



**Southern California Association of  
Marine Invertebrate Taxonomists**

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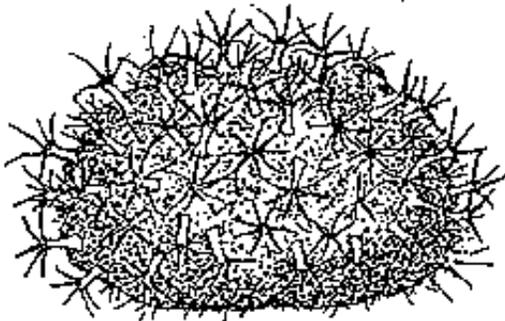
April, 1998

**SCAMIT Newsletter**

Vol. 16, No.12

<b>NEXT MEETING:</b>	Ascidians of Southern California Harbors
<b>GUEST SPEAKER:</b>	Drs. Charles & Gretchen Lambert
<b>DATE:</b>	11 May 1998
<b>TIME:</b>	9:30 a.m. to 3:30 p.m.
<b>LOCATION:</b>	114A Science Laboratory Complex, California State U., Fullerton, Ca. (see directions below)

**11 MAY MEETING**



*Boltenia echinata* (from Van Name 1945)

The meeting will be held in the laboratory of the Lamberts at Cal State Fullerton. It's their local swan song as they are retiring to the Pacific Northwest in June. We will concentrate on introduced ascidians in bays and harbors. They have just completed their annual examination of local boat harbors, and will have up-to-date information on introductions. Since we are meeting at their lab there will be all the comparative material we will need. Unknowns are welcome. The meeting is designed to prepare us for species we may encounter for the first time as Bight '98 trawling takes us into harbor areas.

## DIRECTIONS TO MEETING

>From 91 (Riverside) or 22 (Garden Grove) freeways take 57 Freeway North. Exit on Nutwood Ave. Go left under freeway and continue west past Marriott Hotel on right. CSUF is on right. Turn right at first driveway after the light on Commonwealth. Turn right again immediately; stop at parking kiosk for parking pass. Those who notified Don Cadien of planned attendance prior to the 7<sup>th</sup> will have passes waiting. The SLC building (green and white) faces Nutwood across lawn from parking kiosk.

## BIGHT '98

Preparations continue for the second round of regional sampling, Bight '98. There is still no final definition of the participants (but 41 groups are reputed involved in some or all of the program so far), so QC preparations are in limbo for the moment. The index period remains the same; mid-July to early September. Although changes may still take place, both in number of samples and effort allocation, the base plan is to have just under 300 benthic infaunal samples collected. A significant fraction of these will be taken from bay and harbor areas, and the remainder from the inner half of the continental shelf. Apparently quite a bit of the effort in both the northern and southern sections of the Bight will be performed by contractors using money contributed by agencies who were not involved in the SCBPP. Sampling will be performed around the northern Channel Islands, but the true extent and allocation of the effort is not yet known.

Trawls will also be taken as in the 1994 SCBPP sampling. Trawling in bays is physically restricted by the presence of both fixed and moveable objects. It is not yet clear if a modified methodology will be adopted (such as a shorter trawl duration or use of other gear) in bay and harbor areas. Those who

participated in the 1994 effort will find this one much the same, although new protocols for fish tissue acquisition will require additional trawling at each site.

As the number of participants increases, so does the complexity of the necessary intercalibration. SCAMIT will be involved, as it was in 1994 in both preparatory meetings before sampling (starting with the May meeting), and with quality control during sample processing. We will also serve as a clearinghouse of information for all the taxonomic participants. As work on the samples progresses, and new problem areas emerge, meetings will be scheduled to deal with them. We will also be concentrating our attention on those areas identified during the 1994 SCBPP as ones where identifications were not adequately standardized (Montagne & Bergen 1997).

One of the methods suggested to accomplish this was discussed at the last meeting; specialization. Although logistical problems with maintenance of revenue neutrality prohibit the application of a specialist approach across the board, it can be used in limited problem areas. Dave Montagne (CSDLAC) prepared a preliminary analysis of the impact (in terms of number of lots and number of specimens) of specializing in groups identified during SCBPP as non-standard areas. In most cases either few species or few individuals were involved, but a few groups seem to warrant additional effort for their resolution during Bight '98. The decision to use or not use this approach rests with the Steering Committee, but we will make recommendations based on our discussions at the meeting through president Ron Velarde (CSDMWW).

