



**Southern California Association of
Marine Invertebrate Taxonomists**

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San Pedro, California 90731

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SCAMIT Newsletter

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| SUBJECT: | Non-polychaete B'98 problem animals |
| GUEST SPEAKER: | none |
| DATE: | 18 October 1999 |
| TIME: | 9:30 a.m. to 3:30 p. m. |
| LOCATION: | City of San Diego Marine Biology Lab 4918 N. Harbor Dr. #201 San Diego, CA 92106 |



Arcidae, B'98 station 2425 (Mission Bay),
24 July 98, 3.7 m Image by K. Barwick

Two October Meetings will be held, both addressing Bight'98 problems and specimens. The first, on non-polychaete topics, in San Diego on October 18; and the second on polychaete topics at the Worm Lab at the Los Angeles County Museum of Natural History on October 25. Be prepared to roll up your sleeves and dig deeply into our problem taxa. We will be done shortly with sample identification, and QC re-identification will begin in earnest.

OPISTHOBRANCH WORKSHOP

In June of this year the International Opisthobranch Workshop was held in Menfi, Italy. Commentary on the meetings from participants and photographs taken there are available on the web as a thread in the Sea Slug Forum (run by Dr. Bill Rudman) at

[http://www.austmus.gov.au/science/division/
invert/mal/forum/menfwkshp.htm](http://www.austmus.gov.au/science/division/invert/mal/forum/menfwkshp.htm).

The abstracts of the presentations have also been made available on-line at

<http://www.futuralink.it/vannarotolo>.

NEW LITERATURE

Nemerteans have proven to have a difficult taxonomy in many ways. Not the least of these is a basic disagreement between nemertean specialists on which characters have meaning in separating taxa. This provides a field ripe for a molecular based approach which can be used to either validate or refute morphologically based taxonomic hypotheses. Sundberg & Saur (1998) provide just such an analysis, dealing with lineids in the genera *Riseriellus*, *Lineus*, and *Micrura*. The outcome of their examination is directly applicable to local nemertean taxonomy as they found both “genera” *Lineus* and *Micrura* to be polyphyletic. Our local *Lineus bilineatus* is one of several species ascribed to the genus which are not in the same clade as the type species *Lineus longissimus*. If this analysis is confirmed by others, *lineus* will require a new genus or genera. We assume that the local form identified as *L. bilineatus* is the same as the European form of that name included in the present analysis. The authors similarly found *Micrura* species to be scattered between several clades, but as no local species were included in the analysis it is unclear how local members of the genus would be aligned. Further analysis of a broader spectrum of the many species described in each of these genera will be required to more completely resolve the issue.

Larsen & Wilson (1998) shine a similar, if morphologically based, light on some of the characters currently considered as significant in defining families within the tanaids. They found, for instance that the number of uropodal articles in their new species was ambiguous because of partial fusion. The authors mention that tanaid family definitions are also difficult to apply because of problems in use of seta/

spine differentiations. Sieg, who is largely responsible for the current familial arrangement and definitions, did not use the seta/spine distinctions proposed by Watling in his family definitions, and efforts to do so lead to problems. The senior author is attempting to develop a better and more consistent separation between tanaidomorph families. In the present paper the family Paratanaidae has been redefined, and the status of the others declared unsatisfactory and in urgent need of re-evaluation.

As in a paper mentioned in the last issue the methodology of cladistics is under continual review. Jenner (1999) and Jenner & Schram (1999) continue this trend and critically review the assumptions underlying several cladistic methodologies. The different results presented by workers using different sets of assumptions and different methods should hardly be surprising. It is however a bit disappointing to see in black and white just how method dependant the “objective and testable” approach of cladistics can be. Instead of a final great truth we are presented with a series of successively better approximations of the undisputed truth as methodological problems are discovered and counteracted. As an unregenerate “traditional” morphologist I must admit some satisfaction in having the clay feet of the cladistic god highlighted in this fashion. I have no doubt that as the methods mature and the weak or inappropriate ones are weeded out, the hope of a less subjective systematic technique will finally be realized. The authors point out quite effectively that we ain’t there yet, especially for phylogenetic reconstruction.

The introduced seaweed *Sargassum muticum* hit our shores in the 70’s, and rapidly spread along the coast. It provided a new substrate for a host of small associates, mostly peracarids but also mollusks, bryozoans, urochordates, nemerteans, etc. Viejo (1999) examines the same algal species in northern Spain, where it is also introduced. She compares the biota of the invasive species with that of two local



seaweeds, one with similar and the other with dissimilar morphologies. The local associated microfauna proved well able to colonize and use the invading alga, and in areas where macroalgae had been in low abundance, the *Sargassum* provided additional habitat. As *Sargassum* also competes with native algae for space and light, this is not an unmixed blessing. In the Spanish case the associates of the native algae proved fickle, switching to the invader without compunction. Anecdotal observations suggest that the local situation is similar, with indigenous grazers readily switching to the introduced alga.

