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-There has since been some question as to whether the pictured *Antalis pretiosa* is actually that species.

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

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22 JANUARY 2018, PRE-B'18 ANTHOZOA REVIEW, OCSO, LEAD M. LILLY

Attendance: An attendance sheet could not be found.

Kelvin opened the meeting at 9:30 a.m. with a listing of upcoming SCAMIT meetings. February 5th will be on Scaphopoda with Katy Estes-Smargiassi and Austin Hendy, at the NHMLAC Invertebrate Paleo warehouse in Gardena. March 21st and 22nd is the Ascidian workshop with Gretchen Lambert at the NHMLAC. April 16th will be Phoxocephalids led by Dean Pasko at CSD. Other meetings are on the SCAMIT website.

<p>UPCOMING MEETINGS</p> <p>Visit the SCAMIT website at: www.scamit.org for the latest upcoming meetings announcements.</p>
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In addition, SCUM's annual meeting will be January 27th at SIO and the WSM-AMS meeting will be in Honolulu, Hawaii June 19-22, 2018.

Introductions were made around the room to accommodate some new faces including San Diego's newest marine biologist, Zoë Scott.

Some new pieces of literature were highlighted including Bouchet and Rocroi's major revision of the Gastropoda and Monoplacophora (Bouchet, P., et al. 2017), as well as Clarke's review of the Deep Sea Corals and Sponges of the West Coast (Clarke ME, et al 2017).

Tony Phillips then gave an update on his work with Pat LaFollette on the Pyramidellidae. Many subgenera are being raised to generic status but many species are also being synonymized. There is still a long way to go to complete Jim McClean's work. Tony is also working on other *Turbonilla* provisionals and giving many of them names as well as taking a stab at the *Odostomia*.

Questions arose regarding the use of Ed. 12 vs Ed. 11 for Bight'18. The Species List Review Committee is meeting February 28th and will address many of these issues.

With the business meeting complete it was time for the taxonomic portion of the meeting to begin. Megan had created a presentation titled, "*B'18 Anthozoa, are we ready?*" It was a short presentation as the point of the meeting was not training but rather brainstorming, and a check to make sure all agencies were using the same approach with regards to anthozoa. The presentation is available on the SCAMIT website. She started by asking those present about their methodologies with regards to Edwardsiids. She acknowledged all the hard work Tony had done after the passing of John Ljubenkov. Tony had examined John's vouchers and created a presentation which helped us start on the path of taxonomic consistency. Tony's original presentation is on the SCAMIT website in the Tools section. Tony and Dean Pasko mentioned that DCE has additional training materials that could be made available. Also, SCAMIT NL 32(5) has Edwardsiidae descriptions and results, from a previous workshop, but this may not be the final word. Megan showed a comparison slide of two Edwardsiids that appeared to be different species based on the appearance of the periderm and the nemathybomes. However, when she examined the basotrichs, both turned out to be *Scolanthus triangulus*. Tony then mentioned that one good external character was the presence/absence of nemathybomes on the anal ring. An *Edwardsia* species such as *Edwardsia olguini* will have none while *Scolanthus* will have them present on the anal ring (although they may be few and quite small). It was also pointed out that juvenile animals may not have reliable nematocyst measurements. Tony and Dean were reluctant to give a size class where they would automatically back off to Family if the posterior was damaged. Dean



relies less on the absolute measure of the basotrichs than on the sizes relative to each other (i.e., only one size present vs. more than one size, and if so, is the smaller size class $\frac{1}{2}$ or $\frac{2}{3}$ the size of the larger). There was a lively discussion but no resolution on this matter, other than if you have an animal with a damaged posterior end and are unsure of basotrich size classes, it is best to leave the ID at Edwardsiidae.

The next slide showed an Edwardsiidae FID that Megan and Wendy had both seen during CSD sampling. Externally the specimens looked similar to *E. californica*. However, examination of the basotrichs revealed only one size class (approximately 40-50 μm with the majority being in the 42-45 μm), whereas *E. californica* is described as having 2 size classes (46-69 μm and 60-80 μm). Dean brought up the issue of smaller basotrichs also being thinner and perhaps that can be part of the problem of finding 2 size classes. Further, he brought up the issue of forcing a name onto an animal and suggested we be more open to the idea of leaving an ID at Family. Tony felt the FID animal was very much NOT an *E. californica* due to the differences in organization of nemathobomes. He brought up the idea of rarely seen/poorly known southern species showing up in our samples. We pulled up images of *S. scamiti* to compare with the FID but are still not convinced. See the attached Edwardsiidae FID sheet at the end of the newsletter. We all decided to go ahead and “do our best” with the edwardsiids.