## NEW LITERATURE

The nomenclature of sponge spicules is complicated enough, but when you add in the descriptive terms

used for the morphology of the group much confusion results. This has hopefully been removed by Boury-Esnault & Rützler (1997). They provide a comprehensive listing of terms, give definition, and provide clear illustrations (annotated where necessary) of the structure in question. The work presented by them is the result of several years of consultation between the majority of the sponge workers in the world. It up-dates the last such attempt, made 30 years ago (Borojevic et al. 1968). The listed authors are in reality editors, presenting the communally derived definitions.

The problem of identifying gelatinous pelagic animals caught in trawls has just been simplified by the release of Wrobel & Mills 1998. This guide provides generally excellent illustrations of a wide variety of gelatinous zooplankters from both surface and deeper waters off the west coast. All are either cnidarians, ctenophores, tunicates, or mollusks. Capsule descriptions of the living animals augment the photographs, and background discussions cover several topics including zoogeography, handling (some of these guys can deliver a most unpleasant sting), natural history, and ecological relationships. A large, but not comprehensive bibliography is also provided, as is a hierarchical listing of the taxa considered.

The paper of Jennings & Newman (1996) has buried within it a reallocation of one of our local flatworm species, *Stylochus exiguus*. They mention during discussion of some of their new species that our species belongs in the genus *Imogine*, which they elevate from subgeneric to generic rank within the paper. They do not redescribe *I. exiguus*, but the comparisons with the new congeners are interesting.

Bivalve feeding has been addressed on several occasions. Most recently at a workshop on suspension feeding at Plymouth, England (Bayne 1998). The author provides an introduction to the workshop in his paper. Individual aspects of bivalve suspension feeding were covered in other papers resulting from the meeting and published in

the same issue of the journal. In his introduction he summarizes recent developments in the field, and mentions some promising new directions.

The effect of introduction of the bivalve *Musculista senhousia* on eelgrass is explored by Reusch & Williams (1998). They experimentally demonstrated interference with eelgrass growth by addition of *Musculista*. The effect was linear, and most pronounced in areas where eelgrass density was already low. In Southern California, where other external causes have decreased the density of previously luxuriant beds, or where transplants are widely spaced and intended to fill in, invasion by *Musculista* might seriously affect the health of eelgrass beds.

Cladistic analyses are usually based on many types of base data. In the mollusks, the crystalline structure of the shell has often been used as a very basic attribute of a clade. Information on shell mineralogy and fine-structure of the layering has been accumulating for years. Increased use of SEM in recent years has added even more detailed information. Hedegaard (1997) continues this trend, providing an analysis of shell structure in vetigastropods. Among other results, his analysis suggested that phasianellids were neither a part of nor a sister group to turbinids.

Phylogenetic questions concerning anomuran crabs were treated by McLaughlin & Lemaitre (1997) and Tudge (1997). The former authors address "carcinization" in the group based on evidence provided by adult morphology. They also provide an overview of the historical context of the idea. They conclude that lithodid crabs did not arise from hermit crab ancestors through a process of carcinization.

Tudge performed a cladistic analysis of the relationships between a selection of anomuran, thalassinidean, and other decapod groups using 32 characters derived from the morphology of spermatozoa and spermatophores. He found many of the groups he examined to be paraphyletic based

on the considered evidence. For instance, he found that Anomura was not a monophyletic clade. His analysis also suggested that the thalassinids were not monophyletic, and that *Thalassinina* belonged within the anomuran clade, while the other thalassinids did not. The lomoid *Lomis hirta* also fell outside the boundaries of the anomuran clade. Hippid crabs were placed as a sister group to the Anomura.

The last of the provisional species of *Pagurus* erected by Janet Haig has now been described by Wicksten & McLaughlin (1998). Haig's *Pagurus* sp. 2 has finally been named *P. retrorsimanus*. Although there is no direct mention of the provisional name as it was established by Haig, she is acknowledged as the first person to recognize the new species. There is a reference to a photograph of the species (as *Pagurus* sp. 2) in Jensen (1995).

In a continuing series on parental care in peracarids Thiel (1997) discusses how small new recruits avoid predation. He covers the period between leaving the protection of the parental burrow and establishment of a self-constructed burrow of sufficient depth to efficiently deter predators in this paper.

