

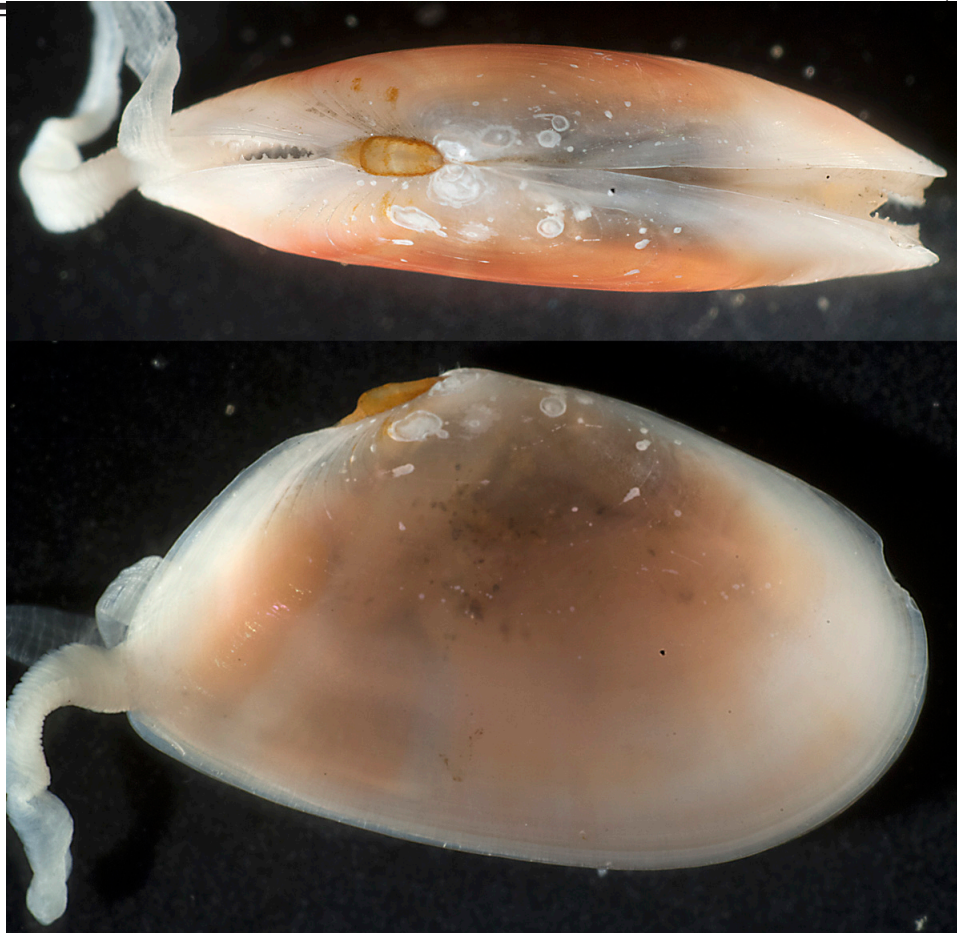
SOUTHERN
CALIFORNIA
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MARINE
INVERTEBRATE
TAXONOMISTS



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SCAMIT Newsletter

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Tellina cadieni; Santa Monica Bay, CLA,EMD Station FB15, 46m, 18 July 2012;
 Image by K. Barwick; Identified by Tony Phillips; Specimen 10 mm

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

24 JANUARY 2012, DIVING AND COLLECTING ADVENTURES WITH ANDY LAMB & TRAWL QA/QC WITH SCAMIT AND SCAITE, CABRILLO MARINE AQUARIUM

There are no minutes from this meeting, but it was reported as enjoyable and informative.

13 FEBRUARY 2012, ISOPODS, CSD

Larry Lovell opened the meeting with the usual SCAMIT business during which he briefly discussed the most recent meeting of the Taxonomic Database Committee. Steve Steinberg and Shelly Moore at SCCWRP are now involved with the project and are revamping the architecture of the database. Additionally SCAMIT has hired an intern to find voucher sheets, keys, ID sheets, etc from taxonomist's personal notebooks not yet posted to the website. The intern will visit the various labs scanning new docs and compiling them for adding to the website's taxonomic tool box.

UPCOMING MEETINGS

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

With business over it was time for Tim Stebbins to take the floor and talk about isopods, which he covered in three separate presentations. Tim's first presentation, *Coastal Marine Isopods of the Southern California Bight*, provided an illustrated guide to the isopods known from Southern California Bight ocean monitoring programs or surveys. Coverage included all species listed in SCAMIT Ed. 6 (with corrections) plus additional species recommended for inclusion in SCAMIT Ed. 7. Included in the presentation was a brief discussion of the higher taxonomy of the Isopoda as proposed by Brandt and Poore (2003), followed in WoRMS, and as adopted by SCAMIT in 2011. This included reassignment of the families within four previous long-standing suborders (i.e., Anthuridea, Epicaridea, Flabellifera, and Gnathiidea) to the new suborders Cymothoidea, Limnoriidea and Sphaeromatidea.