Next we moved on to Ceriantharids. Megan wondered if any of the other agencies ID any Ceriantharia other than *Arachnanthus* sp A and *Pachycerianthus* sp. Most people present said no. At this point, Tony said he was on board with leaving everything at Ceriantharia except for *Arachnanthus* and *Pachycerianthus*. He has sent specimens to a researcher in Brazil but the response was simply that we have multiple species and more work needs to be done. Besides *Arachnanthus* sp A, no other provisionals should be used (in the past, some people have tried to ID Ljubenkov’s *Ceriantharia* sp C). *Pachycerianthus* has a VERY muscular pharynx and its external color is chocolate below a light band. The SCAMIT Species List has *P. fimbriatus* but it is difficult to distinguish from other species of *Pachycerianthus* so IDs should be left at *Pachycerianthus* sp. We also agreed to only ID an animal as *Arachnanthus* if the acontoids are present, even though some species of *Arachnanthus* have none. Tony also stated that in *Arachnanthus* the paired mesenteries do not extend all the way to the end, but stop just a bit above. Whereas there are other genera that have a single pair of mesenteries that do extend all the way to the base.

The next animal to test our consistency in approach was an Actiniaria FID that Megan found in a 17m sample. This animal was used as a “what would you do?” demonstration. Most people agreed they would probably take pictures and send them out for additional opinions. We ran the animal (just using the photo at this point) through Tony and Dean’s key, and arrived at *Harenaactis*. The images of *Harenaactis* in Tony’s B’13 presentation are nothing like the FID animal but that could be due to their size differences. Discussion ensued regarding developmental differences in tentacles and mesenteries and that both are added with growth. Use extra caution when trying to identify juveniles. We were still hesitant to name the FID Actiniaria specimen.

There was a brief side discussion about Megan’s *Edwardsia* sp SD 1. She was asked to distribute her ID sheet which shows images of it alongside *E. juliae* and *E. olguini* for comparative purposes. It took a while but she has since sent the sheet to SCAMIT webmaster Dean Pentcheff and it is posted in the Taxonomic Tools.



With that we moved away from anemones and on to sea pen issues. The next slide discussed *Thesea* and the issues that arose during B'13 (see SCAMIT NL 32(4)). We may end up synonymizing *Thesea* sp A and *Thesea* sp B (although LACSD will look to see if they have the mythical bright white pencil form that Don seems to remember) but the problem of Wendy's *Thesea* sp SD1 remains. For B'18, most things will be *Thesea* sp B unless it is distinctive (save those for Beth Horvath if possible). Also see Tony Phillips B'13 Cnidaria presentation (SCAMIT/Tools) for a discussion of *Heterogorgia* vs. *Thesea*.

Another lingering FID was Dean Pasko's sea pen from station B'13 9284, 203m, that he didn't feel comfortable calling either *Virgularia* or *Stylatula*. No further resolution was achieved at the meeting. [Subsequent to the meeting, the specimen was sent to Gary Williams at CAS who indicated that the specimens (2) were too juvenile to identify with confidence and recommended *Virgularia* sp as the appropriate level of identification. In addition he suggested that several of the specimens that Dean sent were "fragmented, too small, or too immature for positive species identification...", which suggests that we should be cautious in our specific identifications as noted above. Finally, he indicated that the distinction between *Stylatula gracilis* and *S. elongata* can be pretty shaky and difficult to determine, with *S. gracilis* generally considered more southern and *S. elongata* from central California to the north, but it's possible that they're synonymous.]

The specimen portion of the presentation was complete and we moved in to a review of anthozoa conventions that Megan wanted to be sure were standardized across agencies. The first convention to be discussed was one of counting; Megan said her protocol was that specimens are only counted if tentacles are present. Much discussion ensued and it was revealed that across labs there is variation in approach. One big exception is Limnactiniidae sp A which doesn't have tentacles to begin with (obviously CSD counts this species despite the "no tentacles" counting rule). Dean urged us to consider counting an animal if the posterior fragment was large enough. However, the final consensus was to stay with the B'13 protocol which specifies the presence of an **oral disk**, rather than tentacles, as qualifying an animal as "countable". Some grey areas remain of course, and judgement calls will be made.

At this point we briefly got sidetracked into the Phoronids as counting conventions needed to be worked out there as well. Tony proposed altering the convention to include counting animals that are missing the anterior end but retain the posterior. Lively discussion ensued with valid points on both sides. But again, it was decided to use the B'13 convention which stipulates a specimen as countable if it has the "anterior end" (has the collar/mesosome). If lophophores are missing, but the collar/mesosome are present, the animal can be identified and counted as Phoronida.

