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Cover Photo: *Ampharete* sp TP1; Collected at Bight'13 Station 9395, 127m, eastern Santa Barbara Channel. Photo by Tony Phillips.

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

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11 MAY 2014, BIGHT'13 POLYCHAETE FIDS AND METHYL GREEN STAINING COMPARISON, NHMLAC

Attendees: Leslie Harris (NHMLAC); Chip Barrett (EcoAnalysts); Bill Furlong, Larry Lovell (LACSD); Greg Lyon (CLA-EMD); Ricardo Martinez-Lara, Veronica Rodriguez, Ron Velarde, Kathy Langan (CSD); Kelvin Barwick, Rob Gamber (OCSO); Tony Phillips, Dean Pasko (DCE); Dot Norris (SFPUC).

UPCOMING MEETINGS

Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.

Business

Larry reminded everyone to renew his or her SCAMIT memberships. He then introduced the topic of methyl green staining and cited Dan Ituarte's attachments from the List-server exchanges on the subject. Leslie passed around a flash drive with a table on methyl green products compiled from information sent in by members along with a folder for distributing voucher sheets to attendees.

Don Cadien had sent around an email calling for mollusk and echinoderm meetings for the purpose of calibrating identifications ahead of data submissions. Meeting dates for these taxa and more polychaete sessions were scheduled. We suggested that people working on the different groups (echinoderms, mollusks) send out a general email to the SCAMIT/B'13 List-server asking for a needs assessment. There was a short discussion encouraging everyone to use our Bight'13 List-server as the preferred method to collaborate on provisional species. Not communicating properly on provisional (or new) identifications has created situations in past regional surveys where certain taxa were dropped back to genus or family. The latter practice significantly reduces the value the Bight data, particularly if it becomes the norm for one or more labs.

Kelvin took the opportunity of the morning chaos to demonstrate his new eye-lash tool that he bought at an SEM site for \$11. The eyelash is glued to the end of a stick (like a typical small brush). It is tapered and has a fine point that is also stiff. It is excellent for pointing out characters and therefore good for teaching, and for moving and disentangling appendages (e.g., syllid antennae, arthropod appendages). Two sources for eyelash, single deer-hair brushes, and single bristle holders are http://www.tedpella.com/brush_html/brush.htm and <http://www.agarscientific.com/tweezers-tools/brushes.html>

Leslie then shared one of her methods for photography – the use of glass petri dishes with black paint on the bottom, which provides a nice solid background without having to use black velveteen or Photoshop. Examples she showed were done with Martha Stewart Crafts multi-surface Satin Acrylic Craft Paint and Americana Gloss Enamels Black. These craft paints require some curing and/or baking. Both are thick enough that the dish can be dipped into the paint and turned upside down for drying without the paint running; however it has to dry for 4 days and then bake in an oven for ½ hour. She felt these didn't compare to her older dishes, which were done with glossy black house paint. While the enamels looked nice and black to the eye, the background in the images was too gray and there were obvious shadows. The dishes painted with house paint were much darker with little or no shadow.

Leslie also shared that The Korean Journal of Systematic Zoology website has excellent systematic and taxonomic information on various groups, and offers many articles as PDF files for download.



The meeting then began in earnest with Leslie explaining the history of methyl green usage and the reason behind our need of a comparative test of the products we use. In short, there are two substances, Methyl Green and Ethyl Green, three different formulas, and we're not sure if they result in the same staining pattern. Leslie compiled all the stain information from the different polychaete workers for comparison. Two of our labs had purchased aqueous solutions while others mixed their own dark solutions from powdered formulations. The City of San Francisco had a light solution but it was made from the powder form. The formulas were generally very similar differing only by a molecule or two. Some products included Zinc-Chloride, but most lacked it. Formulations had a color index of 42590 (=ethyl green) or 42585 (=methyl green). There were also slight formula weight differences. The aqueous solutions had a different hazard number but had the same color index. In summary, Leslie found clear differences in the formulas and formulations, and noted a one-methyl group difference between Methyl Green and Crystal Violet. Ethyl Green stains will eventually leach out and the color may change to purple during the transition. Chip (EcoAnalysts) and Sandy Lipovsky (Columbia Science) had the same product (the aqueous form), while most others had something slightly different, or at least from different manufacturers. Leslie's table showed at least four different CAS numbers. Kelvin mentioned that the CAS number was like a species identifier; he also looked up the color index, and found that the slight differences in color index were not likely a difference of any significance. The effort also revealed that several different solutions are available for purchase – i.e., not all “methyl green” dyes are the same – and that a 500mg bottle of powder will last for many years.

While Leslie spoke, Larry was busy pulling *Terebellides californica* specimens and placing them into the various stain batches to test staining results.

The review of the stained specimens showed that Chip and Sandy's 1% stain worked just as well as the very dark solutions made from powder. The specimens did not require rinsing and did not discolor the EtOH due to excess stain leeching off, a common occurrence with powder-based stains. The stain patterns and intensity were consistent across all the stains and specimens. It was very reassuring to know that the various stains used by SCAMIT members, whether solutions mixed from powders or provided by suppliers in aqueous form, produced equivalent results.

Kelvin raised some questions about the quality of methyl staining as a taxonomic character and our reliance on stain for taxonomic purposes. In particular, he noted that he is color blind and there is little information as to what is really being stained (i.e., what cells are targeted by the stains and the reliability of their consistent distribution among specimens of the same species). The resulting discussion suggested that color blindness is not a problem as the stain pattern is the same whether in full color or in shades of gray. According to Banse (1970), epidermal mucus cells take up the stain, and the pattern is fairly consistent within a species once allowance is made for differences between juveniles and older specimens. The size and distribution of glandular areas (the epidermal mucus cells) increases as animals increase in size and some times sexual maturity. A stain pattern may include what we call target stains (always visible) and secondary stains (variable).

Several folks noted that crystal violet is commonly used for bivalves to view muscle scars and such, while Alcian Blue is used for surface structures of polychaetes and other organisms.



Bight'13 Specimen FIDs:

[Secretary's note: Several attendees brought presentations that included images and identifying characters of the various taxa discussed below. Whether or not these presentations make it to the SCAMIT website will be left with the originating taxonomist; however, please feel free to contact any individual directly for information regarding these taxa or their presentations.]

We then jumped into the review of specimens that were new, required verification, or represented provisional species. Several specimens of *Prionospio* sp A Blake were reviewed. Leslie mentioned that if an animal loses appendages prior to dying, it might not have scars. This can cause difficulty with the identification of spionids, cirratulids, syllids, etc. that rely on branchiae number or position on the appendage for proper identification.

OCSA brought a small terebellid that Leslie would leave at family Terebellidae. Kelvin left the specimen with Leslie to see if she could possibly get it to genus with more time. [Turns out that she couldn't – it was just too dang small.]

Larry discussed *Leitoscoloplos* and the problem of *Scoloplos armiger* Cmplx vs. *L. panamensis* based on the absence/presence of neuropodial acicular setae in small specimens. Specimens with subpodial lobes should be checked for neuropodial acicular setae.

Kathy shared *Spiophanes anoculata*, which only occurs in deep water. The specimen was from a sample collected off San Diego (Station 9041, 942m). It can easily be confused with members of the *S. bombyx-norrisi* group. This species has particularly distinctive long and U-shaped nuchal organs followed by discontinuous, smaller circular-shaped structures. Kathy's specimen also had eyes that were quite visible, giving question as to the suitability of the species name.

Leslie confirmed a specimen that Kelvin had brought, Trichobranchidae sp LA1 from 787m off Orange County (Station 9133).

Tony had a couple of FIDs: *Ampharete* sp TP1 (see cover photo), *Dialychone* sp TP1, *Monticellina* sp TP1, and *Naineris* sp TP1. He presented a slide show with photos and character states and distributed copies at the meeting.

Ampharete sp TP1 has 14 thoracic setigers and a smooth lower lip vs. 15–16 thoracic setigers and a ribbed lower lip for Apharetidae sp SD1. The staining pattern was also very different, and there were large laterally staining pigment spots on abdominal segments. The paleae are not huge, but distinctive.

Dialychone sp TP1 has a series of nearly uniform teeth in anterior abdominal segments placing it into *Dialychone*. The staining pattern includes a distinctive collar stain and white band in abdominal setigers. This was generally compared to *Chone* sp SD3. *Dialychone* sp TP1 differs by the presence of a pointed collar and the absence of the half-moon staining pattern on the collar.

Monticellina sp TP1 is distinguished by four peristomial annulations along with dorsal tentacles that insert anterior to setiger 1. There isn't much of a methyl green stain but there is a golden hue laterally between parapodia and golden banding on the ventrum. It has a very uniform width to the body, without anterior swelling.

Naineris sp TP1 is distinctive for not having a squared prostomium and no bifid or trifid lobes on parapodia. This species has a rounded prostomium with branchiae beginning on setiger 5.



Leslie shared *Aphelochaeta* sp HYP6 Phillips 2009. It differs from *Aphelochaeta* sp LA1 Brantley 1999 by its prostomium stain and lateral speckling on anterior segments, while *Aphelochaeta* sp LA1 has a solid stain. This species raised several questions about how to distinguish these specimens from *A. petersenae*. For example, Kelvin was unsure of the differences in staining pattern.

Leslie presented a number of pictures of *Decamastus gracilis* that showed variations in staining pattern. There is a “target stain” which is always present and a secondary stain pattern that is sometimes present.

Leslie commented on *Mooreonuphis* sp SD1, noting that she had not seen it before finding some in her samples. She gave them a provisional name and prepared a character table only to find out the species had been previously named *Mooreonuphis* sp LA1 by Cheryl Brantley. Leslie presented her table (available in the SCAMIT toolbox: *Mooreonuphis* spp character table.pdf) because there is no voucher sheet for either *Mooreonuphis* sp SD1 or *Mooreonuphis* sp LA1, in part because Cheryl and Rick Rowe were unable to come to resolution on the two taxa. She found some slight differences (noted in the table) that probably represent intra-specific variation.

Another onuphid up for discussion was Leslie’s *Nothria* sp DC1. It’s close to *N. occidentalis*, but differences lie in length of antennae, types of hooks in first three setigers, and the start of intrafascicular hooks. She prepared and distributed a comparative character table.

Pista sp E Harris 2013 is related to *P. brevibranchiata*, but has a long lappet on setiger 1, and a large semi-circular lappet on setiger 2. The branchiae have a long stalk/base and are inserted distally on the prostomium. There are also two pairs of nephridia.

Prionospio sp J Harris 2014 looks a lot like *P. jubata*. The specimens are from the shallow shelf of Santa Monica Bay and Los Angeles Harbor at depths of approximately 60m. These present a problem in that they look a lot like the very common *P. jubata* except for their methyl green staining pattern, which is quite distinctive. She stained the NHMLAC paratype lots of *P. jubata* to be certain of the difference. *Prionospio* sp J also has dorsal crests/folds that don’t fully cross the body until setiger 9 compared to setiger 6 in *P. jubata*. Leslie called it *Prionospio* sp J because of its resemblance to *P. jubata*. Blake’s *P. jubata* came from more northern waters and deeper depths. Workers need to take another look at their specimens of *P. jubata* using methyl green to see if they really belong to that species. Unfortunately some agencies use Alcian Blue, which would preclude use of methyl green.

Next she presented images of two specimens that keyed out to *Spiophanes wigleyi* and matched the descriptions in both Blake (1996) and Meißner and Hutchings (2003), but their methyl green stains were different from that given in the latter paper and from each other. According to Meißner and Hutchings (2003) there is not a distinct stain; the darkest staining areas are the notopodial lamellae of setigers 9–15 and the posterior tip of the prostomium appeared darker than the surrounding area. Both specimens came from Santa Monica Bay, CLAEMD St. B7, 45m. On one the prostomium and peristomium were solid dark green dorsally and ventrally although the median portion of the lower lip’s anterior edge did not stain, and there were some small spots on the mid-ventral portion of anterior setigers. The prostomium was even darker on the other specimen but the peristomium, while equally dark ventrally and laterally, did not stain dorsally, making the prostomium stand out quite distinctly from the pale flesh surrounding it; in addition to mid-ventral spots, setigers 1–8 each had a mid-ventrally interrupted transverse dark band running out to the parapodial bases and the inferior edge of the neuropodial lamellae was dark as well.



Sigambra sp DC1 Harris 2014 from Los Angeles Harbor was compared to *S. tentaculata*. With the proboscis everted, the differences are clear. The serrations of the setae on the posterior spines are very fine, making them look smooth. The table that Leslie produced shows the differences in characters. Tony had also noticed the same characters in his specimens from Santa Monica Bay and LA Harbor, and it is likely that shallow water worms Larry identified as *S. setosa* from LB/LA Harbors and LACSD are the same. The same applies to specimens from San Francisco Bay, which are referred to as *Sigambra* sp SF1 Norris.

Up next, Veronica discussed some of the common species that she was seeing in San Diego, and presented several slides of various provisional taxa.

Aphelochaeta sp B13-1 is close in form to *A. tigrina*, but does not stain on the prostomium. Kelvin noted that he had created *Aphelochaeta* sp OC1 for a species within the *A. glandaria* Cmplx, but he has no formal description of it. Tony commented that Rick Rowe's *Aphelochaeta* sp A is not part of the *A. glandaria* Cmplx even though Rick had at one time suggested that they were the same. Tony has a *Monticellina* that has a similar staining pattern to *Aphelochaeta* sp OC1 and Veronica's provisional species (*Aphelochaeta* sp B13-1).

Thanks to the recent work on *Sternaspis* by Sendall and Salazar-Vallejo (2013) and Salazar-Vallejo and Buzhinskaja (2013) our local sternaspid fauna has been expanded. Veronica has found *Sternaspis affinis*, *S. princeps*, *S. williamsae*, and *Caulleryaspis nuda*. *S. williamsae* differs from *S. affinis* by the shape and margin of the plates, irrespective of size. The skin is delicate and thin, the animals are only a few millimeters in total length, and are found in deep water. They do not seem to co-occur with *S. affinis*. *S. fossor*, on the other hand, does not occur here.

Veronica explained that *Caulleryaspis nuda* was taken in a deeper water sample. *C. nuda* is small and distinctive, and has small sand grains embedded in the scutes. For more information on these sternaspids see Sendall and Salazar-Vallejo (2013), which is freely available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677357/pdf/ZooKeys-286-001.pdf>.

Therochaeta pacifica is a small flabelligerid species taken at a depth of 942m at station 9041. It has a distinctive constriction partway down the body.

Veronica reminded everyone of another provisional, *Pherusa* sp SD2 of Rodriguez 2008, that was erected from incomplete specimens but did not match other described species. It came from Bight '08 Station 7079, 465m.

Veronica also showed voucher sheets for some paraonids, such as *Aricidea (Acmira) rubra*. This prompted Kelvin to remind everyone that *Aricidea (Acmira)* sp SD2 (long median antennae) is not equivalent to *A. (Acmira) lopezi* (short median antennae). Larry commented there has been some confusion in the literature regarding antennal length of *A. (Acmira) lopezi*. He examined the holotype at USNM and confirmed that it has a short median antenna.

Another species that occurs in the deeper Bight stations is *Ophelina pallida*. Veronica distributed a sheet for this as well.

Ricardo then took center stage and showed *Chone* sp SD3 with its crescent moon-shaped collar staining pattern. It was from Station B'13 9020, 525m. There was discussion of the distinction between *Chone* and *Dialychone*, which was originally based on SEMs. Larry and Tony confirmed that they could be distinguished using a compound microscope to examine uncini.



Ricardo also distributed an identification sheet for the deepwater species *Euchone velifera* Banse 1972. The sheet includes juvenile and adult photos with staining patterns.

He also discussed *Maldane californiensis*, which can be mistaken for *M. sarsi* if not carefully examined. *M. californiensis* possesses a ventral collar on setiger 1 that *M. sarsi* lacks.

Another deep-water maldanid, *Sonatsa carinata*, has a very distinctive staining pattern and unique pygidium (see Green 1987).

Bill Furlong then showed a polynoid that he has been wrestling with... and losing, unfortunately. The specimen from station B'13 Station 9241 (770m) was referred to ? *Eucranta* sp. It looked to be the same as a specimen that Ron Velarde collected in B'08 that he left in subfamily Polynoinae, with *Eucranta* as a possible ID. Ron's specimen was from ~800m, and so they are likely the same. Bill had a voucher sheet that he kindly distributed.

Bill also had a *Harmothoe* sp, which he keyed to *H. multisetosa*, but he questioned the identification because of differences in elytra and the eyes, the latter being more distinctive in ventral view. The neurosetae have a large secondary tooth. The elytra are colorless, including the papillae, and parapodial lobes are long. Bill placed it into *Harmothoe* because of the transverse cusps on the notosetae. We noted that it had triangular prostomial peaks on prostomial lobes.

Larry then discussed his several new provisional species. *Aphelochaeta* sp LA3 came from B'13 Station 9210, 700m. It has an interesting dorsal staining pattern and palps ahead of the first setiger. He noted the banding on the head region. Veronica thought it was similar to her *Aphelochaeta* sp SD15, but it differs in that *Aphelochaeta* sp SD15 has staining that goes all the way down. In *Aphelochaeta* sp LA3, the anterior setae are very long with the posterior setae being about one-third the length of the anterior.

Arcteobia sp LA1, which co-occurs with *A. cf anticostiensis*, lacks prostomial peaks and pigmentation on the entire ventrum. It also has notosetae with transverse cusps. This character difference with *A. cf anticostiensis* brings into question the generic definition of *Arcteobia* notosetal types and the placement of these two species with differing notosetal ornamentation.

Arcteobia cf anticostiensis SCAMIT 1990 is distinguished by several characters: (1) a prostomium with peaks; (2) four eyes in trapezoidal arrangement; (3) a centrally located pigment band in the rear of prostomium; (4) posterior dorsum and ventrum with dusky pigment in posterior setigers; (5) elytra with a dark pattern in central and posterior lateral margins; (6) papillated dorsal cirri; (7) notopodial lobes with acicular (superior) and capillary (inferior) setae with longitudinal spinose rows; and (8) bifid neurosetae with a subdistal spinose region.

After all this discussion and review of species it was time to call it quits, thankfully!

9 JUNE 2014, BIGHT'13 CNIDARIA FIDS, OCSD

Attendees: Larry Lovell, Terra Petry (LACSD); Megan Lilly, Wendy Enright, Ron Velarde, Robin Gartman (CSD); Laura Terriquez, Ken Sakamoto (OCSD); Greg Lyon (CLA-EMD); Matt Hill (EcoAnalysts); Tony Phillips, Dean Pasko (DCE).

Business

President, Larry Lovell, opened the meeting reviewing the purpose of these Bight'13 taxonomy meetings. He made a plea for everyone to send in their Mollusca voucher listings via the B'13 taxon List-server early so that they could be consolidated before the next meeting.



Larry also reminded everyone that it is membership renewal time, and encouraged members to request that their agencies purchase institutional memberships in addition to individual memberships.

There are no meetings scheduled for July, although Laura suggested that we consider holding an echinoderm meeting. After some discussion, July 21 at OCSD was suggested as a possible date/location. There was additional discussion about a non-cnidarian Miscellaneous Phyla meeting, perhaps on July 28 at LACSD. And not to be left out, the polychaete folks in the room suggested a polychaete-specific meeting on August 4 and/or 18 at NHMLAC.

Although there was some resistance to all these meetings, their purpose is to help answer questions ahead of time, before data gets submitted. There will be additional opportunities to change data with the Synoptic Data Review and Taxonomic QC, but that doesn't take place for some 4–6 months after the fact. For example, Taxonomic QC won't take place until spring 2015. QC samples have been pre-selected so that once data has been submitted, the selected stations will be announced and may then be transferred for processing.

Wendy mentioned the Mollusk Meeting of the Americas in Mexico City. It is being hosted by four organizations, with many concurrent sessions in multiple languages (Spanish, Portuguese, English). The meeting starts on Sunday, June 22 and runs through Thursday, June 26.

Ron reminded everyone that WSN will be held in Tacoma Washington, November 2014.

The Species Review Committee met in late May and has been working to update Ed 8 to Ed 9, especially with the polychaete hierarchy. The Committee determined that we would not list species added as a result of B'13 benthic identifications, but B'13 trawl inverts new to the list will be included.

Dean started the workshop by re-emphasizing the need for these cnidarian meetings to calibrate our identifications in John Ljubenkov's absence. Since John identified all cnidarians in each of the prior Bight surveys, it was critical to spend a little extra time now to make our data as consistent as possible. He started the day with a review of the current B'13 cnidarians that had been reported as having been vouchered and also reviewed the Edwardsiidae, including images of basotrichs. The images were taken from Tony's February presentation, cut down to include only those that had been vouchered from Bight'13 samples. [Secretary's note: Several attendees brought presentations that included images and identifying characters of the various taxa discussed below. Whether or not these presentations make it to the SCAMIT website will be left with the originating taxonomist; however, please feel free to contact any individual directly for information regarding these taxa or their presentations.]

Dean had slides of the various nemathybome basotrichs, which helped us sort out several taxa by demonstrating some of the differences between species. *Scolanthus triangulus* has basotrichs that are clearly large; while those of *Edwardsia juliae* are clearly small relative to the other species. In other cases, differences in shape such as straight in *Scolanthus scamiti* vs. straight and curved in *Edwardsia olguini*. In addition, some species had only one type or size of basotrich and others had two (e.g., *E. californica*, *E. olguini*). We also confirmed the "stacked banana" basotrichs of *Scolanthus triangulus* that John had so often talked about. Dean had a picture that showed this well. The slide show was made available to all in attendance, and will be posted to the website soon.



Dean also attempted to demonstrate his glycerin technique for dissolving the periderm and breaking up the nemathybomes to reveal the basotrichs.

We had a brief discussion about *Peachia* during which Tony explained that the mesenteries of *Peachia* extend the entire length of the animal. Tony also talked about the one “Ceriantharia” in the slide presentation as likely representing *Pachycerianthus*.

Matt showed a specimen of *Flosmaris* for FID. The specimen had a rounded, bulbous physa encrusted with sand grains, was wrinkled anteriorly (towards the tentacles), and had tentacles with slight coloration at their base. We compared Matt’s specimen to Megan’s voucher sheet for *Zaolutus* and pictures from the presentation, and were able to rule-out *Zaolutus* by the relatively fewer tentacles for the size of the specimen. The specimen had about 20 confirmed macronemes (relative to the 12 pairs reported for *Flosmaris*) and about 27 tentacles. We also compared the specimen to the description in Hand and Bushnell 1967, and everyone felt comfortable confirming Matt’s identification. The specimen came from Station 8295, in Bolsa Chica Lagoon, at about 3m depth. The specimen was about 3 mm across and 15 mm in total length.

Matt also had a specimen of *Pentactinia*, which was not encrusted with as much sediment/shell hash as we are used to seeing. The single specimen was from Station 9482 (20m) in the Western Santa Barbara Channel that included another 20 specimens with more encrusted periderm. A cross-section showed it to have 12 mesenteries, and many tentacles. After some discussion and review, we determined the specimen to represent *Halianthella* sp A.