Tim's second presentation was a detailed review of the *California Valviferan Isopods (Crustacea, Isopoda, Valvifera)*. Coverage included 35 species confirmed to occur in California waters, plus two additional species. The talk included an overview of the general valviferan body plan, as well as variation in several key characters useful for distinguishing genera (e.g., degree of pleonal fusion, number of articles in the maxillipedal palp, and morphology of antenna 2). This was followed by individual slides for each species that included detailed annotations of distinguishing traits. Tim also provided a new key to the valviferans and sample specimens were available after lunch for attendees to take through and test the new key. This exercise proved very useful in providing feedback to Tim on ambiguous or confusing couplets, which in turn led to a revised key being distributed the following month (March 2012).

Tim's third talk was titled *California "Epicaridean" Isopods, Superfamilies Bopyroidea and Cryptoniscoidea (Crustacea, Isopoda, Cymothoidea)*. Illustrated slides were presented for 21 species in the superfamily Bopyroidea, including 19 species of Bopyridae, one species of Dajidae, and one species of Entoniscidae. Also covered were three species within the superfamily Cryptoniscoidea (one each in the Cabiropidae, Cryptoniscidae, and Hemioniscidae). A handout of the Bopyridae was also provided, which included information on the decapod hosts and range for each species.



In addition to hard copies of each of the above presentations, the following three handouts were distributed at the workshop. PDF copies of the presentations and handouts are also available in the Taxonomic Tool Box on the SCAMIT website.

- Stebbins, T.D. 2012. Key and Notes to California Valviferan Isopods (Crustacea, Isopoda, Valvifera). 24 pp.
- Stebbins, T.D. 2012. California Bopyridae (Crustacea, Isopoda, Cymothoidea, Bopyroidea). 6 pp.
- Stebbins, T.D. 2011. *Probopyria* sp. A (Order Isopoda, Suborder Cymothoidea, Family Bopyridae, Subfamily Bopyrinae). Provisional Species Voucher Sheet. 3 pp. [September 29, 2011]

With Tim's presentation complete, Regina Wetzler mentioned an important image reference source at the Natural History Museum of LA County: <http://isopods.nhm.org>. If you follow this link, choose the Database option from the top menu, and from there proceed to image databases. This isopod image database includes original line drawings for thousands of taxa. These images are from the primary literature and the image itself may contain outdated names, but they are representative of the original designation. You can also get pdf files of the literature.

19-20 MARCH 2012, BIVALVES, GORGONIANS AND PHORONIDS, SBMNH

Day 1 Bivalves

March 19 Attendance: Megan Lilly, CSD; Carol Paquette, MBC; Jeff Goddard, MSI, UCSB; Don Cadien, LACSD; Kelvin Barwick, OCSO; Terra Duvall, LACSD; Bill Power, LACSD; John Ljubenkoy, DCE; Paul Valentich-Scott, SBMNH; Tony Phillips, Independent; Larry Lovell, LACSD; Gene Coan, (Calif Acad of Sci); Bob Dees, SDSC; Dan Ituarte, CSD retired; Wendy Enright, CSD; John Pfeiffer, EcoAnalysts; Eric Hochberg, SBMNH

The first day of the two day SCAMIT meeting dealt with bivalves. SCAMIT members were lucky enough to enjoy the beautiful venue offered by the SBMNH. Attendees met in a small building along the back of the museum property that was surrounded by oak trees and sat above the creek.

There were many new faces so Larry Lovell wanted us to start with "round robin" introductions. Larry then opened the floor for nominations for the upcoming SCAMIT election. Kelvin Barwick nominated the current suite of officers which was promptly seconded by others present.

With that it was time to start discussing bivalves. Gene Coan and Paul Valentich-Scott started off the day with a presentation dealing with their newly published bivalve tome – *Bivalve Seashells of Tropical West America. Marine Bivalve Mollusks from Baja California to Northern Perú*. This newest addition includes a revision to the organization of many of the bivalve families and other systematic changes. It contains a great deal of new information and is a "must have" for those in the bivalve world. And it just so happened that the authors had copies "hot off the presses" for sale.



The first animal to be discussed was *Ennucula tenuis* which is familiar to those of us in the So Cal Bight, but it also ranges in to the Panamic region. The more interesting species was *Nucula exigua*. This is a new animal to their literature. Paul said we should be finding it in our area and its depth range of occurrence is 10-600m. He found and verified a specimen at the Smithsonian which had been collected in San Pedro. However, no one present had seen this animal and Paul asked us to be on the look-out for it. (Its existence in Ed 7 of the SCAMIT Listing is based on the animal Paul examined in the Smithsonian collections).

