance in this matter and to Sheila Holt of Weston Solutions Inc for organizing the meeting.

CALCOFI MEETING - NOVEMBER 2007

It was with pleasure that I was able to attend the special symposium on the squid, *Dosidicus gigas*, at the annual CalCOFI meetings. The "Red Devil" or "Diablo Rojo" has been showing up in more northern climes with greater frequency in the last decade and has been seen in sporadically high abundances since 2003. This recent range extension phenomenon has led to a renewed interest in its biology and life history.

The first talk by Hatfield and Hochberg, looked at the historical range expansion of *D. gigas* and found evidence of the animal periodically moving northwards since as early as 1858. It would appear that historically *Dosidicus* has likely ranged north as far as Alaska during large, multi-year incursion events, such as those in 1910-1913, 1934-1936, 1974-1976, and 1997-1999.

UPCOMING MEETINGS

17 November 2008 - SCCWRP. A meeting of the Taxonomic Database Group. Guest Speaker - Deb Paul from Morphbank. Subsequent Morphbank workshops: 18 November (Tues) at CSD; 19 November (Wed) at LACSD; 20 November (Thurs), at OCSD. Contact Larry Lovell for more information or to sign up: llovell@lacsds.org.

6 December 2008 (Saturday) - Cabrillo Marine Aquarium. SCAMIT Christmas Potluck Party. Hours: 5:30 pm - 9:00 pm. Bring the kids! Santa will be there with bells on.

14 January 2009, Wednesday - Venue TBD. Discussion of the Amphipod chapter in Light's Manual and examination of problem specimens. Guest Speaker - John Chapman.



Another talk dealt with diet and life history. Gut content analyses of animals caught locally, showed a diet of hake, small pelagic flatfishes, rockfish (the heads are not consumed), sardines, northern anchovies, and market squid. Many individuals of these prey species were juveniles, but some were market size. There is concern about the potential impact of *D. gigas* on the market squid fishery. However, it is hard to predict with any accuracy whether or not an effect will be seen.

As for local mass strandings, they seem to happen frequently during the summer months and are often synchronous with the grunion runs, but the correlation is not one hundred percent. Another variable that was considered was local oceanographic conditions. However, no obvious correlation arose between the strandings and the occurrence of either El Niño or La Niña. However, the problem with this aspect of the study is that the presence of *D. gigas* is noted as the animals start to strand, which does not necessarily reflect when they arrived in the region. Preliminary data seems to suggest that the Mexican populations have been moving north. One conclusion is there are now established populations in the Southern California Bight that reside here year around, as evidenced by the presence of mature and spawning specimens.

There was a very interesting talk by Carmen Yamashiro which dealt with a southern population of *D. gigas* off the coast of Peru. In Peru there is an active fishery for this squid and many years of data have been collected with regards to their life history and biology. Large, healthy cohorts of *D. gigas* are associated with cold water temperatures and high salinity readings. During the strong 1997-1998 El Niño, the *Dosidicus* fishery suffered a crash. It seems however, that temperature and salinity affects have more of an impact on paralarvae survival and subsequent recruitment success, than on mature adult animals.

It will be interesting to see, as our world climate shifts and ocean conditions change and fluctuate, if large strandings of “The Red Devil” will be common place here in southern California as well as more northern regions.

- M. Lilly

13 DECEMBER 2007 – MORPHBANK MEETING

The meeting began with an update by member Wendy Storms (CSD). Wendy has been working on placing the SCAMIT Species List into an Access database. Once this project is complete it will be easier to “hang” information off a species name, such as ecology notes, digital images, keys, etc. The ultimate goal will be to have the SCAMIT Species List become a web-based interactive database, but for now Wendy works on the task of reformatting the list to work within the Access database program.

Tony Phillips (CLAEMD) then had the floor and announced that he had completed a rough draft of a key to the Polycladida from our SCB monitoring programs. He requested “testers” for his key. In other words, he would like people working on polyclad specimens to take them through his key and provide feedback on the process. If you are interested in being a “tester” for Tony, please contact him at: Tony.Phillips@lacity.org

Long time member and friend to many, John Ljubenkov, then had the floor with a special request. He sadly lost his home in the October 07 wildfires and much of his cherished literature was destroyed. He is asking any SCAMIT members who have extra reprints of papers concerning his areas of expertise (Mollusca and Miscellaneous Phyla) to please send them, so he can start



rebuilding his library. If you would like to make a literary donation and help John rebuild his literature collection, you can contact him at: ljubenko@pacbell.net.

Our speaker for the day, Katja Seltman, was then introduced by Rick Rowe. Katja currently works for the School of Computational Science at Florida State University. Katja presented an introduction to Morphbank and its benefits. Morphbank is an online repository for biological images of all types, from plants, to insects, to fish, to mammals, etc. They have poor representation of marine invertebrates and are interested in SCAMIT and its members using Morphbank as an image repository. They provide the advantage of storage space that is backed up nightly without having to take up hard-drive space on one's home or office computer. They also provide access to those images (should they be designated as "published" by the submitter) to the Morphbank user community.

Lunch was the SCAMIT Holiday Luncheon provided by SCAMIT. Megan Lilly and Kathy Langan of the City of San Diego Lab organized a great spread of food offerings with plenty of variety to go around. Thanks Megan and Kathy!!

After lunch the group moved upstairs to a room that had been set up with banks of computers and work spaces for personal laptops. Internet connections and WiFi were available for all to be able access Morphbank's website. Katja had already provided many of those attending with Morphbank usernames and passwords. Others were able to obtain their own that day. The afternoon was spent in loading images that members brought to the meeting. It was discovered that there was a learning curve in working with the user commands, but many were able to get a few images loaded on to the Morphbank website.

It is hoped that SCAMIT and Morphbank will be able to further develop a relationship that will benefit both organizations.

SAFIT ANNUAL MEETING – NOVEMBER 2007

I attended the meeting on The Los Angeles County Sanitation Districts' time in my capacity both as an LACSD employee and President of SCAMIT. My travel expenses were provided by SCAMIT. This was the second annual meeting for SAFIT and functioned largely as an organizational meeting.

SAFIT emerged two years ago from a California Department of Fish and Game sponsored taxonomic workgroup, California Aquatic Macroinvertebrate Laboratory Network (CAMLnet). Those who had been active participants in CAMLnet formed SAFIT. SAFIT is currently mandated to provide guidance to the California State Water Resources Control Board's Surface Water Ambient Monitoring Program (SWAMP). A Standard Taxonomic Effort (STE) document is maintained and distributed by SAFIT to provide guidance to, and standardization between, taxonomists working on SWAMP program samples.

President Joe Slusark [a taxonomist at the Aquatic Bioassessment Laboratory (ABL), a part of the Department of Fish and Game's Water Pollution Control Laboratory] called the meeting to order at 10:20. There were 20 persons in attendance. Most were from the Central California area, with some from as far away as Oregon and Southern California. Most were taxonomists who process freshwater bioassessment samples for private consulting companies or government agencies. There was a professor with three students from CSULB and one SWRCB employee (LA office). I report below on agenda items of interest.



SAFIT held two workshops last year (Hazardous Materials DOT shipment training and one co-sponsored with SCAMIT on hydrobiid snails). Joe discussed offering Hazardous Materials DOT shipment training in Southern California and I commented that the current certification of SCAMIT members would be expiring in the next year or so and that there would be interest. They announced several taxonomic workshops they have planned for 2008/2009. There is another joint SAFIT-SCAMIT workshop on estuarine arthropods to be jointly led by Christopher Rogers, SAFIT (Eco-Analysts) and Don Cadien, SCAMIT (LACSD) that is in the planning stages. I commented that as SWAMP, and particularly SQO State of California mandated sampling programs get implemented in coastal wetland areas, a workshop would be needed to provide taxonomist training in the resolution of oligochaetes.

SAFIT has acquired the domain name SAFIT.org and has a brief informational page posted. Future plans for the SAFIT website include general information about the organization and links to labs and websites of interest. When fully developed, their website will also have links to the STE document developed by SAFIT members and an online reference collection of biological images (developed by SAFIT members working at ABL) designed to assist in the identification of taxa cited in the STE. The SWAMP website currently provides a link to the STE document. (Secretary's note: As of this newsletter's publication, which is almost year after the meeting, SAFIT.org has accomplished most of the items listed above).

