



Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

Jan/Feb, 2002

SCAMIT Newsletter

Vol. 20, No.9/10

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| SUBJECT: | Parasites and Commensals |
| GUEST SPEAKER: | None |
| DATE: | 15 April 2002 |
| TIME: | 9:30 a.m. to 3:30 p. m. |
| LOCATION: | City of San Diego Marine Biology Lab 4918 N. Harbor Dr. #201 |



Phylloporidae sp SD1
I-21(2), 7-5-01, 134ft
photo by M. Lilly 2-7-02

JANUARY MEETING MINUTES

The meeting opened with President Ron Velarde noting that the most recent edition of *The Veliger* contained a review of local Saccoglossan opisthobranchs.

Next to have the floor was our host for the day, John Ljubenkov. He reminded those present that *Obelia* sp A has now been identified as *Laomedea calceolifera* Alman, 1872. John will be sending out a voucher sheet on this animal.

Meg Daly was then introduced as the guest speaker of the day. She is working in a post-doctoral position at the University of Kansas studying the evolution of Edwardsiids. She is currently working on a manuscript that deals with four or five undescribed Edwardsiids from the Eastern Pacific. She announced that the next ICCB (International Congress on Coelenterate Biology) will be held from 6 - 11 July 2003 in Lawrence, Kansas. She then

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proposed the idea that many of the PhD students working under PEET grants should get more involved with SCAMIT and other functional taxonomy organizations. It would allow them to work directly with taxonomists who are doing the identification work for environmental monitoring programs and environmental impact studies, etc.

Next she began an informative discussion of Edwardsiids. What makes the Edwardsiids unique is the fact that they always have only 8 macromeres; the more common count being 10 - 12.

They have a “bizarre” biogeography in that they are primarily benthic, burrowing, and deep water. They are a well known group from areas where people have looked for them, but are considered relatively limited in range. Meg stressed her belief that Edwardsiids are much more common and diverse than is now known, it’s more a lack of study than a lack of the animal.

She then distributed a wonderful hand-out to assist us in the identification of Edwardsiids and other anemones. There were drawings as well as a glossary of terms and even a key to the more common anemones off our shores.

After Meg’s talk we broke for lunch, which was wonderful as it was consumed sitting outside at the beautiful Dancing Coyote Ranch.

The afternoon was spent reviewing specimens. Meg had brought some live anemones for us to examine under the scope. As usual, everyone was excited by the chance to view something that was not fixed and preserved. John then shared some beautiful specimens of the various Edwardsiid species that we see in our monitoring programs. Once we had a feel for what the animals were supposed to look like, we then tackled the challenge of actually trying to identify the typical, small, damaged specimens we so often see in our samples. All

in all it was a very informative and successful meeting and I (M. Lilly) for one, left with a much better sense of the Edwardsiids and how to identify them.

FEBRUARY MEETING MINUTES

The February meeting was called to order by president Ron Velarde at 9:35 a.m.. The first person to speak was vice president Leslie Harris. She reminded everyone present that today was the day of the “great *Pista* exchange”. There will be a *Pista* workshop to go over the results of the exchange and other information on 11 March at the LACMNH.

Don Cadien then proposed a meeting that would address the issue of parasites and commensals. He would like us to inventory what parasites are being seen, which agencies are reporting them and in what fashion. He reminded us that these animals probably affect the ecology of our investigated areas more than we acknowledge or are aware. He pointed out that our monitoring programs are starting to change and are moving into a more experimental phase versus the traditional approach of strict point source monitoring. It is a good time to suggest looking at parasites as potential indicators of environmental conditions. The meeting has been scheduled for 15 April at the City of San Diego’s Marine Lab in Point Loma.

As for future meetings, May is still open and needs a topic. An ascidian meeting will be held 17 June at the City of San Diego. Megan Lilly will be reviewing the various ascidians seen in their (CSD) standard monitoring programs, as well as those species encountered in the bays, surveyed during the B’98 program. This meeting is still being organized and there may be other speakers (hopefully) discussing encountered ascidians. July is still open and needs a topic. August there will be a Nereid meeting on the 12th at the LACMNH. It was felt that we need a problem mollusk meeting



and a problem echinoderm meeting, hopefully with Dr. Hendler. However, these were just mentions and will need to be more thoroughly fleshed out before dates are set.

Ron then had the floor and announced upcoming meetings. The SCAS meetings will be held 7-8 June at Clairemont College. The results of the B'98 survey will be presented at this forum. July 20-24 will be the dates for the annual WSM meetings. They will be held at Asilomar, near Monterey California.

He mentioned that the SCUM meeting in Santa Barbara had been a success and thoroughly enjoyed by those attending. A list of attendees and subjects was passed around. There is, at the moment, a host for the next SCUM meeting, but Ron Velarde volunteered SCAMIT as a back-up host in case of complications.