Mooi (1997) provides a concise and complete treatment of west coast sand dollars of the genus *Dendraster*. One name change pertaining to the Southern California Bight fauna is presented; the synonymy of *Dendraster laevis* with *D. terminalis*. Good illustrations, discussion, and key are included., as is a preliminary phylogenetic analysis.

The degree of motility in adult brittle-stars was examined experimentally by Rosenberg et al (1997) using *Amphiura filiformis*. They tested the hypothesis that the species exhibits density-dependant migratory behavior with reduced food availability as the proximal stimulus. They found that although migration rate was density dependant, it was independent of food concentration. They had some observations which suggested movement of up to two km over a one year period. They also found

that movement could be either over the sediment surface, or beneath it. They conclude that the extent and impact of such movements has been vastly underappreciated previously, and forms a potentially very important means of physical mixing in surface sediments. Our local amphiuroid ophiuroids are sufficiently similar in morphology to *A. filiformis* to suggest that similar scale effects might take place locally.

### GOING, GOING, GONE

Three members of our local taxonomic community are changing locales. As was indicated at the beginning of this Newsletter, Drs. Charles and Gretchen Lambert are retiring from their posts at California State University, Fullerton, and moving to the Puget Sound area. I say "retiring" reservedly, since they will undoubtedly stay very active in the community, much to the benefit of our northern sister organization NAMIT. They leave in mid-June. We owe them a debt of gratitude for their continuing support of our organization over the years.

The same can be said of Dr. Mary Bergen, of SCCWRP. She is also "retiring" from her position at SCCWRP, and will head her family avocado ranching business in the Ojai area. Mary says she will be looking forward to continuing where possible in her taxonomic pursuits with the holothurians, and plans to make herself available as a consultant when she can spare the time from the business of the ranch. We have already planned (in principle) a workshop on holothurians to take place at the ranch either later this year or next year. She has been in and out of the local scene several times over the last 20+ years, leaving for work with EPA in San Francisco, and with the State Lands Commission in Sacramento. Nearly all (if not all) the work of setting up for the benthic portion of Bight '98 should be in place by her departure in mid-June. According to Steve Weisberg, SCCWRP Director, her position as head of the benthic effort

will take some time to fill. In the interim, Dave Montagne (CSDLAC) will coordinate QC and sample processing efforts.

Also departing is Cheryl Brantley, who ends her stint as SCAMIT secretary. She can still be reached at her new phone (310-830-2400 ext 400, and at her prior e-mail address ([cbrantley@lacsdsd.org](mailto:cbrantley@lacsdsd.org)), but not about SCAMIT secretary business. Newly elected Megan Lilly (CSDMWWD) assumes secretarial duties after this Newsletter. She can be reached at [mnl@mwharbor.sannet.gov](mailto:mnl@mwharbor.sannet.gov).

### ACKNOWLEDGEMENTS

I greatly regret having to give up the secretarial position this year, but I need to devote more time to professional obligations at CSDLAC. In my quest to increase the quantity and quality of literature produced by SCAMIT I have had to neglect some of my work in the marine biology lab and now need to make it a priority.

I will continue to support SCAMIT as much as possible, including helping the new Secretary, Megan Lilly, adjust to her duties in any way I can. I hope to someday be able to serve as an officer again. My four years as Secretary have been a wonderful learning experience not only into the world of invertebrate taxonomy, but the World Wide Web as well. It has been great developing professional friendships and contacts thru SCAMIT which have added immensely to my growth as a taxonomist.

There are many people I need to thank, but most importantly is Vice President and Newsletter Editor Don Cadien. Without his help and encouragement I never would have gotten my job done. As most of you know the newsletter the past 4 years has been very much a team effort. My knowledge of those "other phyla" besides polychaetes is quite limited, so Don more than filled in the blanks. I hope the

Newsletter will continue to be a team effort so the quality can be maintained because one person truly can't do it alone, nor should they be expected to.