Ken Schiff (SCCWRP) reported that SAFIT has nearly completed the process of incorporation and obtaining non-profit 501-c-3 clearances with both the State of California and the Federal government. They will be accepting membership applications beginning January 1, 2008. The annual cost will be \$25 for Regular Members (voting), \$15 for Students, and \$75 for Agencies or Institutions.

Brady Richards (ABL) reported on the STE, the guidance document used by all taxonomists working on State Water Ambient Monitoring Program (SWAMP) samples. The revision released 28 Nov 2006 is the third version and contains updates in name usage and level of identification from the previous document released in 2003.

Much discussion was devoted to Quality Assurance (QA) of samples, including both sorting and taxonomic analysis. Currently ABL acts as the unofficial QA lab for freshwater samples in the state. Taxonomic certification programs and the pros and cons of the current program offered by the North American Benthological Association were also discussed. Both POTW's and SCAMIT have an interest in sample QA and I volunteered to be on the SAFIT QA workgroup. The workgroup will communicate via emails and conference calls to develop a QA guidance document that can be used by labs and State agencies to fulfill mandated QA requirements.

The creation of an education/outreach/student scholarship committee generated considerable discussion, resulting in four members volunteering to participate on that committee. As with SCAMIT, SAFIT members see the need for generating interest in the field, training new taxonomists, and providing assistance to students.



SAFIT has five officers that serve two-year terms. Election of two and then three officers in alternate years assures that there are always experienced officers present on the board.

My impression of the meeting and the organization was that much like SCAMIT, SAFIT is composed of a group of dedicated, experienced individuals who recognize the need for such an organization and have the desire to collectively push forward on the goals of their mission statement, “promoting taxonomic standardization and collaboration throughout the southwestern United States”. As taxonomic organizations that work in differing watery realms, our faunas don’t have much in common, but we do share in the goal of resolving taxonomic issues in estuaries where fresh and ocean waters meet and their respective faunas overlap.

Submitted by - Larry Lovell, Marine Biologist II
December 3, 2007

POLYCHAETE VOUCHER SHEET

Please see the attached voucher sheet on *Petaloclymene pacifica* produced by Larry Lovell and Karen Green

MARINE SPECIES IDENTIFICATION PORTAL

The following information was kindly provided by member Lisa Haney (LACSD).

Launched: Marine Species Identification Portal
(MarBEF/KeyToNature)

This is to announce the launch of the Marine Species Identification Portal (www.marinespecies.eu), an initiative of ETI BioInformatics under MARBEF (an EC funded network of Excellence) and KeyToNature (a project in the EC e-contentPlus Programme). This website provides open access to scientific information on marine species, including identification keys, to support the scientific community in activities such bio-monitoring programs, and to provide students and other interested parties with general information on marine biodiversity.

The Marine Species Portal unlocks information on 9,875 marine species and 5,545 higher taxa, most with descriptions and illustrations. A total of 7,932 taxa are keyed out in 52 identification keys. Furthermore 19,876 synonyms plus 2,782 vernacular names in English, and 8,389 names in 25 other languages, facilitate searching.

The information was compiled over a period of 10 years by a global network of collaborating taxonomists started with UNESCO support. Currently 31 species documentation projects are included; information on authors and other contributors can be found for each section under the menu item ‘credits’. Most projects are also available on CD-ROM published in ETI’s World Biodiversity Database series. The information and identification systems presented here were constructed using the Linnaeus II taxonomic data management package that is downloadable from the ETI website. Differences in geographic coverage and taxonomic treatments are the consequence of a decentralized, author-driven mechanism that ETI set up for species documentation; a process that is still ongoing.



The Marine Species Portal is very much a work in progress; other functionality such as dynamic maps will be added as well as more taxa. Your participation to improve, enhance and increase the content of this site is much appreciated and encouraged! If you have keys on missing taxa, hold better illustrations or more detailed descriptions, don't hesitate to contribute! This is your site; we merely facilitate the information sharing process! We are interested in your feedback to improve the information service.

Relevant URLs

Marine Species identification Portal: www.marinespecies.eu

MarBEF: www.marbef.org

KeyToNature: www.keytonature.eu

ETI: www.eti.uva.nl

Dr. Peter H Schalk
Managing Director

BIBLIOGRAPHY

Hatfield, E.M.C. and F.G. Hochberg. 2007. *Dosidicus gigas*: northern range expansion events. California Cooperative Oceanic Fisheries Investigations. Annual Conference 2007. Program and Abstracts.

Yamashiro, Carmen, et al. 2007. Distribution and abundance of jumbo squid (*Dosidicus gigas*) off Peruvian coasts and their relationships to environmental conditions. California Cooperative Oceanic Fisheries Investigations. Annual Conference 2007. Program and Abstracts.

Please visit the SCAMIT Website at: 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	Larry Lovell (310)830-2400X5613	llovell@lacsd.org
Vice-President	Leslie Harris (213)763-3234	lharris@nhm.org
Secretary	Megan Lilly (619)758-2336	mlilly@sandiego.gov
Treasurer	Cheryl Brantley (310)830-2400x5605	cbrantley@lacsd.org

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SCAMIT
C/O The Natural History Museum, Invertebrate Zoology
attn: Leslie Harris
900 Exposition Boulevard
Los Angeles, California, 90007

SCAMIT VOUCHER SHEET

Species name: *Petaloclymene pacifica* Green 1997

SCAMIT Vol. 26 No. 4

Family: Maldanidae

Prepared by: Larry Lovell, LACSD and Karen Green, SAIC

SYNONYMY: *Euclymene grossa newporti*, not Berkeley & Berkeley 1941; Maldanidae sp A of CSD 1984; Maldanidae sp A of Phillips 1987; *Petaloproctus* type rear ends, of Green 1985 (SCAMIT voucher sheet Vol. 3, No. 12). Note: These are historical synonymies of usage in Southern California sampling programs.

LITERATURE: Green 1997; SCAMIT Newsletter 2001, Vol. 20, No. 5; Rodríguez-Villanueva, Martínez-Lara & Macías-Zamora 2003.

DIAGNOSTIC CHARACTERS:

1. Rostrate uncini in neuropodia setigers 1-3.
2. Paired **dorsal** pores present on setigers 7-9 (see figs. 2, 3), (**not in original description, not reported for Maldanidae; KG**). Pores are posterior to and slightly dorsal to the notosetae.
3. Methyl green staining pattern is present in pre and post-setal areas on setigers 4-7, with strong ventral staining patch on setiger 8 extending pre- and post-setal (see fig. 4).
4. Prostomium forms cephalic plaque with margins slightly incised posterolaterally and posteriorly (more pronounced in larger individuals). Nuchal organs long and parallel. Reticulate pattern visible on large individuals (see fig. 1).
5. Pygidium forms asymmetrical anal plaque; margin well developed with dorsal notch (see figs. 5, 6). Anus near ventral margin of plaque. Unfortunately pygidium is usually lost due to fragmentation, but can sometimes be found in the polychaete "fragments".

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. *Axiothella* sp – Rostrate uncini in neuropodial setigers 1-3, dorsal pores absent, MG staining presetal on setigers 1-4 and pre and postsetal on setigers 5-8, symmetrical anal plaque with central anus and cirlet of pygidial cirri. Note: The taxonomy of the local species of *Axiothella* is poorly understood.
2. *Euclymeninae* sp A SCAMIT 1987 – Single acicular spines in neuropodial of setigers 1-3, dorsal pores absent, MG staining pattern on pre-setal areas only in setigers 4-7, MG ventral and lateral racing stripes present in early abdominal setigers, symmetrical anal plaque with central anus and cirlet of pygidial cirri.
3. *Praxillella pacifica* E. Berkeley 1929 – Neuropodial spines setigers 1-3, dorsal pores absent, MG staining pattern setigers 4-8 is solid with no post-setal stain on setiger 8, symmetrical anal plaque with anal cone and cirlet of pygidial cirri.
4. *Praxillella gracilis* (M. Sars 1861) – Neuropodial spines setigers 1-3, dorsal pores absent, prostomium with long thin anterior palpode, MG staining pattern setigers 4-8 is solid with no post-setal stain on set 8, symmetrical anal plaque with anal cone and cirlet of pygidial cirri.
5. *Petaloproctus* sp – no cephalic plaque, neuropodial spine on first setiger, dorsal pores absent, anal plaque asymmetrical.

COMMENT: Identification of anterior fragments (the condition of most specimens) is confirmed by presence of dorsal pores on setigers 7-9 and MG staining pattern on setigers 4-8. Presence of the unique pygidial sections in samples indicate occurrence of this species.

SCAMIT VOUCHER SHEET, cont.