Invasions do not always end so happily for the ecosystem involved. Ruiz et al. (1999) examine the more stressful interactions between the invader and the invaded. Using the invaders of Chesapeake Bay as a database, they found that 1 in 5 invading species had apparently had a significant impact on the Bay ecosystem, or one or more of its components. They also doubt that the behavior of an invader in the Bay can be used to predict its effect elsewhere. The potential differences in community composition and function are too great between locations to allow easy application of experience in one area to another. They also clearly perceived non-indigenous species as additional stressors to already anthropogenically stressed near-shore communities. As such their impacts, if negative, could be magnified by preexisting stress on the community from these other sources.

Whether or not a species uses larval forms for dispersal is a part of the "life-history strategy" of that species; what it does to insure its persistence and spread. This is not always a single path which a species follows, as our recently mentioned examples of poecilogony have demonstrated. The consequences, both positive and negative, of producing larvae have not often been examined from a practical point of view; in essence a cost/benefit analysis of the larval method. Pechenik (1999) reviews the

question and provides a nice summation of the costs and benefits of larval production. This greatly simplifies the decisions you out there need to make in your search for alternative modes of reproduction.

30 AUGUST MEETING

President Ron Velarde (CSDMWWD) opened the business meeting promptly at 9:30a.m. at the San Diego Marine Biology Lab. The first order of business was scheduling meetings for the next two months. We will be continuing along the same theme with problematic specimens from the Bight'98 project. Meetings for non-polychaete topics will be held in San Diego on September 13 and October 18. Meetings for polychaete topics will be held at the Worm Lab at the Los Angeles County Museum of Natural History on September 27 and October 25.

Sonya Foree from the City and County of San Francisco joined us for the day. During the afternoon session, Arleen Navarret (CCSF) and Victoria Diaz and Maricarmen Necoechea, (both from CICESE, Ensenada, Baja California) were also in attendance.

Larry Lovell reported that the *Aphrodita* project is a "go", and he is putting out a request for specimens. Larry, in conjunction with Cheryl Brantley and Ron Velarde, will be investigating and clarifying the taxonomy of *Aphrodita*. He would like to get as much material as possible. It would be especially useful to include wide size ranges. If you can supply specimens of *Aphrodita* to Larry, please either ship them to him at Scripps or give him a call (858) 822-2818 to arrange transportation.

Larry also gave an update on the status of his work on the marine invertebrate collection at Scripps. There is a lot of re-organization and cleaning up that is going on and still much to be done. If anyone is interested in seeing the



collection and putting in a day to help organize a portion of the collection, please call Larry. Larry hopes to put out a projected schedule for the organization of various taxa.

We then started our parade of problematic polychaete specimens. Tony Phillips (CLAEMD) handed out a voucher sheet for *Marphysa* sp B which is synonymous with his *Marphysa* sp HYP 1 Phillips 1999. This species was found at station 2151, Dana Point Harbor, with oyster shell hash, at a depth of 6 meters. In this species, the five occipital tentacles were short, reaching the anterior edge of the prostomium. The branchiae started on setiger 10 as a single filament and reached a maximum of three filaments on setigers 45 through setiger 102.

Larry Lovell announced that he has contacted Andy Mackie regarding *Paradoneis* sp HYP 1 and *Paradoneis* sp SD 1, and Andy has agreed to look at our specimens. Larry graciously volunteered to collect specimens, send them to Andy, and also to prepare a voucher sheet on this species.

Rick Rowe (CSDMWWD) then reported on four curious specimens from Catalina Island, station 2081, collected at a depth of 50 meters. After some investigation, it was determined that they were Pilargidae genus A of Williams.

Next Kelvin Barwick (CSDMWWD) showed us a paraonid specimen, *Aricidea (Acmira)* sp SD1 from Santa Cruz Island. He had found this species at three stations. This specimen had a bluntly rounded prostomium, 12 pairs of branchiae starting on setiger 4, and 2 pygidial cirri were evident. There was reddish-brown pigment throughout the worm, and Kelvin commented that usually this pigment was faded. There were bristles on the modified setae that could be mistaken for hoods. Kelvin produced a voucher sheet for this species and posted it on the SCAMIT website.

Next Rick Rowe distributed a voucher sheet on *Macrochaeta* sp A. He had found this species at San Miguel Island (station 2469, 33 m depth) and also at two ITP stations (I-34, 63 ft depth and I-7, 171 ft depth). Cheryl Brantley had also found this species at San Miguel Island (station 2490 at 75 m depth and station 2491 at 95 m depth). This was a small animal which had unusually large setae. To view many of the characters for this species, such as the segmentation, palp and branchial scars, and papillation, stain the worm with alcian blue.