Matt also had a penatulid that he called *Stylatula elongata*. However the specimen had only 5–6 polyps per leaf, alternating leaves, 6–8 siphonozoids, and 6–8 sclerites at the base of each leaf. The group referred to Hochberg and Ljubenkov (1998) for documentation and determined the specimen to represent *Stylatula gracilis*, and suggested getting the specimen to Beth Horvath for confirmation.

Dean brought out a specimen of what he called *Stylatula elongata*. This specimen also had too few polyps to be *S. elongata*. It had ≤ 10 polyps/leaf, with the leaves arranged opposite each other on the stem. There were about seven sclerites/leaf that were thin, clear, and straight. While there was some color to Matt’s *S. gracilis*, the polyps from this specimen were without color, and the siphonozoids either absent or very tiny. We referred the specimen to *Stylatula* sp DC1 and planned to also give it to Beth for review.

Wendy then brought out a specimen of *Urticina* sp from CSD samples. We compared it to Actiniaria sp 1 to assess whether or not Actiniaria sp 1 might represent an immature form of *Urticina*. We discovered several differences between the two, the presence of a spiraling ridge running along the disc margin in *Urticina* (where the tentacles emerge from the oral disc) that was absent in Actiniaria sp 1, and the presence of verrucae in *Urticina*, which are absent in Actiniaria sp 1. It was great for many of us newbie cnidarian identifiers to see verrucae.

We then examined a specimen identified as Hormanthiidae from deep water station 9035 (465m) collected by the City of San Diego staff. It was a fairly large specimen with four cycles of tentacles, with ~30–40/cycle (close to 120 total). The periderm had rows of pustules leading from the top of the column below the tentacles down to the posterior end (See Fauntin 1998).

The CSD staff also brought a cerianthid FID that turned out to be what Tony and Dean might have called Ceriantharia sp C Ljubenkov, except that the specimen did not have tentacles with



color, a character John had listed in his notes for this provisional taxon. The CSD specimen was entirely without color (tentacles and body alike). Like *Ceriantharia* sp C, the mesenteries stopped mid-way down the column.

We then examined Matt's *Virgularia agassizi* and determined that it did not have enough of the rachis to get an accurate polyp count. But, because there were no sclerites, we agreed that it would be best left at the family Virgulariidae.

Dean had brought a group of small, bulbous "*incertae sedis*" which he thought might be anthozoans. Megan assisted with the review and agreed that they were indeed small anthozoans, some completely retracted such that there was little to no sign of an oral disc, mouth, or tentacles. Dean will review and enumerate them.

Dean also had some jumbled mass of material that was either an anthozoan or a very damaged ascidian. Megan and Dean determined it to likely be some sort of colonial ascidian that was badly damaged and not countable.

There was a discussion regarding countable vs. non-countable/partial specimens. We collectively decided that the taxonomists should try and "piece together" tentacle end and bases of anemones as best they can, but should make certain not to double count.

23 JUNE 2014, BIGHT'13 ARTHROPOD FIDS, CSD

Attendees: Chase McDonald, Larry Lovell, Don Cadien, (LACSD); Andrew Davenport, Katie Beauchamp, Ron Velarde (CSD); Danny Tang, Ken Sakamoto (OCSD); Craig Campbell, Erin Oderlin (CLA-EMD); Matt Hill (Eco-Analysts); Tony Phillips, Dean Pasko (DCE).

Business

Larry listed the upcoming meetings through August, all Bight'13 taxonomic meetings. Don then asked for a general understanding from each lab on how far they had progressed on their benthic identifications.

LACSD – They have completed their identifications and are working on their data entry

DCE – DCE has completed all of their POLA/LB samples, most (about 70%) of the RHMP, and have yet to begin the CLA-EMD and OCSD samples

OCSD – Arthropod IDs are on-going and are likely to be completed on time. Danny and Ken did not have any information on the other groups.

CSD – All of their deep samples completed, and other samples in progress

EcoAnalysts – Initial IDs on everything but arthropods have been completed. They are on track to finish by end of July.

We then got into discussing some ways to improve Bight'18 and will recommend the following to the Bight 13 Benthic Committee:

Secondary review of sorting to include some inter-laboratory exchange of samples for outside, independent check that would supplement the internal QA that takes place.

Perform a review of the benthic voucher collections.



We thought the idea of a voucher review was excellent, but discussed the practicality of reviewing each lab's voucher collections. Such a task would require a substantial effort. There are as many as six agencies involved in the identification process, with each producing up to 400+ voucher specimens. Perhaps SCAMIT could take it on as a workshop issue. The meetings that SCAMIT has been holding are, in part, intended to address some of the identification issues that a voucher review would also address. Ron suggested a compromise that involved a subset of those that are "common" along with all those that are new. Andrew suggested that we prioritize vouchers by abundance and distribution (frequency of occurrence). A lot of attention is given to the rare taxa at our meetings, where many of the common species receive little attention. Perhaps the SCAMIT meetings can focus on these abundant taxa to ensure that those species are being identified correctly, with a voucher review focusing on a percentage of the less common taxa.

Larry brought up the idea of having monthly training meetings based on a review of voucher materials.

Andrew asked about whether SCAMIT could consider PayPal as an opportunity for membership payments. Larry mentioned there was concern about PayPal taking their percentage, and whether we have enough membership to warrant the effort. However, PayPal does offer some considerations for Non-profits. We could offer PayPal with the option that the member pays the fee. Larry agreed to bring it up for discussion at the Executive Board's annual meeting in September.

Don then summarized the Species Review Committee meeting on May 28. The Committee was able to work through the entire emend list in one day. In addition they decided that new taxa encountered in Bight' 13 infauna samples would not be added to the Ed 9 list since they will not have been submitted or QC'ed when Ed 9 is released. On the other hand, the new trawled species will be added since that data has been submitted and vouchers have been QC'ed. The annelid hierarchy will receive a major change in Ed 9 going back in time with *Errantia* and *Sedentaria* reappearing as Subclasses.

[Secretary's note: Several attendees brought presentations that included images and identifying characters of the various taxa discussed below. Whether or not these presentations make it to the SCAMIT website will be left with the originating taxonomist; however, please feel free to contact any individual directly for information regarding these taxa or their presentations.]

Dean started the workshop portion by reviewing a couple of taxa. A caprellid amphipod that Dean referred to *Paracaprella cf alata* came from Dana Point Harbor in 5m of water. The sample also had *Malacoplax* (Decapoda: Xanthiidae), *Monocorophium* and *Sinocorophium* (Amphipoda: Corophiidae). Dean consulted an electronic version of Mayer 1903 to obtain his identification. The *Paracaprella cf alata* specimen had the following characteristics:

- Generally smooth body and head, except for antero-lateral projections on pereonites II and III
- Vestigial mandibular palp represented by single seta.
- 2-segmented pereopods III and IV, each with basal article about twice the size of distal article (see Mayer 1903, Fig 41)
- Although pereopod 5 was missing, its junction with the pereon was represented by a large indentation and did not appear to accommodate the small 2- or 3-articulate pereopods of *Mantacaprella* or *Mayerella*.



- Pereonite II with large antero-lateral, triangular projection (see Mayer 1903, Fig 41)
- Gnathopod 2 as illustrated in Mayer 1903, Fig 41
- Antenna 2, flagellum 2-segmented
- Gnathopod 2 basis without posteriorly directed bump (process)

The specimens were listed as *P. "cf" alata* because the mandibular palp is represented by a single seta instead of two (my translation of Mayer seems to suggest that *P. alata* has two setae) and the basis of gnathopod 2 is without a bump on the posterior margin.

Dean also showed a couple of images of the antennae of *Monocorophium acherusicum* and *M. uenoi* that he created for Dr. Christine Whitcraft (CSULB) in order to demonstrate the setal pattern used to discriminate the few species of *Monocorophium* with fused urosomites.

We then moved on to discuss the upper lip complex of *Aruga* and *Dissiminassa* (Amphipoda: Lysianassidae). Dean showed Plate 29, H and I from J.L. Barnard 1955. Tony had originally considered the specimens to be *Dissiminassa* based on the notched uropod, which was thought to be absent in *Aruga*, according to Don's [2011] Lysanassidoidea document. Dean demonstrated an easy way to distinguish the two genera by the size and shape of the epistome.

Ron showed a specimen of *Vemakylindrus* (Cumacea: Diastylidae) from CSD, as well as *Ampelisca amblyopsoides* (Amphipoda: Ampeliscidae) from deep water.

Ron then brought up a question about the legitimacy of characters used to distinguish deep water *Byblis*, particularly *B. barbarentis*. Ron indicated that the identifications based on antenna length, as used in Dickinson (1983), is questionable. In particular, couplet 6 of Dickinson's key is "broken" and does not work. Don suggested using Barnard's 1966 key, but the key is only applicable to males. Don found that *B. barbarentis* male antennae 2 are described more completely in Barnard (1960), which we then tried to apply to the information in Dickinson, with little success. *B. barbarentis*, *B. tanerensis*, *B. teneris* are the three eyeless species. Barnard describes the serrate inner ramus of uropod 3 in *B. barbarentis* as being distinctive, but *B. tanerensis* also have serrate uropods. Only *B. teneris* has a smooth uropod 3. We reviewed the uropod peduncle relative sizes and found potential differences based on the figures in Barnard (1960). *B. barbarentis* have uropod 2 and 3 peduncles terminating equally, with uropod 1 being shorter; whereas *B. tanerensis* has uropods 1, 2, and 3 terminating in a stepwise fashion. Also *B. tanerensis* uropods do not terminate together.

Paranthura japonica Cmplx specimens from LACSD and DCE were reviewed and appeared to be the same. We noted a difference in urosomite coloration that affected the ability to distinguish the suture lines. Don suggested Dean email Nomura from Japan or Gary Poore in Australia and ask if either has a method of distinguishing the two.

Ron then brought a specimen of *Atylus tridens* (Dexaminidae at the time of this meeting, but as of Ed 10 this genus is now in the family Atylidae) for review. Dean tried to take it through his key to the families of amphipods, but ran into a problem with couplet 30. This couplet relies on distinguishing whether or not urosomites 2 and 3 are fused, but this is difficult to interpret in some of the dexaminids (e.g., *Atylus*). Ron's *A. tridens* did not seem to key out because urosomites 2 and 3 seemed to be separate when examined with a needle. One must be careful when examining for this character.



We then considered a specimen that Dean called *Nebalia kensleyi* (Leptostraca: Nebalidae) from Station TMDL4 to compare it to *Nebalia pugettensis* Cmplx from Dean's collection and *N. pugettensis* from Matt Hill. We determined them to be indistinguishable and the notable differences seemed to be based on size or sex. Dean's specimens were then left at *N. pugettensis* Cmplx.

Finally we examined Tony's specimen for FID from B'13 Station 9305 that we believed to be *Valettioopsis*, but not *V. dentata* (Holmes 1908) nor the *V. concava* described by Hendrycks (2007).

Tony also had a specimen that appeared to be an Oedicerotidae, but no one present could offer any assistance. So this specimen was left for another meeting or some more digging by Dean and Tony.

Dean then brought out a mysid, *Amblyops*, for confirmation. Don suggested he look in Gerken et al (1997) for assistance.

30 JUNE 2014, BIGHT'13 MOLLUSCA FIDS, LACSD

Attendees: Ron Velarde, Megan Lilly, Wendy Enright (CSD); Tony Phillips (DCE); Kelvin Barwick (OCSD); Larry Lovell, Don Cadien, Terra Petry, Chase McDonald (LACSD); Angela Eagleston (EcoAnalysts); Pam Neubert (Stantec).

Business:

The business meeting opened with upcoming meeting announcements (please see website for the upcoming meetings as well as those that have already occurred). If attending a polychaete meeting at the NHMLAC, wear your winter gear, as some of these meetings will be in the usually cold collection room.

Everyone was asked to submit his or her voucher lists in advance of these meetings. This practice has been extremely helpful by allowing leaders to prioritize specimens for review and allow taxonomists from the participating laboratories to see what other folks have been collected thus far.

As of right now, there is nothing scheduled for September. We will likely return to our regular schedule of once per month and are looking for topics. One possible topic suggested was tanaid crustaceans with David Drum, with the hope of resolving issues with *Leptochelia dubia* Cmplx and *Zeuxo normani* Cmplx, among other taxa.

Wendy reported on the recently held Mollusca 2014 joint meeting of the four major malacological societies in the western hemisphere. The meeting was very exciting, attended by over 350 people from five continents with the main part of the congress held at the National University in Mexico City. Every day, four concurrent sessions were held with symposia including Bivalvia of the Americas, Opisthobranchia, Archaeology, Cephalopoda, Aquaculture and Invasive Species. Next year's WSM meeting will be at California State University Fullerton at the end of June. Danielle Zacherl is the new president.

Bight'13 Lab update: Almost all agencies feel they are on track to meet the August 31 data submission deadline although Kelvin expressed some doubt in light of the OCSD staffing shortage.



The topic of a voucher collection review was re-visited briefly as a possible alternative to the current 10% re-identification process for QA/QC of the taxonomic efforts. We are reviewing vouchers on a small scale in these Bight'13 review meetings, but a more extensive review may be more valuable. One suggestion is to target specific taxa/vouchers for review based upon their frequency of occurrence. At this time, there are no plans to implement this strategy for the current project, but the idea will be suggested for the next Bight project and may be suggested for the current project if funding is available. Also, there was mention of including an external sorting QA/QC step for the next Bight project.

With membership month having past, the idea of opening a PayPal account for SCAMIT members to pay online was reintroduced. Treasurer Laura Terriquez is supportive and has already done some initial research into implementing this tool. It will be discussed at the next SCAMIT Executive Committee meeting.

Edition 9 of the species list should be ready and on the website for download this week after which Wendy will update the Access tables and distribute them to all interested parties. Only new Bight'13 trawl species will appear in Ed 9.

Species review:

Don's arrival with collated printed voucher lists signaled the start of the taxonomy portion of the meeting. [Secretary's note: Several attendees brought presentations that included images and identifying characters of the various taxa discussed below. Whether or not these presentations make it to the SCAMIT website will be left with the originating taxonomist; however, please feel free to contact any individual directly for information regarding these taxa or their presentations.]

Kelvin and Wendy kicked off the specimen show-and-tell with two "Turrid"-type gastropods that mystified all present. Kelvin's specimen was possibly a *Pseudomelatoma* but would require further investigation. No one had any real guesses for Wendy's specimen.

Angela Easton from EcoAnalysts brought a number of lovely animals including *Epitonium sawinae*, *Amphissa bicolor*, *Venerupis philippinarum*, *Crepidula onyx*, and an unusually proportioned *Falcidens longus*. This last one was identified with the help of Pam Neubert and Kelvin removing the radular cone so that the distinctive triangular plate and very large denticles could be viewed. Angela also brought a *Boonea* (possibly *B. suturalis* or *B. fetellum*), a juvenile Eulimidae, *Ocenebra*, and a *Haminoea* that appeared to be *H. virescens* but for which the habitat was wrong.

After much discussion and rotating of the specimen, Megan's *Vitreolina* was determined to be *V. macra*. Despite a lively discussion regarding Mytilidae and the size at which you can safely ID a specimen, Megan decided to maintain her small specimen at Modiolinae and double-check with Paul Valentich-Scott on his recommendations for subfamily name usage in this regard.

We also discussed *Alia tuberosa* and examined a specimen Megan had brought which showed the characteristic sculpturing (or "wings") in the periostracum.

Wendy brought out a number of specimens from a bay sample showing the wide range of color morphs for *Nutricula tantilla* including chestnut brown, white with brown maculations and pure white. From the same station, she also showed examples of *Diplodonta serricata* and *Leukoma staminea*. An offshore sample near Point Conception contained *Crepidatella orbiculata*, *Crenella decussata*, *Nuculana penderi*, and yet another unidentified "Conoidea".



The last part of the day was devoted to discussing chaetoderms. Tony Phillips had a specimen of *Falcidens hartmanae* confirmed but then had other specimens that appeared similar but had slightly different body spicules and an incised oral plaque. He also had an unusual *Spathoderma* that Pam felt sure was a new species for us.

We looked briefly at one of Terra Petry's *Chaetoderma* provisionals but didn't make a determination. Without the use of birefringence to examine the spicules, further work would not be definitive and with that, the meeting came to a close.

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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 correspondences can be sent to the Secretary at the email address above or to:

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SOUTHERN
CALIFORNIA
ASSOCIATION OF
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Cover Photo: *Branchiomma* sp B, LH-03-0233. Photo by Leslie Harris.

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

Publication Date: 28 October 2015

21 JULY 2014, BIGHT'13 ECHINODERM FIDS, LACSD

Attendees: Chase McDonald, Larry Lovell, Fred Stern, Don Cadien, Terra Petry (LACSD); Megan Lilly, Nick Haring (CSD); Laura Terriquez (OCSD); Greg Lyon (CLA-EMD); Tony Phillips, Dean Pasko (DCE).

Business

We had a brief discussion about the publication grant funding and whether some of those monies could be used for alternative uses, such as the costs of attending a professional meeting.

There was no resolution on that

topic, but we continued a discussion on how to utilize the money that SCAMIT received from the CBRAT work with the EPA, as well as the funds that OCSD provided several years back to support the development of the taxonomic toolbox. Members from the major Publically Owned Treatment Works (POTW) who participate in CTAG (the technical advisory committee to each of the SCCWRP Commissioners) have been discussing this taxonomic toolbox effort with the SCCWRP leadership too.

Larry reminded everyone about the discussion of how to handle Bight'13 nematodes based on an email that Dean sent out to the Bight'13 list server. Nematodes should be noted, but need not be counted. However, they should not be dumped into the grunge as that will be going to Dr. Susan Kidwell's lab (University of Chicago).

Echinoderm Specimen review

Tony shared a few slides of odd specimens. He had two species of *Amphiodia*, which had long pointed middle oral papillae. Tony was curious to know if others had seen them. The specimens have three oral papillae, but with a middle tooth larger than the others – about ½ the width and twice the length – and distally tapered. This was present on all the jaws in four specimens. These specimens were from a Mission Bay Bight'13 sample. There was nothing unusual about the other characters (e.g., aboral disc). There were no spines/forks on the disc cap, making the specimens more similar to *A. psara* than *A. urtica* or *A. digitata*. Tony initially thought they might be *A. psara* because of some patches of dark pigment on the arms; but there was no pigment on the disc. The arm plates and spines also matched *A. urtica* well. Nick proposed that perhaps there is some plasticity to the jaw structure based on their food selection and environment. Larry brought up the idea of the whether these papillae may represent replaced papillae; but Tony said that he did not know of any such replacement.

Megan reviewed the specimens and found some distal arm plates that were rectangular with a slight notch medially. It couldn't be *A. psara* because of the pointed arm spines, some of which had the hyaline point; *A. psara* has blunt arm spines. In addition, the aboral disc plates were small and numerous. There was some discussion of *A. digitata*. Megan suggested that her first guess might be *A. urtica*. However, the arms were extremely long and tangled.

Tony then brought out Don Cadien's voucher sheet for *Amphiodia* sp A. At least one of Tony's specimens appeared to be similar to *Amphiodia* sp A based on the extended and curved arm spines and normally broadened oral papillae, although it was missing its disc cap; but the several specimens with disc caps present had the long oral papillae which is not a feature in *Amphiodia* sp A.

UPCOMING MEETINGS

Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.



Don then arrived and examined the *Amphiodia* specimens from Mission Bay. Don suggested that they did not belong to *Amphiodia (Amphisgina)*, the subgenus to which *A. urtica* belongs. This could be *A. periercta*. It differs from *Amphiodia* sp A in the absence of hyaline forks or spines along the genital slits and/or on the ventral disc cap. But D'yakonov (1966) describes *A. periercta* as having marginal scales that are denticulate, paired tentacle scales, and radial shields that touch distally. We reviewed the original description, which showed all three oral papillae as completely even and similarly sized, rather than having the distal one much larger and the middle one elongate, and about half the number of marginal disc scales as Tony's specimen. The conclusion was that Tony's specimens represent a new, variable species that is not represented by any of the current taxa on the SCAMIT species list.

The specimens were given to Don Cadien, who took them to Gordon Hendler at the LACMNH. Here are his comments:

"To follow up on the puzzling Amphiodia, I recently examined small specimens of Amphiodia periercta that, although they are not the types, I am confident are the real thing. It seems that the species from Mission Bay is not an Amphiodia species that has been reported from the West Coast, but I have not yet looked into the possibility that it is a species introduced from elsewhere. I hope that the population can be sampled again so that fresh, intact animals can be examined, photographed, relaxed, and preserved. It would be fascinating to know more about the species."

Megan then brought out specimens of *Ophiura leptoctenia* to show the relatively long and pointed spines of the arm combs. This is in contrast to the more commonly seen *O. luetkenii*, which has short blunt spines comprising the arm combs. These specimens came from a deep water Bight station (Station 9441).

Next a discussion ensued on the two genera, *Amphioplus* and *Dougaloplus*. These two amphiuroids are primarily separated by the presence (*Dougaloplus*) or absence (*Amphioplus*) of superficial structures (blunt or tapered spines) on the dorsal disc. Therefore specimens that lack a disc cap (but have the proper oral papillae pattern – four pair, 2nd pair are buccal scales) have to be left at the family Amphiuridae.

Megan then brought out a specimen of *Amphioplus strongyloplax* for review. This species lacks any dorsal disc cap structures and also lacks hyaline cross-bars/teeth on the arm spines. In contrast, *Amphioplus* sp A (which is the more commonly seen species) possesses hyaline cross bars/teeth on the tips of some arm spines but also lacks spines on the dorsal disc. The presence of hyaline cross bars/teeth on some arm spines is a character which is shared with the genus *Dougaloplus*, giving another reason why if a disc cap is lacking, the animal needs to be left at the family Amphiuridae. For a good image of hyaline teeth on arm spine tips see Hendler 1996.

As for juveniles, Megan feels specimens of *Amphioplus* that are ≤ 3 mm (disc size) need to be left at genus since the hyaline teeth on the arm spines don't seem to be apparent at that size and are needed to differentiate the two species. As for juvenile *Dougaloplus*, if the disc cap spines are too small to determine whether they are ultimately going to be tapered/acute (*D. amphacanthus*) or blunt/rounded (*Dougaloplus* sp A), then the ID needs to be left at *Dougaloplus*. sp.