Species name: *Petaloclymene pacifica* Green 1997

SCAMIT Vol. 26 No. 4

Family: Maldanidae

Prepared by: Larry Lovell, LACSD and Karen Green, SAIC

DEPTH RANGE: 10-200m

HABITAT & DISTRIBUTION: Silty-sandy sediments; Santa Barbara to NW Mexico.

ILLUSTRATIONS:

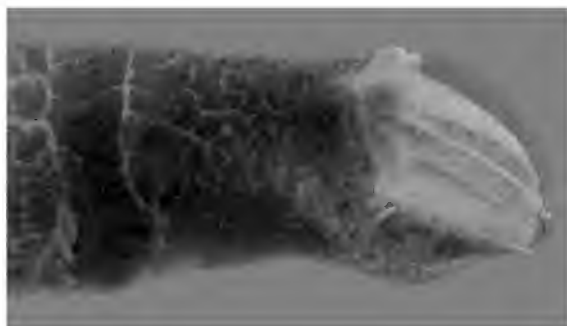


Figure 1. Head end, lateral view, MG staining.



Figure 2. Dorsal pores, set 7,8; MG staining.



Figure 3. Dorsal pore, set 9, MG staining.



Figure 4. Ventral MG staining area setiger 8



Figure 5. Pygidium, lateral view.

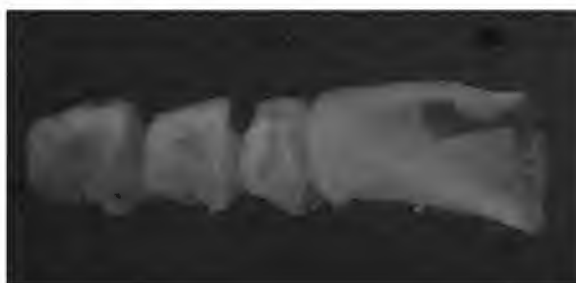


Figure 6. Pygidium, dorsal view.

Material examined: Figs 1-3, large specimen, LACSD Station 1B, 150m, July 2007; Figs 4-5, LACSD Station 6D, 30m, July 2007.

SOUTHERN
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MARINE
INVERTEBRATE
TAXONOMISTS



Jan/Feb-Mar/Apr, 2008

SCAMIT Newsletter

Vol. 26, No. 5/6



Aphrodita longipalpa, prostomium and palps, note no eyes visible. From LACSD collection. Photo credit Larry Lovell.

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The SCAMIT newsletter is not deemed to be a valid publication for formal taxonomic purposes.

JANUARY 14, 2008

The meeting was held at the Los Angeles County Museum of Natural History. President Larry Lovell opened the business part of the meeting by thanking Rick Rowe for organizing the successful December meeting, and he thanked everyone who attended.

Larry gave us an update from Ken Smith's group; they have reels of time-lapsed photography from deep Station M that they plan to digitize and then possibly submit to MorphBank.

We discussed the printing of the SCAMIT Species List Edition 5. The Los Angeles County Lab has printed it in-house, and Cheryl Brantley commented that it's about twice as large as Edition 4.

We have a new contact person at Cabrillo Museum, Dr. Julianne Kalman. She works on parasitic copepods of trawl-caught fish, and she is receptive to hosting a SCAMIT meeting at the Museum.

There was a discussion about the possibility of having training workshops. Some members at Orange County are interested in receiving advanced taxonomic training. Larry talked about the aging cohort of taxonomists, many of who will be retiring in the next few years, and the need for training younger taxonomists. One option for training classes is to have two SCAMIT meetings per month where one meeting would be specifically for training purposes. The challenge is to recruit people to do the training since most people are very busy with their own jobs and/or consulting projects.

Leslie talked about a recent conference she attended in Monterey, Mexico, and she observed many young, eager taxonomists who are looking for work in polychaete taxonomy. She sees this as a viable source of next generation taxonomists. The question was asked if anyone knew of other taxonomists in Mexico who are interested in working on non-polychaete groups.

We discussed the new sediment quality objectives and the idea of a taxonomic certification program. Larry said that England already has such a certification program, as does the North American Benthological Society. We reiterated a point we all know; good quality taxonomy produces good quality data. Tony commented that for the upcoming Bight '08 and Bight '13

UPCOMING MEETINGS 2009

March 9 & 10. LACMNH. 9:30-3:30. A two day review of Cumacea by Drs. Les Watling and Sarah Gerken. Once again a review of that chapter in Light and Smith's Manual will be part of the meeting. Bring any specimens you are having difficulty IDing from Bight '08 samples

April date TBA. LACMNH. 9:30-3:30. Dr. Regina Wetzer, is hosting a peracarid meeting at Catalina Island in early April. There will be several experts in various peracarid groups attending and Leslie Harris will be arranging a SCAMIT meeting with one of them. Further information will be forthcoming as a date and topic are determined.

May 11. SCCWRP. 9:30-3:30. The database group will be meeting again to report on and discuss progress and direction on the taxonomic database. Dawn Olson and Wendy Storms will provide a report on their development work with Katja Seltmann.

May 26. Orange County Sanitation Districts. 9:30-3:30. Discussion of cirratulids, a long overdue topic, will finally begin. We will begin with a review of the following genera; *Cirratulus*, *Cirriformia*, *Protocirrineris*, and *Timarete*. Tony Phillips will be leading the meeting. Bring your voucher specimens, voucher sheets, and literature to the meeting for a complete review on these genera.



projects there will be fewer and fewer qualified taxonomists unless we can recruit and train new taxonomists soon. Rick pointed out the benefits of online training and how it could attract more people and be more accessible.

Don Cadien is working on a proposal for financial support for taxonomic training. He is modeling his proposal after the Southeast Training Center, which has been in operation for approximately 8 years.

Tony Phillips gave an update from the Bight '08 meeting. There will be a total of 360 grabs taken during the survey. There was a discussion of the availability of taxonomists and how to proceed with QA/QC. Leslie Harris offered to perform the QA/QC on all the polychaetes instead of every polychaete taxonomist exchanging samples with each other.

With the business portion of the meeting complete, we got to the taxonomic purpose of the day. Leslie led the discussion which reviewed the Annelida chapter of the new Light and Smith's manual authored by Jim Blake and Gene Ruff. She commented that there are species limitations due to the geographical range covered. The annelid chapter is expanded considerably from the previous edition with inclusion of information and species that were presented in the MMS Atlas Series chapters by Blake and Hilbig. It contains good introductory sections reviewing the general morphology, collection and preservation, dissection of jaws, mounting of parapodia, staining, the fauna and the keys, and a glossary of terms with definitions. There is an illustrated key to the polychaeta families, followed by a brief review of the meiofaunal families. The macrofaunal and epifaunal family sections, with a review of each family including an illustrated key to the species, are then presented. The following comments to these families were made:

Aphroditidae: SCAMIT agrees that *Aphrodita parva* may be a juvenile of *A. japonica* and that *A. japonica* is a "catch-all" species name. Los Angeles County Sanitation Districts and Hyperion Treatment Plant labs use "*A. japonica* complex".

Polynoidae: Kristian has commented to Leslie that he believes *Halosydna brevisetosa* and *H. johnsoni* are separate species. *H. johnsoni* is distinguished by having brown stripes. Leslie said that there are 6 species in Japan that key out to *Harmothoe imbricata*. *H. imbricata* is a species complex and Imagima talks about plasticity in reproductive mode. We also see a variety of pigmentation in this species complex. Leslie uses "*H. imbricata* complex". *Lepidonotus squamatus* is listed, but not *L. spiculus*, which Leslie finds is the most common *Lepidonotus* in San Francisco Bay. *Malmgreniella macginitiei* could be a number of different species.

Pholoidae: Blake states that *Pholoe glabra* was misidentified in part as *P. tuberculata* in the previous edition. Leslie doesn't think we get *P. tuberculata* here, and we're not sure what Blake means by "in part" in this case.

Sigalionidae: *Sthenelais berkeleyi* can easily be distinguished from *S. fusca* by a "thickly papillated ventral surface". It was suggested that we need a SCAMIT meeting on *Sthenelais*.

Pisionidae: Leslie uses *Pisione* spp; the setae are very fragile and difficult to examine. However, there are several different species.

Phyllodocidae: The dorsal cirri pictured for *Clavadoce splendida* do not match those in Hartman. Leslie has examined the type specimen and all but 2 dorsal cirri were missing. We questioned the occurrence of *Eteone balboensis*. We accept the synonymy of *Eulalia aviculisetata* with *Eulalia quadrioculata* for now. Leslie believes there are up to 4 species with a combination of different characters and intermediates. Leslie has not seen true *Eulalia viridis* or *Eumida sanguinea* in San Francisco Bay or anywhere else.