Don reminded the officers present that it was time to call for nominations for the looming elections. The candidate biographies are included with this newsletter and the ballot is attached at the end. We have two candidates running for the office of President this year! Ballots will be due by April 31st, and as always, write-in candidates are always welcome. Let's make the elections interesting, shall we?

A discussion then ensued as to what happens to the digital images that are often captured at the SCAMIT meetings. Leslie Harris, for one, would like to be given these digital images for future reference and study. The City of San Diego's lab is the actual owner of the equipment that captures the images and it is usually Kelvin Barwick or Rick Rowe taking the pictures, at least at the polychaete meetings. Kelvin said he would be glad to distribute the images, but there needs to be some standards set on how the images should be saved (format), which ones, what to name them, how should they be sent, etc, etc. Leslie and Kelvin agreed to talk about this further and try to set some protocol for capturing, naming, saving, and sending the digital files.

With that, the actual working part of the meeting began. Megan Lilly began with her presentation of a new holothuroid. The animal has been given the provisional name of, *Phyllophoridae* sp SD 1. In external appearance it looks very similar to *Pentamera populifera*, however, if one focuses down on the animal, it is not as obviously "spiculose" (one does not see the tops of table spires protruding through the skin). Upon doing a tissue mount, it is seen that the ossicles are actually quite different from those of *P. populifera*. The tables are irregular and usually contain four-large holes at the center. The supporting tables, in all animals to date, are absent or so rare that one has yet to be seen. The largest animal collected, (approx 2.5 cm), was mostly lacking ossicles, indicating that they perhaps disappear with growth. It also was slightly darker in color than the smaller two specimens, perhaps indicating a color change with growth as well. Upon examining the station data for the three animals collected, Ron Velarde noted that they are occurring at the relic red sand stations. The sediment at these stations is very different from all other habitats that we sample and this is not the first strange echinoderm that we've found in this area. We also find the relatively rare urchin, *Nacospatangus laevis* at these stations. A voucher sheet is being made of this animal and hopefully some more professional opinions will be given to its true identity. If anyone is interested in obtaining a voucher sheet of this animal please contact Megan Lilly at mlilly@sandiego.gov or at 619-758-2336.

Next up was a provisional species of ascidian, *Molgula* sp SD 1. This animal appears very similar to *Molgula napiformis*, but often possess a cluster of smaller root hairs on the posterior aspect of the tunic instead of having a long stolon with many smaller root hairs branching off (this can be variable however). The most striking difference in the two species is that *M. napiformis* has the gonads situated outside the primary intestinal loop (Lambert 1993) whereas *M. sp SD 1* has the gonads



positioned within the primary intestinal loop. According to Van Name (1945) this positioning of the gonads places the animal in the subgenus *molguloides*. It appears that there will be an ecological separation of the two species with *M. napiformis* occurring at the offshore stations (>200ft) and *M. sp SD 1* occurring at stations with a depth of less than 200ft. However, this is only being considered as a potential difference and more research needs to be done to confirm this. The difference in occurrence could be related to sediment size rather than depth. A voucher sheet is being created for this animal as well. If you are interested in receiving a copy contact Megan Lilly (see above).

Kelvin Barwick then had the floor and he gave a wonderful and in-depth talk on the biology of Entoprocts. He had many wonderful digital images of these small animals living commensally on different species. We were all impressed with his photographic capabilities and although these animals are not included in the monitoring data in any fashion, it was still interesting to see and hear about such a little known group of animals.

After Kelvin's talk we all broke for lunch. Upon returning, the *Pista* exchange was conducted and everybody left clutching bundles of polychaetes.

PISTA MINUTES

The Great *Pista* Exchange: Personnel from several agencies, consulting companies, and institutions were present to exchange specimens of northeast Pacific species of *Pista*. Participating groups included the City and County of San Francisco, City of Los Angeles, City of San Diego, Los Angeles County Sanitation District, Scripps Institute of Oceanography, and the Natural History Museum of Los Angeles County. Additional specimens were sent by Howard Jones, Marine Taxonomic Services.

First, Leslie Harris handed out an information sheet on *Betapista dekkerae*. Mistakes were made in the original description which prevent correct identification of this species. There was some discussion as we reviewed its characters. This sheet is not included with this newsletter as she will present a revised version at the next meeting.

Our discussion, led by Leslie, centered around a table of characters she prepared for *Pista agassizi*, *P. alata*, and *P. percyi*. We methodically went through this list and discussed the character states for these and several other species of *Pista*. This exchange of information was intended to aid us in standardizing our identifications of our exchange specimens.