Rick also reported on a specimen he called *Nephtys* sp SD 3 that was collected at station 2523, Santa Barbara Island. The dorsal lamellae were enlarged similar to *N. squamosa* Ehlers 1887.

Kelvin next showed us a specimen of *Pista*. After examining the specimen, we concluded that it was *Pista disjuncta*, following the present convention for *Pista* identification. A discussion ensued about the difficulty of finding the long handled setae in specimens of *Pista* (present on setigers 1 and 2) which is a distinguishing characteristic for this genus. It was suggested that one may want to dissect a tissue sample from the animal, clean the tissue with a few drops of bleach, and then look for the long handled setae. One must observe the tissue frequently before the setae also dissolve in the bleach. Kelvin suggested an alternate method; after removing the tissue, he prepares a wet mount using methyl salicylate as the mounting medium. This clears the tissue enough to see the handles. This is the same method used for clearing flatworms.

Next we examined a specimen of *Aricidea (Acmira)* cf *cerruti* brought in by Kelvin. He found two specimens at the Channel Islands station 2523 at 106 m depth. The specimen had a rounded prostomium; however, the median antenna was missing. There were 16 pairs of branchiae, and the modified setae were the same as illustrated in Laubier 1967. We



concluded that this specimen was probably a small *Aricidea (Acmira) cerruti*, but without the median antenna for confirmation, Kelvin will leave the identification as *A(A.) cf cerruti*.

Larry and Tony both brought in specimens of *Chone* sp SD 1 from El Segundo and Bight station 2453. Kathy Langan confirmed the identification; this species had also been found at some Tijuana River stations as well as monitoring stations offshore of San Francisco. See San Diego voucher sheet from February 13, 1998.

We then examined a flabelligerid from San Diego Bay brought in by Rick Rowe. It was collected at station 2231 at 13 meters depth. It was sand encrusted, and anteriorly, it had a row of 4 small papillae across the dorsum. The setae were very similar to *Piromis* sp A fide Harris 1985. It was decided to call these *Piromis* sp SD 1.

Continuing with another species from San Diego Bay, Kathy Langan showed us some specimens of *Scolecipis*. These keyed out to *S. texana* in Blake 1996 and keyed out to *S. sp SD 1* in Lovell's and Pasko's spionid key of November 1995. This species had shown up at several stations in San Diego Bay. There were a few character differences between these specimens and the description of *S. texana*, so it was decided to call these *S. sp SD 1* since they more closely matched that description.

Kathy also showed us some *Dipolydora* from stations 2472 (Santa Cruz Island, 25 m depth), 2211 (Orange County Sanitation District, 41 m depth), and station 2493 (Santa Cruz Island, 44 m depth). These specimens were similar to *D. bidentata* but differed in some significant characters. The branchiae started on setiger 9 instead of setiger 8 for *D. bidentata*. The posterior hooded hooks were bidentate in these specimens in contrast to the posterior unidentate hooded hooks in *D. bidentata*. Also, no needle packets were seen in these specimens. However, with alcian blue stain, we observed some structures in the posterior of

2 worms that at first glance resembled needle packets. The structures were lobes containing a few to several pointed spines. Some of the points extended beyond the ends of the lobes. A voucher sheet will be prepared for this new species, *Dipolydora* sp SD 1.

Tony brought a specimen of *Nereiphylla* from station 2404 which turned out to be *Nereiphylla* sp 3 fide Harris (= *Nereiphylla* sp SD 1).

Ron brought a mystery phyllodocid from Santa Cruz Island station 2518, 112 m depth. He identified it as *Eulalia?* It had pigment circles around each segmental line on the dorsum. There was also pigment on the bases of the parapodia. No one had seen anything similar to this specimen before, so it remained as *Eulalia?* for the time being.

We could not put off addressing the cirratulids any longer, so Rick took the floor and started off with 2 specimens of *Protocirrinieris* from San Diego Bay station 2226. Rick compared 2 different specimens. They were similar in that they had no methyl green staining pattern, no spines, and did have multiple cirri on setigers 3 and 4. One specimen was similar to *P. sp A* in that it had compressed segments, and the other specimen had longer segments that were not crowded. However, *Protocirrinieris* sp A is usually found at deeper stations. Rick is looking for more specimens and for the time being will refer to these specimens as *P. sp SD 1*.

There were several new species of *Monticellina* that were discovered in the Bight'98 study. Rick reviewed several provisional species that he had encountered. Most of these had distinguishing methyl green staining patterns. The first was *Monticellina* sp SD 2 which is similar to *M. elongata*. This species was found in 80 m depth at the Channel Islands. Rick next described *M. sp SD 4* from San Diego Bay and noted the differences between it and Blake's *M. serratiseta*. It had: 1) a light dorsal methyl green stain on the



prostomium and peristomium and 2) a small amount of light banding on the anterior dorsum. Tony noted that he finds *M. serratiseta* at stations that are 80 m and deeper. Finally, *M. sp SD 6* from San Diego Bay (15.6 m depth) and offshore San Diego (73 m depth) was described by Rick and had dark staining stripes ventrally on only a few posterior thoracic setigers and an inflated posterior end.