Hesionidae: We agree with the synonymy of *Micropodarke amemiyai* with *Micropodarke*



dubia. With regards to our local species, Leslie is not convinced it's *M. dubia*, and she uses *Micropodarke* sp.

Syllidae: *Myrianida pachycera* is a new species for SCAMIT. Arne synonymized *Autolytus* and *Myrianida*. The color patterns for *Amblyosyllis* spp are species diagnostic. SCAMIT's *Amblyosyllis* sp A is the same as Dorsey's old *A. speciosa*, which matches Figure D in Imajima. *Ehlersia* should now be included as a junior synonym under *Typosyllis*. Licher put *Typosyllis pulchra* into synonymy with a European species.

Nereididae: We have not recorded *Neanthes limnicola* in S. California. Although Blake synonymizes *Nereis mediator* with *Nereis grubei*, Leslie suggested that we should look at material from Chile before we accept the synonymy. *Nereis pelagica neonigripes* should be elevated to species level. SCAMIT uses *Nereis* sp A instead of *N. procera*.

Goniadidae: SCAMIT follows Böggemann. We question the occurrence of *Goniada brunnea* since it is normally a deeper water species.

Nephtyidae: We don't agree with the synonymy of *Aglaophamus neotenus* with *Nephtys cornuta*. Larry has examined the types of *N. parva* and found them to be *N. cornuta*. It is not known whether *N. parva* is valid or not.

Eunicidae: Leslie believes that *Marphysa sanguinea* is a true cosmopolitan species.

Dorvilleidae: We do not distinguish between species of *Dorvillea* and have agreed to use sp.

Oeonidae: We do not distinguish between species of *Arabella* and have agreed to use sp.

Orbiniidae: *Scoloplos armiger* should be "*Scoloplos armiger* complex".

Paraonidae: We use *Aricidea* sp A instead of *A. ramosa*.

Spionidae: We follow the recent work of Yokoyama (2007) and use the name *Paraprionospio alata* instead of *Paraprionospio pinnata*. Blake synonymized *Polydora ligni* with *Polydora cornuta* although there is still some controversy about whether they are two separate species. Leslie uses "*Spiophanes bombyx* complex"; Messner has found four different forms of *S. bombyx*. We don't use *Rhynchospio glutaea* in S. California, choosing to follow Radashevsky (2007) and use *R. arenicola*. Our specimens of *Spio filicornis* do not fit this description; we probably get an undescribed species. The occurrence of *Spiophanes kroeyeri* is questionable because it's usually found in deeper water. We noted the absence of *Spiophanes kimballi*, which might represent the *S. kroeyeri* material.

Chaetopteridae: We disagree with the synonymy of *Spiochaetopterus costarum* with *S. pottsi*. *S. pottsi* is from British Columbia and Leslie showed us an image of *S. pottsi* with its distinct pigment pattern.

Cirratulidae: Our *Aphelochaeta* sp SD2 is the same as *A. elongata*. *Caulleriella hamata* is questionable. Our *Chaetozone hedgpethi* is probably something different. Leslie commented that only large specimens of *Cirriformia moorei* can be identified confidently.

Cossuridae: The depth range listed for *Cossura rostrata* was questionable. There seems to be some confusion with the depth ranges of *C. rostrata* and *C. candida*.

Ctenodrilidae: Leslie has seen Ctenodrilidae that are red and also other colors; however, within the same population all worms are the same color.

Flabelligeridae: Sergio Salazar-Vallejo is publishing a paper on Flabelligerids. He's splitting up some species and will be describing some new species.

Acrocirridae: Sergio is also working on this family and will be making some modifications.

Opheliidae: Leslie believes there is more than one species of *Polyophthalmus*, so she uses *Polyophthalmus* spp complex.

Capitellidae: The occurrence of *Dasybranchus lumbricoides* and *Heteromastus filiformis* are questionable. Leslie commented that there are many undescribed species of *Mediomastus*. *M. acutus* is a good species, but the others listed are questionable.



Maldanidae: *Axiothella rubrocincta* is a species complex.

Sabellariidae: SCAMIT uses *Neosabellaria cementarium* following Kirtley (1994), instead of *Sabellaria cementarium*.

Ampharetidae: Leslie prefers to use *Mugga* sp A instead of *M. wahrbergi*.

Terebellidae: *Lanice conchilega* is described from the Netherlands. Leslie feels we get something different here, so she uses *L. sp A. Nicolea zostericola* is described from the east coast, and Leslie prefers to use *N. sp A*. Leslie disagrees with *Proclea graffi*. Leslie requested good specimens of *Proclea*, *Lanassa venusta venusta*, and *L. gracilis* for study at the Museum.

Sabellidae: We use *Myxicola* spp or *M. sp A* for our local species.

11 FEBRUARY 2008

The meeting was held at SCCWRP. President Larry Lovell opened the meeting by announcing upcoming meetings. He then opened the floor to nominations for election of officers for the 2008-09 year. Don Cadien nominated the current officers; Tony Phillips seconded the nomination. Hearing no other nominations, Larry closed the nominations.

Wendy Storms gave an update on her progress converting the Excel Ed 5 species listing into Access. She is making good progress and has run into limited problems so far. The group then discussed how we should next proceed, our priorities, and timeframes. Larry presented the idea that as a volunteer organization there is a lack of available time to devote to this project. He suggested that we secure funding for this effort so that consultants could be hired to speed up the process. The group agreed and several avenues of funding were discussed with persons volunteering to pursue them. Next Rick Rowe briefly presented his idea of a taxonomic bench sheet that could be derived from the taxonomic database. He sees such a tool as being a valuable aid to sample processing. Ananda Ranasinghe then discussed having the database function as the source for P-codes with a field on the species page for such. We reviewed the Visio diagram outlining the original conceptual design for the database to reassess our priorities. It was decided that our efforts should be concentrated on preparing and organizing old newsletters, voucher sheets, and training documents as well as securing funding.

After lunch we continued our discussion regarding direction and progress. Fund sources were a primary topic with Larry presenting an idea that came from William Van Peeters (Federal Highways) for approaching Federal agencies for funding. Bill suggested that we come up with a demonstration unit that could be presented. It would be needed by April/May and to be presented in June near the close of the current fiscal year. Larry has also been in discussion with Russ Moll at Sea Grant regarding grant funding. There are two grant options available with Sea Grant: small up to \$10,000, and large up to \$100,000. Several members suggested that the POTW's should be asked for funding support since their labs will directly benefit from the database.

The meeting ended with all present presenting an action item they would work on for the next meeting. Those items are presented below. The next meeting was scheduled for April and would be held at SCCWRP again.

Action Items from the February 2008 SCAMIT Database Meeting:

Cheryl Brantley – will check on the status of a project which is digitizing older, archived SCAMIT newsletters.

Wendy Storms – will keep working on getting the SCAMIT Species List into an Access database. She will also create some demo queries for people to test.

Larry Lovell – will talk to Katja at Morphbank as well as Dave Montagne and Steve Weisberg,



about finding funding for ongoing SCAMIT database projects.

Rick Rowe – will work with Wendy on the database.

Shelly Walthers – will scan the database visiograph and notes and post them to the Google Group.

Dawn Olson – will start organizing the Taxonomy Training Resources and be a liaison with Katja at Morphbank with regards to technical discussions.

Don Cadien – will provide Wendy Storms with feedback on her current efforts at databasing the SCAMIT List; will provide Wendy with an “emend” spreadsheet, and will talk to Moss Landing about funding.

Tony Phillips – will talk to Scott and Sheila about funding.

Dean Pasko – will talk to the S. Cal POTW’s about funding.

Nick Harking – will try to find some local funding; potentially City of San Diego.

Ananda Ranasinghe – will add Nick to the “batman” list; will coordinate P-codes with Wendy.

Veronica Rodriguez – help create descriptors and terms for the Morphbank site, which will make up loading our images easier. She will post these to the Google Group.

Megan Lilly – will write up the minutes of the meeting.

18 MARCH 2008

The meeting was well attended: Don Cadien, Lisa Haney, and Larry Lovell from LACSD; Jim Roney and Tony Phillips from Hyperion; Dean Pasko and Ken Sakamoto from OCSD; Ron Velarde from CSD; D. Christopher Rogers from Ecoanalysts; and Dot Norris from the City of San Francisco.

