

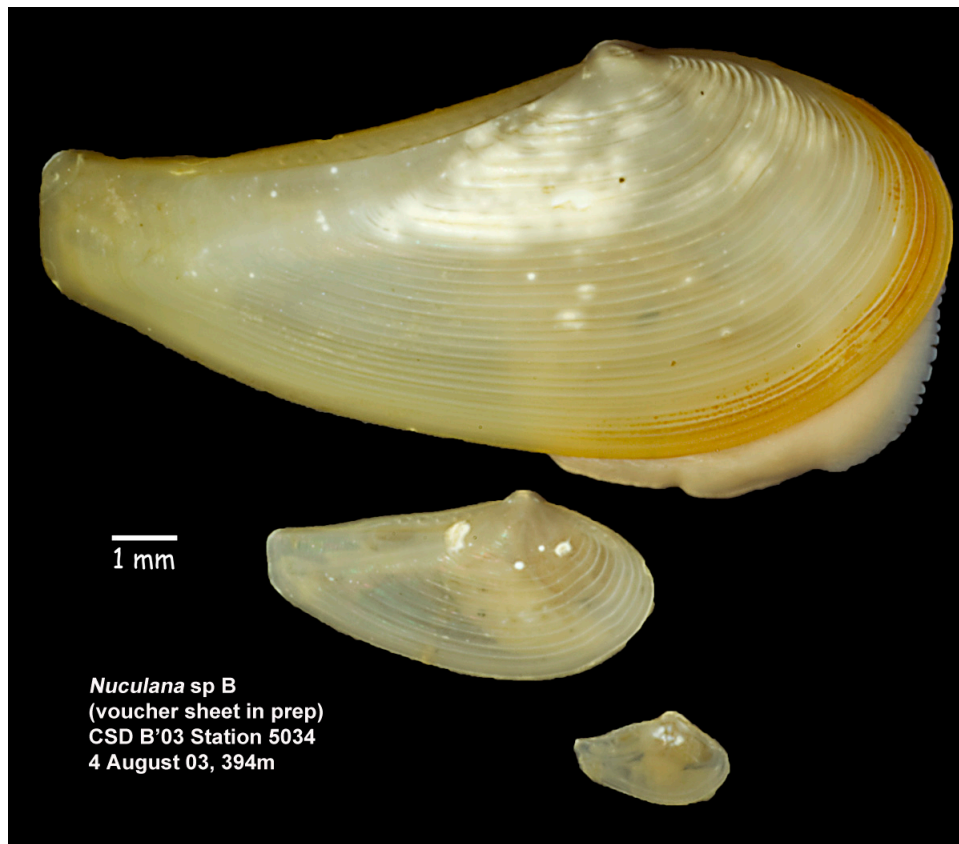
SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



Sept/Oct/Nov/Dec, 2009

SCAMIT Newsletter

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Nuculana sp B
 (voucher sheet in prep)
 CSD B'03 Station 5034
 4 August 03, 394m

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

10 SEPTEMBER 2009

The SCAMIT Taxonomic Database meeting was held at SCCWRP. President Larry Lovell opened the meeting with announcements of upcoming meetings. Tony Phillips commented on recent collections of *Brachiomma*, the holothuroid *Myriotrochus*, and *Branchiosyllis* in SD Bay samples. Don Cadien informed the group that a graduate student from the University of Michigan, Jinchung Li, is doing genetic research on nesting clams, *Mysella* spp, found attached to the ventral side of *Aphrodita* species, under the dorsal felt, and to the ventral side of the abdomen on *Upogebia pugettensis*. She accompanied LACSD on a trawl day in August looking for specimens. Unfortunately we did not collect *Aphrodita* hosting any of her clams, but she requests specimens from other labs if they should encounter them. The clams can be discovered by palpating for hard lumps under the dorsal felt.

Dr. Peter Miller, Molecular Technology Coordinator at SCCWRP, was introduced to the group and made brief comments regarding the Benthic Invertebrate Barcoding project he is leading. The project will develop a library of barcodes for the benthic invertebrates offshore for potential use in biological assessment indices. SCCWRP and Peter are interested in working with POTW

member agencies and SCAMIT to collect and properly identify specimens for barcoding. The Canadian Centre for DNA Barcoding at the University of Guelph in Ontario, Canada has agreed to barcode the material at no cost. The US EPA Molecular lab in Cincinnati, Ohio is also involved in this project. The NHMLAC has agreed to accession the identified DNA voucher specimens into their invertebrate collections. Peter also made an announcement regarding a Barcoding Colloquium he is organizing. It has been postponed, but will be rescheduled for early 2010. He will announce the new date when it becomes known.