Laura brought a specimen of *Brissopsis* sp LA1 that Megan quickly confirmed. For comparison we retrieved OCS's *B. pacifica* voucher which also turned out to be *Brissopsis* sp LA1. This lead to additional discussion of the confusion between *Brissopsis*. sp LA1, *B. pacifica*, and



Brisaster latifrons. Don suggested that *Brissopsis* sp LA1 may represent a hybrid between *Brissopsis pacifica* and *Brisaster latifrons*. The variation that Megan and others have noticed in *Brissopsis pacifica* could support this hybridization hypothesis. Alternatively, Megan worked with Dr. Mooi at Cal Academy for a few days and found specimens in the collections from the early 1900's that were *Brissopsis* sp LA1 but had been misidentified as *B. pacifica*. Dr. Mooi feels there is a possibility that *Brissopsis* sp LA1 is indeed an undescribed species of *Brissopsis*, but much more time and effort needs to be put in to this project before a definitive answer can be had. *B. pacifica* has a kidney-bean shaped subanal fasciole that was not present in the OCSD voucher specimens, and they had somewhat elongate petaloids. *Brissopsis* sp LA1 petaloids reach to the end of the test, whereas they are shorter on *B. pacifica*. Megan has noticed a lot of variation in these characters and has tended to error towards *B. pacifica*, placing relatively few specimens into *Brissopsis* sp LA1. Additionally, to date specimens of *Brissopsis* sp LA1 are being collected in deep waters, >400m. Work on the echinoids continued as Laura brought out several specimens for review, with Nick, Megan, Laura and others attempting to distinguish among several specimens. Nick suggested that the plates dorsal to the periproct leading to the petaloids differed between the species. There are readily visible and relatively large plates in *Brissopsis* sp LA1 and apparently obscure or smooth in *B. pacifica*. The character appears to have promise but needs to be verified by application, and may be difficult to apply in the field, often necessary when trawling.

We then moved on to a beautiful specimen of *Ophiosphalma jolliense* that Fred Stern brought forward. The lateral arm plates had 1–3 short arm spines and only the first three segments had tentacle pores/scales, confirming the identity of Fred's specimen.

Having gone through all the interesting ophiuroids and echinoids, we examined a holothuroid that Megan had available. This provided an opportunity to perform a demonstration of tissue dissections and ossicle mounts. Once the tissue had dissolved, Megan provided some excellent ossicle mounts for viewing. The specimen turned out to be *Pentamera pseudocalcigera*. Megan then dissolved tissue from *P. ridgida*, which has a long tail and more rigid white body, where the supporting tables have very low spires and a few large teeth.

The meeting quickly concluded with those in attendance heading for the freeways, and a tortuous way home.

28 JULY 2014, BIGHT'13 MISCELLANEOUS PHYLA FIDS, LACSD

Attendees: Larry Lovell, Chase MacDonald, Don Cadien, Terra Petry (LACSD); Megan Lilly, Wendy Enright, Nick Haring, Laura Terriquez, Ken Sakamoto, (OCSD); Greg Lyon (CLA-EMD); Matt Hill (EcoAnalysts).

Business

Larry opened the meeting by announcing that the next two meetings would be covering polychaetes (Aug 4 and Aug 18) and both would be held at LACNHM. There was continued discussion about the idea of Bight voucher collections review, and whether Bight'13 and earlier Bight survey vouchers should be considered. Such an endeavor would be a large undertaking, and perhaps a random subset of the vouchers could be considered, making sure that problem taxa are specifically selected. This effort should also include a review of new provisional taxa from Bight'13 work.



Larry asked for a list of newly erected provisional species and newly reported described species.

Dr. David Drumm tentatively offered to host a meeting on tanaids, perhaps as early as September.

We then passed around some old gorgonian specimens from Big John, with several of the gorgonians being pulled for Dr. Beth Horvath to review.

Specimen review

Echiura

Specimens of *Listriolobus pelodes* were reviewed. EcoAnalysts had a specimen from 8m off Campus Point. This specimen, along with one from OCS D were reviewed and confirmed. Megan brought up the point that we have a very diverse array of external forms for *L. pelodes* ranging from translucent with easily viewed longitudinal muscle bands to opaque, papillated white forms. She feels there may even be another species of *Listriolobus* (possibly undescribed) but has yet to gather the mental fortitude to create a provisional species for the form that is white/opaque and papillated. It was good to be a little careful when entering new terrain like that offered by the randomized Bight surveys.

Nemertea

Carinomella lactea from CSD was examined and its musculature was indeterminate. Upon closer review, the specimen may have had just one layer of circular muscle sandwiched between longitudinal muscle layers, with the lateral nerve cord (LNC) embedded within the outer layer but a second layer could not be ruled out and it was left at Palaeonemertea. However, another specimen of *Carinomella lactea* from OCS D Station 1 (47m) was confirmed.

We then examined three specimens of *Zygeupolia rubens* brought by EcoAnalyst's Matt Hill; however, these were determined to be unidentifiable Palaeonemerteans.

A tubulanid from a 154m OCS D station was reviewed and confirmed as *Tubulanus polymorphus*.

Sipunculida

Megan brought her specimen of *Nephasoma cf pellucidum* from an 87m Point Conception station. Dean Pasko found a similar specimen in one of his samples though in a much shallower habitat (Bight' 13 Station 8033, 8.1m). The specimen may become a new provisional *Nephasoma* sp SD1 Lilly. It is characterized by a pair of saclike nephridia located near the anterior portion of the trunk; the introvert has rings of small hooks, a single row of 12–14 simple tentacles, small (not dark) papillae on the surface of the trunk. Both Megan and Dean independently keyed their specimens to *Nephasoma pellucidum* using Bruce Thompson's key to the Sipunculids (Thompson 1985) and Cutler 1994. However *N. pellucidum* is described as having uniformly distributed dark papillae that gave both Megan and Dean reason to pause. A provisional identification sheet is included in this Newsletter.

Megan had another specimen, this one from Channel Islands Harbor (Bight' 13 station 8426, 4m), which was even more difficult to identify. Despite being large animals, there were no hooks or tentacles present making it impossible even to get to the proper Order, and was left as *Sipuncula* sp FID.



4 AUGUST 2014, BIGHT'13 POLYCHAETE FIDS, NHMLAC

Attendees: Bill Furlong, Larry Lovell, Brent Haggin (LACSD); Ricardo Martinez-Lara, Veronica Rodriquez, Ron Velarde (CSD); Kelvin Barwick, Rob Gamber, Ernie Ruckman (OCSD); Greg Lyon (CLA-EMD); Chip Barret (EcoAnalysts); Tony Phillips, Dean Pasko (DCE); Leslie Harris (NHMLAC).

Business

The business portion started with short introductions since there were one or two new members at the table. Larry announced that there would be another polychaete meeting in two weeks, which elicited some discussion about whether there would be enough material for another meeting so soon. Kelvin suggested moving the second polychaete meeting to September 22 instead of the August date. All in attendance approved that suggestion, and the meeting date was changed but the venue remained at the NHMLAC, Polychaete Collection room.

Another Misc Phyla meeting was scheduled for September 8 to continue FIDs from the July 28 meeting.

Larry announced that David Gillett (SCCWRP Chair of the Bight'13 Benthic Committee) has revised the due date for Bight'13 data submission to the end of September, with identifications being completed at the end of August. There will likely be a Bight Benthic Committee meeting in late September to address data, data submission, and scheduling of the various QA events.

Dr. Susan Kidwell of the University of Chicago will be out in September to pick-up grunge from Bight'13 samples. The QC of the grunge has been completed, with all but one or two samples meeting the QC criteria. There was renewed discussion of external sort QC as a Bight '18 recommendation.

Dean mentioned that although the newsletters from past Bight meetings have not yet been published, they have generally been compiled and are in various stages of review or production. Unfortunately, the two meeting per month schedule along with the Bight'13 taxonomic responsibilities, have slowed the process of newsletter production considerably. Dean offered that he would be happy to share the draft minutes of any meeting if taxonomists needed the information to supplement their own notes. Also, while there were a lot of provisional species disseminated at the last polychaete meeting, these will not be put on the SCAMIT website unless the authors specifically request that they be made public, acknowledging that most individuals intend these presentations to be for Bight'13 taxonomists and not for broader distribution until they receive more review.

Kelvin mentioned that Dr. Danny Tang of OCSD has asked for specimens of *Terebellides californica* (Polychaete: Trichobranchidae) infected with ecto-parasitic copepods. Kelvin and Danny found an interesting specimen among their Orange County survey samples that Danny believes may represent a new species. He would also be interested in seeing any polychaete-associated copepods found in the SCB. For those unfamiliar with these crustaceans Danny recommends Kim et al (2013).

Specimen review

Larry brought two species of orbinid, *Scoloplos acmeceps* and *Leitoscoloplos* sp A, and noted that some *Leitoscoloplos pugettensis* records may be in question if people are not carefully looking for neuropodial spines. Small specimens of *Scoloplos* may have only a few inconspicuous



spines and might be mistaken for *Leitoscoloplos*. There is a difference in the ventral staining that should be considered. *Leitoscoloplos* sp A exhibits slight segmental MG banding and *S. acmeceps* does not. Branchiae start from setiger 9 (juveniles) – 13 in *Leitoscoloplos* sp A and from setigers 14–16 in *S. acmeceps*. Larry has been documenting the start of branchiae for the last couple of years for *Leitoscoloplos* specimens in harbors, bays, shelf, and slope depths and habitats. He finds that most specimens have branchiae starting from setigers 9–12, which he has been calling *Leitoscoloplos* sp A. He has seen only a very few specimens with branchiae beginning on setiger 13–15, which he has called *L. pugettensis*. There was some lively discussion about the utility of the flattened vs. rounded nature of the thorax of the two genera, *Leitoscoloplos* vs. *Scoloplos*, respectively. Kelvin dissented on the utility of this character and Tony and Leslie agreed with him since they've seen both shapes in both genera. Others thought that the shape of the thoracic segments could be used as a tool for rough sorting specimens into taxa lots.

Larry again took the opportunity to remind everyone to vial their Bight' 13 cirratulids and oligochaetes separately; the same applies to *Photis* (Amphipoda: Photidae)

Leslie used *Eusyllis habeii* and *Aricidea (Allia) antennata* to show the usefulness of Shirlastain-A, an orange dye used in the textile industry. Later in the day she demonstrated the dye's effect on cirratulids. As first noted by Mary Petersen, Shirlastain-A creates a light stain that works well for displaying surface structures of polychaetes. Shirlastain-A comes in liquid form, and a small amount can be pipetted into a petri dish for use. Leslie has experimented with a variety of uniformly white worms, mostly spionids, paraonids, orbiniids, *Sphaerosyllis*, etc., which can have hard-to-see appendages. It took only a few seconds in the Shirlastain for the worms to turn bright orange; the edges of the appendages (median antennae, branchiae, papillae, parapodial margins, etc.) became darker orange-brown and stood out from the main body. It worked incredibly well for detecting branchial scars, which is good news for cirratulid IDs! She also tried putting a few orange worms into methyl green, and they did show the correct methyl green stain patterns albeit darker and duller due to the blend of orange and green/blue. The color didn't last very long so it's not permanent and can even be used with type material. Like methyl green, you can add alcohol to dried Shirlastain-A in a dish to get a usable solution again. Leslie was given about 100 mL, which she believes will last her a lifetime. It may be useful with other animals as well. The dye is available in a 500 ml bottle for \$98 or \$160 for a gallon, and a little goes a long way. Those interested may contact Susan Miller, sales coordinator for SDL Atlas, LLC (email: smiller@sdlatlas.com, telephone: 803-329-2110 extension 21). The order information is 200941 M030A Shirlastain-A: fiber identification stain.

OCSD

Kelvin showed pictures of a phyllodocid, *Nereiphylla* sp SD1 (= *Nereiphylla* sp 3 Harris). Leslie discussed the fact that this was not *N. castanea*, since the latter species does not appear to occur on this coast. *N. castanea* occurs off the Sea of Japan and has a brick red body and dorsal cirri that are large and touch dorsally. Tony mentioned that he has seen *Nereiphylla* sp SD1 as far north as Oxnard. *Nereiphylla ferruginea* Cmplx, also found in SCB samples, consists of several species that key out to *N. ferruginea* but differ in length of the tentacular cirri, pigment patterns, and shape of the dorsal and ventral cirri. True *N. ferruginea* have strikingly long tentacular cirri and are rarely seen in our samples. Leslie has recorded several undescribed *Nereiphylla* along this coast.

Kelvin also showed photos of the anterior section of *Rhynchospio arenicola* (Spionidae) and its hooks. The specimen was from Bight' 13 station 9171, 16m.



Next was a capitellid from Bight' 13 station 9133, 787m. It had six setigers with capillary setae. Kelvin initially called it *cf Heteromastus* sp. CSD has recorded *Heteromastus filobranchus*, as has OCSB, but this specimen was not the same. Leslie determined it to be *Neomediomastus glabrus*, which had not been reported by the monitoring programs previously. Descriptions can be found in Hartman, 1960 (as *Mediomastus*), Hartman, 1969 (as *Neomediomastus*), and the MMS Atlas (Blake 2000). We were then treated to images of what Kelvin called *Dipolydora ? bidentata*, with stout acicular spines in the posterior notopodial lobes. The images were so clear that Tony noted that the acicular spines appeared to have small nodules, a characteristic found in *D. barbilla*. The group confirmed the ID to be *D. barbilla* by comparison to the illustrations in the MMS Atlas (Blake 1996).

Kelvin then showed a picture of *Cossura pygodactylata* that was tentatively confirmed. The specimen came from Bight' 13 station 9185, 145m. Larry mentioned that he and Tony have considered the possibility that *Cossura* sp A is actually *C. pygodactylata*, but had only recently found a few complete individuals for comparison. Their specimens come from San Francisco Bay, the type locality for *C. pygodactylata*.

DCE

Larry showed *Branchiomma* sp 1 Harris 2009 (Sabellidae) from SD Bay samples, which has paired external stylodes on the radioles. This was initially found in LA/LB harbors by both Tony and Leslie, then later again in San Diego Harbor by Leslie. In San Diego they co-occurred with the Caribbean species *Lumbrineris perkinsi* Carrera-Parra, leading to the suspicion it might also be Caribbean in origin. They have colorful bodies (like species of *Bispira*). Leslie then discussed two recent papers on *Branchiomma*, which disagree on the importance of stylodes as a species character. Tovar-Hernandez and Knight-Jones (2006) considered stylode shape and size important along with proportion of crown to body size, proportion of dorsal lips to crown length, and details of the thoracic uncini. In contrast, Capa *et al* (2013) found that stylode shape and size along with other morphological characters showed great intraspecific variability and species identification based purely on morphology was "elusive". The latter paper recommended the use of molecular markers to confirm identifications. Based on that, our new *Branchiomma* will have to remain an unknown provisional for now. Leslie added to the discussion with pictures of *Branchiomma* sp B Harris (cover image) from the Caribbean that she originally thought could be the similar to the specimen Larry brought. They turned out to be different however, and considering the findings of Capa *et al* (2013) our specimens will remain as *Branchiomma* sp 1.

Leslie then showed her illustrations of *Megalomma coloratum* (Chamberlin 1919). The species has been underreported from the SCB, but Larry had recently found specimens in the LACSD collection that had been misidentified as either *M. pigmentum* or *Megalomma* sp. The brown coloration around the prostomium and yellow band on setiger 3 are distinctive. It is not usually found in soft bottom samples; Leslie has collected it in SCB intertidal and fouling surveys.

Larry brought an odd *Polydora* sp from the Regional Harbor Monitoring Program (RHMP) for review. The modified setae are bifid, simple superior and inferior spines; it has an occipital antenna, large falcate spines in the posterior notopodia, and a distinctly cupped pygidium. Leslie had previously identified similar specimens as *Polydora hoplura* Claparede, 1870. It matches published descriptions of *P. hoplura* as well as those on the web at:

<http://www0.sun.ac.za/polychaete/index.php/genera-key/25-p-hoplura/16-p-hoplura>

<http://www.annelida.net/nz/Polychaeta/Family/Spionidae/polydora-hoplura.htm>.



Larry then showed some Euclymeninae specimens from San Diego Bay and the RHMP survey, that may have been reported previously as *Petaloclymene pacifica*. These specimens have different staining on the ventrum of setiger 8 (a double stain rather than the single thick band found in *P. pacifica*), and darkly staining setigers 2 and 3 like *P. pacifica*. However, they also have pores just behind the setae of setigers 7, 8, and 9. After some review, we decided to call it *Petaloclymene* sp DC1. We then reviewed the *P. pacifica* SCAMIT voucher sheet with photos and contrasted the two taxa.

The group also reviewed some other specimens of *Praxilella pacifica* for confirmation of differences noted above.

LACSD

Bill and Leslie reviewed a scaleworm that he had called *Eucranta cf anocolata*. [He had shared this information on the SCAMIT list-server earlier this year]. Bill had corresponded with Ruth Barnich regarding her paper (Barnich et al 2012) for confirmation. This same species has been reported from CSD and OCSO. Ron reviewed the specimen in order to confirm that they were indeed seeing the same species in San Diego. Leslie brought out a museum specimen which was in poor condition but still useful especially for setal comparison. We were able to confirm Bill's specimen as *E. anocolata*. Larry also shared specimens of *Mediomastus* sp 6 Harris 2009. These specimens were not from the Bight'13 survey, but from 6m of water off the Chevron El Segundo outfall in Los Angeles. A sheet for this species was distributed in February 2013. It is much more robust than other *Mediomastus* found in the SCB. It is distinguished by having a pale band on setiger 1 (and/or setiger 2), along with a dark staining triangular patch dorsally on the prostomium, and banding of the anterior margins of the abdominal setigers immediately following the thorax.

Larry had a deep-water cossurid (660m) that he could not match to any of our common species. The specimen stained with dark dorsal and ventral "shoulders" just behind the setal lobes of the anterior setigers, but this breaks up after setiger 8. Oral papillae were present. Leslie brought out her drawings of the methyl green stain pattern of *Cossura rostrata* Fauchald 1972 taken from the holotype, and through further examination of the specimen, they resolved that Larry's specimen was indeed *C. rostrata*, and we had yet another addition to the SCAMIT Species List.

CSD

Ron then directed the discussion to the nereid, *Ceratocephale hartmanae* (vs. *C. lovenia*). The specimen came from a 750m Bight station. Hilbig (1994) synonymized *C. hartmanae* with *C. lovenia*, a Scandinavian species. However, Leslie disagrees with this synonymy based on specimens she collected in Tjarno, Sweden. Leslie suspects that like many other Scandinavian species reported locally, *C. loveni* isn't really here and the synonymy will eventually be rejected.

Kelvin asked what references Leslie would refer to when problem solving nereids from offshore in addition to the MMS Atlas chapter. Leslie suggested going back to basics with Hartman's Atlas, and if nothing matches then checking Imajima's publications.

Larry also shared a specimen that he had brought for Ron's review, something he tentatively called *Typosyllis*. This turned out to be what Leslie has been calling *Branchiosyllis exilis* Cmplx. Leslie has tried to resolve the identification but has found numerous inconsistencies in published descriptions of *B. exilis* concerning pigmentation, setae, number of articles in antennae and cirri, etc., and prefers to leave it as a complex for now. *Branchiosyllis* is easily distinguished from *Typosyllis* by the presence of recurved hooked setal blades in either all setigers or just



in the posterior. Leslie found the first NEP specimens in dock fouling on the Chula Vista boat ramp during an introduced species survey in 2000. Tony also reported finding specimens of *Branchiosyllis* from ABLM samples taken in San Diego Bay. Ron mentioned that this genus is covered nicely in the Gulf of Mexico Series (Uebelacker and Johnson, 1984).

After a full day, we reminded everyone of the earlier decision to postpone the next Polychaete meeting until September 22 to give everyone more time to complete their Bight samples and bring together their voucher and FID specimens.

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Nephasoma sp SD 1

To date *Nephasoma* sp SD 1 has been collected at two stations during the Bight'13 survey. Two specimens identified by M. Lilly were sampled at B'13 station 9474 (MPA near Pt. Conception), 23 September 2013, 89 m. And three specimens, identified by D. Pasko, were collected at B'13 station 8033 (Regional Harbor Monitoring Program), 28 August 2013, 8.1 m.

The characters described below are a compilation of notes and observations from both M. Lilly and D. Pasko:

- Approximately 12 rows of hooks are present on the introvert; arranged in rings
- 1 pair of retractor muscles located near nephridia
- no microvilli on contractile vessel
- approximately 12-14 simple tentacles
- body basically smooth but with little bumps/papillae (?) present on the neck and posterior
- 1 pair of elongate nephridia in line with position of anus or just slightly anterior
- introvert short, about 1/3 of the trunk
- without muscle bands

Dean and Megan both noted the animal's similarity to *N. pellucidus*. However, *pellucidus* is described as having "large dark uniformly distributed papillae" which gave us pause. The bumps/papillae on these animals are small and clear/pale and are distributed mainly on the neck and posterior portion of the trunk.

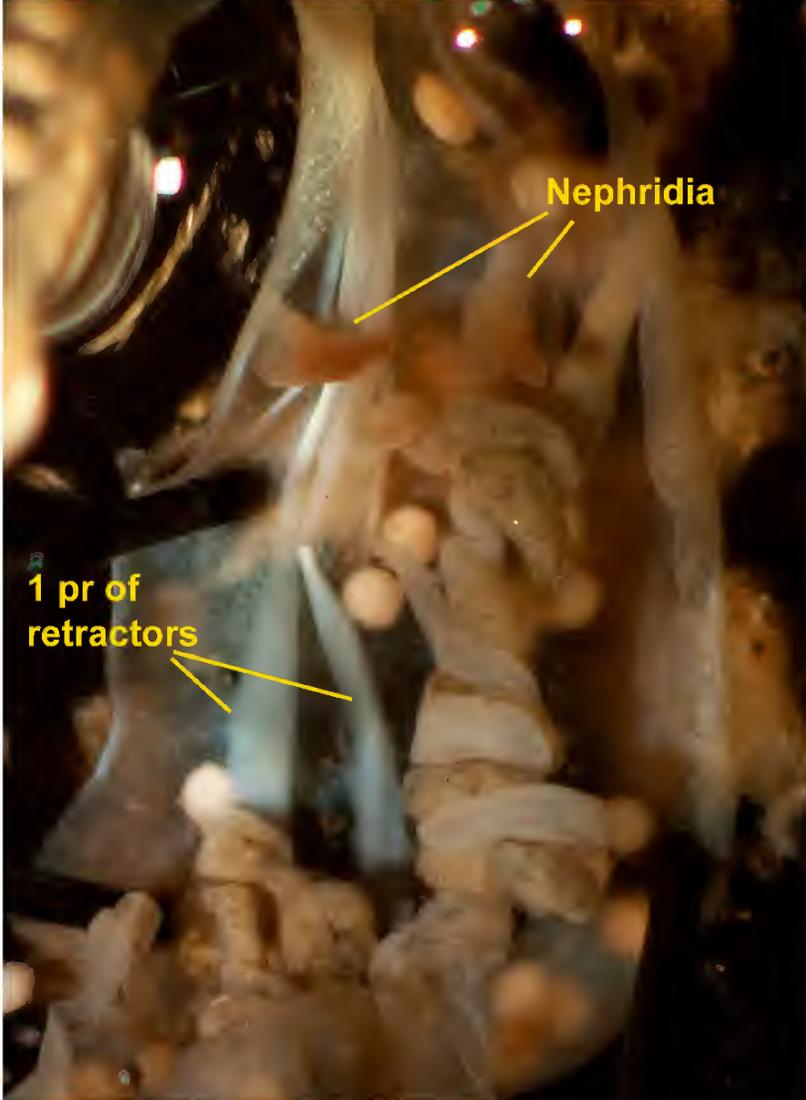


M. Lilly and D. Pasko, July 2014

Nephasoma sp SD 1



The larger animal is approximately 19 mm and the smaller animal is 10 mm in length.