Larry opened with announcements regarding the status of Ed. 5, upcoming meetings including the Second Joint SAFIT/SCAMIT Workshop on Estuarine arthropods in June, his trip to the morphbank meeting in Florida, and the upcoming SCAS meetings. Larry discussed the possibility of SCAMIT having a presence at SCAS via a SCAMIT information table and to show case a new SCAMIT poster (courtesy of Leslie Harris). The possibility of the creation of a calendar by Leslie was also raised. Larry indicated that it might be beneficial for SAFIT to share our table, and for the two organizations to present a united front at the SCAS meetings. He then turned to Christopher Rogers, SAFIT Vice-President, to have him report on the current status of the SAFIT organization. It was reported that Non-Profit paperwork had been completed, and the organization was now able to solicit membership. Larry passed around SAFIT membership forms, which were grabbed by several of the participants.

Don Cadien was asked to report on the SCUM XII meeting in January, and the Joel Hedgpeth Memorial gathering at SIO on the 8th of March. After these reports Don also mentioned some new web-based literature resources. The first was the on-line availability of Mary Wicksten’s long awaited Decapods of California volume. This is available on-line at <http://repositories.cdlib.org/sio/lib/26> for free download. Mary had been having difficulty in getting such a large work printed, so the on-line availability circumvents that problem. After we have all had a chance to work with the tome for a while, we will consider it at a future SCAMIT meeting. The goal of such examination is, as in the past, the locations of differences from agreed SCAMIT nomenclatural approaches, editorial review, and preparation of a feedback letter to the author. Christopher Rogers has already found a number/typological problem in the pagurid key which makes all couplets after 15 inaccessible. Such issues can be resolved once recognized, and we will attempt to find and remedy all such inadvertent errors during our review. The scope of this volume is far greater than that of the recently released Decapoda portion of the new Light and Smith Manual. It will be instructive to evaluate both of these new resources side-by-side to see where the



respective authors provide different views of the current state of decapod taxonomy in California.

The second new web-based offering is through a newly established isopod site, <http://www.marinespecies.org/isopoda> which will be edited by a group of international experts on individual groups. One of the items made available on this new site is a complete set of pdfs of the Kussakin five volume monograph on North Pacific isopods. These are not widely available in the west, and although in Russian, are extremely valuable (read indispensable) tools for any isopod taxonomist.

We then pushed on to the meeting topic. Don handed out two additional documents (attached to this NL) to supplement the three superfamily documents at issue (Bogidelloidea, Hadzioidea, and Melphidippoidea) available in the Taxonomic Tools section of the SCAMIT website. Paper copies of these three were made available to those who had not already downloaded them before the meeting. Comments on the documents were solicited in the hope that some of the errors which inevitably creep in to such reviews had been detected by the audience. None were received at the meeting, but hopefully they will come in later. As errors, new species, and omitted old species are detected, the documents will be revised to include them. One such revision had already taken place in the Hadzioidea, so the distributed hard copies were more comprehensive than those down-loaded from the SCAMIT Web-site (the revised version will soon be posted). This revision reflected the addition of another species to the NEP fauna, *Bathyceradocus wuzzae*, from hydrothermal vent areas off Washington and Oregon.

After going over some of the major features of the group, and examining our first specimen, we broke up and circulated among three microscope stations to view the materials prepared for the meeting. The first specimen referred to was a *Paraceradocus miersi* taken by trawl from off King George Island in the South Shetland Islands off the end of the Antarctic Peninsula. This is a rather large animal, so it was passed around during the exposition on the group. The specimen is about 2 inches long and fully intact with both antennae and the magniramous third uropods (many thanks to SCAMIT Webmaster Jay Shrake for provision of the specimen).

In addition to the material listed in the attached examined species list, Dot Norris had brought down specimens and a voucher sheet for a provisional taxon from the San Francisco Lab, *Melphisana* sp SF1. Since melphidippids were on the menu, this was a delightful addition. Examination of the voucher sheet, a very nice microphotograph of the telson, and eventually the specimens, showed that it was not a melphidippid but rather a dexaminid. After considerable searching through the available literature it was decided that *Melphisana* sp SF1 was actually the same as *Paradexamine* sp SD1. Several persons pursued this further while other specimens were being examined, eventually concluding that *P.* sp SD1 and *M.* sp SF1 were similar to *P. pacifica* as noted initially by Dean Pasko on his sheet for SD1. This intersected nicely with recent requests to evaluate records of exotic peracarids in California received from Dr. Paul Fofonoff of the Smithsonian. He provided notes on other *Paradexamine* species in California. Don Cadien continued to pursue this after the meeting and the result is presented elsewhere in the Newsletter (see "Consideration of *Paradexamine* spp. in the NEP").

Several misidentified lots were detected during the examinations. The most interesting of which were specimens of *Gibberosus* from the Gulf of California supposedly representing both *G. myersi* and *G. falciformis*. They had been separated from a single light-trap sample taken at Bahia Kino on the mainland side of the Gulf by Todd Haney and Dave Jacobs. The characters which had been used in the separation; eye shape/size/color, telsonic setation, and structure of



the third epimeron proved to be less reliable than thought when other characters were evaluated. These included the structure of the elongate spines on the distal segments of P3 and P4, which are variously simple, clavate, and hooded in different *Gibberosus* species. Jim Roney noted an additional character involving the end of the rami of the third uropods which proved highly diagnostic. The identity of the two lots as separated was incorrect, but consistent. Those identified as *G. myersi* proved to be *G. falciformis*, and those identified as *G. falciformis* proved to be yet another undescribed *Gibberosus* from the species complex. Comparison with locally collected specimens of *G. myersi* provided by Ron Velarde from San Diego helped clarify the differences between the species examined. We also had specimens of *Gibberosus devaneyi* from the northern Channel Islands for comparison (also from Haney collected light trap samples). Fortunately neither the new species nor *G. falciformis* appear in local POTW sampling. We must be cautious, however, because Dean Pasko has seen what he believes to be *G. falciformis* in some samples from within San Diego Bay. It appears that the four taxa can be reliably separated on the structure of the rami of the third uropods, but more material from a wider area should be examined. Unfortunately third uropods in megaluropids are deciduous and if subjected to rough handling, are lost. It remains for the future to sort out other characters which can be relied upon to separate these closely related *Gibberosus* taxa if the third uropods are absent. Until then consider the following key based on third uropods:

1. Uropodal rami lanceolate, spinose on both mesial and lateral borders *Gibberosus devaneyi*
Uropodal rami flabellate, spinose only on lateral border.....2
2. Uropodal rami broadly flabellate, bearing a minute setule distally, which barely indents the margin.....*Gibberosus myersi*
Uropodal rami narrowly flabellate, bearing a distal invagination with a single large seta, or a complex morphology.....3
3. Uropodal rami with a narrow invagination bearing a single well inserted seta.....*Gibberosus falciformis*
Uropodal rami bearing a complex invagination which expands basally, and bears a basal central protrusion which terminates in two recurved cusps, each bearing small seta
.....*Gibberosus* sp GC1

When examining NEP megaluropids one must remember that there are several other genera which may occur; *Resupinus*, and the new genus represented by Megaluroidae sp A SCAMIT 1987. Both can be separated from *Gibberosus* by lacking a sharp anterior cusp on the ocular lobe of the head.

Ron Velarde brought specimens of Megaluroidae sp A SCAMIT, which were not examined due to time constraints. The distributed voucher sheet for this animal is quite adequate for distinguishing it from other megaluropids in the area.

Specimens listed in the materials examined as *Quadrimaera reishi* proved to be *Maera bousfieldi*, so no specimens of *Quadrimaera* were examined during the meeting. Specimens identified as *Elasmopus antennatus* proved to be several species, and were not fully resolved by the end of the meeting. The specimens of *Melita* sp A Cadien examined turned up an error in the key to *Melita* provided on pg. 20 of the review of the Superfamily Hadziioidea. Couplet 4 of that key should be revised to read:



“Urosomite 1 bearing three marginal teeth; urosomite 2 lacking marginal teeth, but bearing a pair of lateral recurved teeth; one on each side.....sp A

Urosomite 1 marginally smooth; urosomite 2 with or without teeth or spines5”

Thanks to Christopher Rogers who called the lateral teeth on the second urosomite of this species to our attention. These lateral teeth are curved upward towards the dorsum, and bear a seta on their concave side. A revision will be posted to the website, so only those who have downloaded a hardcopy of the key need modify it.