Our local *Solemya reidi* was synonymized with *S. pervernicosa*. *S. pervernicosa* is found from southeast Alaska to Perú. The authors stated that they have not directly observed this species in the Panamic province. The genus *Solemya* is of particular interest to the monitoring agencies as it is an “indicator” species and can be indicative of disturbed areas. It houses sulfur-oxidizing bacterial symbionts, allowing it to live in areas that would be unpalatable for other mollusks due to hypoxic or anoxic conditions.

The family Nuculanidae has undergone further revision which is evident in the “new” bivalve book. We briefly discussed *Jupiteria pontonia* which can range as far north as San Diego, but is found at depths of 1000 m or more.

Some other specifics that were mentioned:

Rochefortia grippi is in fact a valid species, now in the genus *Kurtiella*, but the illustrations in the Taxonomic Atlas and the NEP Bivalve book are actually for a new species: *Kurtiella garfinkleae*.

Also the authors cautioned us to be on the look-out for the two species of *Lyonsia* depicted in the book; *L. californica* and *L. nesiotetes*. We have been too comfortable in assuming that *L. californica* is the only species we could encounter.

After discussing the new book further we spent the rest of the day examining specimens from the various agencies as well as taking a well-earned lunch break.

All in all, a very productive day for bivalve enthusiasts.

Day 2 – Gorgonians and Phoronids

March 20 Attendance: Megan Lilly, CSD; Wendy Enright, CSD; Kelvin Barwick, OCSO; Jeff Goddard, MSI,UCSB; John Pfeiffer, EcoAnalysts; Bob Dees, SDSC; Dan Ituarte, CSD retired; Kan Sakamoto, OCSO; Laura Terriquez, OCSO; Larry Lovell, LACSD; John Ljubenkov, DCE; Terra Duvall, LACSD; Bill Power, LACSD; Don Cadien, LACSD; Carol Paquette, MBC; Eric Hochberg, SBMNH; Beth Horvath, Westmont College.

The second day of the meeting started with Gorgonians. We were privileged to have Beth Horvath of Westmont College (Santa Barbara, CA) present to share her knowledge on this group. Beth had prepared an excellent PowerPoint presentation which is available on the SCAMIT website in the Tools section. She started by talking about some of the current or on-going work to the Order Alcyonacea.

- Many *Clavularia* species should probably be moved to the genus *Anthothela*; this is a genus that requires extensive review
- *Muricella* is under review
- *Lophogorgia* is synonymized with *Leptogorgia*



- *Eumuricea pusilla* is still up in the air
- *Muricea* is a valid genus but is only represented by a VERY few species in California
- *Psammogorgia* is not found in California; comparable-looking species from CA are either in the genus *Swiftia* or could be *Chromoplexaura marki*
- *Heterogorgia* and *Thesea* are two distinct valid genera

In deeper waters the number of families and newly described species is growing quickly. The most common deep water genus is *Plumarella*, primarily as *Plumarella longispina*. We don't encounter this species in our normal monitoring as we don't sample deep enough, but we will have to watch for it during Bight projects.

During her years of work, missing type specimens have been a frustration for Beth. Some species for which the types are missing include: *Leptogorgia chilensis*, *Thesea filiformis* and *T. variabilis*.

The next genus to be discussed in detail was *Leptogorgia*. Beth explained that there is little sclerite diversity in this genus (usually just one type) despite external morphological variation. For example, *L. filicrispa* can be highly variable in color (white, beige, yellow, pink, fuchsia) but sclerite morphology is consistent.

The “red whip” gorgonian that we see in southern California is *Leptogorgia chilensis*, but Beth warned us that north of Pt. Conception this species is rare. In this northern region the diversity of species forms goes up sharply and the common name “red whip” can apply to more than one species. North of Pt. Conception the “red whip” possibilities are *Chromoplexaura marki* (used to be *Euplexaura*; see Williams 2013), and *Swiftia* spp. There are some external gestalt differences to help; for instance, our southern California *L. chilensis* has red coenenchyme and white polyps while *Swiftia simplex* has polyps that are the same color as the coenenchyme.

As for *Thesea*, when looking at sclerite mounts from members of this genus you will find large spheroidal bodies or “plate-like” sclerites. They look like “little chunky footballs” and are distinctive for this genus. They are not always abundant but they are always present. Beth found two species of *Thesea* in Smithsonian collections – *T. variabilis* and *T. filiformis*.