The next cirratulid genus up for discussion was *Aphelochaeta*. Cheryl Brantley (CSDLAC) passed out two provisional voucher sheets. The first voucher sheet was for *Aphelochaeta sp LA 1*, found off Santa Cruz Island and Santa Rosa Island. A question was posed as to whether these were *A. petersenae*, and Rick offered to examine some specimens and see if he could answer this question. The second provisional species was *Aphelochaeta sp LA 2*. Five specimens were found at station 2521 (Santa Cruz Island) at 75 m depth. Tony Phillips had also reported *Aphelochaeta* specimens matching the description of *A. sp LA 2* in samples from Santa Cruz Island station 2515 at a depth of 102 m. There were 45 individuals and he recorded them as *Aphelochaeta sp HYP1*. In this species the methyl green staining pattern revealed an unstained "ring" between the prostomium and peristomium. This ring extended around the entire animal at the anterior end.

The presentation of novel *Aphelochaeta* continued as Rick outlined the description of *Aphelochaeta sp SD 3*. There were 11 specimens collected from Santa Cruz Island at 25 m depth.

A discussion then ensued regarding *A. petersenae*, *A. sp SD 4*, and *A. sp HYP 1*. As we have been collecting and viewing more and more of these animals, we have been noticing that there are intermediate patterns in the methyl green staining. Rick will be examining more specimens with the possibility of lumping these provisional species.

13 SEPTEMBER MEETING

The meeting was called to order by President Ron Velarde at approximately 9:45 a.m.. The first order of business Ron attended to was distributing City of San Diego B'98 samples which had been selected for re-identification for the QA/QC aspect of the project.

Ron then passed around a flyer from SCCWRP which listed upcoming seminars in marine related topics. The flyer is included as an attachment in the paper version of this newsletter, or to those of you who have gone "electronic", please go to SCCWRP's website (www.sccwrp.org) for information on these seminars.

The current issue of the Festivus, the Newsletter/Journal of the San Diego Shell Club, was passed around as it contained an article on the Panamic pearl oyster, *Pteria sterna* in Carlsbad lagoon.

Megan Lilly (CSDMWWD) then brought up to those present the idea of having more SCAMIT t-shirts and hats created. It was pointed out that a new silkscreen would need to be made. We decided to see what kind of response Ann Dalkey receives for the few remaining items she has in stock. If those sell-out, then potentially we will look into re-newing our supply.

We briefly discussed the SCAMIT website. Even though it's been said previously, Jay has created a beautiful and functional on-line presence for SCAMIT, and we all owe him our thanks. We have recently received a series of new memberships on-line, most from other countries. An increasing percentage of website visits are also from other countries and it appears the site is now acting, in many instances, as an international hub for people searching for marine related links. If that is indeed the case, then we have achieved a good deal of our objective of engaging a broader audience. [Now, if they would just write and submit some items to the NL...Ed.].



We decided to finally turn our attention to animals and the first ones that caught our “eyes” were two strange looking crabs brought by Carol Paquette. The first animal was *Cardisoma crassum* which is normally found in river banks in mangrove/estuarine type habitats in southern Mexico and Central America; however, this animal was collected on a heat treatment screen at the Scattergood Generating Station in El Segundo. The cooling water intake, where the animal was collected, is at a depth of 7 m. The animal appeared to have been alive just prior to being taken based on its color and condition of its carapace, appendages, etc.. This posed an interesting question since this was obviously not a marine crab. When identified by Todd Zimmerman (NHMLAC), he was surprised to hear of the locality at which it was collected. Some suggestions were that it was a pet store purchase that was mistakenly “returned to the sea” or perhaps it was dropped from the beak of a hungry gull (said with less seriousness). Whatever the answer, it remains a mystery at this time. Despite the presence of the animal in a live state at time of capture, it does not, and could never range into this area. Appropriate habitat is completely lacking in Southern California although an ersatz habitat in a terrarium could be constructed. Much like the occasional Maine lobsters which escape from experimental aquaculture rearing in Southern California, and find their way into benthic or trawl samples, presence of the species in our local waters is completely accidental.

The second crab was not such a mystery, more of a rarity. It was *Euphyllax dovii* taken again on a heat treatment screen but this time at the San Onofre power plant. This animal is not usually seen in nearshore collections, being an oceanic species, but has been previously seen and reported from our area.

After much “oohing and ahing” over the big crabs we turned our rapt attention to the mollusks. Kelvin Barwick (CSDMWWD) had been working on a sample from Mission Bay

(Station 2425) that was “full” of interesting and unusual (for those of us accustomed to off-shore work) mollusks. The following animals discussed are all from this station.