Ananda Ranasinghe reported on upcoming plans of the SCCWRP Benthic Assessment Management (BATMAN) group. He began with a brief intro to the Benthic Reconnaissance Index (BRI), its use and the linkage with the SCAMIT species list. Species or taxa (groups of species) are assigned P-codes (or not) based on their occurrence and placement along a pollution gradient in the origination dataset. Each P-code has a P-value, which is used to calculate a BRI score for the community or organisms at a station. Changing taxonomy that affects names reported in the origination dataset is a challenge to maintaining the P-code list and the BRI process. The Taxonomic Database species list will be updated on a regular basis and those changes effecting P-code taxa will be reviewed for possible revisions to the P-code list. The BATMAN group recommends that the Taxonomic Database maintain three tables for BRI users to access the current version of the species list and P-codes; 1) P-codes and P-values; 2) Taxa names

UPCOMING MEETINGS

13 September 2010 - B'08 QA review meeting at LACSD. Agencies involved: LACSD, ABC, and CLAEMD.

4 October 2010 - B'08 QA review meeting at CSD. Agencies involved: LACSD and CSD.

18 October 2010 - B'08 Synoptic Data Review at SCCWRP in the medium conference room. All B'08 taxonomists are encouraged to attend.



and corresponding P-codes; and 3) P-code definitions for those taxa. The BATMAN group will be meeting soon to review and revise the current P-code list, test the calculation tools in use, and validate the BRI process in use at various labs.

Wendy Enright provided an Ed 5 update. There have been no additional changes to the species list. Larry inquired if the CSD review of the miscellaneous phyla had been completed and she stated that it was completed some time ago. The taxonomic database will contain an online process by which future updates/changes to the list will be submitted, vetted by a committee, and accepted or rejected. This will allow the species list to be updated on a regular basis. There will be electronic versions that are date stamped for use and it is unlikely that hardcopy distribution by SCAMIT, as with past versions, will occur unless deemed necessary for some application or use.

Next Larry provided an ontologies update. Much progress has been made in 2009, but very little since the last meeting. There are still some groups lacking ontologies, the oligochaetes, cnidarians, sipunculids, and a few other miscellaneous phyla groups. Many of the character states lack definitions, but those can be added at a later date. Larry maintains a list of completed ontologies and the Excel spreadsheets prepared by Deb Paul at Morphbank. Those spreadsheets have been distributed to each POTW lab manger or supervisor for use. These ontologies will be used to standardize character state representation in the image submittal process to Morphbank.

Cheryl Brantley informed the group on the status of getting all the old Newsletters posted on to the website. She began by reviewing the prior activities 1) scanning of old (non-electronic) printed newsletters by OCSD interns two summers ago; 2) partial OCR by Rick Rowe and inheritance of the OCR process by LACSD upon Rick's retirement; and 3) uploading of NL's back to 1992. There is further work to do on years 1982-1991. The large scanned pdf files will need to be examined, parsed by individual newsletter, and OCR'd.

Cheryl and Larry provided a brief update on Morphbank and Specify. Larry stated that Dr. Greg Riccardi at Morphbank has been in discussion with Specify regarding adding an image upload to Morphbank function to the Specify collection management software. Cheryl said the plan to use Specify 6.0 as the Bight'08 infaunal voucher collection management tool may not be viable. There is restricted user support at Specify as a result of funding issues, so we may end up using Specify 5.0 instead.

After lunch Larry reported on the funds still available to support the consultants working on this project. Of the \$15,000 OCSD provided the last two years, there is a little over \$11,000 remaining. We have been frugal in using those funds, but have been making steady progress. SCAMIT members and their "on the job" time have supported much of the effort. The money has been spent on two primary tasks; 1) updating the website and improving/adding content; and 2) development of the Species Presentation page and formatting the species list database. We will continue to develop the Species Presentation page, added image content (Aplacophoran Bight'03 images and metadata), and add content to the website, with the goal of having a beta version of the Taxonomic Database ready this coming fall.

Cheryl demonstrated the LACSD Fish Identification field guide. Some of the display and linkage functions developed for this guide mimic those envisioned for the Taxonomic Database. It was desired that Katja have the opportunity to see the layout and function. The content of the Miller and Lea fish guide keys, illustrations, and species info are included (with permission) as well as photographs of many of the species. LACSD OMRG staffers Fred Stern and Chi-Li Tang developed this guide.



Katja Seltmann discussed progress on the dynamic species page. We displayed a trial version to review the layout. The SCAMIT banner from the website is displayed as the header followed by the species name and synonym information, space for a Morphbank image, and the GoogleMaps display. There is no occurrence data to populate the GoogleMaps as yet. It was discussed that the Bight program data sets would be good occurrence datasets for that purpose. The names used in the data are SCAMIT standardized and the data is rich in diversity with a spread of samples throughout the Southern California Bight. Shelly Moore joined the group for a brief discussion on accessing the data from the SCCWRP website. Katja will incorporate that occurrence data into the species page presentation for the next meeting.

Larry opened the topic of additional future funding opportunities. Karen Stocks from the SuperComputer center at UCSD spoke about programs from NSF on bioinformatics that might be suitable funding vehicles for the Taxonomic Database project. Larry mentioned the BioSync proposal that had been submitted. It was not funded but we were encouraged to resubmit. Larry recently met with SeaGrant as they might have some possible funding. The good news - they like SCAMIT as an organization, our purpose, and the taxonomic database project. The bad news - there is quite a lot of competition for their funds and a proposal needs to be in a research setting. SeaGrant also has program development funds that might be more suitable for us. Larry mentioned the idea of using the Bight'03 Aplacophora to demonstrate the capabilities of the taxonomic database.