7 APRIL 2008

The April monthly SCAMIT meeting was held at the Cabrillo Marine Aquarium (CMA) in San Pedro, CA. SCAMIT has held many meetings at CMA in the past, but it has been several years. Since that time, CMA has a new building; the Aquatic Nursery and the Exploration Center on the ground floor, and a research library and administration offices on the second floor. The meeting was held in the library. This meeting space is very nice with a large monitor for presentations that was also hooked up to a video camera attached to a dissecting microscope for specimen display. This new, very accommodating space should be utilized as a venue for future meetings.

President Larry Lovell opened the meeting with business of the organization. He announced the upcoming meeting schedule noting that meetings in August, September, and October are likely to involve an intercalibration taxonomic review of Edition 5 of the SCAMIT species list by those who will participate in the Bight '08 program. Then he provided an update on the activities of the Taxonomic Database Committee. The Committee had met on April 1st. At that meeting Wendy Storms gave an update on her progress on converting Edition 5 of the species list into Access. She will be incorporating final changes and additions by the end of April and have a final version of the database to present at the next meeting on June 3rd. Edition 5 of the species list, including index, will be generated from the database and distributed to members by the end of June. Larry and Wendy have been invited to attend the Morphbank Usability and Ontology Workshops May 1-4 at Tallahassee, FL. Their attendance will further develop the relationship between Morphbank and SCAMIT and continue SCAMIT's interaction with Katja Seltmann at Morphbank. Next he announced that SCAMIT Newsletter Volume 25 Number 8 was now posted at the website and those receiving hardcopies would get them soon. He reminded everyone that the Southern California Academy of Sciences is holding their annual meeting May 2nd and 3rd at Cal State Dominguez Hills. Larry has been discussing with the officers that there should be a SCAMIT outreach table at this meeting. He will be checking with SCAS officers regarding this possibility.

Don Cadien announced his receipt of a new mollusk publication entitled “Phylogeny and Evolution of the Mollusca” edited by Winston F. Ponder and David R. Lindberg. It contains seventeen articles covering all mollusk groups produced by a notable list of experts in the field of mollusk research. It is available through UC Press or, as noted by Don, at Amazon.com.

The program was then turned over to Dr. Julianne Kalman for her presentation on parasitic copepods. Dr. Kalman opened with a review of her own history with copepods beginning when she took a class from Dr. Ho at CSULB during her Bachelors program. She did her Masters thesis on the copepod fish parasites of Santa Monica Bay working closely with Dr. Mas Dojiri and utilizing specimens collected by the Hyperion Treatment Plant Environmental Monitoring Division. She went on to get her Ph.D. at UCLA under Dr. Don Buth. Her dissertation took an expanded look at a broader range of fish parasites. The material for her research came from the



Bight '03 program. She did much of her work during her tenure as an intern at OCS D.

She then turned her attention to the major scientists who have worked in the field of parasitic copepod systematics and reviewed their major publications. Giants in the field include these four, Dr. Ho at CSULB, Dr. Humes (deceased) at Woods Hole, Dr. Kabata at the Pacific Biological Station in British Columbia, and Dr. Boxshall at the Natural History Museum in London. Major publications include Boxshall and Halsey (2004), Huys and Boxshall (1991), and Kabata (1979). In addition, there is a NOAA parasite-host checklist produced by Love and Moser (1983) that is useful.

Dr. Kalman then presented an overview of copepods as a group, including the varied habitats where they may be found and their morphology and reproduction. Most parasitic copepods occur as ectoparasites, but some are endoparasitic (typically on invertebrates). Parasitic copepods are found in two of the nine orders within the class Maxillopoda, Cyclopoida and Siphonostomatoida. Mandibles are the primary taxonomic character. She reviewed the local species of parasitic copepods, providing host information and infection sites and general illustrations of the copepod body including key taxonomic features.

The small but interested group broke for a great lunch provided by CMA and a post lunch tour of the Exploration Center, main Exhibit Hall, and invertebrate/fish collections area. Dr. Kalman is in charge of curating all collections and has great plans for rearranging the collection in the current and new space. She plans to make the collections database available via a website so that knowledge of the holdings is accessible to researchers and students.

After lunch and the tour, we were shown specimens of many of the local parasitic copepods she had referred to earlier in the day. The specimens came from a variety of host sources, but all were all from the southern California area.

This was the first meeting SCAMIT has had at CMA in many years. CMA staff is interested in providing this new meeting space for SCAMIT meetings. Members who attended were very impressed and hope to return there soon.

MEETINGS OF INTEREST

Speaking in current time again (Feb 2009), the Annual WSM meeting will be held at Cal State Fullerton this summer. Please see the attached flyers for more details.

LILJEBORGIIDAE KEY

Please see the attached key to the Lilliborgiidae produced by Dean Pasko and Don Cadien.

NEW LITERATURE

At the January meeting Don Cadien had graciously resumed his habit of bringing new literature to the attention of attendees. Below are the articles he shared.

Hietanen, Susanna, Laine, Ari O., and Lukkari, Kaarina. 2007. The complex effects of the invasive polychaetes *Marenzelleria* spp. on benthic nutrient dynamics. *Journal of Experimental Marine Biology and Ecology*. Vol 352:89-102.



- Larsen, Kim, and Krapp-Schickel, Traudl. 2007 Amphipoda (Crustacea: Peracarida) from chemically reduced habitats; the hydrothermal vent system of the north-east Pacific. Part II. Melitidae and Eusiridae. *Journal of the Marine Biological Association, United Kingdom* 87: 1207-1217.
- Nakano, Tomoyuki, Spencer, Hamish G. 2007. Simultaneous polyphenism and cryptic species in an intertidal limpet from New Zealand. *Molecular Phylogenetics and Evolution* 45: 470-479.
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- Meissner, K. 2005. Revision of the genus *Spiophanes* (Polychaeta, Spionidae). *Mitteilungen aus dem Museum für Naturkunde in Berlin - Zoologische Reihe* 81: 3-65.
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Please visit the SCAMIT Website at: www.scamit.org

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Hard copy 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 every two months and is distributed freely to members in good standing. Membership is \$15 for an electronic copy of the newsletter, available via the web site at www.scamit.org, and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All new members receive password protected website access to the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates ... in the Southern California Bight." All correspondences can be sent to the Secretary at the email address above or to:

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900 Exposition Boulevard
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CONSIDERATION OF *PARADEXAMINE* SPP IN THE NEP

Many years ago SCAMIT noted the introduction of a species of *Paradexamine* to Catalina Island. This was first based on collections of specimens by NMFS through Tony Chess. Don Cadien examined these and concluded they were *Paradexamine*, and definitely introduced, but did not characterize them further than genus. The animal was reported by various monitoring agencies in the SCB before long, usually collected in embayments such as San Diego or Mission Bays, or in harbor complexes. It was only rarely encountered in open coastal samples. Eventually Dean Pasko prepared a voucher sheet on the animal, giving it the designation *Paradexamine* sp SD1 Pasko 1999. At the time he noted similarities to *P. pacifica* Thompson 1879, a species known from subtidal collections in New Zealand. This is a good ecological match for the California occurrences of *Paradexamine*, which are generally associated with algal growth on rocks or artificial substrates. Dean noted several points of difference from the described species in the material at hand, however, and maintained the provisional status of the taxon.

Since *Paradexamine* is a speciose genus, with 33 morphotypes worldwide (distributed among 28 nominate taxa - the rest being inappropriate use of established names for undefined species of differing morphology see J. L. Barnard 1972) we have not previously attempted further identification. Recently others have applied other names in the process of identifications of taxa outside of the SCB area. During regional WEMAP, ISS and other efforts the following nomenclatural uses have been introduced; *Paradexamine* sp (in Chapman 2007), *Paradexamine churinga*, and *Paradexamine cf. churinga*. According to the current draft NEMESIS introduced species compilation these three are synonymous and can be combined. I would submit that it is highly likely, given the potential for coastal transport in the areas between San Diego and San Francisco, that this is the same taxon as *Paradexamine* sp SD1 in the SCB. It remains possible that there have been multiple introductions, with several exotic members of the genus present in the NEP. This will only be resolved if more detailed taxonomic description of the northern recorded form becomes available. A voucher sheet for *Paradexamine* sp SD1 exists, has been distributed through SCAMIT to member agencies, and can be made available to other interested parties. This describes a sufficient number of character states that we can reject many (but not all) of the described species as being equivalent.