I also would like to extend a big THANK YOU to Ron Velarde, Ann Dalkey, Larry Lovell, Rick Rowe, Tom Parker, April Ford, Leslie Harris and Tony Phillips. They have all played a major role in making my job as Secretary much easier. I especially would like to thank my supervisor, Dave Montagne, for allowing me time to devote to SCAMIT in the first place. -Cheryl Brantley

### MINUTES OF APRIL 27<sup>th</sup> MEETING

Polychaete taxonomists were treated to a demonstration of digital camera imagery by Rick Rowe and Kelvin Barwick at the City of San Diego's Marine Biology Lab. Several months ago the City of San Diego purchased a Leaf Lumina digital camera to aid with standardizing invertebrate identifications amongst their large group of taxonomists. The digital camera has many advantages over traditional descriptive techniques. Hand drawings or tracings can be very time consuming, descriptive text is not quickly referenced and can be misinterpreted and film photography is relatively expensive and results are delayed waiting for film processing. The digital camera not only gives a more realistic representation of the organism, which is not as likely to be misinterpreted, but adjustments can be made to the image immediately and inadequate images can simply be deleted from the computer.

San Diego's digital camera is connected to a Macintosh computer system that has Lumina EasyScan software installed. Once the image is captured or digitally scanned thru the EasyScan software it can then be corrected or enhanced thru Adobe Photoshop software. The maximum resolution produced is 600 dpi @ 4" x 5" output or 300 dpi @ 8.5" x 11". The maximum file size produced is 26 Mb at full frame, full resolution,

RGB. The camera also has a 36 Bit Dynamic range device which means it has more shadow and highlight detail than a typical 24 bit color flatbed scanner. Rick and Kelvin have determined that an average digital scan on their system takes approximately 3 minutes.

The camera can be used on top of a dissection or a compound microscope. One of the main problems with this camera setup has been lighting the subject, especially with the dissecting microscope. The camera loses light thru all the prisms of the dissecting scope. Thru trial and error Rick and Kelvin have found what lighting works best, many fiber optic illuminators that they can adjust directly on the subject. The camera also came with a device for projecting photographic slides and negatives that can then be scanned by the digital camera. The Lumina Easy Scan software has several options that can be set when actually scanning the image. For instance, the image can be scanned in color or black and white and as a positive or negative image. The vibration can be suppressed if needed. Also, the white balance of the light intensity can be compensated for when switching between different light sources due to using different camera positions and microscopes.

Focusing seems to be the weakest part of the camera system. Rick and Kelvin have found that it is much better to focus thru the camera than to adjust the focus through the computer due to the lag time between the two. For polychaetes Rick generally pins the organism to be digitally scanned in place with very fine insect pins under the dissecting scope and for images of parapodia and setae mounts them on a slide with the camera mounted on the compound scope. Due to the size of these digital images Rick and Kelvin store the majority of them on a removable Jazz® drives, but are looking into eventually storing them on CD-ROMs.

Kelvin demonstrated some of the capabilities of Adobe Photoshop in manipulation of these digital images. Photoshop is able to sharpen the image and

remove any background blemishes or imperfections and even enhance a particular area of the image by adding or deleting individual pixels. Kelvin did point out that there is a fine line between enhancing the image to clarify a structure and changing the image so that it is no longer as true a representation of the actual organism. However, I think all the SCAMIT members present agreed that the resolution of the digital images achieved is so good that not many enhancements are needed to improve the quality of the image of the organism, only perhaps the background. Kelvin demonstrated how a "mask" can be created in Photoshop to change the background and how sometimes a different color background or background texture will enhance the features of the organism and improve the overall digital image.

After this camera demonstration we were all treated to a scrumptious lunch provided by Rick Rowe Catering. Sandwich fixings, pasta salad, veggies, chips, and homemade ginger cookies all prepared by Rick himself. Now we know why Rick always brings his own lunch to SCAMIT meetings, he's such a good cook. Those members absent from the meeting missed a wonderful free meal, but hopefully we will be able to talk Rick into catering another meeting in the future now that we have discovered another one of his hidden talents.

During lunch Rick distributed color handouts of his identification sheets for local *Aphelochaeta*/*Monticellina* species. These handouts are color xeroxes of original sheets prepared by Rick where each page has several digital images of a different local species illustrating the individual methyl green stain patterns and diagnostic characters. Rick pointed out that these were not voucher sheets but aids to identification of a difficult polychaete group and were mainly created to assist the polychaete taxonomists at the City of San Diego. Rick has plans to make more identification sheets for other difficult groups, such as scaleworms. These handouts are not included with this newsletter due to the expense of the color copies, but we greatly appreciate Rick sharing copies with those of us at

the meeting. Any other member interested in these sheets should contact Rick Rowe.