The meeting closed with discussion on a project on which Karen Stocks was approached. There is a professor at SDSU who teaches a graduate level class in the Computer Sciences Department who is looking for real-world examples for class projects. Karen thought there might be some aspect of our database project that might benefit from this interaction. There's thought of having the grad students use the Ed5 species list to create a web-interface and relational database that organizes literature citations. Karen will act as the mentor to the class and interface with SCAMIT.

5 OCTOBER 2009

The minutes from the October 5th Terebellid polychaete meeting will be published in a future issue of the newsletter.

19 OCTOBER 2009

The meeting was opened by our president Larry Lovell. He started with business announcements and the upcoming meeting schedule.

The status of the SCAMIT calendar is not looking hopeful. There have been no image submittals by members which may result in no calendar this year.

Dean Pasko announced that there were many B'08 problem crustaceans and a meeting to resolve ID difficulties was needed.

The taxonomy portion of the day started with Lily Sam giving her presentation on *Philine auriformis*, and talking about her current research. She is looking for specimens and feedback on problems.

Next Kelvin Barwick had the floor and started by presenting a *Tellina* character table compiled by polling most of the principal mollusk taxonomists working in the SCB. It is an agency by agency look at how external shell morphology and color characters are applied to the identification of the



most common species of *Tellina* reported (*Tellina modesta*, *Tellina carpenteri*, *Tellina cadieni* and *Tellina* sp B). Included were published descriptions from Coan, et al, 2000 and various SCAMIT voucher sheets, if available. See attached table. Along with revealing some terminology issues the main problem is *T. sp B* versus *T. cadieni* which are found offshore and in bays respectively. The two species appear to be separated by depth. Tony Phillips (CLAEMD) and John Ljubenkov call the bay specimens *T. cadieni* (it was originally described from a specimen collected in Anaheim Bay) and offshore specimens *T. sp B*. City of San Diego, however, identifies their offshore specimens as *T. cadieni* and has no *T. sp B* in their data set. CSD does not usually sample in bays. However, Kelvin remarked that in his years at San Diego, he never made the distinction between *T. sp B* and *T. cadieni*. This would include bay samples he has worked on. Ron Velarde, CSD, stated that he took off shore specimens identified as *T. cadieni* to Paul Valentich-Scott for review. After examination Paul, at the time, agreed with the identification of *T. cadieni*. Some members present contend that there are differences but were hard pressed to quantify the differences. No one present could remember seeing a voucher sheet for *T. sp B* SCAMIT, 1995. Nothing could be found on SCAMIT.org. Since there appears to be some differences in approach amongst the agencies it was suggested that the internal characters should be tabulated for all four species. Kelvin volunteered to make the observations and record the data. Each agency representative in attendance agreed to provide the specimens. Don Cadien agreed to help with drawing up a set of characters to be tabulated for the project.

Kelvin then revealed work on *Nuculana* spp he has been doing with Linda Kuhn of MBARI and Paul Valentich-Scott of SBMNH. Specifically regarding the identity of specimens recorded as *Nuculana leonina* by SCAMIT members in the SCB. Images of these specimens were compared with *N. leonina* collected from Cascade Slope, Oregon (Figure 1), and Monterey Bay, California as well as the holotype for *Leda amiata* Dall, 1916.

All attending concurred that the *N. leonina* identified by SCAMIT members most likely represents an undescribed species and should be given a SCAMIT provisional designation, *Nuculana* sp B (voucher sheet in prep). See the cover of this newsletter for images. Kelvin then turned the floor over to next speaker.

Ron Velarde started by presenting pictures of various species of *Boreotrophon*. *B. nr keepi* was found off Encinitas in 484 ft of water (Figure 2); *B. bentleyi* specimens were found by both CSD and LACSD (Figure 3). Shell structure/spines are an issue for this species; *B. avalonensis* was viewed next (Figure 4); *Scabrotrophon grovesi* was seen and agreed upon by all present.

Ron then showed us an unidentified *Boreotrophon* sp from a CSD B'08 trawl. Don Cadien was able to identify it as *B. eucymatus*. There were some questions raised but Ron does not have any concrete answers only more questions. It is, without a doubt, a difficult group. The Gastropod MMS atlas by McLean and Gosliner does cover all the species reported. The images are not that useful for separating species, but the key seems to work well. Ron then mentioned that his friend Paul Tuskes of the San Diego Shell Club has photos of several species of *Boreotrophon* from shell club members. The



Fig. 1 - *Nuculana leonina* Cascadia Slope Sta. EBS-64, 5JUL195, 950 m



specimens range from Alaska, to British Columbia, to southern California.