First, we discussed the differences between *P. agassizi* and *P. percyi*. *P. agassizi* has lappets through segment 7, and has a pronounced dorsal ridge on segment 4. The holotype, taken off Mendocino, is the only specimen known of this species. *P. percyi* occurs from northern Baja California, Mexico, to British Columbia. It has lappets through segment 6, and has some variation in the shape of the dorsal ridge on segment 4. (Information from Hilbig 2000; the lappets on segments 5, 6, and 7 are referred to as ventral frills). Lappets are sometimes difficult to distinguish from folds produced by specimen contraction. Folds are thick and rounded while lappets are thin, flat structures which can be lifted away from the body using a probe or forceps' tip.

The presence, relative size, and shape of the lateral lappets are important characters. For example, the otherwise similar *P. elongata* and *P. pacifica* are easily distinguished by the presence or absence of a lappet on segment 4. *P. wui* has medium-sized lappets on segments 2, 3, and 4 which usually protrude laterally while *P. bansei* has small lappets only on segments 2 and 3 which are tightly pressed to the body.



Transverse dorsal folds or lappets are sometimes present on segments 4 (or 3, but not in local species). In *P. alata* the dorsal lappet is on segment 4 and forms an anteriorly-projecting triangle. A simple thick fold occurs on *P. agassizi* while in *P. percyi* the structure varies from a simple fold to a pronounced lappet with dorsolateral notches.

The next character of *Pista* that we reviewed was branchiae. It was noted that there is some variation in the number of branchiae for species of *Pista* (Saphronova 1985). Leslie gave us a detailed description of branchial shapes, complete with diagrams. The wrinkles that we often see in preserved specimens indicate the branchiae are contracted. In a more relaxed specimen, branchiae would appear smoother and have more space between the branches. Leslie passed around her drawing of contracted and relaxed *Betapista dekkeriae* branchiae to illustrate the difference. Just to standardize our terminology we divided the branchiae into two main patterns: arborescent and single-stem. First, we talked about the arborescent (= dendritic) branchiae. Species that have the arborescent type are *Pista percyi*, *P. agassizi*, and *P. disjuncta* Moore. In these species, the main stem and subsequent branches divide repeatedly; the division may appear to be dichotomous, pinnate, or irregular. Single-stem (= club-, ramrod-, or pompom-shape) branchiae have a single, central stem with short branching filaments arranged in spirals around it. Some species of *Pista* that have this type of branching are *P. bansei*, *P. cristata*, *P. moorei*, *Pista* type C Harris, and *P. disjuncta* sensu Hartman.

Following the chart of *Pista* characters, notopodia were up next for discussion. Setae consist of smooth limbate capillaries, usually bilimbate, which occur in two rows. It was noted that the relative size of the tori and whether this changes from the anterior to the posterior thorax may be useful.

Then we talked about thoracic neuropodia, and it was noted that here too the length of the torus may be a useful character, as well as the relative number of uncini per torus. More specifically, we should check to see if the neuropodia reach to the ventral shield and if they are of subequal length from the anterior to posterior thorax or diminish in size.

For a long time, the presence of long-handled hooks in the thorax was used to distinguish the genus *Pista* from other terebellid genera. There has been a great deal of recent discussion concerning this character, and it is no longer considered to be of value at the generic level. The degree of chitinization of the handle (and hence its length) has been found to vary between adults and juveniles, between specimens of the same species, and even within in the same neuropodium (Saphronova 1985). The shape of the anterior uncini, however, appears to be a stable character (Saphronova 1985). Some species have robust elongated hooks with the crests reduced or completely lacking, and much larger than subsequent uncini, such as *P. elongata* and *P. pacifica*. *Pista cristata*, the type of the genus, has typical terebellid uncini with several rows of small teeth in a crest above the main fang and which are subequal in size to those following.

The number of ventral shields, their shape, and how they stain, appear to be stable characters. Number and shape are best determined with methyl green.

Methyl green staining is invaluable. Many of our species have distinctive staining patterns. Leslie's illustrations of these will be handed out at the next meeting. Her illustrations were drawn either from type material or specimens compared directly to the types.

Tube morphology is also species-specific in some cases. *P. wui* has a thick mud- or silt-walled tube without any attached material. *P. elongata* and *P. pacifica* have solidified mucus tubes covered with sand and bits of detritus and



unique tube openings. In the former the opening is hidden among a reticulated, sponge-like network formed by bits of detritus and shell held together by mucus; the latter has a lateral opening surrounded by simple or sparsely branched rays largely composed of mucus-cemented sand grains.