After lunch Kathy Langan-Cranford, another member of the City of San Diego's lab presented a taxonomic problem with our local *Prionospio* sp. A of SCAMIT, whether it should be referred to as *Prionospio jubata* Blake 1996 or *Prionospio steenstrupi* Malmgren 1867 or left as a provisional. Blake lists specimens of Dean Pasko's in the material examined for the description of *P. jubata* in the MMS Atlas volume 6. These animals were some of those that Dean had used to write up the *P. sp. A* voucher sheet for SCAMIT in 1991.

Several weeks ago Tom Parker and Cheryl Brantley (CSDLA) compared their specimens of *Prionospio* sp. A to the description of *Prionospio jubata* in the MMS Atlas volume 6 and found several differences especially with regards to the beginning of the dorsal crest and length of the first and fourth pair of branchiae, which are the two characters used to split *P. jubata* from its congeners in Blake's key. This information was passed on to Kathy and she pulled several of her lab's *Prionospio* sp. A specimens and compared them to *P. jubata* and informed other SCAMIT members to check their animals as well. Kathy checked several of the animals that her co-worker Dean Pasko had used to write up the SCAMIT voucher sheet for *P. sp. A* and more recently collected animals. She displayed several of these animals at the meeting using SCAMIT's video camera system. She found similar variations with San Diego's animals as Tom and Cheryl did with LA County's.

The dorsal crest or transverse fold seems to begin on setiger 7 not 6 as described for *P. jubata*. The lamellae of setiger 6 are larger than the lamellae from setiger 5 but do not form a fold or extend completely across the dorsum (as illustrated in Fig. 4.10 on pg. 127 in the Atlas) until setiger 7. Upon staining these animals in methyl green, there seems to be a thin line across the dorsum at the 6<sup>th</sup> setiger which appears to be an extension of the wide lamellae, but no fold of tissue or membrane that

could be interpreted as an actual "crest" exists. The prostomium on all these animals examined did not have the central peak like *P. jubata* either, but Kathy did find a few animals that had a slight undeveloped blip or bump in the center. SCAMIT members also found that the lengths of the first and fourth branchiae is more variable than the description for *P. jubata*. They are sometimes more equal in length rather than the fourth pair being one and one-half the length of the first pair.

Larry Lovell also brought specimens collected off Orange County that were similar to San Diego's and LA County's. Leslie Harris brought one of the paratypes of *P. jubata* from station R-5 that was deposited at LACMNH and we examined it at the meeting and found it was a very good match for Blake's description and illustration with a central peak on the prostomium and a dorsal crest which begins on setiger 6.

It was decided that the holotype should be borrowed and examined and compared to examples of our local *Prionospio* sp. A before a final decision is made as whether to call our animals *P. jubata*. It may turn out that our animals are *P. jubata*, but they just exhibit some variation with regards to the where the dorsal crest begins, how developed the prostomial peak is and the length of the pinnate branchial pairs. To most members present at the meeting these seemed to be enough significant differences to leave our provisional name in place on Edition 3 of the SCAMIT Species List. In the meantime, while the holotype is being requested, it is suggested that all members examine their specimens of *Prionospio* sp. A for these differences and make note of any other significant variations.

After this discussion Rick Rowe took members back downstairs to San Diego's computer lab to view several digital images of *Malmgreniella* scale worms from his lab and a few from LA County that Rick had scanned before the meeting. It is Rick's intention to produce identification sheets for species of *Malmgreniella* like those of the *Aphelochaeta* / *Monticellina* complex. There seems to be some