Tony Phillips had also brought specimens of this genus. He started with a dead specimen of *Boreotrophon pedroanus*. Next was a *B. multicosatus* which was also dead, however, CSD had collected a live specimen from Santa Cruz Island during the B'08 sampling. We then viewed various and sundry unidentified dead specimens of *Boreotrophon*. It was discussed that the ratio of the length of the aperture to the siphonal canal can be used to distinguish species. Tony then showed us a *Scabrotrophon maltzani* which had been collected during a SMB USGS special study in 105m.



Fig. 2 – *Boreotrophon* nr *keepi* fide J. Ljubenkov with the anemone *Stephanauge annularis* Carlgren 1937 attached. (Image by J. Ljubenkov)

It was mentioned that more mollusk meetings are probably needed. Wendy Enright suggested scaphopods and cephalaspicians as good groups to review.

We next delved into a discussion of the genus *Cylichna*. Tony Phillips had brought a specimen of *Cylichna attanosa* from the Avalon Harbor outfall in 30m. We compared this specimen to *C. diegensis*. This then lead to further discussions on the identification and distribution of the genus. It was noted that *C. alba* is more northern in distribution and shouldn't normally be sampled by the local agencies.

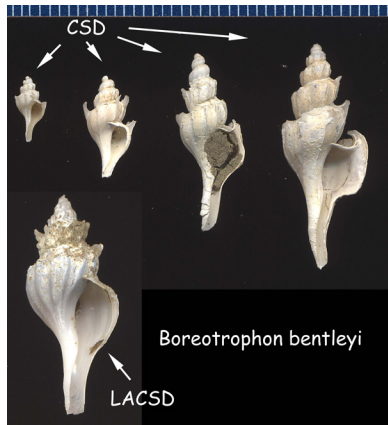


Fig. 3 – *Boreotrophon bentleyi* No collection information . Scale in millimeters. (Image by K. Barwick 6APR2004)

Lastly Wendy Enright shared some specimens she had brought for review. From B'08 station 7111, at 517m, was a *Lirobittium* sp. She was hoping for a species level ID but none was forthcoming from the members present. Next were numerous specimens of *Modiolus* from B'08 station 7527 at 42m. After review it was determined that all were juvenile *Modiolus sacculifer*. And finally a small specimen of *Calliostoma* also from B'08 station 7527. Due to its small size it was decided it should be left at *Calliostoma* sp, juvenile.



Fig. 4 - *Boreotrophon avalonensis* from CSD Sta. DB5, 10/17/05 318m. Scale in millimeters. (Image by K. Barwick)

30 OCTOBER 2009

President Larry Lovell attended the SAFIT annual membership meeting Friday, October 30, 2009 in Davis, CA representing SCAMIT. SAFIT holds an annual membership meeting each year to report on the past year's activities, project plans for the coming year, vote on new officers, and discuss



business of the organization. They are a relatively new organization modeled after SCAMIT. Of particular interest to SCAMIT and our own activities were discussions on upcoming meeting topics and the SWAMP QA workgroup report.

During discussion of upcoming meetings, Larry expressed the continued interest by SCAMIT in co-sponsoring an oligochaete workshop with SAFIT. It has been anticipated that implementation of SQO monitoring requirements (with IBI metric) for evaluating community pollution tolerance will require a more detailed taxonomic assessment of the oligochaete fauna than is currently in practice by most (Oligochaeta) annelid taxonomists. This would require a significant change in the annelid taxonomic effort and establish a need for training workshops.

Dr. Pete Ode presented a report on the SWAMP QA Workgroup. He reported that the Stormwater Monitoring Coalition (SMC, a SCCWRP managed project) has developed a Quality Assurance Program Plan (QAPP). SWAMP will extract from the SMC QAPP and insert contents into its master QA plan. Larry noted the differences between freshwater and marine monitoring programs and asked about the appropriateness of freshwater protocols being applied to marine programs. Pete replied that SWAMP plans to have specific protocols for different bodies of water (fresh vs. marine), but acknowledged the possibility of misapplication of differing protocols. It was acknowledged that there were still issues with defining QA triggers and setting limits on corrective action for failed samples. Applying chemistry QA protocols to biological samples is a problem and Pete is pushing for developing and defining a purely biological approach to QA. Additional funding for that work is being sought. The SWAMP QA plan will likely be adopted by the RWQRBs throughout the state and be a requirement of all POTW ocean monitoring permits in the future.

Jim Harrington of the California Department of Fish and Game discussed ongoing issues scientists are having getting and renewing Scientific Collecting Permits. There are issues with F&G staffing and the processing system itself. There is discussion within F&G that might lead to significant changes. He asked for feedback and ideas from SAFIT members to share with F&G staff.

Other items of business discussed were support of young scientists, recruitment of new members, and the expansion of workshops/activities to other states within the SAFIT umbrella. The SAFIT logo contest was extended after review of those submitted. The desired qualities and minimum requirements of a logo were redefined for the next round of submittals (our SCAMIT logo is wonderful and is an example others emulate).