We then went on to discuss literature. Megan covered the literature she used to create the presentation, and emphasized Tony's B'13 Cnidaria presentation as very helpful. Tony mentioned Carlgren 1949 as another giant resource, as well as Hexacorallians of the World (website), and Breedy & Guzman 2015, for all the gorgonians. Tony also encouraged us to use GoogleScholar. Attendees were cautioned that the Daly & Ljubenkov key does have some errors in it. Tony pointed out that the depth conventions in the key are not hard and fast. For example, he has seen *Scolanthus scamiti* as deep as 35m. Megan may have seen *Edwardsia mcmurrichi* shallower than 2000m.

Also it was noted that in Dean Pasko's artificial key, "naked" means having no nemathybomes. G.C. Williams 1995 key to sea pens is also very handy. It contains many good reference illustrations to assist in distinguishing different character states.



In the next year or so we will be meeting to work through our B'18 FIDs. Tony highly encourages us to take lots of pictures, then do a cross section as well as a longitudinal section. Megan pointed out that the average taxonomist will set it aside for FID with the group rather than cut up the specimen on their own.

With the presentation portion of the meeting complete, we moved on to looking at specimens. Tony examined the CSD Actiniaria FID (collected CSD 8645, July 2017 from 17m). He noted 12 primary (complete) and 12 incomplete mesenteries which rules out *Harenactis* which has 24 complete mesenteries. Tony tentatively offered an ID of *Halianthella* juvenile but Megan was doubtful. Tony suggested taking more pictures and then dissecting to look for an actinopharynx and other characters.

JoJo asked to see the “*Metedwardsia*” specimen Megan brought. This is an Edwardsiidae without nemathybomes or nematocysts and is found offshore. It was noted that *Nematostella* also has no nematocysts or nemathybomes but is estuarine.

The meeting then devolved into examination of Ectoprocta.

5 FEBRUARY 2018, SCAPHOPODS, NHMLAC INVERT PALEO COLLECTIONS, HOSTS – AUSTIN HENDY & KATY ESTES-SMARGIASSI

Attendance: Austin Hendy, Katy Estes-Smargiassi, NHMLAC; N. Scott Rugh invert fossil paleontologist; Chase McDonald, LACSD; Wendy Enright, Megan Lilly, CSD; Kelvin Barwick, Mike McCarthy, OCSD; Greg Lyon, CLAEMD.

Kelvin opened the business portion of the day by announcing upcoming SCAMIT meetings which were previously announced but today added the May meeting which will be on the 7th and address mollusk problems - Aplacophora, *Tellina*, *Bittium*, and incorrectly identified FIDs at OCSD and hosted by Kelvin Barwick.

Non SCAMIT meetings: SCUM 2019 will be at Cal Poly Pomona and hosted by Dr. Ángel Valdés, meaning the meeting will be “slug-centric”.

Other business: Kelvin forgot to call for nominations for SCAMIT officers in December. Oops. So... nominations are “now” open. Kelvin was nominated for President and seconded, as was Megan for Secretary. Kelvin provisionally nominated Leslie and Erin for their respective positions, and his nominations were seconded.

Next up was a round of introductions and afterwards, Austin and Katy started their presentation – “*Why are we here?*”

The current NHMLAC Invert Paleo Collections are the largest at the Museum with approximately 7 million specimens. The collections are housed in a 10,000 sq. ft. building separate from the main museum and the space is a convenient option for guests and school tours. They house three collections: stratigraphic, taxonomic, and teaching. They expanded rapidly in the 1980's when the collections of some Los Angeles area southern California universities were acquired. This was achieved by Ed Wilson who saw the writing on the wall that universities were headed to DNA and were going to dump their paleo collections, and so he asked them to donate their collections to the NHMLAC. At first many of the universities said no, but when their collections started taking up wanted space, they came calling. The collections are a public trust, belonging to the County, and Katy and Austin take this idea to heart by keeping them open access as much as possible.



Austin discussed how funding for most large initiatives is usually provided by the NSF. Currently their biggest initiative is a 4 year project to digitize the marine, Eastern Pacific and Cenozoic collections. In doing so, they are dealing with identification issues and taxonomic consistency. The project is a Thematic Collections Network (TCN) called Eastern Pacific Invertebrate Communities of the Cenozoic (EPICC). It is a coordination of 9 museums but they are having SCAMIT-like problems – with 9 different institutions identifying specimens some difficulties have arisen in consistency across the museums/collections. The problem is some colleagues want to just run names through WoRMS but Austin and Katy feel that is not an accurate approach. They see a need to spend time to correct and coordinate identifications and names, which will ultimately make the data more useful. In the long run it is hoped that as the EPICC-TCN coordinates projects between the agencies, it should give better data. They are looking to create a large scale time series data set. To do this, they are currently using a customized Access database. In the future they will be using Axiell-EMu. There was some discussion about a hard copy product, but no plans exist currently as the database is too big. However, some reports can be generated, time stamped, and printed. Additionally they are taking on the task of scanning in old catalog books.