confusion between species of *Malmgreniella bansei* and *M. macginitiei*, which have many similar character states. Rick also believes that San Diego might be collecting *M. sanpedroensis* and perhaps *M. pacifica*. In about twenty minutes SCAMIT members were able to examine digital images of several species of *Malmgreniella* and easily see the differences in body and elytral pigment patterns, setal shape, and supraacicular lobe shape amongst several animals. If we had actually pulled these specimens out at the meeting and examined under the microscope with the video camera system it would have taken far longer. Work still needs to be done on this group to see what species we do have off southern California, but with Rick taking some time to pre-scan the images before the meeting he was able to only spend a few minutes illustrating the confusion with several of the diagnostic characters of *Malmgreniella*. It saved time for the rest of the members and we were able to accomplish more at the meeting. This was a very good example of one application of these digital images. Now that these images are digitized they can be printed out, sent electronically to others working with *Malmgreniella*, collected in electronic catalogs or notebooks for quick, easy reference or even put on the SCAMIT website for a much wider audience to view. The possibilities for taxonomic uses of these digital images is almost endless and SCAMIT members owe the City of San Diego's staff a great big THANK YOU for sharing their newest toy with all of us. For other SCAMIT members, not working with polychaetes, Rick and Kelvin have promised to demonstrate this system again in the near future. The small size of San Diego's computer lab was the limiting factor for this demonstration.

### LOVE, NOT WAR

The May issue of *Scientific American* has a short news piece describing pre-nuptial encounters in the flatworm world (McKinsey 1998). It is derived from an article by Nicolaas K. Michiels and Leslie J. Newman in the 12 February issue of *Nature*. In

the species studied (*Pseudoceros bifurcus*), which is hermaphroditic, functional sex determination is labile. When two individuals meet they rear up the anterior end of their bodies to expose their ventrally placed penes, with which they begin to spar. After a bit of thrust-parry-thrust the animal with the longest reach hypodermically injects sperm into the other through its penial stylet.

This causes the receiving individual to function as a female and begin egg-production. The "male" member in this encounter then crawls off in search of other conquests while the "female" diverts it's attention to the energetically costly enterprise of egg making. Encounters of this type may explain why many flatworms have light sensitive organs widely scattered on the body rather than concentrated in one area.

### MY LIFE AS A BIOLOGIST

By Donald J. Reish

#### Chapter 6 - The Army Draft and University of Oregon

After I decided not to enter journalism as a career, I went to the campus counselor for assistance. I was assigned to a senior who gave me different tests. He determined that the best bet for me was to become a high school social science teacher! It turns out he was training to be a high school social science teacher! So much for counseling. Things began to change on campus during the spring (1943). Male students were being drafted out of the classroom. I took two math classes during summer school to improve my chances of entering officer candidate school. I worked at the army PX and sold beer to the soldiers (at age 19). I went to Portland on Bastille Day ( July 14<sup>th</sup>) for my army physical. I had memorized the eye chart, but failed the eye test anyway. On the bus back to Corvallis, my friends felt so sorry for me. I cried when I got home, but my mother said, "There will be a need for educated people after the war."

As a freshman at Oregon State, I had taken Psychology. I considered this field and I went to see my Psych prof (she lived about 5 blocks from me). She said that if I wanted to become a Psychologist I had to go to Univ. of Oregon since Oregon State did not offer a degree in Psych. That was my primary reason for going to U. of O. Just before heading for Eugene, Bob, John and I took a bicycle camping trip to Florence, OR. That was my first visit to Lake Cleowax. We try to go there every time we are in OR. It is one of my favorite spots in OR. I have a series of photos taken over the past 45 years which shows the development of a forest on the enormous expanses of sand dunes.

Just before heading off to the U.of O. in fall 1943, Bob and I were looking at the Oregon State College catalog. Bob had also become 4F because of eyes. We looked at the requirements for the PhD; we thought it would be neat to get a PhD and maybe sometime we could become a college president! (Fortunately, neither of us did.)

The dorm was a fraternity taken over by the University. Most of the male student body was made up of freshman who were waiting to be drafted. They didn't study much. Since I could not take any upper division Psych courses, I enrolled in General Biology. I had an outstanding prof and I really enjoyed biology. I decided then and there that I wanted to get a PhD in Biology. The next quarter we studied invert zoology. I made a large chart which compared how the different phyla lived, reproduced, etc. I must have included polychaetes, but I do not recall them. I spent much time dissecting the earthworm including a detailed study of the circulatory system. I then explained the system to some of my fellow students. I continued taking math and in my fall quarter of my junior year, I took chem, physics and calculus. I got so tired of working math problems in the three classes. Where's biology? I lived in a private home and was a house boy for a sorority. I washed pots and pans and received my meals and \$5.00 a month (my room was \$12.00 per month).