2 NOVEMBER 2009

Attendance: Megan Lilly, Tony Phillips, Don Cadien, John Ljubenkov, Ken Sakamoto, Laura Terriquez, Christina Thomas, Larry Lovell, Wendy Enright, Cheryl Brantley, Nick Haring.

The meeting was opened by President Larry Lovell. He announced upcoming meetings which are as follows: Nov 16 2009, Decapoda 101 at LACSD; The annual WSN meetings will be from November 15-18 2009; Saturday, December 5 2009, will have us celebrating during the SCAMIT Christmas party which will be held at the Cabrillo Marine Aquarium from 5-9pm; December 14 2009, B'08 Crustaceans at OCS; January 11 2010, TBD Review of papers affecting local name usage in Polychaete conference proceedings and a review of provisional species; Thursday, Jan 21 2010, Taxonomic Database meeting at SCCWRP; Saturday, January 23 2010, the annual SCUM meeting will be held at the City of San Diego led by Wendy Enright; February 8 2010, a continuation of the digital imaging workshop at CSD; June 20-26 2010, the Tenth International



Polychaete Conference; June 2010, WSM/ AMS meetings at San Diego State University. Larry then touched briefly on the SCAMIT website upgrade. It is almost complete and we were able to get a peek at it when Larry logged in on the overhead projector screen. Some of the new features are the membership application page; older newsletters prior to 1992 have been scanned and uploaded; many “typos” have been fixed; old toolbox files have been incorporated; and the broken links have finally been repaired and updated. It was noted that the Spatangoida voucher sheet on the test site probably needs permission for use. Tony Phillips, CLAEMD, said he would look into it.

Larry announced that sadly, again, there were no image submittals by members which will result in no calendar this year.

Cheryl Brantley, LACSD, then had the floor and brought up the topic of the Bight’08 voucher collection. Leslie Harris, NHMLAC, will provide the outer label, and we will need to re-vial. There was some discussion of combining the B’08 and B’03 voucher collections. As for using the program Specify to track the collections, there was no funding and museum wants to use their own data system.

With that it was time to review unusual or difficult Misc Phyla or Echinoderm specimens encountered by B’08 taxonomists. We started with an asteroid specimen brought by Christina Thomas of OSCD. The animal was brought up during their trawls and was very small. After review by fellow taxonomists it was decided the ID should be left at Asteroidea as it was too juvenile of an animal to identify with any accuracy.

Cheryl Brantley wanted to discuss *Amphiodia* sp LA1. She presented both images and specimens for our review. Nick Haring, CSD, had some juvenile specimens that he thought might be this species. This *Amphiodia* is unusual mostly in the extremely long length of its arms. Additionally, it was noted that the tube feet on the animal were very long, extended and appeared almost beaded. However, it was felt that the length and appearance of the tube feet could be a preservation artifact. Megan Lilly and Nick Haring will work on these specimens further and take additional photos.

Cheryl had also brought a small holothuroid which was determined to be too juvenile to speciate. Everyone was reminded of the fact that ossicles change with growth and often times the ossicles of juvenile holothuroids will differ from those described from their adult counterparts.

Megan Lilly brought a specimen of *Ophiacantha* from B’08 Station 7092, 946 m. After examination by all present and taking it through various keys, it was decided to leave it at *Ophiacantha* sp, juv. It was just at the cusp of being mature enough to differentiate between species.

CSD was excited to have sampled their first *Brissopsis* sp LA1 from B’08 Station 7099, 526m. It has been suggested that this unusual species may represent a hybrid of the genera *Brissopsis* and *Brisaster*. The animal was available for examination.

Nick Haring had brought a *Ceriantharia* specimen for review. Our resident Anthozoan expert, John Ljubenkoy, determined it to be too juvenile for speciation.

CSD also wanted to take advantage of the presence of Tony Phillips, our resident flat worm expert, and showed him a specimen that Nick Haring had identified as *Stylochoplana* sp HYP. Tony was able to verify Nick’s ID.



And finally, Tony Phillips had brought a specimen of *Tubulanus* sp SD 1 for review. This is a beautiful nemertean and is similar in appearance to *T. frenatus* so care must be taken during identification of these species.

16 NOVEMBER 2009

Attendance: Larry Lovell, Don Cadien, Constance Gramlich, Christina Thomas, Julianne Kalman, Ken Sakamoto, Carol Paquette.

The meeting was called to order by Larry Lovell. He started the day by announcing upcoming meetings and touching on business items.

With that it was time for “Decapoda 101” led by Lisa Haney. She started by handing out a notebook to each participant. She stated that the meeting would be a review of the contents of the notebook. She emphasized that the notebook was just a starting point to be added to as new or additional materials were acquired. Most of the day was spent examining specimens and practicing using the notebook as an identification aide. Lisa spent her time providing assistance and answering questions individually.

Below are decapods of the five major groups handed out for examination and ID using features presented.

Penaeid shrimps – *Sicyonia* and *Sergistes*. These are primarily trawl caught but are sometimes seen in benthic samples (*Sergistes*). There were no specimens presented for examination.