Nephridia

1 pr of retractors



Rows of hooks on the introvert arranged in rings.



Bumps/Papillae (?) are present but are rather small and clear. Not sure if this is a preservation artifact.



SOUTHERN
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TAXONOMISTS



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Policordia sp A - Exterior left valve and right valve, respectively (Scale bar 1 mm). Photo by K. Barwick.

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

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BIGHT'13 MISCELLANEOUS PHYLA FID, 8 SEPTEMBER 2014, CSD

Attendees: Larry Lovell, Don Cadien (LACSD); Megan Lilly, Wendy Enright, Nick Haring (CSD); Laura Terriquez, Ken Sakamoto, (OCSD); Greg Lyon, Erin Oderlin (CLA-EMD); Matt Hill (EcoAnalysts); Tony Phillips, Dean Pasko (DCE).

Business

The business meeting was brief with Larry announcing that this would be a busy month of multiple meetings to address the Bight'13 FIDs and voucher specimens from a variety of taxa.

UPCOMING MEETINGS

Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.

Meeting

We approached the meeting with a brief review of the Excel listing of all Bight'13 vouchers for the Miscellaneous or "Minor" phyla, except those of ABC Labs. Since the meeting was a scramble of multiple specimens being reviewed at the same time and your Secretary taking part in many of these as either the reviewer or review, the following notes are a synopsis of the resulting decisions, ordered by taxonomic group, not in the order that the reviews occurred. [As it mattered.]

Incertae sedis – This turned out to be tissue from a cnidarian from Bight'13 Station 9201, 750m. It was a damaged mass of material seemingly representative of a complete organism that we could do nothing with except identify what we believed to be cnidoblasts.

Cnidaria – No anthozoans were reviewed at this meeting since many had been considered at the June Bight'13 Cnidarian meeting.

Nemertea – Many nemerteans were considered throughout the course of the day.

A specimen identified by Dean as *Zygeupolia rubens* from Bight'13 Station 8401 was found to be without a clear cerebral sense organ (CSO) other than that present at the end of the cephalic slit. Even though the CSO is not readily visible in specimens of *Z. rubens* where the head is in its typically contracted state, this specimen was not so contracted and the CSO should have been visible, if present. After some comparison to other taxa from the day, it was re-listed as *Heteronemertea* sp LAH1. Dean had a second "Heteronemertea sp" from Bight'13 Station 8151 that was subsequently confirmed as *Z. rubens*.

Dean also had several specimens from Bight'13 Stations 8163, 8151, 8008, all from shallow water bays and marinas with the following characteristics: Cream to olive-brown heteronemerteans with an elongate, tapering cephalon with shallow cephalic furrow; medium-sized, round mouth situated back from end of shallow cephalic groove (not at end); no separate CSO; and a cirrus present. He had designated these as *Heteronemertea* sp DC1, but upon review their identifications were changed to *Heteronemertea* sp LAH1 (=Lineidae sp LAH1 from the Feb 2014 Bight'13 Nemertean Meeting).

Dean continued his run with specimens of *Micrura alaskensis* from Bight'13 Station 8328. This identification was changed to juvenile *Cerebratulus californiensis* because of the large mouth with marginal ribbing and a flattened posterior (see below). A specimen of *Micrura wilsoni* from Station Bight'13 Station 9399 and *Palaeonemertea* sp SD2 from Bight'13 Station 9245 were confirmed.



Megan had designated one specimen from Bight' 13 Marina Station 8426 (4m) as Lineidae sp LAH 1(?). The identification was confirmed and we re-designated the taxon as Heteronemertea sp LAH1 since a cephalic slit was very faint to non-existent, leaving placement in Lineidae a little uncertain.

Nick then brought forth another Lineid that he had simply left at the family-level. It was from Bight' 13 Station 9373 (101m), had a thin cephalic slit, a light colored body with a cream anterior margin along the cephalon, and no eyes (verified by clearing). We left it at Lineidae.

We then reviewed a few tubulanids collected by the City of San Diego staff. One from Bight' 13 Station 9122 (257m) was clearly a tubulanid, but no one could put a name on it, so it was left at Tubulanidae. Another from Bight' 13 Station 9474 (87m) was changed to Tubulanidae sp SF1. In contrast, a couple of other specimens (Bight' 13 Stations 9321, 45m and 9378, 100m) were changed from Tubulanidae sp SF1? to Palaeonemertea.

Megan also had a somewhat different looking specimen from Bight' 13 Station 9378 (100m) that she had tentatively placed in *Tubulanus polymorphus*? and her hunch was confirmed and the identification left at *T. polymorphus*.

Matt also brought out a few animals for review. An Anopla sp (Bight' 13 Station 9482) was changed to *Zygeupolia rubens*, as was a specimen from Bight' 13 Station 9458, originally designated as Tubulanidae (with the comment "indeterminate"). His specimen of *Tubulanus polymorphus* from Bight' 13 Station 9449 was confirmed, while a similar specimen from Bight' 13 Station 9487 that he had noted had a "dark brownish purple preservation band in the esophageal region" was changed to *Tubulanus* sp A. Matt also had a specimen from Bight' 13 Station 8338 that was generally white throughout the length of the body; the anterior epidermis was wrinkled; the lateral nerve chords (LNC) were located between the epidermis and outer circular muscle layer throughout length of body; and there were no lateral or cerebral sense organs visible. He had tentatively designated it as Palaeonemertea sp OC1, but the general consensus was to leave the record as Tubulanidae.

Wendy had an enoplan from Bight' 13 Station 9397 (26m) that she had left simply at Empletonematidae. Her identification was confirmed as something new to SCAMIT. It was unusual in that it had two anteriorly positioned, red, crescent-shaped eyes, and an elongate, narrow, stylet with three basal rings. We called it Empletonematidae sp SD1. Hopefully, Wendy will produce a voucher sheet to this effect.

In addition, OCS D staff brought specimens of *Zygeupolia rubens* and a *Carinomella lactea* from Bight' 13 Station 9186 (47m) that were confirmed.

Of course, a lot of constructive banter and general sharing of knowledge and experience accompanied these nemertean reviews. One discussion in particular centered on the identifications of *Cerebratulus californiensis*, *C. marginatus*, and *Micrura* spp, sources of much consternation. The following is an account of the discussion.

C. californiensis is recognized by several SCAMIT members as having a large, muscular mouth, where the muscular nature of the mouth is indicated by the presence of a ribbed margin, particularly along the posterior margin. It also has more rounded lateral margins, and a uniform body color (i.e., does not have distinctly white lateral margins posteriorly).

In contrast, *C. marginatus* is recognized by the smaller, less muscular mouth (i.e., absence of ribbing along margin of mouth), more flattened lateral margins, particularly posteriorly, that are also distinctly lighter than the buff background color of the body.



Micrura can be distinguished from *Cerebratulus* by the less robust cephalic slit and a smaller, smooth, less muscular mouth.

The City of San Diego staff use a general convention relating to their use of the presence/absence of neurochord cells to distinguish between *Micrura* and *Cerebratulus* (see attached comparison sheet). The convention is that if the specimen is less than 3 mm in diameter, they do not attempt to cross-section the animal and instead leave the specimen at family-level identification, Lineidae, although, for practical purposes, some argued that 5 mm might be more reasonable.

In contrast, Tony noted several traits he uses to distinguish *Micrura* and *Cerebratulus*. *Micrura*, in his observations, has a more squared to quadrate-shaped anterior margin of the head, a more linear and rounded body (i.e., not widening or tapering markedly), and the caudal cirrus is typically short and attached to a more squared posterior end. In contrast, *Cerebratulus* has a more tapered or rounded anterior, broadened body that is raised mid-dorsally (due to the narrowing lateral margins), and a posterior end that narrows towards the caudal cirrus. He has also noticed that specimens he regularly refers to *Micrura* have a shorter cephalic slit than specimens of *Cerebratulus*. In *Micrura*, the slit only extends for a short distance, never reaching the mouth, while in *Cerebratulus* the slit usually extends very clearly to the level of the mouth.

In the end, there was no resolution as to which method, external morphology, histology of the neurochord cells, or gestalt was most reliable. [Secretary's note: On 11/20/2014, I examined a 40 mm long x 3 mm diameter specimen from OCS Station 1, collected on 7/9/2014, that had a long, ribbed mouth, deep cephalic slits, broken cirrus, buff background color, and highly wrinkled body and was able to confirm the presence of neurochord cells by examination of a thin cross-section. In contrast, I've examined several other specimens, also from 3 to 5 mm in diameter that fit the above description, but did *not appear* to have neurochord cells.]

Finally, some in attendance shared the characters they use to distinguish Heteronemerteans when attempting to identify various taxa:

Presence/absence of lateral slits at proboscis pore (said to be present in *Baseodiscus*)

Presence/absence of simple white line, cephalic furrow (very shallow depression), or cephalic slit (deep slit)

Presence/absence of pit at end of cephalic line/furrow/slit

Presence/absence of cerebral sense organ (CSO)

Mouth size, shape, musculature

Presence/absence of neurochord cells within the lateral nerve chord

Caudal cirrus can be present in some genera

In some post-meeting voucher/FID reviews, Dean found that some Heteronemerteans have the LNC external to the central circular muscle while others have the LNC within the inner longitudinal muscle (i.e., internal to middle circular layer). Unfortunately, Dean has not had time to pursue this character state further; but it may be something that can be considered during the identification process going forward.

Sipuncula – Several sipuncs were considered during the day. Matt brought a specimen from Bight 13 Station 8033 listed as *Golfingia* sp 1 that was reviewed and identified as *Thysanocardia nigra*. Dean also had several specimens that were designated as a provisional taxon (*Sipuncula* sp DC1) based upon the presence of elongated nephridia and thickened microvilli of the contractile vessel. The consensus for 3 of the 4 specimens from Bight 13 Station 9257 was to leave them at



Thysanocardia nigra (variant), while another much smaller specimen that had not been dissected was identified as *Apionsoma misakianum* due to the presence of the bilobed nephridia observable upon dissection.

Dean also had a specimen of *Nephasoma cf. pellucidum* from Bight' 13 Station 8033 (8.1m) that appeared to be the same as Megan's specimen distributed via the Bight' 13 Listserver. Megan was able to confirm that Dean's specimen was the same as one she had collected. Her identification sheet of *Nephasoma* sp SD1 was distributed with SCAMIT NL Vol 33, No 2. Megan then brought out a specimen from Station 9321 (45m) that was confirmed as being *Siphonosoma ingens*.

Hemichordata - Moving on we reviewed a specimen originally identified as *Schizocardium* by Megan. The identity of the specimen, from Bight' 13 Station 9148 (590m) was changed to *Balanoglossus* sp, but with some recognition that it was likely not the same as the shallow water specimens typically identified as *Balanoglossus* sp by the member monitoring agencies. There was even some discussion that it could represent another genus of Ptychoderidae, *Glossobalanus*. It's the Secretary's observation that more work is needed on the local taxa of Hemichordata: We may have more taxa represented than are being recorded.

Ascidians - One of Megan's favorite groups. Dean, who was dealing with many embayment stations, brought all of the specimens. *Ciona intestinalis* (Cionidae) and *Polyandrocarpa zorritensis* (Styelidae) from Bight' 13 Station 8112 were confirmed. *Molgula verrucifera*, from Bight' 13 Station 8102, was noted by Dean as having branched atrial tentacles, seven branchial folds, S-shaped dorsal tubercle, renal sack and a thick tunic with several "hairs". We left the identification as *Molgula* sp and charged Dean with comparing the specimen to the description in Van Name (1945) for *M. manhattensis*. [Dean was able to review Van Name 1945 and confirm this identification as *M. manhattensis*.]

Continuing on, we ran into the problem of an unfortunate mis-labeling of one of Megan's Ascidian identification aids. Dean brought specimens of *Molgula napiformis* for confirmation based on the branched tentacles, spiral stigmata, and long stolon. However, Megan changed the identification to *Molgula* sp SD1 based upon the position of the ovaries within the primary intestinal loop. Unfortunately, Megan's identification sheet that Dean had used for this identification had a specimen of *Molgula* sp SD1, with the ovaries within the primary intestinal loop, mistakenly labeled as *M. napiformis*. The issue was discussed at length and Megan volunteered to correct the comparison sheet and re-distribute it to the group.

SCAMIT EXECUTIVE COMMITTEE ANNUAL MEETING, SEPTEMBER 13, 2014

Attendees: Don Cadien, Dean Pencheff, Larry Lovell, Dean Pasko, Laura Terriquez, and Leslie Harris

Larry began the meeting by describing the year's three biggest accomplishments. SCAMIT organized and co-hosted the second EPA/USGS-sponsored CBRAT workshop to evaluate potential target species that could be impacted by Global Climate Change with warming water temperatures and increasing pH. This workshop netted SCAMIT \$4,500 for 2013/14, contributed to an important issue facing the nation, and involved the expertise of several SCAMIT members: Rick Brusca, Mary Wicksten, Doug Eernisse, Don Cadien, Tim Stebbins, Ron Velarde, and Paul Valentich-Scott.

SCAMIT also organized several workshops to review the local taxonomy of some difficult taxonomic groups in preparation for the Bight' 13 regional survey. These workshops covered both trawl and infaunal organisms, with emphasis on the Cnidaria after the passing of our local expert



and colleague John Ljubenkov. Tony Phillips was commended for his excellent effort to review John's personal voucher collection of cnidarian specimens, dissecting and photographing them in an effort to share that expertise through two workshops on the subject. In its effort to standardize southern California taxonomy, SCAMIT also organized workshops to review Bight' 13 survey vouchers and specimens requiring further identification (FIDs) from all the major taxonomic groups. These meetings have helped inter-calibrate name usage, avoid the mis-application of names, and, we hope, retain greater species-level identification during the post-data submission synoptic data review process.

Finally, the Taxonomic Database Tool beta version was presented at both the SCAS Annual Meeting and the 10th International Polychaete Conference. The tool was generally well received by various attendees and some expressed interest for such a tool for their study areas. Unfortunately the Bight' 13 efforts prevented the Committee from addressing some of the issues with the Toolbox, such as duplicate voucher sheets, voucher sheets with old names, etc. The Committee still believes that each monthly meeting could dedicate a small amount of time to reviewing the information in the toolbox that relates to the taxon being covered at the meeting. President Lovell volunteered to lead that effort since he will be present at all SCAMIT meetings. The discussion then migrated to SCAMIT's effort to build an image library, which is to be linked to the Taxonomic Database Tool. We discussed various ideas and options for this effort, such as how to make it less cumbersome to SCAMIT members so that there is a willingness to participate in the effort, how to develop a consistent file naming system, and the effort that would be involved. After some lengthy discussion there was general agreement to hold a separate meeting dedicated to the image library, what would be involved (e.g., data base, storage space, funding, on-going management), and development of a strategy for moving forward before attempting to bring in an intern. At the least, however, members may be asked for examples of their current image file naming system to see what examples are out there and look for any consistent conventions that might simplify the eventual collection and renaming of files.

This led to discussion of the need to build a tool to update the species list with the most recent edition of the SCAMIT species names that underpins the Taxonomic Data Base Tool. SCAMIT received a cost estimate of \$20,000 from SCCWRP to create that update tool; but a few SCAMIT members thought that estimate was excessive. There was no clear resolution on how to proceed. Some members believe it is the responsibility of the State to hold SCCWRP accountable for updates to the tool since several State-mandated and SCCWRP-developed biological assessment tools are tied to the list. Resolution of the issue will require a collaborative effort and Larry is working with SCCWRP and their CTAG representatives to resolve this funding issue.

Secretary Dean Pasko suggested that the Committee assign someone to lead each of these major tasks (e.g., the image library, name update tool, database tool clean-up) to ensure their successful completion. Further discussion was tabled until potential task leaders could be approached.

Dean Pasko provided the Secretary's report. Although we are behind in actual publication of the meeting minutes, all but one meeting has a complete set of minutes that has been reviewed by one or more participants. Unfortunately, Dean's commitment to Bight' 13 taxonomy has also prevented him from taking the final step of preparing the final drafts of the minutes and getting them out to the Executive Committee for review. However, we are not as far behind as it may seem. In addition, Larry mentioned that Megan Lilly, past-Secretary, has begun work on the backlog of 2012 issues. She has sent several to Larry for review and is collecting commentary from other members.

Treasurer Laura Terriquez's report showed that SCAMIT is pretty healthy financially. After cleaning up the membership list and removing those members who were no longer paying, a reduction of about 20 names, there are now 150 paying members. Over the course of the year



SCAMIT generated \$6,887.91 in income, and had expenses totaling \$3,162.78 for newsletter production and distribution, meetings, and website expenses. SCAMIT's 2014 Operating Budget is \$26,043, which leaves \$6,510 available for publication grants (25% of the Operating Budget). We discussed the discrepancy of costs for mailing out hard copies of the newsletter, and that the \$15 differential doesn't really cover the printing and distribution charges. Laura also investigated the use of PayPal® for paying annual dues. There would be a very modest cost to SCAMIT and the Executive Board voted to adopt PayPal® as an option for payment of annual dues starting in 2015. The Board decided it would be necessary to raise dues by about \$1 per membership to help cover these additional charges. Laura will confirm the amount necessary to cover printing, postage, and Paypal fees and report to the Committee.

Leslie Harris, Vice President and Dean Pentcheff, Webmaster, provided their reports. Leslie commented on the meeting schedule the past year, the Bight' 13 focus of upcoming meetings, and general difficulty in getting volunteers to lead meetings. Dean Pentcheff reported that his work the past year has been to keep the website updated, posting meetings, job listings, and new tool box files.

BIGHT'13 CNIDARIA, 15 OCTOBER 2014, CSD

Attendees: Ron Velarde, Megan Lilly, Wendy Enright, Nick Haring (CSD); Larry Lovell, Don Cadien, Terra Petry, Chase McDonald (LACSD); Dean Pasko (DCE).

Business:

Larry announced that there are no meetings planned for November or December because of the numerous Bight-related meetings that we have had in recent months. However, there was some discussion about holding a joint meeting to review images for the SCAMIT Toolbox as well as clean-up the toolbox. We discussed the idea of having everyone bring their images of sipunculids to share and confirm, and also review and edit the various identification aids in the Sipuncula section of the taxonomic toolbox. The idea of picking a relatively small group, such as sipunculids, might be a good way to work out the kinks of these toolbox cleanup meetings.

He then mentioned his recent discussion with Lisa Gilbane from Mineral Management Service who suggested hosting a meeting in Camarillo to verify trawl vouchers and other specimens from her recent surveys.

Larry also announced that Laura is resigning her Treasurer position after the 2015 term. She will be taking on other responsibilities for the Orange County Sanitation District Ocean Monitoring Program and will have to relinquish her taxonomic duties. Consequently, SCAMIT will need someone to run for Treasurer next session.

Dean announced some literature for the taking. Don has decided to downsize his literature collection and would have his excess literature, many thousands of pieces, available in the near future. The pieces are already cataloged and databased. He will be donating them to SCAMIT to use for fund raising with the goal of getting the literature in the hands of SCAMIT members before being dispensed to others.

Meeting

This meeting was dedicated to resolving any remaining Cnidarian specimens for further identification (FID). The taxonomic portion of the meeting started with us viewing pictures of John's Anthozoa sp 1? in Tony's February 2014 presentation of Big John's Cnidaria voucher collection. Megan noted that in the images it looked like the pigmented form of *Halcampa decemtentaculata* that she has seen from City of San Diego samples. *H. decemtentaculata* is



usually white but can come in variety of colors such as dull reddish brown with white spots seen on occasion (Hand 1954). Dean then pulled a specimen, which was similar to those pictured for Anthozoa sp 1?, but happened to be damaged. The animal had 10 round, short tentacles with pigment, similar to *H. decemtentaculata*, but had differences in the texture of the epidermis of the column. The incomplete specimen was from Bight' 13 Station 9329 (98m), and Dean decided to leave it at Halcampidae.

Dean next brought out a specimen of *Ceriantharia* sp D; but others felt it was just *Ceriantharia* sp. This specimen was in a poor state of preservation. We couldn't reach consensus on whether the mesenteries truly ended half way down or if they were just "petering" out/damaged, which would put the *Ceriantharia* sp D designation in doubt. This brought us to a discussion regarding standardization of effort. Everyone present admitted that for the most part if they encounter a ceriantharid in a sample they dissect it to look for the presence of acontioids – an acontia-like structure appended to the base of a ceriantharian mesentery with the presumed function of an acontia – and if present at the base of the paired mesenteries identify it as *Arachnanthus* sp A, and if absent, they leave it at *Ceriantharia* sp; with the exception of large animals in good condition that might be identifiable to something like *Pachycerianthus*. Don Cadien then commented that for the most part the Bight' 13 cerianthid ID's will be left at "sp" with the exception of the two mentioned above – *Arachnanthus* sp A and *Pachycerianthus fimbriatus*.

Actiniaria sp 1 is a species that is troubling people. Dean found 300+ cnidarian individuals in a shallow (10m) Bight' 13 bay sample. He separated them into two groups; those with a pedal disk and a "wrinkled" column (i.e., with longitudinal folds), which he called Actiniaria sp 1, and those which had no pedal disk and a smooth column which he called *Diadumene* sp. Dean was volunteered to work with Tony on creating a definitive way to separate them. [As a side-note, he has since found Actiniaria sp 1 in samples from southern San Diego Bay, near the mouth of the Sweetwater River.]

Dean then brought out specimens of Zoanthidea sp A and Zoanthidea sp B of Ljubenkov (see SCAMIT NL, No 23, Vol 11) collected from Bight' 13 Station 9329, 98m. He noted that some were attached/colonial and some were not. He was questioning the difference between the two species. We all agreed it was hard to discern based on the little information available. Dean had called them Zoanthidea sp A/B. But we decided to peruse John's Bight' 03 slide show to see if we could sort things out a little further. John distinguished the two species by the base, with Zoanthidea sp A having a flattened base with a limbus and Zoanthidea sp B having a rounded base with no limbus. After review, we decided that Dean's specimens were Zoanthidea sp B (no limbus). We had some discussion as to why these had not been designated as *Epizoanthus*, as discussed in Cutress and Pequegnat (1960). We were intrigued by the description of *Epizoanthus* as being collected as individuals or colonies, which was the case for Dean's specimens: several were found as individuals while three others had formed a branching colony. After some review of other literature, Don found that these specimens may also fit within *Palythoa* based on the way they expand near the scapulus and are narrow and elongate proximally. This genus is mostly colonial, with one species being solitary. In addition we examined Plate 1 in Carlgren (1951) that contained a picture of *Palythoa preaelonga*. We agreed that *P. preaelonga* resembled the general morphology of the specimens at hand, but there was not enough information to verify this identification. Since there is no "true" description of Zoanthidea sp B (only a picture and some comments in John's presentation), and it is not in the SCAMIT species list, Dean will create a voucher and will call it Zoanthidea sp DC 1, listing Zoanthidea sp B Fide Ljubenkov 2003 as a synonym.