They have two other NSF funded digitization projects in the works – the Cretaceous Seas of California project funded through a Collections in Support of Biological Research grant (CSBR), and a second TCN which is focused on fossil insect collections.

Right now as part of the EPICC project they are working on the Pleistocene California scaphopods, thus the purpose of this meeting. All the scaphopods have been pulled from drawers, sorted by predation scars (drilled vs undrilled), and then re-identified. Many of the IDs were incorrect. They have counted specimens and in total there are over 53k scaphopod specimens; 39k are Pleistocene and most are from California. They are starting over with the Pliocene, and are not finished yet. At this point they gave us a brief Paleontology refresher: The Pleistocene is the last 2.5 million years; The Pliocene goes back 5 million years.

Dentalium neohexagonum is the most abundant species in both the Pliocene and Pleistocene. This species doesn't seem to be as abundant in recent history and historically it seems to have had a wider distribution. During the Pleistocene and Pliocene there were very high densities of scaphopods but one of the difficulties facing Austin and Katy is how to count broken specimens.

Katy then gave a presentation showing the scaphopod species they had identified to date. Members present gave their feedback on the taxonomy of the species as well as suggested other species to keep an eye out for. Issues of identification remain. For now, here are some key characters to look for when examining scaphopod specimens:

- *Antalis pretiosa* has NO sculpture
- *Graptacme semipolita* has strong striations at the apex to about ½ the length of the shell while *Dentalium vallicolens* has striations along the entire length
- *Rhabdus rectius* has NO sculpture and very little curvature
- *Gadila aberrans* is small; no sculpture and a gentle swelling of the shell
- *Gadila tolmiei* has significant swelling about ⅓ of the way down the shell



Other species that Katy has encountered are not matching known California scaphopods and she solicited all SCAMIT members to offer their expertise.

A secondary part of her project is cataloging other information obtained from the shells. For example, predation scars are quite frequent and generally located on the apex side (exposed section). Muricid drill holes don't have a distinct bevel while Naticid drill holes are perfectly round. Other noted distinctions include evidence of epibionts such as Bryozoa, Spirorbids, etc.

At the end of the meeting Katy gave us a tour of the collections. It was fascinating to see so many fossils and, I, for one, learned more about paleontology than I ever thought possible. - MBL

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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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FID Edwardsiidae; Found to date at SBOO station I-23, January 2015, 21m and Regional station 8603, July 2017, 42m; Looks most like *E. californica* due to long, thin body. However, examination of nematocysts is showing only one size class. Size range of nematocysts is approx 40-50 μm with the majority being in the 42-45 μm range. Whereas *E. californica* is described as having 2 size classes of nematocysts (46-69 μm and 60-80 μm) and is also supposedly a shallow bay and estuary species, however in the MMS Atlas a specimen was listed, by Fautin, from 147m and this specimen was later verified by J. Ljubenkov.

This animal is distinctive by the rugose appearance of the mid to posterior end due to the densely packed clusters of nematocysts.

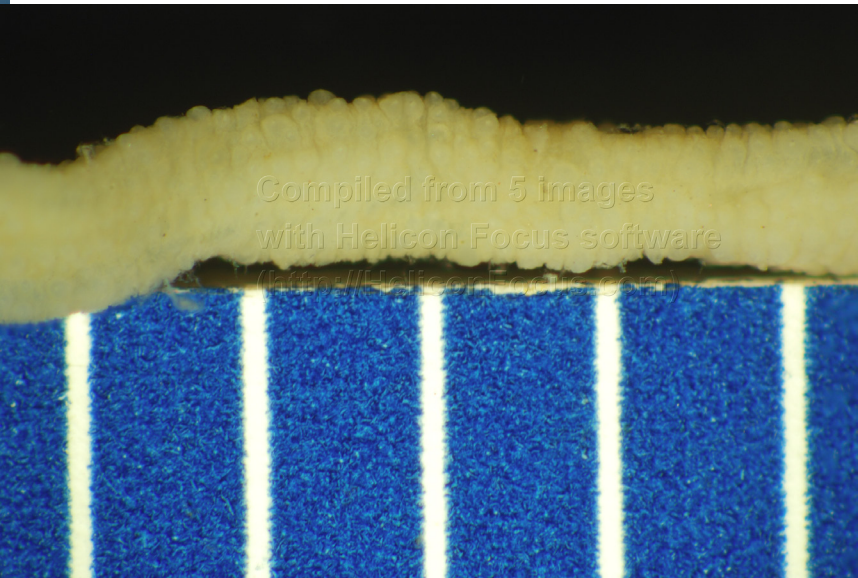
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FID Edwardsiidae from station SBOO I-23, January 2015, 21m
Photos by W. Enright

SBOO I-23, January 2015, 21m
Photo by W. Enright



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