Our two local *Thesea* species, *T. sp A* and *T. sp B*, differ a bit in color and in polyp arrangement. They were examined by Beth and found to have slightly different types of spicules so she agreed that they may well be distinct species; Beth thinks that a full review of the genus as represented in southern California is going to have to be done sometime in the near future—she will be asking for input from us all when she begins that project. Beth then gave us a note of caution regarding *Heterogorgia* and *Thesea*; there is an error in the literature, (Harden 1979), where she discovered that some *Heterogorgia* were mistakenly referred to as *Thesea* (and vice versa).

Beth does not necessarily agree with the synonymy of *Muricia apressa* and *M. californica* suggested by Haderlie, Hand, and Gladfelter 1980. The synonymy was also rejected by Hardee and Wicksten 1996. Two species of *Muricea* we could encounter are *M. californica* which has yellow polyps and *M. fruticosa* which has white polyps. The sclerites of the two are a bit different; *M. fruticosa* has some really BIG, heavily ornamented sclerites (with dense, rounded warts), not seen in *M. californica*.



Beth took a moment here to remind us that colony form might not always be the best diagnostic character as it can vary with environmental conditions and habitat type.

With that we spent some time learning how to do a proper sclerite prep. People who brought voucher specimens were able to do sclerite mounts and have their ID's verified by the expert present. (Beth says that while she might know these creatures better than some, she sure doesn't feel like an expert!)

We broke for lunch after a morning of looking at Gorgonians and resumed in the afternoon with the final phylum of the two day meeting, Phoronida, presented by Dr. Eric Hochberg of the SBMNH. Eric started by telling us that the group is basically in a horrible state from a systematic and taxonomic stand point. The Class, Order, Family are all invalid much less trying to determine genus and species. Not all hope is lost however; habitat and tube type can be helpful taxonomic characters, and if possible one should check to see if the animal is mature which can be determined by looking for the presence of ovaries or testes. Another morphological character of importance is the number of muscle bands. You can take a cross-section of the body and then stain the section with Alcian blue to make it easier to see and enumerate the bands. The muscle bundles will be divided into 4 quadrats separated by septa. The dorsal quadrats will have more muscle bundles. It can also be helpful, if possible, to count the tentacles.

Eric then went on to discuss a few described species that might be in our area. *Phoronis muelleri* has been recorded in Canada. However, it is originally described from Germany so the record is in question. Out of the species listed in his presentation, he stressed that almost no type specimens exist and/or are available for examination. *Phoronis vancouverensis* has a small, horse-shoe shaped lophophore and is white. It is found attached to hard substrates. *Phoronopsis californica* is large, has 1500 tentacles, and lives in straight tubes in soft sediment. Another potential species in California is *Phoronopsis harmeri* of which *P. viridis* is now a synonym. Eric questions this synonymy since *P. harmeri* is described from the Atlantic. Eric took this example to recommend that we try to use West Coast names, not European or Atlantic, as he doubts the suggested "cosmopolitan" distribution for some of these species.

After discussing the numerous difficulties and questions with the group, Eric summarized that unless someone is willing to do serial sections, the ID should be left at genus. And it just so happens that this is the practice of most of the So Cal monitoring agencies. With the exception of *Phoronis* sp SD 1 which has some distinctive features, such as magenta or purple pigment spots at the base of the lophophores. See the attached ID sheet at the end of this newsletter.

After Eric's talk we looked at a few specimens, particularly *Phoronis* sp SD 1 which Megan Lilly had brought. Eric did not recognize it as a described species.

With that we wrapped up a wonderful two days in Santa Barbara and came away with a better understanding of the three taxa addressed.



9 APRIL 2012, SCAMIT CURATORIAL BEST PRACTICES AND THE SPECIFY DATABASE, NHMLAC

Larry Lovell started the day by discussing upcoming meetings and other SCAMIT business. In an effort to plan for upcoming SCAMIT meetings Larry has been reviewing the Bight'08 data and noting taxa groups where the data was lumped due to inconsistent standardization of taxonomy between labs. These problematic taxa groups are a ripe topic for SCAMIT meetings. On this day he started by listing the polychaete groups that are in need of additional assessment. The first group will be addressed at the August 2012 meeting and it includes species of both *Travisia* and *Brada*. Other groups in need of some "refinement" amongst the agencies are:

- *Marphysa* – provisional species
- *Lumbrineris/Scoletoma* issues
- *Pholoe* sp A and sp B, both need voucher sheets
- *Eumida*
- Polynoidae
- *Malmgreniella*
- *Eteone* – there are 8 species reported; is everyone being consistent?
- *Polycirrus* – a continuing problem area!