A great discussion came about as we reviewed Dean's specimen of the sea pen *Anthoptilum grandiflorum*. He initially thought it might be *Virgularia* sp B or *A. grandiflorum*. This specimen was small (about 5cm) relative to the cited maximum size of 80cm. After close examination it



was decided that it had no subdermal sclerites. The siphonozooids were difficult to see at first but were eventually viewed in rows on either side of the ventral groove on the rachis. There was some discussion as to whether *Virgularia* sp B is actually a juvenile *A. grandiflorum*. Upon review of the remarks section for *A. grandiflorum* in Hochberg and Ljubenkov (1998), we were able to confirm Dean's identification. However, in the process, we found that Dean's specimens matched the images of *Virgularia* sp B Ljubenkov 2011 very closely. John's images were taken from Bight'03 survey specimens (see SCAMIT NL, No 23, Vol 11). Upon review of John's specimens, which are in Tony Phillips collection, we may confirm this synonymy of *Virgularia* sp B under *A. grandiflorum* by looking for the presence of subdermal sclerites.

The sea pen fun was just beginning as Dean then showed a large specimen of *Virgularia agassizii* from Bight'13 Station 9190. That specimen was verified but he had also found two animals from Bight'13 Station 9284 (827m) that were vaguely similar but not "quite right". These other specimens had strange leaves with long thin polyps. Some leaves had only one polyp while other leaves had two or three extra long polyps. We reviewed John's Bight'03 presentation and found that they were very similar to John's "*Virgularia* sp". In doing so, we discovered that LACSD also sampled this animal as well at a deep station. The need to create a provisional for this species became quite obvious, but no volunteers emerged.

We then moved on to a few FIDs from City of San Diego. Nick Haring joined us and brought out a beautiful specimen of Actiniaria FID from Bight'13 Station 9377, 17m located just north of Malibu. We determined it to be *Urticina*, based upon the presence of verrucae and ridges (pseudoacrorhagi?) located along the margin of the oral disc and between the tentacles. A discussion then ensued about how to differentiate *Urticina* sp A McPeak 1978 from other described species of the genus, particularly *U. columbiana*. Megan and Wendy both remember Tony talking about it being based on the pattern of the verrucae. Unfortunately, none of us present had the expertise to distinguish the two, and we needed to check with Tony before trying to put a final identification on this specimen.

Nick then brought out a small, white/cream colored specimen from Bight'13 Station 9421 (5m), which turned out to be a juvenile *Ceriantharia*. Another poorly preserved specimen from Bight'13 Station 9443 (387m) was left at Actiniaria, as was another damaged specimen from Station 9084. One of two specimens from Station 9047, 668m was confirmed as *Halianthella* sp A, and Dean said the other was a perfect representation of Big John's *Ceriantharia* sp D; but others present were less convinced. *Ceriantharia* sp D was a large cerianthid with mesenteries that stopped mid-body and possessed up to three cycles of tentacles. Dean has seen this mesentery pattern several times before, but hadn't documented it well. We decided that an effort to document these differences would be of value, but, in the end, left the specimen at *Ceriantharia* sp.

We next dove headlong into the morass of *Edwardsia* spp. We reviewed *Edwardsia* sp SD1 from Bight'13 Station 9190, 154m that had been identified by Nick. Megan had originally designated this species from CSD regional stations as well as some routine monitoring stations. Dean performed a basotrich mount and confirmed that it was not *E. juliae* due to the very small club-shaped basotrichs of the nemathybomes, in addition to the larger nemathybome blisters and different looking physa. We set aside a semi-permanent slide of nemathybome basotrichs for Dean to photograph using the Motic compound camera. Megan will add this information to the species ID sheet.

Dean then shared his specimen of *Edwardsia* sp DC1, and again confirmed that the very strongly dimpled column and unique nemathybomes made this species different from anything else previously seen in the Southern California Bight (SCB). An identification sheet of this species was distributed to the Bight'13 taxon list server, but the pictures do not adequately show the very distinctive dimpled body.



Dean then brought out specimens of Anthozoa #49, commonly called the “brown tent anemone”. There were a few taxonomists present who had not seen this species. It is fairly distinctive and once seen is usually remembered.

Next we looked at specimens Dean had identified as *Cactosoma arenaria* from Bight’13 Station 9190, 690m. Megan and Wendy confirmed that the specimen very closely matched the photos from Tony’s February 2014 slide presentation, although we could not confirm the validity of the original ID. The generic description of *Cactosoma* in Carlgren (1949: page 34) discusses that *C. arenaria* is a shallow water species, and this single specimen was from 690m. We retained the ID but will make additional attempts to research the depth range of *Cactosoma*.

Megan brought out a large Actiniaria FID from Bight’13 station 9321. Upon examination we decided that it was just a very long, thin specimen of *Halcampa decemtentaculata*.

Dean then showed a specimen of Corallimorpharia that had been identified by Tony. It was not from a Bight’13 station, but the animal came from a station near Avalon. We all got the opportunity to examine the beast and discuss the non-retractile capitate tentacles (i.e., tentacles with dactylozooids distally) common to that Order. However, some actinarians also have capitate tentacles, such as *Anemonactis* (as do some members of the Madreporaria). More information is needed to help people identify corallimorphs. We were then treated to a few images of a live corallimorph on display in the CSD seawater tank.

With that, it was time to move on from anthozoans to other cnidaria. Dean started off by showing us his specimen of *Corymorpha* sp DC 1 from Bight’13 station 9354, 236m. This specimen, from near the Mugu submarine canyon, was determined to be *Corymorpha palma*. The reason Dean had hesitated to identify it as *C. palma* is that we have notes indicating that species as being a shallow bay species. However, Don and Larry both felt that bay species can live offshore if the environment is correct, i.e., the sediments are similar (fine), lack of wave action, etc. They gave examples of polychaetes and mollusks that range from bays to deep offshore environments. After that discussion we were more comfortable confirming Dean’s specimen as *C. palma*. We also confirmed *Corymorpha bigelowi* and *Euphysa* sp A that Dean brought for confirmation.

Having muddled our way through all the cnidarians, we moved on to one of Megan’s favorite groups: Ascidians. She had identified one specimen to *Eugyra arenosa californica*, but as this species is relatively uncommon in their monitoring stations she was seeking a second opinion. After being examined by other taxonomists Megan’s identification was confirmed. The animal was not from a Bight’13 station, but from CSD monitoring station E-19. We then reviewed Dean’s sets of *Molgula napiformis* specimens and confirmed that both represented *Molgula* sp SD1 because the gonads were located within the primary intestinal loop.

Dean commented that he was confused about the differences between *Molgula napiformis* vs. *Molgula* sp SD 1. His confusion was justified because the identification sheet posted in the Taxonomic Tools on the SCAMIT site was miss-labeled, as was noted above in the minutes of the September 8th meeting. We reviewed the different placement of the gonads (within the **primary** intestinal loop in *Molgula* sp SD 1 and within the **secondary** intestinal loop in *M. napiformis*) and checked the figures in Lambert 1993. Megan recognized that she needs to revise the new sheet discussing the differences between the two species and label the images properly. She will try to recheck with Gretchen Lambert to see if she can get some further insight into *Molgula* sp SD 1.

With the day coming to a close Megan quickly cornered Don into looking at a juvenile mollusk she had found in one of her Bight’13 samples (9377, 17m). Don identified it as a juvenile *Terebra danae*.



BIGHT'13 POLYCHAETES, 22 SEPTEMBER 2014, NHMLAC

Attendees: Bill Furlong, Larry Lovell, Brent Haggin (LACSD); Kathy Langan, Ricardo Martinez-Lara, Veronica Rodriguez, Ron Velarde (CSD); Kelvin Barwick, Rob Gamber, Ernest Ruckman (OCSD); Greg Lyon, Erin Oderlin (CLA-EMD); Chip Barret (EcoAnalysts); Tony Phillips, Dean Pasko (DCE); Dorothy Norris (SFPUC); Erica Keppel, Michelle Marraffini (SERC); Leslie Harris (NHMLAC).

Business:

We started with a round of introductions with so many visitors to the meeting. Erica Keppel, from Italy, and Michelle Morraffini were visiting the Museum from SERC (Smithsonian Environmental Research Center) and working on polychaete invasions. In addition, Dot was visiting from San Francisco and there have been a few new additions to the agency taxonomy staff since her last visit.

Meeting

The meeting kicked off with Larry showing images of various specimens for confirmation or FID.

- *Allia* sp DC1 has a reduced number of long branchiae, and bulbous antenna. The specimen was collected from 699m at Station 9295.
- A Euclymeninae with weird bumps scattered over the body, lateral notches on the prostomium, but stained similarly to Euclymeninae sp A. Larry left it at Euclymeninae sp because of the fragmented condition of the specimens. Kelvin suggested that the bumps might represent a parasite of some type. It was collected from a 666m station and other deep stations.
- *Levinsenia* ? *gracilis* had modified neurosetae that appeared differently shaped in that they were slightly thicker.
- *Laonice* sp DC1 (Leslie convinced Larry that this deserved provisional status) from 600m. The inter-ramal pouches start on setigers 5–6 and the specimen had very long branchiae, relative to *L. pugettensis*, which has short branchiae.
- A single specimen of Polynoidae, similar to *Lagisca extenuata* had unidentate notosetae with weak serrations, and a prostomium with bumps. It came from Bight'13 Station 9190, 690m and was not well preserved. It was left at Polynoidae.
- *Terebellides* sp. from station 9399, 258m stained dark laterally on setiger 3. It was potentially *T. kobei* or *Terebellides* sp D with the head also dark staining at the front of the prostomium. Leslie suggested that it was not *Terebellides* sp D, and we left it at *Terebellides* sp.
- *Schistocomus* sp DC1. There were two specimens from Bight'13 Station 9346 with different branchial patterns of either *S. hiltoni* or *Schistocomus* sp A SCAMIT 1987§. The branchiae arrangement is bipinnate 1st, 2nd, 4th, and cirriform 3rd. The bipinnate state of 1 and 2 required very close examination from all angles to determine them correctly as they are thinner and with less obvious pinnae.
- *Chaetozone* ? *gracilis* from 692m that did not have a prostomial ridge and only a limited staining pattern.

Unfortunately for Larry, no one else had seen any of these interesting species.



Kelvin then showed slides of a few animals that OCS D had collected at various Bight'13 survey stations.

- Spionidae sp OC1 is a Spionid without branchiae, four eyespots, two small occlusions of some kind, and hooded hooks present in the posterior of the body. Leslie commented that a lot of deepwater spionids lose their branchiae.
- He had excellent images of *Malmgreniella* sp A showing the neurosetae with bracts, and elytra with pads of spines/microtubercles.
- He also had several specimens of what he called *Malmgreniella sanpedroensis* where the tines of the neurosetae looked long for *M. sanpedroensis*, and there was no speckling on the ventrum. Several people suggested that these might instead be *Malmgreniella* sp A.

Kathy Langan then showed a few images from the San Diego sample set.

- *Leaena cf caeca* had a different number of thoracic uncinigers, 10 instead of nine, and came from a 942m station.
- *Neoleprea californica* was collected at a 634m station, but may be something else since *N. californica* was initially reported intertidally.
- *Asabellides cornuta*, collected from Bight'13 Station 9030 525m that had sharp corners extending from the lateral margins of prostomium. Kathy shared this specimen because they don't often see it in San Diego and it was the first specimen of the species that she had seen.
- *Spiophanes anoculata* was found at a 942m station, and would represent a first record for SCAMIT.

Veronica Rodriguez also had a number of specimens for show and tell.

- *Semiodera inflata* was collected from 89m (Bight'13 Station 9474). This specimen had the dorsal shield restricted to dorsal and lateral surfaces, often well developed, and projecting posteriorly. The anterior setigers have pseudo-compound or transitional falcate neurohooks, while the posterior region has 2–4 neurohooks per ramus. The noto- and neurosetal lobes have small papillae. The body is cylindrical, swollen anteriorly and tapering posteriorly, with papillae generally arranged in single rows with some additional, sparse larger ones.
- A specimen designated as *Flabelligera* sp Bight'13 was collected from Station 9025 at 77m and has a well-developed cephalic cage. The body is pale with a thick, soft transparent tunic with adherent fine sediment and debris. It is also covered with long, distally swollen papillae (fusiform or clavate with a short thin peduncle). The notosetae are multi-articulated capillaries as long as the body is wide, and the neuropodia have one or two hooks each. The first falcate neurohooks are present in setiger 2. The neurohooks have 2 or 3 handles markedly articulated, and are thick crested, falcate and entire.
- *Bradabyssa* sp came from 159m (Bight'13 Station 9476) of the Channel Island strata. *Bradabyssa* sp has a poorly developed cephalic cage. The body is covered dorsally by large papillae, and smaller, broadly domelike papillae that terminate in a filiform tip and which are arranged in at least three transverse rows per segment. Ventrally the body is



also covered by smaller sized papillae broadly domelike, also terminating in a filiform tip and arranged in at least three transverse rows per segment. The neuropodia and notopodia possess long, slender papillae. The acicular neurosetae have transverse bars and are distally pointed with the tip drawn out as a slender filament, while the notosetae are all capillary with intermittent transverse bars along their length.

Leslie performed the identifications of polychaetes from a series of Bight' 13 stations collected near and around the Western Channel Islands, providing her an opportunity to see some interesting animals. She showed a number of images of the crazy specimens she encountered as part of this Channel Island stratum.

- *Aricidea (Acmira)* sp SD2 is not a synonymy of *A. (Acmira) lopezi*. *A. (A.) lopezi* has a short antenna that does not extend to setiger 1, where as the antenna of *Aricidea (A.)* sp SD2 extends to setiger 2.
- *Dipolydora barbilla* was collected from one of the Channel Island stations. Kelvin commented that he might have called it *D. bidentata*, noting that the staining pattern, although striking, is not unique.
- *Polydora socialis* with spotting, a juvenile pigment pattern maintained into adulthood. The specimen also had gizzard plates, but these are not unique to *P. socialis*. In *P. socialis*, however, they are calcified and ridged where as in other species they are "soft."
- *Euchone* sp B Harris 1985 looks similar to *E. hancocki*, but differs in having eight abdominal setigers, with three in the anal area, but lacks an abdominal girdle. This species has two bands across the ventral margin of the anterior setigers, but the staining is faint and breaks up posteriorly.
- *Eusyllis* sp 17 Harris has a straight pharynx, linear body with long antennae, long tentacular cirri, and ventral cirri on setiger 1 that are enlarged and touching. This species is most likely being mistaken for *E. habeii*.
- *Lumbrineriopsis* sp DC1 was tentatively left at Lumbrineridae.
- *Opisthodontia* sp 2 Harris is a fat bodied organism with long mid-dorsal cirri, and two conspicuous mid-dorsal papillae that form a "V" within the circum-oral ring of soft papillae. It also has gradation from long to short setae going from dorsum to ventrum.
- *Sigambra setosa* from a 788m Bight' 13 station had sub-equal antennae, with orange coloration on the first several setigers and orange spots dorso-laterally on other setigers.
- *Streptodontia* sp 1 Harris (= *Opisthodontia* sp SD1) has extremely long antennae, tentacular, and dorsal cirri. The details of this species are covered in Leslie's table of syllids. It has huge knobby-headed acicula in anterior setigers through setiger 20, but all the setal groups are equally sized (i.e., the short setae are all sub-equal, as are all the long setae).
- *Trichobranchus hancocki* (as *Artacamella* in Ed 10), although Leslie suggested that this synonymy needs to be reviewed. *Artacamella* seems to have an unusual set of pores running along dorsum, ventrum, and laterally on body that are not present in *Trichobranchus*.
- *Lumbrineriopsis* sp SD1 collected from a 95m station.. It had the limbate portion of spinigers broad, which continue to the pygidium. These images lead to an interesting and spirited discussion about *Lumbrineriopsis* sp SD1 and its origin.



- A specimen of *Hesiospina* that had non-emergent acicular spines.
- *Ocobranchus* sp A (Trichobranchidae)
- *Podarkeopsis* sp F looked more like a syllid, than a hesionid. The notopodia had single furcate seta where the upper tine was 4–6 times longer than the lower tine. It was collected from 90m depth in Channel Islands.

Overall, the Channel Island samples yielded Leslie about 20 provisional species, including, in addition to those listed above, three provisional *Ephysiella* species and *Thelepus* sp C. Leslie also reminded everyone that she has four provisional species of *Pholoe* in addition to *Pholoe glabra*. For example *Pholoe* sp B has small papillae on elytra that number up to eight relative to the 4–5 large papillae found on *P. glabra*. *Phloe* sp B has been found in San Diego, Santa Monica Bay, and other shallow coastal waters of the SCB.

Leslie then showed her provisional species of *Terebellides* collected from the Chukchi Sea. She pulled together a table of the described species to demonstrate differences beyond the staining.

During the process of this review, Leslie shared that she often takes pictures of the small specimens using the compound scope with fiber optic lights projecting light from the side rather than using the sub-stage lighting.

We got into another discussion of the Shirlastain A orange stain and Leslie used a specimen of *Phylochaetopterus prolifica* to demonstrate the value of the stain.

After some discussion about the value, but difficulty of sharing all these high-resolution images, Larry mentioned that SCAMIT should consider designating a Dropbox folder for deposition of full sized images for sharing, especially on such complex surveys as these regional Bight surveys.

After lunch we reviewed many of the specimens that had been discussed more generally in the morning session. Kelvin kicked things off with a deepwater terebellid that could not be placed in genus, and will remain with Leslie for additional review. The specimen had 15 thoracic setigers according to Tony, but Larry counted 17. It was similar to *Pista wui*, but had a different lappet arrangement. *P. fasciata* was mentioned as one option, but later ruled out since it was collected from 603m. [A subsequent note from Kelvin indicated that Leslie believes this specimen to be *Pista disjuncta* Moore 1923.] Leslie then showed a picture of live *P. wui* showing the spiraled branchial filaments off the central stem, as well as some beautiful images of other live specimens.

Larry then brought out a mystery syllid from a shallow water station that turned out to be *Branchiosyllis exilis* Cmplx. It was collected in 18m of water, and had a black pharynx and distinctive claw-like setae.

Kelvin brought out the abranchiate spionid that he had shared in the morning session. Leslie stained the specimen with orange stain to look for branchial scars, and was able to find scars and pouches on setigers 8–9. The specimen came from a 55m station, which is too shallow for *Prionospio ehlersi*, but there was some discussion about whether or not it might represent *P. lobata*. In the end, they decided to leave it at *Prionospio* sp.

Larry brought an *Arabella* with a dentate maxilla 1 ridge along its entire length, terminating in a bifid dentate tip. In response, Kelvin showed a voucher sheet of *A. endonata* created by Tom Parker. Larry's specimens were very similar. Leslie explained that many of Emerson's type specimens are missing and may never have been deposited to the museum. Emerson was a student of Fauchald's in the late 1970s and may have inadvertently left USC with the specimens in hand, never depositing them. Either way, there seems to be no way to verify his species.



Ron brought a specimen of *Pholoe* sp A with the numerous small papillae that Leslie confirmed.

Tony then brought out his “mystery beast” collected via shallow water vibra-cores off oil platforms. The specimen had paired spines at one end, with a transverse groove around the head end, and fine setae in the parapodia. After many eyes and a lot of rumination about head and rear ends, we brought in Kirk to get a definitive answer: an interesting looking rear end!

After that, the meeting deteriorated in a raucous adjournment.

BIGHT'13 CHAETODERMATIDS, 30 OCTOBER 2014, CSD

Attendees: Ron Velarde, Megan Lilly, Wendy Enright (CSD); Larry Lovell, Don Cadien, Terra Petry, Chase McDonald (LACSD); Kelvin Barwick (OCSD); Dean Pasko (DCE).

Business:

Larry announced that the next SCAMIT meeting would be Nov 17th at SCCWRP in the Medium Conference room to allow remote access. The meeting will be a review of the taxonomic toolbox that covers the Sipuncula, and be a forum to collect sipunculid images and new reference materials.

There will not be a December meeting since there have been many 2-meeting months this past year. In addition, we have no meetings scheduled for 2015 yet, which may create an opportunity to tackle other toolbox taxa. Don mentioned that he has been preparing a review of the northeastern Pacific tanaids and may be willing to lead a tanaid meeting sometime soon.

Larry noted that officer elections are around the corner, and we will need someone to take on Laura's duties as Treasurer. In response to Larry's review of the general Treasurer's duties with the addition of our new PayPal option, Kelvin mentioned that using PayPal, in addition to the existing check and cash methods of collecting dues, does complicate the process slightly. In general the Treasurer is responsible for the receipt of payments, SCAMIT's annual tax filing, keeping the membership list up to date, the disbursement of funds to cover expenditures, and the maintenance of the SCAMIT banking accounts.

Kelvin then discussed his trip to Oregon to visit Rae Rowe. Kelvin and Seth Jones visited Rae to collect Rick's taxonomic materials. Rae had requested that the bulk of the material, the voucher collection and personal notebooks be deposited at the City of San Diego's Marine Biology Laboratory with the understanding that they would make reasonable accommodation to all interested researchers. The trove of materials included all of Rick's personal voucher collection of over 900 databased taxa lots, his taxonomic notebooks, and a box of images on over 130 CDs. This taxonomic material is well cataloged, in that very detailed way that only Rick could do, which makes the material extremely valuable. Kelvin also found about 8–10 notebooks that included a list of distributional information by species relative to the Bureau of Land Management and perhaps the King Harbor work that Rick was involved in. It appeared to some that these notebooks were likely the beginning of the Straughan and Klink (1980) Species List, to which Rick contributed the polychaete section. We had some discussion as to how to organize this material to make it available to SCAMIT members (e.g., should it be digitized and put onto the SCAMIT list server, or left with the City of San Diego for people to access, etc.). Kelvin stated that he would follow up on this with the expressed goal of making as much of the information available to members as possible.



Meeting

The meeting was then transferred to our aplacophoran experts for specimen review. Wendy showed some simple whole animal images of *Falcidens hartmanae*, *Chaetoderma pacificum*, and several other specimens that required review, but we didn't get around to those specimens until later in the meeting.

Instead we jumped into the specimens that LACSD staff brought because they had pictures to share. We started with specimens from Bight' 13 Station 9211, specimen A, an elongate animal with the head slightly broader than the neck. The images of the spicules were reviewed for thickness of the edges, the presences or absences of ridges, and overall shape. Initially, everyone was in agreement that these specimens appeared to be *Chaetoderma pacificum*. A second specimen (specimen B) from the same station had similar characteristics in body shape and spicule formation, and was also determined to be *C. pacificum*.