The effect of the war was really evident my first two years at U. of O. There was about 4 to 5 women for each male. (Prior to the war men outnumbered women 2 to1). Gas was rationed as were meat, canned goods, sugar, and shoes to mention a few. Actually, I really wasn't affected too much by the war. I had to take ROTC my sophomore year; I couldn't march and I ended up with the only D grade in my life. My mother moved to L.A. My dad could not get gas to make the trip so he went to work in the box factory. I joined him at the end of the school year. We didn't make boxes, but the factory cut pine wood which was shipped to WA, CA, or elsewhere. We cut the wood for orange crates. Years later Dr. Hartman gave me 2 orange crates for my book case when I went to USC (I still use them!). I often wondered if I had stacked their pieces years previously.

I only took a quarter of calculus and substituted botany in its place. Mr Sipe was the prof., and he played an important role in my life as you will see in the next chapter. I spent the summer with my mother and worked on an experimental farm in North Hollywood. It wasn't very scientific; I mainly watered and pulled weeds, but it was fun working outside (no smog those days). At this stage of my life my mother thought that I would become a botanist. I had planted a vegetable garden at our home in Corvallis. In my senior year I began to think about grad school. For the most part the profs at U of O were not much help since the dept. emphasized pre-med. I did take an undergrad research problem, and I chose to work with termites. Research wise, I didn't accomplish much except I was able to get a stack permit in the library (there was no such thing as open stacks in those days) and I learned about scientific literature. I did benefit from it; I gave 2 seminars on termites and I have advised people about termites over the years. [Next: Oregon Institute of Marine Biology and I become a High School Teacher]

### ED. 3 UPDATE

The release of the 3<sup>rd</sup> edition of the SCAMIT Taxonomic Listing is not yet upon us. We are in the final stages of preparation (still), and are attempting to finish collation of changes, and modification of the introduction and supporting text. We will try to have it out by the end of May, but no firm date is yet available. Good things are worth waiting for, but sorry for the delay.

### IT'S 11 O'CLOCK, DO YOU KNOW WHERE YOUR COLLECTION IS?

In an e-mail about the shrimp keys attached to the last Newsletter, Dr. Mary Wicksten (TAMU) included the following commentary, which is likely to be of interest to many readers.

“ During studies in the 1960's, the Velero IV deployed Isaacs-Kidd midwater trawls at numerous stations between the southern California islands and Guadalupe Island, Mexico. The fish were analyzed by Robert Lavenberg of the LACM and others. John C. Yaldwyn of New Zealand described *Pasiphaea chacei* from the collections, and wrote up a list of species (unpublished) of midwater shrimp. A few of his records were incorporated into a zoogeographic analysis of midwater fauna (Ebeling et al, 1970). Some of crustacean specimens were sorted out and identified. I wrote a short note on the polychelid lobsters (*Stereomastis* spp.) (Wicksten, 1980), and described a pandalid shrimp from the material (Wicksten, 1983). I recall some work on the cephalopods, hyperiid amphipods and phyllosoma larvae; someone sorted out some of the shrimp for work on a thesis (or so I was told).

The rest of the material, including large black medusae (perhaps *Atolla* spp. and others), giant calanoid copepods, heteropods, foot-long nemertean, swimming polychaetes, giant mysids and ostracods, numerous oplophorid, pasiphaeid

and sergestid shrimp and much more languished in 10% formalin (no buffer) in jars labeled only with station numbers. There were banks of shelves and boxes full of the specimens.

The station data was not formally deposited at USC, so over time, some of the station data has been lost. Nobody paid much attention to the enormous collections. They were moved from the back shelves of the Hancock Foundation out to the old Harbor Laboratory, then back to a greenhouse at USC. The material still was in existence as a collection in 1980, when I moved to Texas A&M University. Crustacean specimens were decalcified and rubbery by the time I examined them. Some of the previously sorted crustaceans at LACM finally have been removed from formalin, but few have been catalogued. Most of the specimens in the unsorted jars just disappeared.

I have not been able to get "the full story" on these midwater collections. Some of the lids on the jars rusted and the specimens dried out, so these probably were discarded. Some of the specimens that were identified at USC seem to have been lost during the move of the collections from the Hancock Foundation to the LACM. But what happened to the rest of the material? Some say that some of it went to the Santa Barbara Museum of Natural History, others say that it was thrown out. One can guess how much it would cost to duplicate such a collecting effort today, assuming that any granting agency or project would foot the bill. “

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