At a recent SCAMIT meeting specimens of a form provisionally reported as *Melphisana* sp SF1 were examined. These come from the area where *Paradexamine* sp/*churinga*/cf. *churinga* has been reported. Examination of the material during the meeting showed it to not be a melphidippid, but a dexaminiid which could not be separated from *Paradexamine* sp SD1. If the examined specimens represent the form found in the San Francisco area and reported as sp/*churinga*/cf. *churinga*, specimens so reported are equivalent to sp SD1 of SCAMIT member agencies.

The genus was most recently discussed in detail world-wide by J. L. Barnard (1972), where he listed the 33 morphotypes mentioned above. Since that time ten additional species have been described in the genus, bringing the list of potential source populations to 43. Attempts are underway to relate the introduced *Paradexamine* to a source population. In the interim I propose that usage be unified on this coast, since all available data point to a single introduced taxon both south and north of Pt. Conception. I

further suggest that *Paradexamine* sp SD1 be that unified usage, as it is the only one of the current names applied which has a distributed (and further distributable) description base. Use of *P. churinga* is not appropriate for the specimens from southern California or the examined materials from San Francisco based on the structure of the telson and the ocular lobe of the head.

Chapman (2007) used an illustration of *P. frinsdorfi* to represent the introduced taxon he was seeing (supposedly the same as *P. churinga* and *P. cf. churinga*). *P. frinsdorfi*, however, has a different structure to the first urosomite than do the specimens examined in California, or *P. churinga*. These species have a single median tooth on the first urosomite, while *P. frinsdorfi* (illustrated on pg. 583 of Chapman 2007) has this median tooth flanked by a pair of lateral teeth. Specimens examined from the San Francisco area at the recent meeting will key properly to *Paradexamine* sp in the Chapman key, but will not match the illustration provided to represent the genus.

Many of the potential source populations for the NEP *Paradexamine* specimens can be eliminated by the morphology of those animals. The process of source identification continues, but species which can already be eliminated from consideration by their incompatible character states are listed below:

ocular lobe of head bearing acute cusp \neq *goomai*, *frinsdorfi*, *lanacoura*, *flindersi*, *otichi*, *maunaloa*, *ronggi*, *quarallia*, *muriwai*, *windarra*, *alkoomie*, *narluke*, *fissicauda*, *thadalee*, *dandaloo*, *churinga*, *echuca*, *bisetigera*, *mozambica*, *excavata*

urosomite 1 (pleonite 4 of J. L. Barnard 1972 phyletic key) **with dorsomedial tooth only, not bearing flanking lateral teeth** \neq *goomai*, *frinsdorfi*, *lanacoura*, *flindersi*, *otichi*, *maunaloa*, *ronggi*, *quarallia*, *muriwai*, *windarra*, *alkoomie*, *narluke*, *mozambica*, *excavata*

taxa not excluded by these characters = *moorhousei*, *barnardi*, *marlie*, *houtete*, *linga*, *pacifica*, *orientalis*, *micronesica*, *gigas*, *setigera*, *fraudatrix*, *rewa*,

taxa not yet evaluated = *miersi*, *nana*, *sexdentata*, *pacifica* (ID of Nagata), *barnardi* (ID of Nagata), *flindersi* (ID of Nagata), *flindersi* (ID of Pirlot), *indentata*, *tafunsaka*, *serraticrus*,

Nearly half of the morphotypes have already been contraindicated as potential sources for the California specimens, but considerable work remains. Many of the remaining species are likely to differ in details of the terminal serration/spination/setation of the telson, which is the next character to be compared.

INFRAORDER BOGIDIELLIDA – a component of the old Gammaridae S. L.
Don Cadien – SCAMIT Meeting 17 March 2008

I imagine that most of you are here just to try and find out what Bogidiellids are! None of our regional literature makes reference to members of the Family Bogidiellidae as part of our fauna, and the same is true of the Superfamily Bogidielloidea. Well, as you will learn today, we actually do have a member of the family within the bounds of the North East Pacific, but only at its southern most extent in Panama. There are also some family members in fresh waters further north in North America, but no marine or even brackish water representatives (as yet reported) on the Pacific Coast.

We are, however, richly supplied with members of the infraorder placed in two other superfamilies composing it, the Hadziioidea and the Melphidippoidea. Members of the first of these groups are common in the NEP, particularly in intertidal and rocky subtidal/piling/dock habitats, while members of the second are exclusively found on sedimentary bottoms. All three of these superfamilies, the entire content of the infraorder, are fragments of the old concept of Gammaridae *sensu lato*. Some would still prefer to see the old broader concept maintained, but its major proponent died a number of years ago. His contention was that it is impossible to exclusively diagnose all of the subdivisions here adopted, and that therefore they should not be used as formal nomenclatural units. He (this being, of course, J. L. Barnard) was perfectly comfortable with use of informal nomenclatural units to group together similar forms into more convenient (and considerably smaller) aggregations of species. He proposed many of the informal groups which have subsequently been formalized by others. Diagnoses of the superfamilies and their component families are now available and are included in your handouts. They are not entirely satisfactory, but represent the best that can currently be produced. There is no diagnosis of the Infraorder. As hierarchical levels become larger, and included forms more diverse, diagnosis becomes ever more difficult.

Rather than try to eke out a primitive diagnosis of the Infraorder, let us just accept it as offered here, with its only definition its contents. Using that approach a bogidielloidean is a member of one of the following families; Allocrangonyctidae, Hadziidae, Melitidae, Carangoliopsidae, Bogidiellidae, Melphidippidae, Hornelliidae, Megaluropidae, and Phreatogammaridae.

The materials distributed here are all available for download from the SCAMIT website in the Taxonomic Tools section. Hard copies are available for those who did not download the material prior to the meeting. Each of the three superfamilies comprising the Bogidiellida are represented in the handouts. They cover all marine forms known from the area (as far as I can tell) of the NEP between to Equator and the Aleutian island chain, and east of the middle of the Pacific Ocean. This coverage is meant to be inclusive enough that whatever any SCAMIT member finds anywhere in the NEP should be covered in the keys and species lists provided. New species are introduced into the area with frequency, however, and new species are described. As they are, these documents will be updated, hopefully maintaining full coverage.

Most of the species listed will not be encountered during the average POTW monitoring program, but anyone using these materials will be ready for anything new that shows up, or any expansion of regional monitoring, such as the current further expansion into coastal wetlands not previously monitored. Those of you who wish to use these keys

Maera nelsonae Krapp-Schickel and Jarrett 2000

Very uncommon on upper slopes in our area, and also ranging to the north. This would have been identified in the past as *Maera loveni*, so if old records of that animal exist in your databases, they should be reexamined. *M. loveni* is valid, and does occur in the northern reaches of the NEP, but reaches its southern limit at Puget Sound.

Quadrinemaera reishi (J. L. Barnard 1979)

Originally identified in 1959 as *Maera inequipes* of Costa from Newport Bay. It is likely that this species will be encountered in embayment samples during B'08. It is very similar to a second species, *Quadrinemaera carla* Krapp-Schickel and Jarrett 2000 which occurs to the north.

Hornellia occidentalis (J. L. Barnard 1959)

Originally described as *Metaceradocus occidentalis* from Newport Bay, this is an animal likely to be encountered in estuarine and perhaps even the wetlands sampling efforts undertaken in Bight '08.

Gibberosus myersi (McKinney 1980)

Found on shallow fine-sorted sandy bottoms. An active swimmer, it is often taken in light-trap samples. Difficult to distinguish from its congener *G. devaneyi*, which is largely sympatric but occupies a slightly differing niche. If the third uropods are on the animal the distinction is clear, but in their absence it becomes quite difficult to distinguish the two species.

Gibberosus devaneyi Thomas and J. L. Barnard 1986

Generally less commonly encountered in the SCB than *G. myersi*, although locally common. Usually in even shallower fine sand bottoms than *G. myersi*, and perhaps even into the intertidal. Like *G. myersi* an active swimmer. Specimens for examination are from light trap samples in the Northern Channel Islands.

Gibberosus falciformis J. L. Barnard 1969

Not distributed in the SCB, these specimens are from the Gulf of California. They were collected in a mixed population with *Gibberosus myersi* by light trap sampling. This species is provided to show the small differences that allow discrimination of species in this genus in the NEP. Compare with the *myersi* specimens and you will find differences in the eye, in the eyelobe, in the telsonic spination, and in the ornamentation of the third epimeron.