Confusion arose, however, due to some questions about the oral plaque and whether it was incised or entire. For example, the two specimens from Bight' 13 station 9211 seemed to have an oral plaque that was entire while one out of four specimens from Bight' 13 Stations 9205, 9250, and 9210 (see below) were considered incised; but all six specimens seemed to have similar characteristics. Since *Chaetoderma pacificum* is described as having an incised oral plaque, five of these specimens seem to represent new provisional taxon that would be best described as representing a *C. pacificum* with an entire oral plaque (Chaetodermidae sp LA1).

We then looked at images of a specimen from Bight' 13 station 9205, which did have an incised oral plaque. The spicules were very much like those of the previous specimens, except that the spicules were browner in color relative to the Bight' 13 station 9211 specimens, which Kelvin thought represented a thinner spicule. These specimens, after some discussion, were determined to be *Chaetoderma pacificum* due to the incised oral plaque.

Two specimens from Bight' 13 station 9250 were also reviewed. The whole body images looked similar to the previous specimens, and oral plaques appeared to be entire in one specimen and cleft in another. The spicules of each were like those seen previously (elongate and thin). We reviewed the actual specimens to verify the nature of the plaques, which did turn out to be entire.

We examined a specimen from Bight' 13 station 9210 which appeared to be thicker than the other specimens viewed thus far, but also had an oral plaque that seemed entire by the photos, although listed as incised according Terra and Chase's notes. A review of these specimens also demonstrated that the plaque was entire, and thus lumped together with those from Bight' 13 station 9211.

To confirm that we all had the same understanding of what an "incised" oral plaque looks like, Chase pulled a specimen from Bight' 13 station 9205 that showed a clearly incised oral plaque based on the photographs that were displayed earlier in the meeting. Examination of the specimen found that the incision originating at the mouth seemed to reach the edge of the oral plaque, which we determined was representative of the "incised" condition. In that case, we were able to ID this specimen as *Chaetoderma pacificum*.

So after much discussion of this suite of specimens, we were able to confidently identify specimens with an incised oral plaque as *Chaetoderma pacificum*, while those specimens from Bight' 13 stations 9211, 9210, and two specimens from station 9250 represented a new provisional taxon (Chaetodermidae sp LA1) that is diagnosed as being very similar to *C. pacificum* in whole body shape and spicule type, but distinguished by the presence of a clearly entire oral plaque.



Overall the exercise brought about much discussion of the limits of our knowledge, and the need to hold another workshop in this group to work out some of the characteristics of the oral plaque, the spicules, and the body types to build a common terminology that we all understand.

Images of a specimen from Bight' 13 station 9250 (660m) showed a flat, incised oral plaque, but the anterior and neck were much more slender and form a larger proportion of the body than in other specimens of *Chaetoderma pacificum*. For example, the oral plaque was only as wide as the neck, both of which seemed very narrow. The images of the spicules were like the other, and we identified these as *C. pacificum* based on the images alone. After some discussion of the validity of the character of the neck and annulus dimensions, LACSD staff decided to retain the ID as distinct from *C. pacificum*, *Cheatodermidae* sp LA2, so that it could be tracked for future reference.

We then looked at a separate specimen from Bight' 13 station 9205 that was originally considered to be *Falcidens macracanthos*. However, upon review of the images of the whole animal and spicules, the group thought it looked more like *Chaetoderma marinelli*. The oral plaque was incised and the radula seemed to be slightly different. We examined the radula first hand to determine if the variation we saw in the image was true or not. Kelvin shared that he prefers to use a flat slide rather than a depression slide, and applies a little extra bit of glycerin to float the radula on the slide to allow for a little room to manipulate the radula on the slide. After re-bleaching the radula to remove the remaining tissue that was obstructing our view, Kelvin was able to see that there was no triangular plate, but confirmed the slight curvature of the base. As a result we confirmed the ID as *C. marinelli*.

We then reviewed two specimens from Bight' 13 Station 9237. These thick aplacs had unusual spicules with an emarginated base and toothed margin. Megan mentioned that she had seen similar spicules but only when she had removed them from the wrong part of the body. Terra confirmed that in this case the spicules had been removed from the same part of the body as the others, noting that very few mid-anterior trunk spicules were present on the specimens. The seemingly unusual specimens will be designated as a new provisional species, *Chaetodermidae* sp LA3.

We then began review of specimens from the CSD sample group. Starting with a specimen from Bight' 13 Station 9396 (460m), which had a divided oral plaque. The station had eight animals, several of which had been identified as *Falcidens hartmanae* and *Chaetoderma pacificum*. Wendy showed two specimens that were different; each had long anterior trunks and thick posteriors. The spicules were elongate with a broadened base that was reminiscent *C. nanulum*, but did not resemble it in body type. Kelvin suggested that Wendy review the radula to confirm *C. nanulum* or distinguish these specimens from it.

Several other specimens from the same station were distinguished from all the others by the presence of a long spicular fringe over the posterior skirt. The spicules were quite long and represented about ½ the length of the posterior end of the animal. The oral plaque was distinctly incised, and looked a lot like *Falcidens longus*. Kelvin mounted some of the spicules, which were elongate and narrow, with longitudinal ridges, and a smooth posterior margin, like *F. longus*. After still having problems with a specific ID, Kelvin dissected the radula, which seemed to eliminate *Falcidens*. The radula was broadened laterally, but dorso-ventrally flattened. Still unable to resolve things Kelvin mounted yet another group of spicules. These seemed to show a prominent central ridge, and after some debate, turned the ID back to *F. longus* with the triangular plate missing or lost. The absence of the triangular plate suggested that it could sometimes be lost in adults. We should remember that presence of the plate confirms *Falcidens*, but absence does not preclude *Falcidens*.



Another specimen from Bight' 13 station 9396 had distinctive regionalization of the body with a long specular fringe on the posterior, and a short neck. The spicules were interestingly patterned and elongate and narrow. Megan suggested that this was *C. nanulum*. After some debate, Megan, Kelvin, and Wendy agreed that *Chaetoderma nanulum* was an appropriate, conservative ID.

Megan also had a specimen or two for review, starting with a specimen from Bight' 13 station 9201 (746m). The whole specimen showed a posterior with a short spicular fringe with dumbbell-shaped branchial aperture, which led us to consider *Chaetoderma hancocki*. Megan thought of calling it *C. hancocki* also, but hesitated due to the shape of the oral plaque. There seemed to be some confusion of the description in the MMS Atlas (Scheltema 1998) relative to the images. Spicules were removed and mounted, showing an elongate structure and asymmetrical color pattern similar to *C. hancocki*. Don suggested that the balloon-shaped head and absence of a neck argued against *C. hancocki*; but subsequent review of the whole animal confirmed similarity with the *C. hancocki* images and confirmation of the ID.

We ended our review with several specimens from CSD Bight' 13 Station 9457 (449m). Several looked similar to the *Chaetoderma nanulum* from the previous station and *C. hancocki* from Bight' 13 station 9201. We removed spicules from one specimen with the long spicular fringe and bulbous anterior. The spicules appeared different, showing a strong central ridge and lateral ridges with smaller ridges between these; however, these were not the predominant spicule type. Others were elongate with a central keel that broadens distally and fills over 1/2 of width of the spicule for about one-third the length of the spicule. The radula was dissected and found not have a triangular plate, and instead had an elongate, thickened radular cone, with two small, only slightly falcate and thickened distal jaws. The species was distinct enough to be considered to represent something new [at least to us], and will be considered for provisional species status, with other specimens possibly present at station 9396.

As the meeting was breaking up, some other specimens from Bight' 13 station 9457 made it on to the microscope. These had elongate spicules surrounding the posterior, and turned out to be *Chaetoderma nanulum* by unanimous consent.

Kelvin then brought out the single specimen they had for FID from Bight' 13 Station 9174 (345m). The specimen was short and thick for most its length. It did not have a particularly long spicular fringe, and a spicule mount confirmed another *Chaetoderma nanulum* by unanimous consent.

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

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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 correspondences can be sent to the Secretary at the email address above or to:

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**ATTACHMENTS: TRESURY REPORT, POLICORDIA SPA VOUCHER
SHEET**

SCAMIT Treasury Summary

2013 – 2014

Below is the treasurer's report for 2013-14. Once again we are **not** raising dues thanks to so much continued support from all of you! We have over 150 members across the US and worldwide. SCAMIT did not award any publication grants this past year but we have funds to do so. Please help get the word out that these funds are available. As stipulated in our grant policy, we have **\$6,510.96** or 25% of our operating budget of \$26,043.85, which does not include database funds, available for publication grants this year. *And just where did your dollars go this year?* SCAMIT helped organize and host a second EPA/CBRAT Workshop at SCCWRP in May 2013 with 7 expert taxonomists participating. SCAMIT received \$4,500.00 for writing the EPA/CBRAT report (see Larry for details). The taxonomic database support tools on our website were maintained by our webmaster. The database expense totaled \$1,462.50. The database was demonstrated at the SCAS meeting in May 2013 and at the International Polychaete Conference in Sydney, Australia and received much positive feedback!

Account Balances (as of 5/28/14)

Checking	\$15,955.01
Certificate of Deposit	\$10,012.91
Cash	\$ 75.93
Database Fund	<u>\$ 3,267.05</u>
Total	\$29,310.90

Income

2013 Membership dues	\$ 2,375.00
EPA/CBRAT Workshop	\$ 4,500.00
Interest from CD	<u>\$ 12.91</u>
Total	\$ 6,887.91

Expenses (General Account)

Hardcopy newsletter (printing/postage)	\$ 537.24
Meeting refreshments	\$ 288.40
Donations	\$ 300.00
Annual Luncheon + Picnic	\$ 401.98
Gifts	\$ 172.66
Website Content & Design	<u>\$ 1,462.50</u>
Total	\$ 3,162.78

SCAMIT Voucher Sheet

Species: *Policordia* sp A SCAMIT 2014

Family: Verticordiidae

Vol. 33 No. 3

Date examined: October 7, 2014

Vouchered by: K. Barwick

Material Examined: 1 spm: OCSD# 2167.5 Bight 2013; Sta. 9137; 30JUL2013; 411 m
(33°22.126"N -117°22.126"E)

Synonyms: *Policordia* sp OC1 Barwick 2014

Description: Shell thin, ovate, translucent; dorsal anterior margin produced upward (Fig. 1). Thick coat of fine silt adhering to the ventral margin of the shell exterior (removed before photographing). Umbones prosogyrate. Periostracum with numerous evenly spaced folds radiating from the umbones. Lunule heart shaped; not well defined. Escutcheon not evident. Lithodesma large. Hinge edentate. Ctenidium present (Fig. 2). Foot with single bysal thread attached. Inhalant aperture surrounded by 20 feathered tentacles coated in fine sediment. Exhalant aperture flanked by 4 - 5 conical tentacles.

Related Species: This is the southern most record for the genus. *Policordia* is differentiated from *Dallicordia* by the presences of a ctenidia. *Policordia jeffreysi* (Friele 1879), as illustrated by Allen and Turner (1974) and pictured by Coan et al. (2000), has clathrose sculpturing consisting of commarginal folds of the periostracum overlying radial folds. *Policordia pilula* (Pelseneer 1911) is described as having 5 simple conical tentacles external to 23 feathered tentacles around the inhalant opening (Coan et al. 2000). The present specimen appears to lack the outer tentacles. These features along with the scarcity of material and unique geographical locality supports the establishment of a provisional species.

Distribution: Only known from material examined.

Comments: The specimen was forwarded to Dr. Elena Krylova's PhD student, Luda Safonova in Russia for further examination. It will eventually be deposited at LACM.

Literature: **Coan, Eugene V., Paul Valentich-Scott and Frank R. Bernard. 2000.** Bivalve Seashells of Western North America: Marine Bivalve Mollusks from Arctic Alaska to Baja California. Santa Barbara Museum of Natural History, Santa Barbara, California. 764 pp.

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Fig. 1 – *Policordia* sp A - Exterior left valve and right valve, respectively (Scale bar 1 mm)

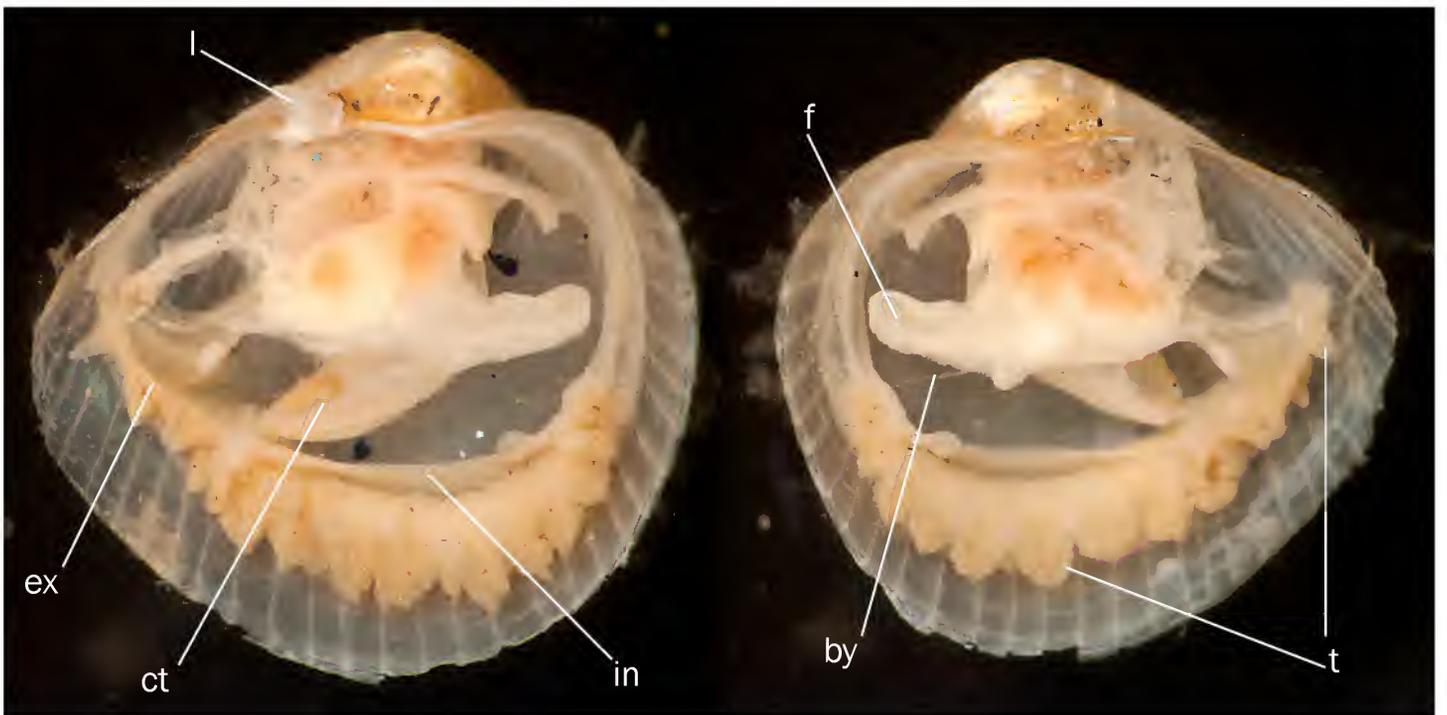


Fig. 2 – *Policordia* sp A - Longitudinal section, interior left valve and right valve, respectively
 Abbreviations: **by** byssus; **ct** ctenidium; **ex** exhalant aperture; **f** foot; **in** inhalant aperture; **l** lithodesma; **t** tentacles

SOUTHERN
CALIFORNIA
ASSOCIATION OF
MARINE
INVERTEBRATE
TAXONOMISTS



November/December, 2014

SCAMIT Newsletter

Vol. 33 No. 4



Siphonosoma ingens, anterior end showing introvert hooks. *Photo by M. Lilly.*

This Issue

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

Publication Date: 26 October 2015

14 NOVEMBER 2014, TAXONOMIC TOOLBOX, SIPUNCULIDA, SCCWRP

[No Meeting Held in December 2014]

Attendees: Carol Paquette (MBC); Chase McDonald, Don Cadien, Terra Petry, Larry Lovell (LACSD); Greg Lyon, Erin Oderlin (CLA-EMD); Robin Gartman, Megan Lilly, Wendy Enright (CSD); Tony Phillips, Dean Pasko (DCE); Dot Norris (SFPUC-remotely).

Business:

Larry started by introducing the first meeting that will look at how to improve and update the Taxonomic Toolbox. Larry's goals for the meeting are to: (1) review the listed voucher sheets, update names as appropriate, create list of required updates, and eliminate duplicates files; (2) collect or recognize the other resource files from attending members that are not already in the tool box; (3) discuss and review images for addition to the toolbox "Photos" tab; and (4) develop a format for running these meetings.

He then reminded everyone of the need to nominate Officers. Tony nominated all existing officers. Terra and Chase were recommended for the Treasurer position, but were reluctant to take up the mantel. The nominations will remain open for another couple of months since the ballots are not out until March 2015. Leslie will accept nominations through February.

He also mentioned that May 2015 will be membership month and SCAMIT will be offering PayPal as an option for paying dues.

Various members discussed some of the upcoming conferences, including the International Parasite Conference which will be held at the Cabrillo Marine Museum in San Pedro in 2015.

Toolbox Discussion

Following our brief business interlude, we moved on to discussing the Toolbox, specifically the Sipuncula. Larry had spent time culling through the toolbox and comparing files in the toolbox to the "Historic Toolbox" files to simplify this process. He started with showing the listing of voucher sheets and files that are duplicates, as well as the Key to the Sipunculida by B. Thomspson (1986). For example there are two files that include Bruce's key that have different contents. Tony also noted that all the species descriptions were missing from both files. These are the types of issues we hope to resolve and rectify by the end of the session!

Discussion of the key lead to a revisit of the Ed 9 listing. There was comment that the list included *Aspidosiphon*, a coral-inhabiting species, as well as *Golfingia* sp 1. LACSD said that they had collected *Golfingia* sp 1 some time ago, but no official voucher sheet exists. Terra volunteered to dig up the record and hopefully the voucher specimen so that some images could be made. Don volunteered to review the record of *Aspidosiphon*, which he believed came from ISS survey samples identified by John Ljubenkov.

Apionosoma trichocephala is also listed on Ed 9, but no one could remember reporting it from any of the agencies' surveys. Tony had some material from Bruce Thomposon dealing with members of the genus as well as some other material of interest that came from the early SCCWRP Taxonomic Standardization Meetings in 1986.

UPCOMING MEETINGS

Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.



When we reviewed the *Apionsoma ingens* voucher sheet, we found two forms: one clean and one with notes added. This led to discussion about whether the notes added value and which sheet to be retained. The group decided to keep only one sheet, and maintain the modified sheet if it supplies supplemental information of value to the discrimination of the taxa in question. The modified sheet should include a “modified by” line and/or “reviewed by” line.

This, of course, lead to additional discussion about how to comment on various files. Comments can be added to the PDF files and saved and printed, as long as the “Print notes and comment” button is selected in the Adobe Acrobat Preferences window. Everyone who uses the PDF file has to update their preferences to print the comments and notes. Don suggested that we add a sticky note to bottom of the file indicating that the sheet was reviewed and accepted on this date, or add the reviewed and accepted date in the file name (DD-MM-YYYY).

Wendy tested the comment method with the *Phascolion* voucher sheet that currently uses the older *Golfingia* name.

Robin commented that the toolbox could use a Find/Search tool. To which Larry reminded us all that the toolbox tool is available as a link directly from the Taxonomic Database tool. Although a link to the Database tool was not available via the SCAMIT website, Larry reiterated that he had distributed the link via the General List Server, and that the webmaster is currently working to add a link to the website.

We then moved on to the voucher sheets for *Nephasoma diaphanes*, one of which contained a note about the retractor muscle (see file name with “..vcher McNamara.pdf”).

Next was the file(s) containing the sipunculid key, which of course contains a lot of names that need to be updated. Greg added some of the missing pages, such as a missing general anatomy figure, and added a comment to the pdf file that the names used in the key need to be updated to the current SCAMIT species list.

We breezed through the following voucher sheets before lunch: *Siphonsoma ingens*, *Apionsoma* sp SD1, *Phascolion* sp A, and *Thysanocardia nigra*.

After going through existing files, Larry reviewed the taxonomic toolbox tool and demonstrated the map and links to the taxonomic toolbox voucher sheets. There was some discussion about where the images would be housed and how they are to be accessed. A brief discussion of the preferred image metadata ensued and we decided that the files should include (in the name or in the file itself) the: who, where, affiliation, taxonomist, and scale is preferable. At minimum station, depth, agency should be included. However, if an image exists that demonstrates a specific character state or is an excellent representation of the whole organism but doesn't include this metadata, a decision about whether or not to post it can be decided by the members of the meeting dealing with that particular taxa.

After lunch we identified various content that could be added. This included:

- Megan's table, 1996, with modification by Nick to include pictures. Dean suggested that he be able to add the provisional information to a new file.
- Tony's material from Bruce Thompson.



- Dean's Sipuncula sp SD1 from Bight'98. Megan said that there may have already been a Sipuncula sp SD1, and thus Dean's 1998 species should be listed as SD2. Dean needs to create a voucher sheet and list it as Sipuncula sp A SCAMIT.

Members in attendance then showed various images that might be added to the Photos section. Megan showed some of her images of *Thysanocardia nigra*, as well as *Siphosoma ingens*. The later was an excellent photo taken by Wendy and showed a variety of characters of *S. ingens* such as the muscle bands and nerve cord, but did not contain the station information. Megan and Wendy decided that they would collect this information since the image was from a vouchered specimen and add it to the file. She also showed the *Nephasoma* sp SD1 voucher sheet, which in this case was more of an ID sheet in that it listed the descriptive characters and images; but was without the differential diagnosis (i.e., characters distinguishing it from *N. pellucida*). Next were her images of *Phascolosoma* FID from Bight'08. As Megan discussed the specimen and its characters, Dean noted that we need to compare it to Sipuncula sp SD1 to see if they are the same. The only difference appears to be the absence of microvilli on the retractor muscle of Megan's *Phascolosoma* specimen, so perhaps one or the other had mis-interpreted a character state.

This led to some discussion about the Photos tab, and how it is to be used. After some debate we decided that one need not create photos/images for the purpose of populating the Photo tab if a voucher sheet already has images. The idea was that the Photo tab would be a supplement to voucher sheets for which images do not exist. We must keep in mind the mission of the site -- to facilitate taxonomy and identification – and how the images can assist SCAMIT members, and those also interested in the identification of species, in this process.

Chase and Terra then showed some images of *Thysanocardia*, *Phascolion*, *Apionsoma*, and *Siphonosoma*.

Tony showed his images of *T. nigra*, and *Siphonsoma*.