At this point Larry brought up a point that made all the polychaete workers in the room very happy – Tony Phillips has offered to work on all the B'13 Cirratulids as a "specialty taxonomy group". Speaking of B'13 specialty taxonomy groups, Larry also mentioned that Josh Mackie is willing to work up the Oligochaetes. Of course specialty taxonomy approval is dependent on Bight budget available to support it.

Kelvin Barwick then had the floor and he suggested that polychaete workers meet for half a day and bring their respective literature that they use for the identification of *Travisia* and *Brada*. It would be an afternoon (or morning) of simply comparing literature (no specimens) to see if everyone is on the "same page", both literally and figuratively. Leslie offered to check with Sergio to see if he'd be willing to allow us to pull some information from his manuscript.

Larry then gave a brief update on the work of the SCAMIT Species Review Committee. Don Cadien is in the process of parsing out the various errors, additions and emends into separate categories and will be distributing them for review when complete.

It was then announced that the current suite of SCAMIT officers were re-elected for another year of service.

Larry then mentioned an interesting prospect for SCAMIT. Henry Lee with the EPA office in Newport, Oregon contacted the SCAMIT officers to see if our organization would be interested in participating/leading a workshop review of the abundance and distribution of specific organisms from the Beaufort Sea south and up into the Gulf of California. The workshop, for now, would be targeting Bivalves, Brachyuran crabs, and Chitons as these are all taxa groups which are likely to be impacted by rising sea temperatures and levels and/or are of commercial interest. The



workshop is tentatively scheduled for late August or early September of 2012. It is hoped that if it is successful it will continue in future years and would address other taxa.

With this we wrapped up the business portion of the morning and Dean Pentcheff then took the floor to speak with us about the program Specify. Specify is a specimen databasing system that was created by the University of Kansas and is supported by that organization as well. The program was developed with funding from an NSF grant. It was created with tax dollars and is therefore a free download. It is designed to allow the tracking of specimens along with associated locality info and can be used by many different groups. It was written by biologists for biologists with the benefit of much feedback. It is generalized so that it can be used for specimens ranging from fossils, birds, invertebrates, fish, etc. It also allows for easier data transfer between institutions than many of the other specimen tracking programs.

Next, instead of trying to “talk” us through a database, Dean ran us through a demo installation of Specify and showed a few of its more useful features. Since Specify is free Dean recommended that people should at least download it and “try it out”.

With that we broke for lunch and after a satisfying meal of good food and small talk we returned for an afternoon discussion on best curatorial practices lead by Leslie Harris.

Leslie started by discussing specific requirements for the processing of the upcoming B’13 samples and vouchers. Some things will be changing. For instance she now wants all vouchers double vialled (for instance a ¼ dram vial with animals contained within a 4 dram vial) with the label being in the larger external vial. The size of the internal vial will be determined by the size of the animal being vouchered. For bulk samples, vials housing taxa lots can be stored in 8,16, or 32 oz mason jars with polyethylene foam-lined lids. There will be no more combining of a label and animals in the same vial. If for some reason there is an original “in-house” label it should be moved to the outer vial in combination with the museum label. Labels should be placed in the larger exterior vial so that they read left to right and bottom to top, long-wise. The museum will print up sheets of labels and send them to the participating agencies.

Due to many smashed animals during the last Bight project a new protocol is being developed for how much space animal biomass should occupy in a vial. At a maximum the volume of the inner vial (the one housing the animals themselves) should be no more than 50% specimens. A preferable ratio would be 1/3 biomass to 2/3 ethanol. Sterile cotton balls are still preferred as the “stopper” mechanism for the internal vials. It is better if the cotton is torn, not cut. Pre-formed cotton balls can be ordered from Fisher. The cotton should not touch the animals and make sure there are no air bubbles in the vial after insertion of cotton.

It was suggested that there needs to be a spreadsheet created which shows how the bulk lots are sorted with the same taxa levels for each agency. The agencies still need to agree on how to divide up the taxa lots. It is preferred by the Museum that the bulk samples be sorted at the Family level.

A good example of how LACMNH wants samples curated was accomplished by Moss Landing during their Invasive Species Study. For the voucher lots the Museum created the labels and sent them in sheets. Moss Landing then double vialled the specimens, put the labels in the exterior vial, put the collective vials into Mason Jars, and then drove them down and delivered them to the Museum, basically in a state ready to be accessioned.



NOTE: Since this discussion, the museum has decided that it will only accept future Bight specimens that are vialled by species (voucher lots). That said the vialling protocols outlined above are excellent vialling protocols and should be considered whenever long-term storage of voucher collections and bulk samples is required.