Two types of nephromixia (commonly reported as nephridial papillae or pores) are present in terebellids: anterior excretory nephromixia (ENMX) and thoracic reproductive nephromixia (RNMX). The ENMX are found anterior to a septum at the posterior margin of segment 4, with openings either on the dorsal surface of the segments or on the lappets. RNMX are located posterior to the septum on segment 4; their dorsal openings are slightly posterior to the notopodia. (Information taken from Smith, 1992; an excellent discussion of nephromixia in *Pista* and for terebellids in general). *Pista* species can be divided into two groups with different arrangements of nephromixia. The first group, typified by *P. cristata*, has 1 pair each on segments 3, 6, 7. *P. percyi* belongs to this group. In the second group the number and placement of nephromixia may be species-specific, as the number of pairs is variable, occurring from segment 2 to 17 (LH, pers. obs.). *P. elongata* and *P. pacifica* belong to the second group.

JOB ANNOUNCEMENTS

(1) We are seeking a research colleague interested in a long term commitment to support research projects for the Benthic Ecology Lab at Moss Landing Marine Laboratories in Monterey Bay, CA. We are exploring benthic ecosystems at both poles, the deep sea, and mostly along the central and northern CA coast, including adjacent watersheds. We have an active program in freshwater and sand dune restoration. Possibilities abound for pursuing individual research. Skills required are people and data management and preparation of technical reports and peer reviewed articles. Computer empathy is essential (Mac & PC). GIS experience is desirable, or it must be developed early. Duties include tracking benthic invertebrate samples and lab personnel; and overseeing workup of infaunal and video data.

Experience in marine or freshwater invertebrate taxonomy is desirable. At least a BS is preferred. Starting salary \$40-\$50K/yr, negotiable. Send a letter of introduction and a resume including three references (no letters) by email to Jim Oakden, oakden@mlml.calstate.edu.

(2) BIOLOGIST, GS-0401-07 (WR-NF-DEU), GS-0401-07/07

Announcement Number WR-2002-0119

Located in Menlo Park, CA

Announcement Closes on: 03/25/2002

The full text of the vacancy is at:

<http://www.usajobs.opm.gov/wfjic/jobs/TP4249.HTM>



CANDIDATE BIOGRAPHIES
PRESIDENT

Ron Velarde

Ron is the current President of SCAMIT and a past Vice-President; he has been a marine biologist with the City of San Diego since 1983 and currently is the supervisor of Benthic Taxonomy for the Ocean Monitoring Program. His taxonomic interests include most groups, especially polychaetes and nudibranch mollusks. He earned his B.S. degree in Marine Biology from California State University, Long Beach, in 1976, and did post-graduate research on the systematics and ecology of autolytid polychaetes.

PRESIDENT

Kelvin Barwick

I graduated with a B. S. degree in wildlife and fisheries sciences from Texas A&M University in 1983. Currently I work for the City of San Diego's Ocean Monitoring Program as a marine biologist/taxonomist. My taxonomic specialties are Mollusks and Polychaetes. In the past I have worked both as an independent taxonomic consultant, and for private environmental consulting firms, accumulating over 14 years experience in invertebrate taxonomy. I have been an active participant in SCAMIT for over 10 years and served as its Secretary in 1991-92. If elected I will bring a new perspective to SCAMIT by looking to the future. I would consult with you, the members, about the directions and goals you envision for our organization. This would be my mandate.

VICE-PRESIDENT

Leslie Harris

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

SECRETARY

Megan Lilly

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

TREASURER

Cheryl Brantley

Cheryl is a marine biologist with the County Sanitation Districts of Los Angeles County. She has worked for the Districts for 16 years primarily as a polychaete taxonomist. She graduated with her B.A. degree in Aquatic Biology from the University of California, Santa Barbara in 1985. She has formerly served as Secretary of SCAMIT from 1994-98.



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

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers e-mail address

| | | | |
|----------------|---------------|---------------|--|
| President | Ron Velarde | (619)758-2331 | rvelarde@sandiego.gov |
| Vice-President | Leslie Harris | (213)763-3234 | lharris@bcf.usc.edu |
| Secretary | Megan Lilly | (619)758-2336 | mlilly@sandiego.gov |
| Treasurer | Ann Dalkey | (310)648-5544 | cam@san.ci.la.ca.us |

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

Single back issues are also available at cost.



BALLOT FOR SCAMIT OFFICERS 2002-2003

Vote for one (1) nominee for each office. Please mail or return completed ballot to Leslie Harris by April 31st, 2002. You may return it to the Secretary or other attending officers at the April meeting. The address to mail it to is:

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

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

Ron Velarde
 Kelvin Barwick
 Write in: _____

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

Leslie Harris
 Write in: _____

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

Megan Lilly
 Write in: _____

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

Cheryl Brantley
 Write in: _____

2002-2003 SCAMIT Meeting Topics - Please suggest any topics you deem worthy of a SCAMIT meeting.