At the conclusion of the image review we discussed the next group to consider, and decided upon Ascidiarians. The meeting will be held on Wednesday, January 28th, 2015 at SCCWRP. We also developed a list of Action Items:

- Dean – review his Sipuncula sp SD1, update table of Sipuncula characters
- Terra – investigate *Nephasoma* sp LA1 and *Golfingia* sp 1 specimen and take photos as possible
- Megan – Check on her *Phascolosoma* sp FID and modify images with Wendy
- Larry/LACSD – Scan Tony's notebook for missing pages to Bruce's presentation; begin discussion with Dean Pencheff on how to accommodate images and link them to the database
- Don – look at *Aspidosiphon*
- Tony – take images of the *Aspidosiphon* specimen that he has from the ISS work
- Wendy – review the Ascidian material on the toolbox prior to the next meeting

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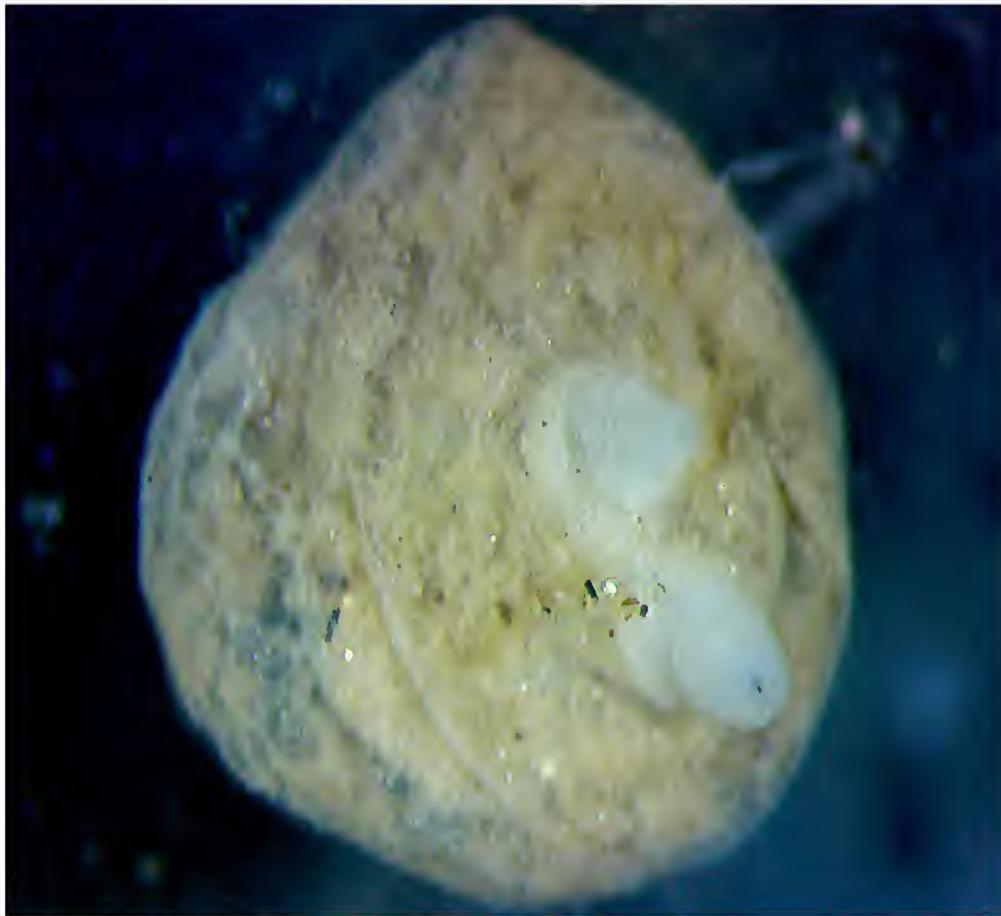
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TAIXONOMISTS



January/February, 2015

SCAMIT Newsletter

Vol. 33 No. 5



Ascidiacea sp A. J. Ljubenkov 2008. Bight'08 Station 7520. Whole animal.

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

Publication Date: 5 November 2015

27 January 2015, TAXONOMIC TOOLBOX, ASCIDIACEA, SCCWRP

Attendees: Carol Paquette (MBC); Chase McDonald, Don Cadien, Terra Petry, Larry Lovell, Jennette Kirby (LACSD); Greg Lyon, Erin Oderlin (CLA-EMD); Robin Gartman, Megan Lilly, Wendy Enright (CSD); Tony Phillips, Dean Pasko (DCE); Gretchen Lambert (CSU Fullerton-remotely).

Business:

Larry discussed the need to have a nomination for Treasurer, and, after a little arm twisting and much encouragement, Erin was nominated giving the City of Los Angeles possible representation that it has not enjoyed in quite some time.

Also, in an effort to continue development of our taxonomic tools, we decided that the next meeting should focus on resolution of the confusing *Rhachotropis* (Amphipoda: Eurusidae). Several provisional taxa have been floating around the SCB SCAMIT laboratories, but few have been properly documented to allow appropriate discrimination. Tony, Dean, and Don had recently experienced problems distinguishing *Rhachotropis* sp A Velarde from other described and provisional species. Don expanded the meeting to more generally cover the Eusiroidea section of the Toolbox as well as *Rhachotropis*. The meeting will be on February 18th at the LACSD laboratory.

Larry then recommended that we hold another polychaete meeting. This meeting will be at the LACNHM on March 9th, and will be followed by a meeting on caprellid amphipods in April. We hope to have the City of San Diego host that meeting on Monday, April 13 (Dean - CSD has reserved the room so it's a "go").

Toolbox update: Ascidiacea

Gretchen suggested that we update the hierarchy of Ascidiaceans from the no-longer accepted subphylum Urochordata to Tunicata.

We examined the file containing Dr. J. Vallee's 1976 Key to the Southern California Ascidiaceans and found that the 1978 Guide, a set of introductory material with definitions and illustrations to the characters used in the Key, was missing. Dean also suggested adding a clean scan of the key that didn't have his hand-written notes. Fortunately, Tony had clean copies of all the material and Larry was able to scan them for future posting. This key and guide are invaluable resources for identifying southern California ascidiaceans.

Megan's 1999 Table to the Common Simple Ascidiaceans of the San Diego Ocean Monitoring Program was discussed. The table contains combinations of characters that can be used to distinguish among the common genera of non-colonial ascidiaceans. It also includes page references to Van Name (1945) so that individuals can follow-up a tentative identification in Van Name's detailed account of the North and South American Ascidiaceans.

Tony suggested adding Fay and Vallee's (1979) key to the ascidiaceans that includes descriptions of several new taxa and a revised key. Fortunately, Tony had a clean copy and we were able to scan this one for future posting as well.

We moved on to a discussion of the duplicate copies of the voucher sheet for *Microcosmus exasperatus*, which should be listed as *M. squamiger*. Gretchen discussed the differences between

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the two, particularly that *M. exasperatus* has sharply pointed spines on the internal lining of the atrial siphon, while *M. squamiger* has cup-shaped spines. One needs to examine a small cut from the tissue lining the oral siphon under a compound scope to clearly distinguish the spines and their shape. The spines develop from within the oral siphon and move distally as they mature, so the most prominent spines are located towards the tip of the siphon's lining. Gretchen also confirmed that there have been no reliable records of *M. exasperatus* along the North American west coast. She also noted that the gonads of *M. squamiger* occur in three lumps and cross the intestine from primary to secondary loop in larger specimens. The spines and the condition of the ovaries are clearly noted in the voucher sheet.

Wendy then noted several details of the *Microcosmus* voucher sheet that are incorrect. For example the spines are located on the atrial not branchial siphon, as the sheet incorrectly lists them, and the number of folds listed is wrong. It looks like the sheet needs a few updates before reposting.

Megan described the difference between *Molgula* sp SD1 and *M. napiformis*. The former has gonads limited to within the primary curve of the intestinal loop, while those of *M. napiformis* are located in the secondary curve of the intestinal loop. *M. pugetiensis* also looks similar but typically does not possess a stolon or an exceedingly long and robust set of "hairs" for attachment but the gonads are also located in the secondary intestinal loop. There was further discussion regarding *Molgula* sp SD 1 and at one point Gretchen suggested it could belong to the subgenus *Molguloides*, as that subgenus is defined as having the gonads located in the primary intestinal loop. However, as of preliminary reading, it appears that most species within this genus are found at abyssal depths. More research needs to be done on this animal to try to ascertain its true identity. Megan will be editing the voucher sheet and sending it, as well as specimens, to Gretchen for closer examination.

We all thought that notes from Gretchen's 1998 workshop would be a good addition to the toolbox. Gretchen said that she would review any notes that we generated, and Megan agreed to re-type her hand-written notes. We also thought it would be valuable to post the excerpts from Van Name 1945 that Gretchen had produced for her 1998 meeting.

During this lively discussion, Tony mentioned three websites that he refers to when tackling troubling specimens: Invasive Tunicates of Washington State; Non-indigenous aquatic species; Tunicates of the West Coast of West America. We suggested adding the links to the Toolbox as hyperlinks.

Nonindigenous aquatic species <http://nas.er.usgs.gov>

Tunicates of the west coast of North America http://convoluta.ucdavis.edu/gallery/view_album.php?set_albumName=West_Coast_Tunicates

Invasive tunicates of Washington State <http://pnwscuba.com/invasives/>

Wendy then noted a few missing voucher sheets and identification aids that could be added to the toolbox: The Common Ascidiarians of Point Loma; The Keys to the ascidian families mentioned above; the *Cnemidocarpa rhizopus* and *Molgula napiformis* voucher sheets; and the *Molgula napiformis* vs. *Molgula* SD 1 identification page.



Megan suggested that she has a series of nice photos from her SCAMIT Ascidian workshop (June 2002, Vol. 21 No. 2) that she could post. The problem is finding the original PowerPoint presentation. It is possibly hidden away on a Jazz drive or somewhere at CSD. When Megan first realized the presentation was lost, she did what she could to reassemble it, but some of the images in the updated file are just black and white scans from an old printed copy of the original, which are less than ideal. She will start a search for the original images and post them if/when she finds them.

Tony shared a nice image of *Molgula regularis* that he had from a publication by Karen Sanamyan (1998), a Northwest Pacific Ascidian researcher. You can access PDFs of her publications from her website: www.sanamyan.com/publications/ksanamyan_publications.php.

Megan suggested posting links to the two main papers that she finds very helpful: Lambert (1993) and Lambert & Lambert (1998).

Chase, after sitting quietly for most of the discussion, produced a table listing important characters for all the Ascidians listed on the SCAMIT Ed 8 species list. Everyone was unanimous that it would be good to produce for the web site. Chase said he would review the table for potential modifications and submit it for posting.

Tony suggested that Megan put together a key to the local species of *Molgula*. Gretchen said she would review any key that Megan produced. Silly Megan!

We were then treated to some slides from Megan's PowerPoint showing *Agnezia* being eaten by a flatworm as well as *Molgula* sp SD1 with its branched tentacles, spiral stigmata, kidney, branchial folds, etc. Gretchen suggested that one of the photos of *Molgula* sp SD1 indicated brooding as suggested by the small embryos on the right side of body.

We developed a list of Action Items:

- Megan – type her notes from Gretchen's 1998 workshop, post her PowerPoint from her Ascidian workshop; Prepare a Key to *Molgula*; Revise images of *Molgula* sp SD1 and send specimens to Gretchen.
- Tony – pull together an updated reference list of Tunicates, particularly those that have good illustrations of specimens found in the SCB. Could be added as a separate document of Important References and Websites in the other useful tools section. [*Included within the Reference section of this NL.*]
- Dean – look for digital version of Common Ascidians from Point Loma; Check his electronic files for a back-up of Megan's presentation. Combine images of John's Ascidacea sp A from Bight'08 and post to web as "Unknown ascidian".
- Chase – clean-up his Ascidian table and send digital version to Larry and Dean for posting.
- Wendy – Send Dean her listing of changes to the Toolbox.



18 February 2015, TAXONOMIC TOOLBOX, EUSIROIDEA, SCCWRP

Attendees: Craig Campbell, Erin Oberlin, Greg Lyon (CLA-EMD); Kelvin Barwick (OCSD); Don Cadien, Larry Lovell, Terra Petry (LACSD); Ron Velarde, (CSD); Tony Phillips (DCE).

Business:

The actual meeting started at 0930, with Don in the lead. Larry arrived later in the morning, so the business meeting was postponed until the afternoon, coincident with the arrival of our lunch. Once sated, Larry conducted a business meeting. There was a reminder of the next two meetings: a March 16th polychaete tool box review meeting at NHMLAC and April 13th Caprellida tool box review meeting at CSD. After some discussion it was decided that May and June will be devoted to Bight'13 QC reconciliation meetings. There will likely be multiple meetings each month. In other announcements, Larry mentioned the upcoming SCAS meeting May 15–16 at Loyola Marymount and Kelvin reminded everyone of the WSM meeting June 25–28 at CSU Fullerton. SCAMIT elections were discussed next. Larry announced that the current officers: President Larry Lovell, VP Leslie Harris, Secretary Dean Pasko have all been nominated to run for their respective offices. Erin Oberlin (CLAEMD) has been nominated for the office of Treasurer. Larry opened the floor for additional nominations. There were none. Don Cadien motioned to close the nominations; it was seconded by Kelvin Barwick, and unanimously approved. Nominee bios and ballots will be distributed by the end of the month and ballots will be due to Leslie in late March. Election results will be announced by the end of March.

Toolbox update: Eusiroidea

A draft key to the *Rhachotropis* as modified by Dean was given to each of the participants. After circulating the lunch menu and sign-up sheet, we began to consider the content of the taxonomic toolbox on the SCAMIT.org website. The Eusiroidea did not have too many entries. There were four voucher sheets, for *Eusiroides monoculoides*, *Rhachotropis barnardi*, *Rhachotropis distincta*, and *Rhachotropis* sp A.

The first of these was a fairly complete sheet constructed in 2008 to document *Eusiroides* sp A as different from *Eusiroides monoculoides*. It provided distinguishing characters, character differences from other taxa of similar appearance, commentary, and illustrations taken from J. L. Barnard (1964). It has recently been revised, and the revised version, which differs only slightly but names the species *Eusiroides* sp A SCAMIT 2015, is currently under review. When the reviews are completed, changes made, and sheet modified, the corrected sheet can be posted and the current sheet removed. When that occurs the file should be renamed *Eusiroides* sp A SCAMIT 2015 (= *E. monoculoides*)

The other three sheets are all preliminary sheets taken from Lisa Haney's notebooks during the recent harvesting of resources by our intern. Her format is distinctive, and is visible in all three sheets, but there is no direct attribution associated with them. The first, *Rhachotropis barnardi* provides a brief characterization, and illustrations of the species gleaned from Bousfield & Hendrycks 1995. It could stand as is, presenting no incorrect information, but Don offered to update it, providing more information and comparison to other *Rhachotropis* species known from the Northeastern Pacific (NEP). Some commentary concerning the origin of the name and the fact that this was originally considered an eyed form of *R. clemens* will also be added. As later examination of specimens unearthed a *R. clemens* in the OCSD voucher collection dated 1981,



when the ID was accurate. It will be changed to reflect the change introduced into nomenclature by the description of the eyed form as *R. barnardi* in 1995.

The *Rhachotropis distincta* sheet was also accurate, presenting illustrations from Bousfield & Hendrycks 1995, and could be retained without offering misinformation. Don will undertake a similar upgrade to that for *R. barnardi* in the near future. Since the content of the current sheet will not be changed, only augmented, there will be no need for retention of the current sheet on the website once the upgrade is available.

The sheet for *Rhachotropis* sp A currently contains only four characters to help distinguish the taxon. No illustrations of the character states are provided. Ron Velarde, who originated the provisional, will upgrade this sheet in the near future, providing for the first time a comprehensive representation of the species and how it differs from others in the region.

In the Other Useful Tools section under Eusiridae are three entries

- Key to the NEP genera of Eusiridae (dbcadien 2006)
- Key to the NEP *Rhachotropis* (dbcadien 2006)
- Key to Pontogenine genera (dbcadien 2006)

The following actions are needed for these entries

The NEP generic key to eusirids is currently inaccurate as it includes genera in the now separated Calliopiidae and Pontogeneidae within the Eusiridae. Since the erection of the Suborder Senticaudata (Lowry & Myers 2013) these two families have been in a different Infraorder (Hadziida) and suborder (Senticaudata), than the family Eusiridae. A modified key to Eusirid genera has been prepared, and is in review (Cadien 2015). Once the review is completed and any modifications implemented, the new key can be uploaded to the website and replace the current entry.

The Key to the NEP *Rhachotropis* has also been modified since the original posting. It is currently in revision, partially based on the proceedings of yesterday's meeting, and will shortly be finalized: It, like the previous key, can be uploaded to replace this older key

The Key to Pontogenine genera needs to be removed from the entries under the Eusiridae. It can be transferred elsewhere, but the entire hierarchy needs to be revamped to reflect the changes instituted by Lowry & Myers (2013). Under the new scheme the Pontogeneiidae, under which the key should be listed, would fall within the superfamily Calliopioidea within the Infraorder Hadziida of the suborder Senticaudata.

Once the review is completed and the document finalized, an additional tool can be added to the toolbox under the Superfamily Eusiroidea. The document is Amphipoda of the Northeast Pacific (Equator to Aleutians, intertidal to abyss): Eusiroidea – a review by dbcadien 2015.

While it was a bit outside our topic, we visited and evaluated the Family Bateidae in the toolbox. This contains but a single resource, listed as Other Useful Tools: Family Bateidae.pdf, which was also produced by Don in 2006 (dbcadien 2006) although that is not indicated on the page. This has also been updated during the process of production of the above document, and is currently in review. The present listing is mostly correct, although it omits a species now reported to occur in



the Panamic as well as the Tropical West Atlantic, *Batea catharinensis* (Garcia-Madrigal 2007). The revised finalized treatment of Bateidae can be substituted for the current one when uploaded to the website.

Following completion of consideration of the tool-box entries we began to consider the genus *Rhachotropis*. Material was provided by most participants, and representatives of *Rhachotropis* sp HYP1, *Rhachotropis* sp OC2, *Rhachotropis* sp A, *Rhachotropis* sp SD1, and several described species were available for examination. Several other taxa from more distant collections (off Oregon) were also available to broaden the experience of the taxonomists present. We saved those for the end.

Ron had printed several of his worksheets concerning the crest/tooth pattern of the various species, which detailed the presence/absence of dorsal and dorsolateral crests and posterior cusps or teeth on pereonite 6 and 7, pleonites 1-3, and the urosome. His table also contained a few other comments, particularly concerning the size and shape of the ornament on urosomite 1. We considered adding additional information of eyes, telson configuration, and epimeron 2 and 3 shape to this base. He is updating and recasting this tabular presentation slightly, and should have it ready for distribution with the newsletter.

Ron Velarde did a magnificent job manning the scope and juggling the varied specimens requiring review. He first examined the two specimens of *Rhachotropis* sp Hyp1 that were available. No others had been found in the voucher collection at the Hyperion Lab, and Tony Phillips surmised that Jim Rony still had them, and was planning on producing something on the species. He also recalled early on that there had been debate as to whether or not Hyp1 was the same as sp A. Although both of the vouchers were small, they answered the question. The two are the same taxon. Since Ron created *Rhachotropis* sp A in 1985 it considerably predates *Rhachotropis* sp Hyp 1, which was first recorded in 2001. He also examined vouchers of *Rhachotropis* sp A from Hyperion and found them to be correct. The voucher of *R. clemens* in their collection proved to be *R. barnardi*, although when the voucher was created it had been correctly recorded as *R. clemens*. No voucher specimens of *Rhachotropis* sp OC1 were available, and it looked like either the specimens had been lost, or Dean Pasko had reconsidered the taxon previously. Vouchers of *Rhachotropis* sp OC2 were examined, and found to be *R. barnardi*. A voucher of *R. distincta* in the OCS D collection was verified. Ron also reexamined his *Rhachotropis* sp SD1 vouchers and found that they had been accurately represented in the tabular comparison table, and remained different from other local species based on their crest/tooth formula.

Later in the afternoon Ron examined the *Rhachotropis luculenta* vouchers from the LACSD collection, and found them to be his *Rhachotropis* sp A. Since LACSD has not reported *Rhachotropis* sp A (not really knowing what it was), and no other agency reports *R. luculenta*, a mystery was solved. The entry for *R. luculenta* as occurring in the SCB and being on the SCAMIT Ed 9 list will be changed to reflect this correction. Ron then demonstrated specimens of *Rhachotropis* sp CS2 from 1372m depth off Oregon, as well as specimens of *R. clemens*, *R. distincta*, and *R. calceola* from the same area. He also later put specimens of *Eusirus columbianus* out for examination, and commented on a currently unidentified *Eusirus* occurring off San Diego, which greatly resembles *E. columbianus*. This species frequents shallow water, unlike its congener from the north, and has very characteristic surface microstructure according to Ron. Although most of us do not see members of the Bateidae because of their shallow algal habitats, we eminded the group to be on the lookout for them in the regional monitoring harbor/bay samples.



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Imaged species indicated in **red** font

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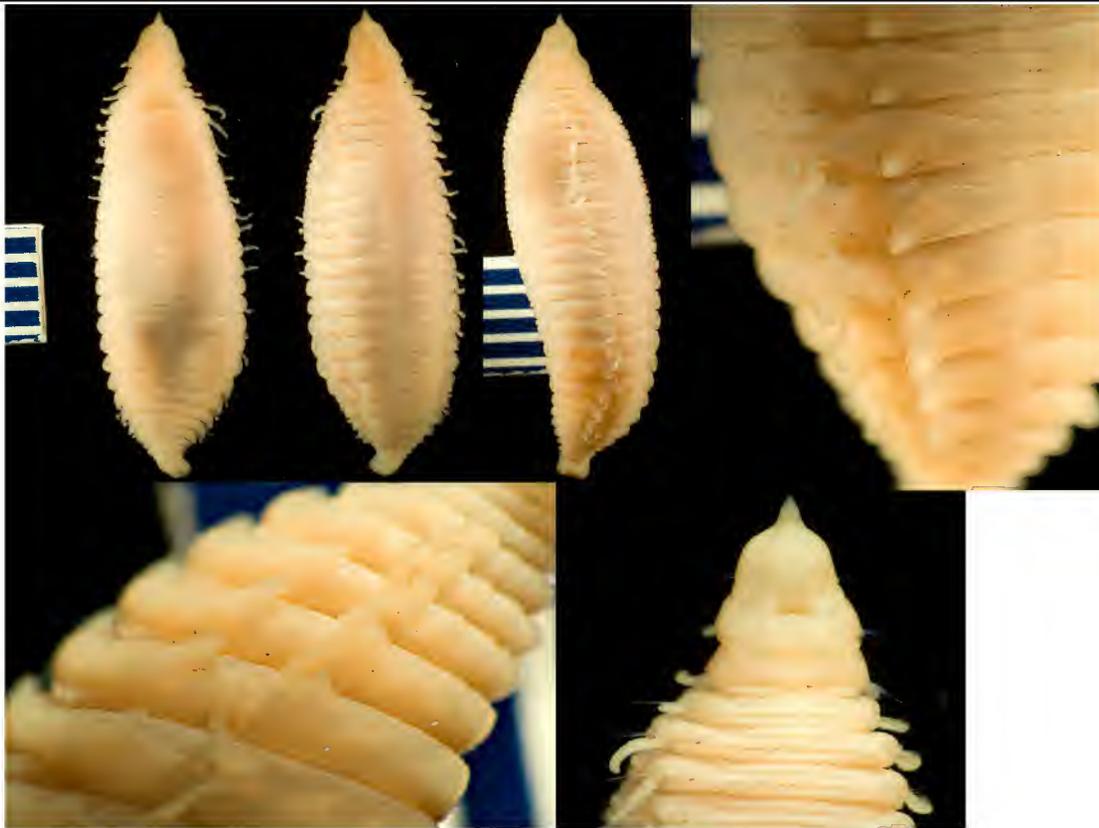
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March/April, 2015

SCAMIT Newsletter

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Travesia brevis Moore 1923. Orange County Sanitation District, Station 31, 7-Jul-2011, 45m.
 Photos by K. Barwick.