IN MEMORIAM

In March of this year, 2013, (the newsletter publications are currently running almost a year behind schedule) SCAMIT lost a valuable colleague and dear friend in the passing of John Ljubenkov, or as he was affectionately known by many, “Big John”. SCAMIT will be glad to accept and publish any thoughts, remembrances, stories, etc, that anyone would like to share. We will start the series with reflections on a life-long friendship by our own Don Cadien. If you would like to submit something for publication please email it to either Megan Lilly at: mlilly@sandiego.gov or Dean Pasko at: deanpasko@yahoo.com.

“*Big John*”
by D. Cadien

I first met John in Junior High School. We were nearly the same age (I under a month older), so we continued to run into one another. While I liked him then, we didn’t become really good friends until High School. We were both members of a group of intellectual geeks that hung out together, and shared a fairly stiff disdain for the common socialization of most members of our class. Not entirely pariahs, but definitely outside the norm. Sports phobic and unable to dance, we had little to interest us in the usual high school social whirl. John lived not too far from the campus, and I used to visit him at home, coming to know his parents and grandfather, his younger brother George and younger sister Yvonne.

Both of us were already very interested in the natural world, and shared observations and questions frequently. From high school we both migrated to Cal State Long Beach and pursued degrees in the Biology Department with Dr. Don Reish as our major professor. While there we both also worked as Recreation Assistants for the City of Los Angeles at the Cabrillo Marine Museum (yes, before it became the aquarium) under the tutelage of John Olguin, and Myra Hess. I eventually left to work in the Malacology Section of the Los Angeles County Museum with Jim McLean.

At Cabrillo we became good friends with Bill Samaris, and participated in the exhumation of Raquel the gray whale near the Union Oil Refinery off the Harbor Freeway. Not only did we lead tours through the tidepools, but we hung out there ourselves in areas up and down the coast. During our tenure at Cabrillo the marine mammal researcher Robert Brownell was also there, and started both John and I on long careers of accumulating scientific literature. We cut our teeth on early Wheldon & Wesley Catalogues, but neither had enough money to buy much (the raise in our hourly wage to \$2.85 was cause for celebration). We also encountered Jay Shrake at Cabrillo, who came to volunteer when John and I worked there. Apparently we were helpful in pushing him towards his career in natural and environmental science, and he remains a dear friend.

At Cal State Long Beach we made many friendships with others in the Biology Department, including Jack Word, Eric Fisher, Jan Findley, and her brother Lloyd, and Rick Brusca. We were both involved with SCIBR (Sea of Cortez Institute of Biological Research), largely an excuse



for students and faculty to get together, exchange stories, and drink beer. John and I made multiple trips to Mexico during this period, usually to Puertecitos, but also to Puerto Peñasco on the mainland side of the gulf. At least once we served as Naturalist Docents for the Sierra Club on a field trip to Puerto Peñasco, teaching a number of interested environmentalists what they were seeing among the invertebrates encountered. Later we performed the same function for the same group on a trip to Punta Piedras Blancas in Central California, an even more memorable trip. Because of cephalopods, John was very interested in bioluminescence, and this trip was permeated with luminescent events. We were trapped in the old coast guard barracks, associated with the lighthouse, by a very heavy storm. The weather curtailed our intertidal explorations, but after it passed provided other benefits. While trapped we discovered the piezoluminescent behavior of wintergreen Lifesavers, and some glues used in product packaging (the electricity had failed, and we were in the dark). Later, in the aftermath of the storm, we discovered luminous insects and earthworms in the wet topsoil during a night-time walk through the adjacent fields. These, added to the luminescent plankton in the surface waters, produced a truly magical experience.

Even life in San Pedro was not without its interesting moments. When not studying or working, John and I used to hang out. During one particularly bored day I remember chasing him around my house, hopping on one leg, with a paring knife gripped between the toes of my other foot. How this came to pass I don't know, but it was fun and led to no damage. In the evenings we would often cruise around in whatever car was available. We were in the habit of seeking out Der Wienerschnitzel locations, pulling up outside, stopping and yelling at the top of our lungs "It's DAS!" in a vain attempt to correct the commercial misuse of German word gender. Often we would listen to music together, sharing new enthusiasms and discoveries, and discussing the pros and cons of composers and performers. At one point, returning from a day-long excursion to the Scripps Library in La Jolla, we heard a strange piece of music on the car radio. Neither of us was familiar with it, or could place it with a composer, or even a century of composition! It proved to be the Queen Mab scherzo from Hector Berlioz's *Romeo & Juliet*. We were galvanized by this piece, and hunted down recordings of it to cherish. Both John and I retain vivid memories of this event; I discussed it with him in the hospital shortly before his death.