Caridean shrimps – Specimens were distributed and features discussed. Lisa recommended the following as the best primary reference for this group: Butler, T. H. 1980. Shrimps of the Pacific Coast of Canada. Canadian Bulletin of Fisheries and Aquatic Sciences 202.

Mud shrimp – *Neotrypaea* and *Upogebia*.

Neotrypaea: the resolution of *N. gigas* vs. *N. californiensis* using morphological features was discussed. The fact that they are separate species has been verified with genetics. Size of a specimen can be an issue, juveniles are difficult to differentiate. Carole Paquette brought specimens from Long Beach Harbor (San Gabriel River) that were too small to speciate.

Anomurans (Hermit/Pagurids, Galatheids, and Mole crabs/Lithodids). Specimens were distributed for ID with a key by Don Cadien as well as a picture key that Don and Dave Montagne produced.

Brachyurans (True Crabs) - calappids, cancrids, portunids, pinnotherids, spider crabs, sheep crabs, decorator crabs, *Pinnixa*, panopeids, and grapsids. A review of the key was conducted.

5 DECEMBER 2009

The SCAMIT Christmas Party was held Saturday, December 5 from 5-9 pm at Cabrillo Marine Aquarium in San Pedro. CMA kindly hosted us allowing use of their facilities again. This was the second year of this renewed event after a 10-year hiatus. There were about 25 members and family members who attended. SCAMIT provided honey-baked ham, drinks, and eating utensils. Members brought a wonderful selection of potluck dishes for all to share, including great desserts.



Holiday music was piped through the PA system while we had access to the display tanks and courtyard. Adults and children all enjoyed casually wandering the exhibits enjoying the animals on display. Santa could not pay us a visit this year, but there were gift bags for the kids attending.

Julie Kalman and the staff of CMA were wonderful hosts. The gift shop was open at the beginning of the evening and SCAMIT members got 20% off their purchases, perfect for holiday shopping! I am sure we'll be back again next year, so plan to attend and enjoy this opportunity to spend time with other SCAMIT members and family in a non-meeting setting.

14 DECEMBER 2009

Attendance: Ron Velarde, Christina Thomas, Ross Duggan, Kelvin Barwick, Don Cadien, Tony Phillips, John Byrne, Larry Lovell, Dean Pasko, Ken Sakamoto.

Larry Lovell started the day with upcoming meeting announcements. 11 Jan 2010 will be B'08 Crustacea at City of San Diego; 21 January 2010 will be a taxonomic database meeting at SCCWRP; 25 January 2010 will be B'08 polychaetes at the LACMNH; 8 February 2010 will be B'08 Phyla TBD at CSD; 22 February 2010 will be B'08 phyla TBD at LACSD; 8 March 2010 will be a polychaete literature review as well as problem polychaete specimens; 12 April 2010 will be the Imaging Workshop II at CSD.

Larry then announced that there will be a SCAMIT membership list server which will replace the Google Groups that were previously used. Larry will email members with this information.

It was mentioned that SCAMIT is very behind on its production of newsletters and the officers involved will do their best to get caught up.

It was noted that the Barnard workshop minutes need to be posted on website.

We then moved on to the topic of the day which was crustaceans. Dean Pasko (OCSD) started us off by discussing *Eudorella pacifica* vs *E. hirsuta*. Specimens encountered in B'08 shelf samples did not match *E. pacifica* because the length of the antennules flagellum was shorter than the basal article of the flagellum, a character used in Watling (1991). After much discussion, we determined that SCB records of *Eudorella pacifica* likely represent a species complex, and the *E. pacifica* cmplx would be recommended for SCB records until the issue can be resolved. Don Cadien stated that in addition to *hirsuta* there are probably other undescribed/unreported species. Dean then showed specimens of *Eudorella*.

Next on the agenda was *Heterophoxus* spp; *H. cf ellisi* is from bays; *H. cf affinis* is found in deeper waters, and has asymmetry of a primary taxonomic character - setation of article 6 of pereopod 6, single vs paired vs cluster. Setation varies with size, habitat (coarse vs fine sediments). There was discussion of the apparent variability of several characters related to habitat (eco-morphs), or that there are several species that are not being adequately separated. A decision about how to handle the B'08 data will be dealt with at the B'08 data resolution meetings, after there is a better understanding of how the species were reported. For example, some taxonomists speciate specimens with only one P6 available, while others report such specimens as "sp" in recognition of the potential asymmetry. Dean showed specimens of *H. ellisi* and *H. cf ellisi* from bay stations, and the undocumented variability. There may be less variability in the shelf-depth stations, but due to the asymmetry of the bay specimens, everyone was again encouraged to us *Heterophoxus* sp for specimens that don't have both legs (P6).

Next was *Caprella* sp WS1 vs *C. californica* vs *C. simia*. We examined a *Caprella* spWS1 from a shallow station at 2.5m, and a *C. cf californica* with a thick head spine. *Caprella* sp WS1 is very



much like *C. simia* but with a smooth pereonite 5 (i.e., no dorsal tubercles or knobs). Although Aromoto 1976 (Figures 86-87) showed variations of *C. simia* that included a specimen with smooth pereonite 5, we determined to separate the species. Spination variability on head and articles was noted. The differences of males vs females was also discussed.