First Kelvin brought forth a small gastropod which turned out to be *Barleeia subtenuis*. The animal was present in high densities (748 individuals in the rep). This tiny rissoid is very common in Mission Bay, as is its congener *B. californicus*, grazing on the diatom film covering the sandy bay bottom, or on the diatom growth on attached algae and/or seagrass in the bay.

There was a slightly different looking *Turbonilla* from this station as well, but it was decided to leave it at *Turbonilla* sp. due to the nomenclatural problems still clinging to this genus in local waters although Kelvin will compare it with the species described and illustrated in the pyramidellid monograph of Dall and Bartsch. Dr. Jim McLean says he thinks our pyramidellid problems have been resolved in his draft monograph on the gastropods of California, but it is not yet available.

Next was a *Lirularia parcipictum* which the San Diego lab had not previously seen. The species ID was based on the presence of a basal carina, and the nature of the spiral ornamentation of the whorls. The examined specimens were also rather low spired for the species.

A juvenile arcid clam was brought forth and not immediately recognized by those present. It was considered a probable *Anadara*, but was unfamiliar to all present. A digital image has been sent to Paul Scott and further ID is still pending at this time (see cover photo).

Next, a juvenile *Leporimetis obesa*. Again, an animal not normally seen by the San Diego lab in their standard ocean monitoring program, this, combined with its small size, threw them for a loop. As with many other bivalves, the juvenile does not look much like the adult.



Uneroded adults do, however, carry around their developmental history in their shells, and provide the necessary evidence to connect the juveniles and adults.

Two more juvenile clams were brought forth, one turned out to be a very small *Semele venusta* and the other, a young *Cumingia californica*. All of these animals can, on occasion, be taken offshore if the sediment particle mix and organic load are appropriate, but are much more commonly found in bays, harbors, and estuaries.

Tony Phillips (CLAEMD) brought three variant forms of *Ophiidermella* to be examined by Ron Velarde (CSDMWWD). After much examination and discussion it was decided that the three animals were tentatively all *Ophiidermella inermis* with slight variations in color and sculpture. These animals will be checked by Dr. James McLean at LACMNH.

Megan Lilly (CSDMWWD) then brought forth the ugly question of *Lirobittium*. She had examples of various forms of the genus from different B'98 stations as well as the standard animal that the City of San Diego sees in its regular monitoring stations and calls *Lirobittium larum*. CSDLAC as well as Hyperion both call their common form *Lirobittium rugatum*. There was some discussion as to standardizing the various lab approaches to this animal and no conclusion was reached. The animals brought by Megan were left at *Lirobittium* sp. for the time being. The question may be addressed at a later meeting on gastropods with Hank Chaney of the Santa Barbara Museum of Natural History. We have already considered species of *Lirobittium* at a previous meeting with Paul Scott at Santa Barbara, but without much consensus on the boundaries of the taxa we see.

The afternoon started (and ended) with Crustacea. Dean Pasko (CSDMWWD) brought forth a strange little animal found in one of the Channel Islands samples. The

animal was recognized by Don Cadien as being a harpacticoid copepod of the genus *Scutellidium*. The examined specimen had a metallic sheen to its carapace.

Although we had intended to consider a number of taxa within the amphipod family Oedicerotidae, including several provisional forms erected by Dean Pasko from San Diego samples, we got stuck on the *Synchelidium*. The question of proper generic usage was raised again. Don Cadien referred to his earlier arguments for not adopting the genus *Americhelidium* as proposed by Bousfield and Chevrier (1996), but suggested that the correction indicated by Bousfield (1997) might be adequate to address the problems posed by the defective generotype selection. He informed us that the draft Catalogue of North American Aquatic Invertebrates was using *Americhelidium*, and that by the publication of the SCAMIT Ed. 4 listing, we might need to change our current position on the subject (rejection of *Americhelidium*).

This genus (whether we use *Americhelidium* or *Synchelidium*) has always proved to be troublesome. Shoemaker grappled with it, and passed it off to J. L. Barnard prior to his death. Barnard struggled with it for quite awhile, parsing out the intertidal *micropleon*, and leaving behind manuscript names for three other species. None of us were willing to tackle the problem which would involve critical examination of a large body of material from the Allan Hancock collections identified as his manuscript species by J. L. Barnard. This is accessible, now being on the shelves of the Natural History Museum of Los Angeles County. Some desultory attempts were made but no real progress. Then Amphipacifica Vol. 2 No. 2 arrived in May of 1996 and we had the Bousfield and Chevrier attempt to make sense of these animals. They retained the two Mills species - *rectipalmum* and *shoemakeri*, and added another four from the Eastern Pacific - *millsi*, *pectinatum*, *setosum*, and *variabilum*. The key they included did not deal well with



the separation of the animals, and was critiqued by Don Cadien in NL Vol 15(6) [October 1996]. A replacement key was “in progress” but has never been sent out.