For a while our paths diverged, while I went into the army and John didn't. By the time I returned he was still at Cabrillo, and not too long after I went to work for a consulting firm in Costa Mesa. I soon got married, and our mutual social life was curtailed. I still saw John, but less frequently. We would still make trips together; to the desert, to the tidepools, to libraries or museums, to see Jim Lance in Pacific Beach, and to visit Dr S.S. Berry at his home in Redlands. Diminished frequency of contact did nothing to lessen the strength of our friendship. We didn't work together at one place again either, having different employment trajectories. We often saw one another professionally, however, as both were involved in environmental monitoring and research in Southern California. We got a chance to visit at SCAMIT meetings, and both he and I are charter members of the organization. John finally found his soul-mate in Julie, and he married too.

So we were two San Pedro boys with parallel life interests in natural history and music. Both of us also had diabetes after we reached adulthood. So many similarities, but still completely different people. Of the two, John was the more social, and had a broader range of interests and friends. The one time we united in a social action we testified in opposition to the plan to build an island airport in San Pedro Bay. You could tell it was us, we were the ones in the suits and flip-flops. Other than that I always avoided politics, while John found it a major source of both blood pressure and mental stimulation. Every so often I would visit overnight at the ranch, and



would invariably find John up very early watching political news and opinion programs in the wee hours. While I was busily chasing consciousness through caffeine he was already vibrating - railing at the latest fatuity offered up in the political arena. John and I also diverged musically, he devoted to the opera repertoire, and I to new electroacoustic and computer music genres. We still shared many joint passions: the rich sonority of Brahms chamber music, J. S. Bach in general, Berlioz, Beethoven's symphonies and piano sonatas, and the harpsichord sonatas of Domenico Scarlatti to name a few.

He always was, and will always remain a very dear life-long friend, one of a number I've been privileged to have. My memories of him will keep him alive for me, although I will miss seeing him, discussing with him, sharing enthusiasms, and hearing his laugh. He should still be here; he left many interests under-explored and many projects incomplete. But it wasn't to be. Still, his life was very fully lived, if too short. He leaves behind a large group of friends and acquaintances who grew from interaction with him, and will always think of him fondly.

VOUCHER SHEET

Attached you will find Kelvin Barwick's voucher sheet for *Nuculana* sp B. This animal has been discussed in previous issues but it is now being formally published as a SCAMIT species herein.

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SCAMIT Voucher Sheet

Species: *Nuculana* sp B SCAMIT 2013

Group: Nuculanidae

Vol. 30 No. 5&6

Date examined: January 3, 2013

Vouchered by: P. Valentich-Scott & K. Barwick

Material Examined: 1 spm: LACSD Bight 2003 Sta. 4378, 271 m, 18AUG2003
1 spm. CSD Bight 2008 St. 7045, 261 m, 18JUL2008
2 spm. CLA,EMD SMB, Sta 7428, 400 m, 15JUL2008
3 spm. CSD Bight 2003, Sta. 5034, 394 m, 4AUG03, K. Barwick Cat. #1862.1
1 spm. OCSD Sta, ?, 300 m JUL2004, OCSD Voucher #1573

Synonyms: *Nuculana leonina* of authors SCB not (Dall, 1896)
Nuculana navisa of OCSD not (Dall, 1916)
Nuculana sp B SCAMIT 2010 *fide* SCAMIT, 2012 (see Comments below)

Description: Shell compressed with an elongated narrow rostrum. Rostrum slightly recurved (in largest specimens); truncated posteriorly. Sculpture of evenly spaced raised commarginal ridges ending abruptly at postero-dorsal slope. Prodisoconchs large, smooth and intact. Adherent periostracum silky; gray-tan in color (Fig. 1). Prominent narrow escutcheon. Shallow, narrow lunule. Length to 15 mm.

Related Species: It most closely resembles *Nuculana navisa* (Dall 1916). Coan, et al. (2000) describe *N. navisa* as, "Large specimens inflated; small specimen compressed." All specimens of *N. sp B* are compressed and have a less recurved rostrum. *Nuculana leonina* (Dall, 1896) is less elongated with a more rounded rostrum. It has much wider spaced commarginal sculpturing which is often eroded in larger specimens. The dehiscent preiostracum is darker (Fig. 2) than *Nuculana* sp B.

Distribution: Point Loma to Santa Monica Bay, California; 261 – 400 m.

Comments: *Nuculana* sp B was first proposed at a SCAMIT meeting on October 19, 2009. The minutes from this meeting were actually published in 2010 (SCAMIT, 2009), which included the first publication of the images in figure 1, herein. This is a date change only.