A caprellid specimen from Bight'08 station 7596, 15m, identified as *Mayerella* sp, was examined. It had no head spine, only a small nubbin of a bump on the head. It was determined to be *Deutella californica* with head spine variation (very reduced). Another *Deutella californica* from Bight'08 station 7572 also showed similar head spine variation.

Synaptotanaïs vs *Zeuxo* (*normani*, *paranormani*, *maledivensis*). We studied a *Zeuxo* specimen from a bay sample with a pigmented head region and segmentation. Also examined was a *Synaptotanaïs* (huge specimen) from a bay sample. *Synaptotanaïs* is a large, white, robust species with uropodal articles that are distinctly long. *Zeuxo*, on the other hand, tends to be a small, pigmented, much less robust species with uropodal articles that are not clearly $\geq 3x$ longer than wide. However, the key in Sieg and Winn (1980) has an unacceptable couplet that uses subtle differences in relative length of the uropods, which are difficult to distinguish without differentiating specimens in hand. We also discussed problems distinguishing species of *Zeuxo*. Resolution of *Zeuxo* records will require the B'08 data review. Finally we looked at a *Anatanaïs pseudonormani* from Don Cadien B'08 station 7540. It was clear at the meeting that the antenna character used by Sieg and Winn adequately distinguished this taxon from the *Zeuxo* group.

We continued on with *Caecianiropsis* species: First we examined *C* sp LA2 vs *C* sp LA1. Then we reviewed Tim Stebbin's email detailing *C* LA2 vs *C psammophila*. Look at uropod 1 length/width, the mandible is sclerotized in *C*. LA2 but not in *C. psammophila*. We examined a specimen from a 51m Channel Islands sample; the animal was without a sclerotized mandible and had no setae on second article of peropod 2. This animal may be *C. psammophila*, although *Caecianiropsis psammophila* can be most easily distinguished from the two provisionals by the presence of lateral serrations on the pleotelson. B'03 emails distinguishing *Caecianieropsis* sp LA1 and LA2 were resurrected, discussed, and perhaps should be re-distributed.

A specimen reported as *Erichsonella* cf *crenulata* by Dean Pasko was also discussed. It came from Bight'08 station 6211, 2.6m, in Mission Bay. This animal had weird spination on the dorsum. It was a "wow" animal, later determined to be *Erichsonella cortezi* Brusca and Wallerstein 1977.

Other species discussed during the meeting are as follows:

Anorapallene palpida – Dean reported variability of palps related to presence, absence, and development. Multiple specimens from Channel Islands samples were reviewed with palp variability. Follow the B'08 list server email string for a more complete discussion. For now, the group decided to back off to Callipallenidae.

Ammonotheidae sp AB1 – A Pycnogonida with no eye structure at all, but with large palps, and functional chela present. The specimen came from Bight'08 station 7493, Channel Islands.

Nebalia sp WS1 – Bight'08 station 6211, 2.6m, bay. The eyes had a different structure and the carapace was deeply incised. It was determined to be a juvenile and reported as *Nebalia* sp.



Byblis sp? – 500m station off San Diego. Ross Duggan took it both ways through the key (*Ampelisca* and *Byblis*) and it did not really fit either. It was decided that it is a *Byblis* due to spines on P5. Using the *Byblis* key in Dickinsen 1982, it keyed to *Byblis* nr *crassicornis*.

Corophium/Sinocorophium species – Chapman does not support use of *Sinocorophium*, but has not published on it. *S. aliense* and *S. heteroceratum* name usage was agreed upon.

Deflexilodes enigmaticus vs. *norvegicus* – Bight'08 station 6072, 5.6m, embayment. The following characters were used in coordination with Pasko 2007 key to Oedicerotidae of SCB: Rostrum curved at 90 degrees, telson not emarginate, gnathopods 1 and 2 with deflexed margin. *D. enigmaticus* was the agreed upon ID.

Nipplouleucon sp WS1 – Bight'08 station 6060, 1m. The designation was considered valid and a provisional voucher sheet is pending.

Cumella sp WS1 – like *C. californica*. Bight'08 station 7553, 51m, Channel Islands. Flared pereonites, smooth carapace, w/ slight sulcus. Don Cadien noted that *C. californica* can lack spination.

Hemilamprops sp (FID) – Bight'08 station 7442, Channel Islands. Aberrant spination on the telson. 5 terminal subequal, 2 asymmetrical lateral spines. Determined to simply be a variant form and reported as “sp”.

Lamprops quadriplicata ? *longispina* – Bight'08 station 7596. Terminal spines on telson are the issue. The central spine was 2x medial terminal spines. The sub-species will not be considered, particularly since some question exists as to consistency of character states. This specimen was similar to, but did not exactly match, the *L. longispina* subspecies. The group decided to go with *L. quadriplicata*.