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

Publication Date: 15 January 2016

16 MARCH 16 2015, TAXONOMIC TOOLBOX - POLYCHAETA, NHMLAC

Attendees: Erin Oderlin, Greg Lyon (CLA-EMD); Ernest Ruckman, Kelvin Barwick (OCSD); Bill Furlong, Larry Lovell, Brent Haggin (LACSD); Ron Velarde, Kathy Langan, Ricardo Martinez-Lara, Veronica Rodriguez-Villanueva (CSD); Tony Phillips, (DCE); Leslie Harris (NHMLAC).

President Larry Lovell opened the meeting with business news. Los Angeles County has begun the Bight' 13 Re-IDs and plans to finish by the end of April. We hope to schedule the reconciliation meetings in May and June.

UPCOMING MEETINGS

Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.

We discussed what we should do with the original SCAMIT voucher specimens from the first years of Round Robin exchange. Leslie brought them out and we topped them off with ethanol.

Kelvin Barwick gave a presentation on his trip to Oregon where he collected Rick Rowe's polychaete collection as well as his notebooks. His voucher collection is now housed at the City of San Diego's Marine Biology Lab where Rick worked for many years and collected nearly all the specimens. The City's marine biologists have pledged to make all of the material available for examination and loan. In addition a great number of electronic files relating to Rick's professional archives were shared with all present. They included:

1. Access database for the voucher collection
2. The most relevant of Rick's electronic files, images and voucher sheets, copied from many CD-Rs
3. A scanned copy of Polychaete Species List for the Southern California Bight which Rick compiled from hundreds of handwritten notes taken in preparation of the publication of the Polychaete chapter of Straughan and Klink, 1980
4. Straughan Voucher Sheets (various authors) from the King Harbor project circa 1980

Anyone who would like any of the above material or has further questions about Rick Rowe's professional archives can contact Kelvin (kbarwick@ocsd.com).

There was a discussion regarding a possible donation of approximately 10,000 reprints by Don Cadien to SCAMIT. This is a very valuable collection, and it was agreed that individuals or entities that would like to purchase these reprints should make an appropriate donation of an unspecified amount. This may be run like the sale of Dr. Reish's reprint collection.

We then began the main task for the day, a review of files in the Taxonomic Tool Box and an update of names/hierarchical placement where necessary for several families of sedentariate polychaete families.

Opheliidae: Veronica has a nice image of *Ophelia pallida* to add to the Toolbox. Tony has an image of *Ophelina* sp A SCAMIT which was updated in 2015. It is believed that Rick's *Ophelina* sp SD2 may be a synonym of *O. pallida*. The genus *Travisia* was moved into Scalibregmatidae.

Pectinariidae: Larry has seen *Pectinaria granulata* from shallow stations at Pt. Fermin. The tips of the paleae are re-curved unlike *P. californiensis*. The City of San Diego also reports *P.*



granulata from shallow stations. Leslie commented that *Cistenides* is a valid genus, which includes *Cistenides brevicoma* (Johnson 1901). She suggested changing *Pectinaria granulata* to *Cistenides granulata*. WORMs lists it as *Cistenides* so SCAMIT will need to make that change in Ed 11.

Poecilochaetidae: Cheryl Brantley described *Poecilochaetus martini* in 2009 (Brantley 2009), supplanting *Poecilochaetus* sp A. *P. martini* has parapodial cirri that are smaller than the branchiae. In addition, the dorsal triangular brown chitinous structure on setiger 9, originally described for *P. johnsoni*, is often difficult to see and sometimes not fully developed. We discussed the importance of listing synonyms from the historical Tool Box into the current Tool Box for this group; most items in the historical Tool Box are already present in the current Tool Box. We reviewed the *Poecilochaetus* table at the bottom of the *P. martini* voucher sheet (listed as *Poecilochaetus martini* as P. sp A.pdf). Ron commented that Martin 1977 and *Poecilochaetus* sp SD1 Rowe should be included as synonyms: presently Rowe is missing from the table and list of references. There are some nice images of the species in the Tool Box.

Trochochaetidae: Images of *Trochochaeta multisetosa* were taken by Kelvin and will be posted in the Tool Box.

Sternaspidae: Kelvin also has images of *Sternaspis affinis* to add to the Tool Box. Veronica found some new sternaspids at a couple of deep Bight 13 stations; *S. cf princeps* from 533m, *S. williamsae* (very small specimen), and *Caulleryaspis nuda* from 942m. She has images of all three species. Sergio Salazar-Vallejo has reviewed the specimens and agreed with her identifications.

Scalibregmatidae: Larry produced a table for *Travisia* in 2012. The two most important characters are the parapodial lobes and placement of nephridial pores. Both are highlighted in the table. Larry will post this table and a key in the Tool Box. It was suggested that Scalibregmatidae sp SD1 should be synonymized with Aberrantidae sp SD1.

Ctenodrilidae: There is a voucher sheet of *Raricirrus maculatus* currently in the Tool Box.

Longosomatidae: There is a voucher sheet and illustration for *Heterospio catalinensis* in the Tool Box. *Longosoma catalinensis* is a junior synonym.

Chaetopteridae: There is a key by Pasko and Velarde, 1993 that remains valid; but the 1992 version should be deleted.

Apistobranchidae: The Tool Box contains a copy of the page from Hartman's Atlas for *Apistobranchus ornatus*.

Sabellariidae: Leslie produced the voucher sheet for *Sabellaria gracilis* and "Notes on the Variation of the Outer Paleae in *S. cementarium*" (now *Neosabellaria cementarium*). Kelvin has images of setal types. There was a discussion about *Idanthyrus* sp and *Mariansabellaria harrisae* which are both listed in Ed. 9.

13 APRIL 2015, TAXONOMIC TOOLBOX - CAPRELLOIDEA, SCCWRP

Attendees: Craig Campbell, Erin Oderlin, Greg Lyon (CLA-EMD); Danny Tang, Ken Sakamoto (OCSO); Don Cadien, Larry Lovell (LACS); Ron Velarde, Tim Stebbins, Katie Beauchamp (CSD); Tony Phillips, Dean Pasko (DCE).

Business: Erin Oderlin of CLA-EMD has been elected Treasurer and will be replacing Laura who "retired" to a position with less (no) taxonomic responsibilities at her place of work. Laura will be working to help Erin transition into new role. Larry, Dean, and Leslie were re-elected.



May and June have been set aside to accommodate with Bight' 13 QA Resolution meetings. LACSD has finished most of the re-identification process. Dates for meetings with respective laboratories will be scheduled fairly soon, hopefully in late May and June, depending on everyone's schedules. These meetings will be followed by the Bight' 13 synoptic data review, likely in August.

Ron also had information about a couple of meetings. SCAITE – the fishy sister of SCAMIT - is meeting Monday, April 20th at Cabrillo Marine Aquarium; WSN will be meeting on November 5–8 in Sacramento, and the National Water Monitoring Conference, will be meeting in May 2016.

Larry announced Kristian Fauchald's passing and indicated that there will be several symposia celebrating his life and work.

Don announced the passing of Robert Bamber, a significant worker in Pycnogonids and other arthropod groups. An announcement about his work, career and passing can be found on WoRMS website.

Don also announced that he had updated his review of the Lysianassoidea amphipods, a light reading, 8.7MB tome reaching 98 pages.

Caprellidae Review

Don began the taxonomic portion of the meeting with an introduction to the Caprellid material in the taxonomic toolbox. There is a lot of material on the site that came from Lisa Haney. Don planned on us reviewing these for utility and possible updates. He also briefly discussed how SCAMIT reluctantly came to incorporate the Meyers and Lowry revision of the Caprelloidea (Meyers and Lowry 2003).

We started with the Caprellidae: Caprellinae. We first visited the *Aciconula acanthosoma* identification sheet, showing distinctive spination of the body and slender 5th pereopod. This simple identification sheet includes name, minus the authority (T. Chess, 1989), several diagnostic characters, and figures. The habitat for this species is shallow water, less than 10m, commonly on hydroids. Tony has seen it in the Channel Islands. It's a small genus, with a handful of species worldwide. Only *A. acanthosoma* is reported in SCB, with a range extending southward to Mexico.

Don asked the general question of whether these identification sheets were “good enough” to leave on the SCAMIT Toolbox or should they be revised into completed SCAMIT Voucher Sheet format. After some discussion, Dean and others suggested that these simple sheets were fine as they are, and that anyone using the toolbox should be responsible for digging deeper into the literature on their own. Don then suggested that the authority and a contribution to the source (i.e., Lisa Haney) should be added, and volunteered to take on that task for these sheets.

We brought up the Benedict 1978 Preliminary Key to the Caprellidae. Don suggested that this key be posted to the website, with some updates. In the course of this discussion, Don also admonished everyone that we will need to be paying closer attention to the abdomen of the Caprellidae since it contains a large amount of taxonomic information. Dean volunteered to re-type Bruce's key and update to current taxonomic status; although discussion later in the meeting relieved Dean of this responsibility since Don thought there were so many new taxa to consider and name changes to incorporate, that the end result might not be worth the effort.

After this slow start, we jumped into scanning and discussing each sheet. A synopsis follows.

Caprella californica identification sheet was also OK, but additional information needs to be added to distinguish it from *C. scauroides*. Unfortunately, they are all variable species and



difficult to distinguish. *C. scaura* is an invasive in Europe. Everyone was cautioned to review Takeuchi and Oyamada (2012), which provided a review of the *C. californica/scauroides* problem. We decided to create a sheet of *C. scauroides* Mayer 1903, using this recent publication as a guide.

Caprella equilibra identification is presented, but its presence in SCB has been questioned. Unlikely distributions are common, and should be expected, with caprellids as a result of anthropomorphic introductions. Consequently, one should not be necessarily limit his/her identification(s) based solely on reported ranges and zoogeography.

Having said that, we looked at *Caprella gracilior*, primarily a more northern species uncommon in SCB. Tony has found it in samples from Goleta, however. It is similar to *C. simia*, which is found in bays and estuaries in SCB.

Caprella kennerlyi is only from Northern California, although Tony indicated that he has also collected it in Goleta samples. Ron interjected that CSD has one or more records of it. There is a question as to whether it should be kept in *Metacaprella*, despite the discrediting of the genus *Metacaprella* due to the erection of the genus on several variable characters. These arguments are made in Guerro-Garcia & Ros (2012), and Mori (1999). SCAMIT adopts the placement within *Caprella* (See Watling and Carlton 2007).

Caprella mendax is probably the most common caprellid in monitoring programs in SCB, and the existing identification sheet is sufficient.

Caprella natalensis is a widely distributed species, but caution should used when recording it. Any identification of *C. natalensis* should be compared to *C. drepanicher*. *C. drepanicher* extends from Russia to southern California, and one might consider referencing Meyer (1903) for specific information. Don reminded everyone that the Meyer publications, including the 1903 publication, are available in the Bio-Heritage Library.

Caprella penantis has very distinctive gills that are large and round, nearly as large as the pereonite to which they are attached.

Caprella sp E is a species from Bruce Benedict that was never illustrated. This sheet is not very helpful as it includes just the characters listed in Benedict (1978) without a note about where he collected the species. We know it came from the BLM records, and someone may be able to get distributional information from BLM reports. Don will contact Ananda Ranasinghe (retired from SCCWRP) to see if he has that information.

Caprella verrucosa is a very distinctive animal due to the pattern of rounded tubercles on the body.

Don mentioned two invasive species from the NW Pacific, *Caprella mutica* and *C. simia* that are not included in the toolbox. Everyone should be aware of these two species which occur in bays and estuaries. Both are included in Watling (1995), and in Light's manual (Watling and Carlton, 2007). These are also well illustrated in Arimoto (1976), and California Academy of Sciences site has nice photos of *C. mutica*.

Deutella californica is a fairly common shallow, fouling species, not typically found in soft bottoms. It has light tan speckles all over the body, while *D. venenosa* has large dark spots.

Deutella venenosa is less common than its congener. It is similar to *D. californica* with the additional dorsal projections on the anterior pereonites. Guerro-Garcia (2003) reviewed the genus and re-described the species based upon a large number of specimens from Chile. Unfortunately, his re-description takes the originally bi-articulate pereopod 3-4 from Meyer and lists it as being



uni-articulate, creating some confusion of the correct character state. The species has been reported from Chile and SCB, but nowhere in between, raising doubt that the taxa from the two regions are the same. Pereonites 2, 3, and 4 are produced into a lateral shelf. Don had created a nice voucher sheet, accompanied by photos taken by Larry, but had misplaced it. Ron re-discovered the sheet and Don volunteered to post it to the Toolbox.

Mayerella acanthopoda is another interesting beast found in soft bottoms, primarily from bays. Neither Don nor Ron have found it in bays, although Tony has found *M. acanthopoda* in Marina Del Rey, San Gabriel River, Huntington Harbor, and Upper Newport Bay, and Dean has found it in various bay samples from the Regional Harbor Monitoring Program (RHMP). It looks a lot like *M. banksia* except for the difference of the pereopod 5, in that the second and third segments are fused, producing a bi-articulate appendage where the terminal article is much longer than the basal article. Tony added that he uses Benedict (1977) paper describing *M. acanthopoda* for characters to distinguish the taxa. He relies on the coarsely serrate gnathopod 1 dactylus inner margin relative to the finely serrate *M. banksia*, while Dean relies on the structure of pereopod 5.

Mayerella banksia is a soft-bottom taxon from offshore habitats, and only rarely encountered from embayment samples [perhaps representing mis-identified animal]. It differs from *M. acanthopoda* in the structure of pereopod 5, which is 3-articulate, with the terminal article subequal to or only slightly longer than basal article. A review of Laubitz (1970), which includes the description of *M. banksia*, indicates that the gnathopod 1 dactylus is minutely serrate.

Paracaprella sp SD1 is represented by a voucher sheet created by Dean Pasko. It is similar to *P. barnardi*, but differs in the structure of the abdomen with claw-like structures on the abdominal lobes/appendages. In *P. barnardi*, the “serrations” are smaller and the male gnathopod 2 palm is represented by an evenly arching concavity, without a secondary invagination as was found in *Paracaprella* sp SD1. Don described his draft key to the *Paracaprella* that uses the presence/absence of the mandibular palp represented by a stiff seta vs. no representation, the structure of male gnathopod 2, and the serrations/claws present on the male abdominal appendage. We discovered two copies of the voucher sheet in the Toolbox, so one needs to be deleted.

Tritella laevis and *T. pilimana* identification sheets include the figures from Laubitz (1970). The two species are quite easily distinguished by the length and density of the swimming setae on antenna 2, which are more dense and long in *T. pilimana*. Don brought up the issue of whether the presence/absence of body spines could be used to distinguish the two, but both species have these spines in adults and therefore should not be used as the distinguishing character.

A third representative of the genus is present in deep waters, *T. tenuissima*. It is interesting and uniquely formed with good illustrations available in Watling (1995).

Within the subfamily Phtisicinae, we have the provisional species *Hemiproto* sp A. We need to substitute Lisa’s identification sheet with Don’s voucher sheet since it makes the distinction between *Hemiproto wigelyi* and *Hemiproto* sp A. Some of the more distinguishing differences include the absence of lateral spines on gnathopod 1 propodus that are present in *H. wigelyi*, well as the more elongate gills of *Hemiproto* sp A.

Perotripus brevis is a small species. The identification sheet is good for this shallow water, hard substrate associated species. Tony has seen them on bryozoan communities.

Phitistica marina was found in Oceanside Harbor, but there is no voucher sheet listed for this species and the specimens were temporarily misplaced. It was subsequently also identified in Bight’ 13 samples which substantiates its presence in the SCB. [These records have since been reviewed and verified, although the original identifications was mistakenly recorded as *Hemiproto* sp A.]



Having completed the Caprellidae, we moved on to the Dulichiidae and *Dyopedus monocanthus*. As obligate parasites of cetaceans, we don't expect to get them in our monitoring stations. The genus includes four species from the NEP, which are all strongly sexually dimorphic, and have the distinguishing character of being without a uropod 3. Laubitz (1977) revised this group, a revision that remains intact to date. Don described the ecology of this group of taxa that included a wonderful discussion of their creation of fecal tubes upon which they sit and fish for food; but often at the expense of getting eaten by quick moving fish.

Then came the Podoceridae, which in the tool-box includes *Podocerus* and *Dulichia* – although *Dulichia* is actually a member of the Dulichiidae. John Chapman's draft key to the group from Light's Manual is included in the Toolbox. John's key includes both the dulichiids and podocerids together since they are very similar in general morphology, differing primarily by the presence of spinning glands near the dactyls of the pereopods in *Dulichia* and their absence in the podocerids.

We discussed *Podocerus* species. *P. brasiliensis* does not have dorsal carina, while *P. cristatus* is dorsally carinate. *P. fulanus*, an estuarine endemic species confined largely to bays and estuaries, is also dorsally carinate, but with fewer carinae, and a large distally placed palmar process on the sparsely setose male gnathopod 2. In contrast, *P. cristatus* is found outside of confined waters and the strongly setose male gnathopod 2 palm possesses two palmar processes.

After lunch we started to review specimens. The first specimen was Ron's specimen from a 12m San Diego regional station (8332) off Imperial Beach. He reported it as *Caprella scauroides* because of the distally produced gnathopod 2 propodus. However, upon review, several attendees talked about the anteriorly directed head spine, which, in their opinion would put it closer to *C. californica*. However, Ron's specimen was large and appeared almost exactly like that illustrated in Takeuchi and Oyamada (2012). Unfortunately, both species have strong distal projections in their terminal males (compare Figure 1 to Figure 6). Comparing figures of the two species and the specimen at hand, we found a mixture of character states, and walked away leaning towards a confirmation of *C. scauroides* over *C. californica*, based on the structure of the gnathopod 2 dactyl and propodus. Ron suggested, and others supported, the use of *C. californica* CMLPX in the future. We need to review specimens of *C. scauroides* that Tony mentioned having earlier in the meeting.

Ron then brought out three specimens of *Urilops* sp B new genus new species of Benedict.(1977) However, one would need to back off to Aeginellidae sp B, since Bruce never published anything on this particular taxon. Unfortunately, that family is no longer valid, so Ron recorded it as Caprellidae sp B. These specimens were collected from a 378m deep water CSD regional station (8336) off the Coronado Bank, but had been seen previously in Bight' 13 samples. The specimens matched Bruce's illustrations very closely in all aspects, except the mouthparts, which had not yet been dissected or reviewed.

Dean brought a specimen of "Phtisicinae FID" from a 2006 RHMP survey. However it turned out to be a specimen of *Hemiproto* sp A, and he was at a loss as to why he questioned the identification in the first place. [Subsequent review of the specimen at Dean's home office showed why it was questioned: It turned out to be *Phtisica marina*. See above discussion regarding *Hemiproto* and *Phtisica*.]

Dean then brought out three specimens (1 male, 2 female) of *Caprella* sp that had been given to him by Tony. The specimens came from the 2011 SPAWAR survey, Station S-12, apparently attached to a piece of rope found at the station. They had 2-segmented pereopods 3 and 4, fully developed 6-segmented pereopod 5, with a reduced mandibular palp, and a dorsally smooth body, with lateral anteriorly directed, blunt processes, antero-distally on pereonite 3, and no swimming setae present. The male gnathopod 2 was invaginate, with an anvil-shaped posterior process/tooth



and large triangular proximal tooth near the dactyl. Pereopod 5 was fully developed with very elongate, thin articles, and an elongate dactyl. The palm of pereopod 7 was serrate, as illustrated for *Urilops* sp B Benedict. Unfortunately, this particular suite of characters would not allow it to be placed into any genus. Using the key in McCain 1968, we arrived at *Deutella mayeri* or *Paracaprella tenuis*. We attempted the key in Guerro-Garcia (2003; Revision of Genus *Deutella*) without resolution. Dean decided to take the specimen home to review it more closely.

The few of us remaining looked at one last set of specimens from CSD's South Bay Ocean Outfall program (Station I-29, 5-Jan-2011; 39m). The specimens were originally recorded as *C. penantis* because of the large, oval gills and anteriorly directed head spine; but upon additional review, we found several inconsistencies with *C. penantis*. Most prominent among these was the shape and structure of male gnathopod 2, which in Ron's specimens were very weakly setose, without any setae on the dorsal margin, and only sparse, thin setae along the palm. In addition, the proximal palmar tooth was set medially along the palm as opposed to proximally near the junction with article 5, allowing the dactyl to close against this tooth rather than against the mid-palm (as shown for *C. penantis*). Lastly, the head spine was acute, upturned (approximately 120 degree angle) and slightly curved, versus anteriorly pointing and blunt. Don examined Laubitz (1970) and found that it looked a little like *C. incisa*. However, when keyed through several different keys, we ended at *C. penantis* each time.

27 APRIL 2015, SPECIAL MEETING - POLYCHAETA, NHMLAC

Attendees: Kelvin Barwick (OCSD); Bill Furlong, Brent Haggin, Larry Lovell (LACSD); Ron Velarde, Ricardo Martinez-Lara, Veronica Rodriguez-Villanueva (CSD); Leslie Harris (NHMLAC); Tulio F. Villalobos Guerrero, Isabel Cristina Molina Acevedo (ESCOSur); Tony Phillips (DCE).

For the April 27 special meeting, two Mexican PhD candidates visiting Leslie at the Natural History Museum of Los Angeles County treated those in attendance to presentations describing their recent research into polychaete taxonomy. The authors provided handouts to those in attendance, but asked that SCAMIT not publish these to the website since they represent only a portion of their ongoing research and/or are awaiting publication.

Isabel Cristina Molina Acevedo presented, "The complex *Marphysa sanguinea* in the Grand Caribbean" and Tulio F. Villalobos Guerrero presented "Revision of *Alitta succinea* (Leuckart, 1847) (Polychaeta: Nereididae) in America". The gist of both of their presentations was that these taxa formerly regarded as cosmopolitan are, in fact, multiple separate species. Both authors discussed the biogeographic distribution and the historical literature that lead to the present confusion along with the reasons for their proposed splitting of the taxa in question. The presentations included very detailed morphological examinations and in one case DNA work. We look forward to seeing these findings published.

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