Dissatisfaction was expressed over the nature of the characters used in both the Bousfield and Chevrier key, and in the pictorial key which Don Cadien had constructed in development of a replacement key. Sex linked characters such as the length of the third article of the mandibular palp were considered poor for general use, and were to be avoided if at all possible. Likewise characters which were difficult to distinguish, such as the shape and relative posterior extension of the coxae and pleonal epimera, the relative shape and size of the articles of the third leg, and the proportions of the maxilliped outer plate were deemed too difficult in application to provide a viable key.

In essence, we stepped back a pace and started over. Between the members present at the meeting we agreed to try using a series of characters which we felt could be repeatably evaluated. These were: **1)** the orientation of the G1 palm; **2)** the setation of the anterodistal margin of the basis of G1; **3)** the pattern of setae on the ventral margin of coxa 1; **4)** the ratio of dactyl to propod length of G2; **5)** the number of dorsal setal groups on the propod of G2; **6)** the number of ventral setal groups on the propod of G2; **7)** the ratio of G2 propod length to maximum width; **8)** maximal propod width vs. basis width on G2; **9)** extent of posterodistal lobe on the basis of P7; and **10)** the nature of, or lack of, posterior marginal setation on the basis of P7. Don Cadien also suggested characters based on the spine and serration pattern of the uropods had value, but were not well enough known as regards variability between individuals, sexual dimorphism, and ontogenic change for current application.

We scored each of these characters as follows:

- 1. G1 palmar orientation** – transverse [0], oblique [1], intermediate “can’t decide” [2]. This seemingly simple decision as to the orientation of the palm has proven to be quite difficult in practice. There is considerable perceptual difference between individuals in how a particular palm should be scored. In some cases there is an unequivocally transverse palm, but in numerous other cases a palm that is transverse at the hinge may taper off into obliquity before it joins the hind margin of the propod. Depending on just where this takes place such a palm could be scored as any of the above states. We must constrain ourselves to only the most clear cut cases for scores of 0 or 1, and place all other more problematic structures in 2.
- 2. the setation of the anterodistal margin of the basis of G1** – strongly setose, with 4-10+ setae, usually long [0]; weakly setose, with 1-3 setae, usually very short [1]; setae lacking [2]
- 3. the pattern of setae on the ventral margin of coxa 1** – setae markedly longer at posteroventral edge of coxa [0], or setae of posteroventral edge the same length as elsewhere on the ventral margin of coxa [1] (this includes cases where long and short setae are interspersed along the entire ventral margin of the coxa)
- 4. the ratio of dactyl to propod length in G2** – 1/3 [0], 1/4 [1], 1/5 [2], 1/6 [3], 1/7 [4], 1/8 [5], 1/9 [6]. These are all rounded to the nearest choice based on optical micrometer measurements of the lengths of dactyl and propod.
- 5. the number of dorsal setal groups on the propod of G2** – scored directly 1=1, 2=2, etc. Groups may have a single member and still be counted as a positional group. The group at the base of the dactyl is not counted, as it is present in all species.



| CHARACTER | recti | millsi | shoe | micro | pect | varia | lati | amer | setos | gurj |
|---------------------------------|-------|--------|------|-------|------|-------|------|------|-------|------|
| G1 palm orientation | 0 | 2 | 2 | 1 | 2 | 0 | 2 | 0 | 1 | 0 |
| G1 basis marginal setae | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G1 coxa setal pattern | 0 | 1 | 0 | ? | 0 | 0 | 0 | 1 | 0 | 0 |
| G2 dactyl/propod length ratio | 0 | 5 | 2 | 6 | 2 | 3 | 1 | 5 | 2 | 1 |
| G2 propod dorsal setal groups | 2 | 8 | 1 | 2 | 1 | 3 | 1 | 5 | 0 | 0 |
| G2 propod ventral setal groups | 6 | 10 | 4 | 6 | 5 | 7 | 2 | 7 | 6 | 3 |
| G2 propod length/max width | 4 | 7 | 6 | 8 | 5 | 6 | 6 | 7 | 3 | 5 |
| G2 propod width/basis width | 0 | 0 | 0 | 2 | 0 | 1 | 2 | 1 | 0 | 0 |
| P7 posterior lobe of basis | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P7 post marginal setae on basis | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |

Table 1. - Character table for *Synchelidium*

- 6. the number of ventral setal groups on the propod of G2** – scored directly 1=1, 2=2, etc. Groups may have a single member and still be counted as a positional group. The anterior-most group, which points anteriorly off the tip of the fixed finger is not counted. It is not considered a ventral group.
- 7. the ratio of G2 propod length to maximum width** – expressed as nearest whole number. (i.e. .71mm/.08mm = 8.875, score 9)
- 8. maximal propod width vs. basis width on G2** – wider than basis [0], subequal to basis [1], narrower than basis [2]
- 9. extent of posterodistal lobe on the basis of P7** – no lobe [0], a short lobe not reaching beyond the distal margin of article 3 [1], a long lobe extending along the posterior margin of article 4 [2]
- 10. the nature of, or lack of, posterior marginal setation on the basis of P7** – setae present throughout [0], setae absent [1], setae proximally only [2]. All setae on the posterior margin of the basis of P7 should be simple. There are in many species a series of long plumose setae attached to a ridge on the median face of the basis. These usually extend posteriorly, and reach beyond the posterior margin of the basis. THESE ARE NOT MARGINAL SETAE, they are facial setae, and are not counted in scoring this character.

These ten characters seem to adequately separate the described species (the western Pacific species *latipalpus*, and *gurjanovae*, and the western Atlantic species *americanus* are also included in the table) according to Table 1.

Character 2 - setae of the anterior margin of the basis of G1 is invariant for these species as scored. It is retained until we finish examining our own specimens. If it is not useful in separation after they are examined, the scoring



will be redefined to better discriminate between species. Please note the illustration of Bousfield and Chevrier of *shoemakeri* shows a condition which would have been scored as 1 in this character. In Mills original description, however, the illustrated condition was scored as 0 and this was used in the table.

Comparison of specimens with the character table should yield presumptive identifications. These should be checked against the descriptions and illustrations of the species in Bousfield and Chevrier (1996) and, in the case of *rectipalmum* and *shoemakeri*, against the original descriptions of Mills (1962), which do not agree in all particulars with the later reports. The SCAMIT voucher sheet for *Synchelidium rectipalmum* was found to disagree with the original description in the configuration of the lobe on the basis of P7, and should be used with caution.

Our discussion of oedicerotids, as well as other non-polychaete groups will continue at the meeting scheduled for 18 October at the San Diego lab. By then we should all have been able to apply the above character table to our specimens, and have comments to make about their applicability and validity as separatory tools. If you find them wanting, try and come up with suggested alternatives by the meeting.

***Sigambra* ALERT**

- Tom Parker (CSDLAC)

Licher & Westheide (1997) review the descriptions and taxonomy of *Sigambra bassi* and *S. tentaculata*. Previously local workers have relied upon various features to identify *Sigambra* species. The use of soft tissue features such as median antennal length relative to lateral antennal length, prostomial margin shape, and papillae on the proboscis have been utilized. Hard features such as the first occurrence of setigers with hooked setae have also been counted upon as final determinations of whether *S. tentaculata*, *bassi*, or *setosa* specimens were present.

The following brief table (see Table 2., pg 12) is a synopsis comparing the relevant determining factors used in the MMS Atlas versus those reviewed by Licher & Westheide. It seems likely that a local review of practices and specimens is needed to standardize our identifications.

FOLLOW UP

The specimen of the crab genus *Palicus* seen at the meeting on 16 August has been further examined and is an example of *Palicus lucasii* from California. The first reported specimen from local waters was taken in 1994 by CSDLAC off Palos Verdes. Reexamination of that specimen with the comparative material of the second specimen, and additional material from the Galapagos, Panama, and the Gulf of California has shown the original ID as *P. lucasii* to be incorrect. This second specimen, like the first, is a male. Examination of the male pleopods by Dr. Todd Zimmerman (NHMLAC) confirmed the identity of the second specimen, which was taken in 124 ft. of water at ITP station 2101 off Imperial Beach. The identify of the first specimen from off Palos Verdes was later established by Todd as *P. cortezi* (Crane 1937), originally described from the Gulf of California. This is a new record for California, and will be added to the emendations to be made to the 3rd Edition of the SCAMIT list. Many thanks to Todd for his efforts in clarifying the identity of these difficult animals.

MORE CHANGE

Our coast has two representatives of the synopiid amphipod genus *Tiron*, or it used to. It has finally been recognized that the presence of a mandibular palp in *T. biocellata*, and it's absence in *T. tropakis*, is of no small significance. Reference to Barnard & Karaman (1991) shows both species still listed under *Tiron*. The same authors, however, include as a valid generic level taxon *Metatiron* Rabindranath 1972. As pointed out by Thomas (1993), Barnard & Karaman failed to reallocate