Vaunthompsonia – Bight'08 station 6211, 2.6m. This animal was taken through Don's key. The specimen had exopods and was determined to be *Cumella* sp E Phillips 1998 from Santa Monica Bay. A male specimen from Bight'08 station 6031, 1.8m was also examined and determined to be *Cumella* sp E.

Podocopids – several species in samples, nice large specimens. Although interesting, the group agreed to stay with the convention and leave at *Podocopida* sp.

And with that, the carcinologists called it a day!



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

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Tellina spp Character Table

Presented 19 October 2009 (revised 30 August 2010)

T. carpenteri Dall, 1900

Character	Coan et al, 2000	LACSD (Bill Power)	CSD (Ron Velarde)	OCSO (John Ljubenkov)	SCAMIT, 1983 (Dall, 1900)
Shell color	pink to rose, with two yellow stripes radiating in an inverted V from beaks	red to brown usually lighter than sp. B	yellow/ pink with triangular areas with less pink coloration (areas seem to correspond to white lined areas of <i>T. cadieni</i>)	variegated pink/yellow; prominent radiating lighter colored stripe posterior to umbone on each valve; smaller specimens yellow	pink with some specimens showing white rays
Shell sculpturing	sculpture lacking or of fine irregular commarginal striae	prominent, always present	concentric sculpture (similar to <i>T. modesta</i>)	fine closely spaced commarginal ridges	not reported
Reported depth ranges	intertidal to 823m	30-305 m (usually 150-305 m)	off SD 60-200 m, centered at 150m, but can occur out to 400 m	18, 30 - 455 m	0 - 144 m
Other characters	internal radial rib lacking	NA	NA	NA	elongated, more so than <i>T. modesta</i> ; moderately inflated, more the <i>T. modesta</i> ; almost equilateral to longer anteriorly; rounded anteriorly

T. cadieni Valentich and Coan, 2000

Character	Coan et al, 2000	LACSD (Bill Power)	CSD (Ron Velarde)	OCSO (John Ljubenkov)	SCAMIT
Shell color	light pink to cream, usually with two thin white radial bands posteriorly	not reported	pink with two narrow white lines from umbo diagonally to ventral margin on each valve, wider apart on right valve	rosy pink to dark red	NA
Shell sculpturing	very fine, closely spaced commarginal ribs over entire surface	not reported	only weak fine growth lines	smooth in adult	NA
Reported depth ranges	intertidal to 305 m	not reported	off SD 30-100m, centered at 60m, but can occur out to 200m	56 m (1 record of 6 individuals)	NA
Other characters	with low, wide internal strengthening rib	not reported	NA	larger specimens more inflated than other <i>Tellina</i> spp.	NA

Tellina spp Character Table

Presented 19 October 2009 (revised 30 August 2010)

T. sp B SCAMIT, 1995

Character	Coan et al, 2000	LACSD (Bill Power)	CSD (Ron Velarde)	OCSO (John Ljubenkov)	SCAMIT
Shell color	not reported	red to brown	not reported	true pink	NA
Shell sculpturing	not reported	rarely present	not reported	smooth	NA
Reported depth ranges	not reported	30-305 meters	not reported	off shore (18, 30 - 455 m)	NA
Other characters	not reported	NA	not reported		NA

T. modesta (Carpenter, 1864)

Character	Coan et al, 2000	LACSD (Bill Power)	CSD (Ron Velarde)	OCSO (John Ljubenkov)	SCAMIT, 1983(Coan, 1971)
Shell color	white, yellow in some specimens	clear	white	white	white externally and internally
Shell sculpturing	finely commarginal	usually present	concentric sculpture	fine, closely spaced commarginal ridges	shell smooth, shiny
Reported depth ranges	intertidal to 100 m	30-305 m (usually 30 m)	off SD 10-40 m, centered at 25 m, but can occur out to 60 m; in coarser sediments (sand), 0-20% fines	18, 30 - 303 m	NA
Other characters	internal radial riblet just behind anterior abductor scar	NA	NA	NA	internal radial strengthening rib; shell elongated, moderately inflated: longer, rounded anteriorly; pointed, fairly truncated posteriorly

Tellina spp Character Table

Presented 19 October 2009 (revised 30 August 2010)

[*Tellina* s p A SCAMIT, 1995]= *T. carpenteri*

Character	Coan et al, 2000	LACSD (Bill Power)	CSD (Ron Velarde)	OCSD (John Ljubenkov)	SCAMIT, 1995
Shell color	not reported	not reported	not reported	not reported	variegated pink and yellow in conspicuous and constant pattern of mid-valve pink wedge surrounded by inverted yellow V
Shell sculpturing	not reported	not reported	not reported	not reported	fine raised concentric ridges, regular close in juveniles, becoming more widely spaced and fading with growth, lacking in adults
Reported depth ranges	not reported	not reported	not reported	not reported	60 -305 m (probably deeper)
Other characters	not reported	not reported	not reported	not reported	internal strengthening rib present but poorly defined