Melphisana bola J. L. Barnard 1962

Carried in the past as part of the *Melphisana bola* complex on the SCAMIT Ed. 4 list due to variability in the telson, and possible confusion with *Melphidippa amorita* on that character. The two genera can, however, easily be distinguished on the basis of the accessory flagellum, and we no longer need to maintain the complex designation. The telsonic variability still remains, and still creates difficulties in the absence of the

LIST OF BOGIDIELLOID MATERIAL FOR EXAMINATION DURING 17 MARCH MEETING

Paraceradocus miersi Pfeffer 1888 – 1 large male

This species is known only from the southern ocean. This specimen was taken by trawling near King George Island in the South Shetland group, off the end of the Antarctic Peninsula. It is out for examination because it shows some of the common features of animals in this group, and is extraordinarily large...to assist in viewing.

Elasmopus antennatus (Stout 1913)

The species is quite common in fouling communities in bays throughout southern California, but does not stray much from that habitat.

Elasmopus bampo J. L. Barnard 1979

Also taken in quiet waters like its congener above, but more commonly on soft bottoms than in fouling communities.

Desdimelita desdichada (J. L. Barnard 1962)

Found not infrequently in bottom samples from areas bearing or near to areas with rocks. The animals live in association with algae, but can easily be dislodged and transported onto soft bottoms. They may also be found on the algae associated with polychaete tube caps such as *Diopatra* on soft bottoms. In any case they are a constituent of our benthic samples from time to time.

Melita nitida Smith 1874

This is an introduced species normally ranging in the northwest Atlantic. It is not uncommon in fouling communities in some parts of Central California, and has been taken in the San Gabriel River tidal prism here in southern California. It is not likely to be taken offshore, but it is best to keep ones eyes open.

Melita sp A Cadien 2007

Probably not to be encountered in the SCB as yet. Currently known only from a few sites in Central California. A close match grossly to *M. oregonensis*, but differing in detail. Points up the necessity for close examination of these animals, and the probability that additional cryptic sibling species will be encountered in future.

Maera jerrica Krapp-Schickel and Jarrett 2000

A common constituent of open coastal soft bottom samples within the SCB, originally identified as the following species as one of its two forms. This form was elevated to specific level by Krapp-Schickel and Jarrett in 2000. The two differ in detail, but are very close in overall appearance.

Maera similis Stout 1913

Also occurring in the literature as *Maera simile*, but *similis* is the correct orthography. Another shallow water form we will probably encounter in Bight '08 samples.

Maera nelsonae Krapp-Schickel and Jarrett 2000

Very uncommon on upper slopes in our area, and also ranging to the north. This would have been identified in the past as *Maera loveni*, so if old records of that animal exist in your databases, they should be reexamined. *M. loveni* is valid, and does occur in the northern reaches of the NEP, but reaches its southern limit at Puget Sound.

Quadrimaera reishi (J. L. Barnard 1979)

Originally identified in 1959 as *Maera inequipes* of Costa from Newport Bay. It is likely that this species will be encountered in embayment samples during B'08. It is very similar to a second species, *Quadrimaera carla* Krapp-Schickel and Jarrett 2000 which occurs to the north.

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Key to the species of the Liljeborgiidae recorded by SCAMIT

Dean Pasko, September 2006 (rev. 10/24/08)
(Adapted from Barnard 1959, and Cadien 2006)

1. Gnathopod 1 larger than gnathopod 2..... *Idunella*¹
— Gnathopod 2 larger than gnathopod 1..... 2

2. Article 5 of gnathopods 1 and 2 weakly produced, thick, blunt, and not produced along posterior margin of article 6; outer ramus of uropod 3 bi-articulate(*Listriella*) .. 3
— Article 5 of gnathopods 1 and 2 strongly produced, slender and elongate; outer ramus of uropod 3 simple (uni-articulate) (*Liljeborgia*) .. 10

3. Pigmentation and eyes absent.....*Listriella albina* Barnard 1959
— Pigmentation and eyes (pigmented or not) present 4

4. Antennae 1, article 2 with pigment distally 5
— Antennae 1, article 2 without pigment distally..... 6

5. Antenna 1, article 2 distinctly shorter than article 1 ($\leq 2/3$ the length of article 1), accessory flagellum approximately equal to flagellum article 1, flagellum article 1 subequal to article 2; pereonites 2–5 typically darkly pigmented; epimeron 1 rounded (female) or sub-acute (male); male gnathopod 2 strongly oblique with blunt distal process..... *Listriella melanica* Barnard 1959
— Antenna 1, article 2 subequal to article 1 ($\geq 3/4$ the length of article 1), accessory flagellum approximately one-half of flagellum article 1, flagellum article 1 about one-third longer than article 2; pereonites 2–5 typically diffusely pigmented with characteristic thin band of pigment along posterior margins; epimeron 1 posterior margin sinuous, sub-acute distally (male & female); male gnathopod 2 oblique, slightly convex *Listriella goleta* Barnard 1959

6. Epimeron 3 notched..... 8
— Epimeron 3 without notch (distal tooth present/absent) 7

7. Head with pigment; epimeron 3 rounded, tooth absent; uropod 3 outer ramus approximately one-third of inner ramus*Listriella eriopisa* Barnard 1959 (in part)
— Head without pigmented; epimeron 3 with distal tooth; uropod 3 rami subequal
..... *Listriella* sp A SCAMIT 1987§

¹ Not reported by SCAMIT as of date of this key.

Key to the species of the Liljeborgiidae recorded by SCAMIT

Dean Pasko, September 2006 (rev. 10/24/08)
(Adapted from Barnard 1959, and Cadien 2006)

8. Uropod 3 outer ramus approximately one-third of inner ramus.....
..... *Listriella eriopisa* (juveniles)
— Uropod 3 rami subequal..... 9
9. Antenna 1 accessory flagellum approximately one-half of flagellum article 1, flagellum article 1 about one-third longer than article 2; antenna 2 reaching slightly beyond gnathopods; uropod 2 rami reaching end of uropod 3 peduncle; rami of uropod 3 elongate, narrow *Listriella sp SD1* Pasko 2001§
— Antenna 1 accessory flagellum approximately equal to flagellum article 1, flagellum article 1 subequal to article 2; antenna 2 reaching just reaching gnathopods; uropod 2 rami extending to end of uropod 3 rami; uropod 3 rami broad, tear-drop shaped (male) to slightly broadened proximally and tapering distally (female) *Listriella diffusa* Barnard 1959
10. Telson cleft nearly to base, lobes with imbedded terminal spine; basis of P5-7 only 1-1.5x as long as wide; with eyes 11
— Telson cleft only ¼ to 1/3, lacking terminal spines on telsonic lobes; basis of P5-7 more than twice as long as wide; blind..... 13
11. Epimeron 1 concave above postero-ventral tooth *Liljeborgia pallida* Bate 1857
— Epimeron 1 convex above postero-ventral tooth..... 12
12. Cusps of telsonic lobes longer medially than laterally; eyes reniform.....
..... *Liljeborgia marcinabrio* Barnard 1969
— Cusps of telsonic lobes subequal to longer laterally than medially; eyes oval to subquadrate..... *Liljeborgia geminata* Barnard 1969
13. Epimeronal segments 1-3 and urosomal segments 1 and 2 with large spine, dactyl of G2 not serrate *Liljeborgia sp CS1* Cadien 2004§
— Epimeronal segment 1 with small spine or spine absent, other Epimeronal and urosomal segments with spines large, small, or absent; dactyl of G2 serrate.....
..... *Liljeborgia cota* Barnard 1962

WESTERN SOCIETY OF MALACOLOGISTS



ANNUAL MEETING

JUNE 23–27, 2009

CALIFORNIA STATE UNIVERSITY, FULLERTON



MEETING:

The Western Society of Malacologists (WSM) is a society of professional and amateur mollusk researchers and enthusiasts. We encourage anyone interested in learning more about mollusks to attend! If you would like to present your research on mollusks, please register to give a talk or a poster.

CONFERENCE HIGHLIGHTS:

- Symposium on conservation of mollusks.
- Field trip to Santa Catalina Island.
- Bivalve Workshop: learn the basics of identifying marine bivalves worldwide.
- Micromollusk Workshop: learn techniques of working with tiny mollusks.

STUDENTS AND ENTHUSIASTS WELCOME!

Registration and abstracts are **due April 30, 2009**.

Registration form and more information available on the website.

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Questions? Contact Michael Vendrasco

mvendrasco@fullerton.edu or 562-645-2644

The 2009 WSM annual meeting is sponsored by the Department of Biological Science, CSUF.