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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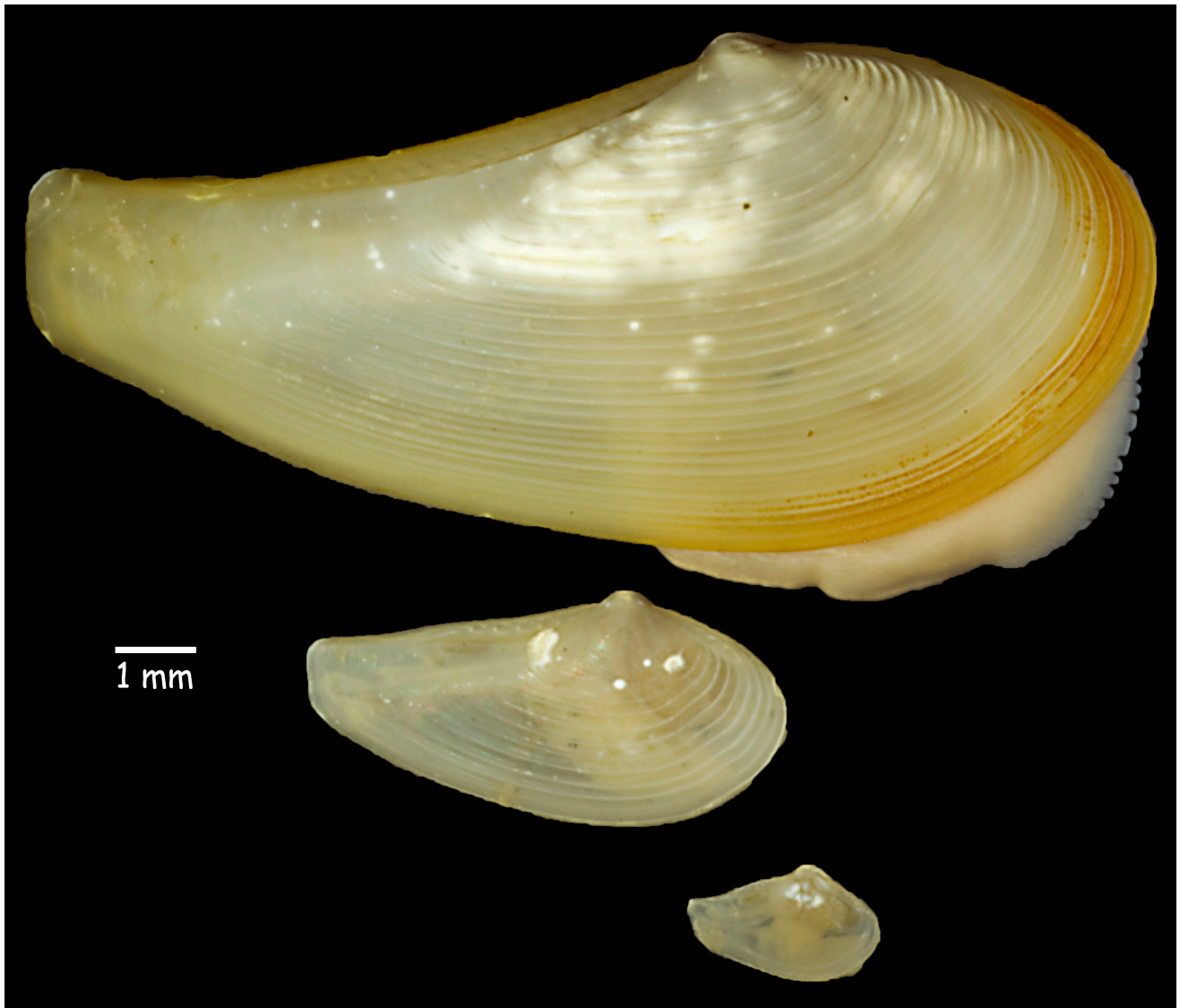


Fig. 1—*Nuculana* sp B, CSD Bight 2003 Sta. 5034, 394 m, 4AUG03, K. Barwick Cat. #1862.1 (from SCAMIT, 2009)



Fig. 2 – *Nuculana leonina*, Cascadia Slope, EBS-64, 950 m, K. Barwick personal collections (from SCAMIT 2009)

Phoronis sp SD 1



This species is most often found at CSD's southern ITP stations between 30m and 60m, in sandy sediments. It can co-occur with *Phoronis* sp (which has no evident pigment). The pigment, as seen above, can be variable in placement and intensity/color but is usually found as two "spots" at the base of the lophophores.

Be cautious when looking for this species as the pigment does fade with time and can become more difficult to see. The animal in the top image had been preserved for 2 months at the time of the photograph. The animal in the bottom image had been preserved for 1 year.

In addition to the pigment being a noticeable difference from other *Phoronis* sp sampled, this species also has a "delicate" gestalt, with a low number of "wispy" lophores and a thin trunk. It is found in tubes of fine sand.

I have yet to determine if this pigment pattern could possibly be a temporary seasonal/reproductive character or if it is a diagnostic morphological character.