***Sigambra* Species Issues (*S. bassi* vs. *S. tentaculata*)**

| Feature | Hilbig 1994 | Licher&Westheide 1997 |
|---------------------------------|--|--|
| relative length of antennae | relied upon | "rather irrelevant" |
| number of prostomial papillae | 8 vs. 14 | 14 for both |
| posterior margin of prostomium | not relied upon | "of little value" |
| first setiger with notohook | relied upon | both initial setiger. <i>S. tentaculata</i> has consistent initial occurrence in Setiger # 4. <i>S. bassi</i> often 11-15, but also as early as 3. Variability limits its taxonomic value. |
| depth/range | recognizes wide range may be shown requests critical re-exam of specimens from great depth | recognizes wide range may be shown via molecular exam to be other species. Exams to date have not provided information necessary to distinguish new/different taxa. |
| notopodial spine+capillary+hook | not commented on | unique for <i>S. bassi</i> |
| nomenclature dispute | B & H 74 <i>S. tentaculata</i> listed as same | B&H 68&74 <i>S. tentaculata</i> listed as <i>S. bassi</i> |

Table 2. - *Sigambra* spp. comparison

species originally described as *Tiron* into *Metatiron*. One of the salient differences between the two genera is the mandibular palp, which is absent in members of *Metatiron*. In consequence we must recognize that “*T.*” *tropakis* belongs in *Metatiron*, while *T. biocellata* is properly allocated to *Tiron*. Barnard explicitly mentioned the absence of a mandibular palp in his original description of *Tiron tropakis* in 1972. In his original description of *T. biocellata* he indicated that the mouthparts were the same as *T. spiniferum*, the type of *Tiron*, with but two exceptions. The mandibular palp was neither illustrated nor described, but was not listed as an exception (Barnard 1962). Examination of locally collected *T. biocellata* and *M. tropakis* have confirmed the presence of a palp in the former, and its absence in the latter. Jim Roney (HYP) had mentioned this difference in a Taxonomic List Server communication earlier this year, but either did not appreciate (as I had not), or didn’t mention the consequent separation at the generic level. Edition 3 of the SCAMIT Taxonomic Listing is in error as regards *Metatiron tropakis* (Barnard 1972); a correction will be made in Ed. 4. - Don Cadien (CSDLAC)

NEW ISOPOD

Hi all,
Just a quick “heads up” or “look out” regarding Southern California Bight *Edotia*. There appears to be a third species of *Edotia* in the SCB that we are tentatively calling *EDOTIA* SP SD 1 in our database. The specimens were collected in 60 m of water from one of the Bight’98 Channel Island stations. The species resembles *E. sublittoralis* very closely, especially in terms of pleonal morphology — i.e., they have an inflated pleon (or pleotelson) with large dorsal swellings rather than the non-inflated pleon with a distinct transverse ridge (carina) characteristic of *Edotia* sp B. In other words, they would key to *E. sublittoralis* in the key I distributed some time ago. However, the specimens looked a little “different” and were

from relatively deep water more characteristic of the habitat of *E. sp B*. Consequently, I examined the pereopods of the “new” species and they appear to be distinct from either *E. sublittoralis* or *E. sp B* (the pereopods of these two species are quite distinct from each other).

I will try and put out a sheet soon describing these differences and any others that may become apparent. In the meantime, I would appreciate it if you could pull any “suspect” specimens and send them to me for additional examination. I would consider suspect any “*sublittoralis*” occurring at depths > about 45 m — actually perhaps any Channel Island critters in general.

Finally, I am trying to complete my paper describing *E. sp B* and redescribing *E. sublittoralis*, although I guess I’ll now add the 3rd species as well. However, I still haven’t had the opportunity to examine any *Edotia* sp B specimens from waters north of the San Diego area. Consequently, any specimens or even location info (i.e., I need a Northern range limit) would be appreciated.

Thanks,
Tim

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JOB OPPORTUNITY

I recently received the following e-mail from Maggie Dutch and am posting this listing for any of you who may be interested (I for one, would love to live in Washington - M. Lilly, Secretary)

Hi Megan,
I work with the Washington State Department of Ecology’s Marine Monitoring



Unit. Our group conducts both sediment and water column monitoring throughout Puget Sound, as part of the Puget Sound Ambient Monitoring Program. The state Department of Personnel has recently opened the Environmental Specialist 2, 3, 4, and 5 registers from which we may hire new employees. Although we currently have no positions for which we are hiring, we may in the near future. I was hoping that you might be able to place a notice in the SCAMIT newsletter indicating that we are interested in having folks get on these registers who have 1) strong sediment chemistry, bioassay, and infaunal monitoring experience, 2) strong statistical/data analysis and report writing skills, and 3) an interest in moving to the state of Washington (rain and all :-) !!!).

Anyone with the interest and qualifications can contact me and send a resume (address, phone, and e-mail below). To get on the Environmental Specialist (ES 2 through 5) registers (you must be on the registers to be hired), an application should be submitted to our state personnel office:

Washington State Department of Personnel
Applications Unit
600 South Franklin
PO Box 47561
Olympia, WA 98504-7561

Information regarding these open registers, and an electronic version of the state application form can be found on Ecology's Employment Opportunity web site:

<http://www.wa.gov/ecology/es/jobs.html>

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