



## Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive  
San Pedro, California 90731

January, 1999

### SCAMIT Newsletter

Vol. 17, No. 9

**SUBJECT:** The Coe Nemertean Collection  
**GUEST SPEAKER:** Dr. Eric Hochberg (SBMNH)  
**DATE:** 19 February 1999  
**TIME:** 9:30am to 3:30 pm  
**LOCATION:** Santa Barbara Museum of Natural History  
2559 Puesta del Sol  
Santa Barbara, CA 93105



*Daphnella* sp SD 1, CSDMWWD,  
B-11(2), 1-6-99, 289 ft

The meeting will be to examine the material in the Coe Nemertean Collection on deposit at the museum. Types of several of our commonly encountered (we think) species are included, and will be examined. Bring questionable and/or voucher material of your own for direct comparison with the types, and with authentically identified non-type Coe material in the collection.

#### SCAMIT ELECTIONS

It is time once again to elect officers for our organization. Nominations are open for all four of the officers positions. Three of the incumbents have signaled their willingness to run again. Vice-President Don Cadien will not accept nomination for the vice-presidency again this year, but hopes to continue as Newsletter Editor (if the Executive Committee so desires). Please send e-mail nominations to either Secretary Megan Lilly ([mjl@mwharbor.sannet.gov](mailto:mjl@mwharbor.sannet.gov)) or Vice-

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President Don Cadien ([dcadien@lacsds.org](mailto:dcadien@lacsds.org)), or voice your choice at a SCAMIT meeting (or over the phone if you choose). Don Cadien has nominated Carol Paquette (MBC/Independent), Dean Pasko (CSDMWWD), and Rick Rowe (CSDMWWD) for the office of Vice-President. If these individuals are willing to accept nomination, their brief qualifications statement will be in the next NL. Nominations for others to run against the incumbents are also welcome, and solicited. Consider putting yourself forward for office. All are welcome, and a broad base of officers is desirable.

### 19 JANUARY MEETING MINUTES

The meeting was held at the Los Angeles County Museum of Natural History in the Worm Lab. President Ron Velarde (CSDMWWD) called the meeting to order at approximately 10:00 a.m. Ron announced that he and Don Cadien continue to make progress in performing QA/QC checks on the Bight'98 trawl voucher specimens. Jim Allen (SCCWRP) is tackling the QA/QC on the Bight'98 fish voucher specimens.

A meeting of the Southern California Unified Malacologists (SCUM) was held this past weekend, January 16th, in San Diego. Apparently no SCAMIT members were in attendance. This is unfortunate, as SCUM is a sister organization with which we can interact constructively. Their annual meeting allows their members to keep up with what other members are doing, and to keep contacts open and active. SCAMIT members with an interest in the Mollusca might consider attending the next SCUM meeting.

### New Literature:

To our amazement, Don had no new literature this month. Leslie Harris passed around a recent article by Minoru Imajima (1997). It includes the families Polynoidae and

Acoetidae. Leslie noted that there are several species covered in this article that are similar to our local *Harmothoe imbricata*, so please be careful on your identifications of this species.

Don Cadien then took the floor. Many of us are in the midst of processing Bight'98 infauna samples. There has recently been increased activity on the Bight'98 Infaunal Taxonomists Reflector List. Don stressed the importance of using this venue of communication to quickly and efficiently get taxonomic information out to people. He suggested printing the messages and keeping them in a notebook for easy access and future reference.

He then drew our attention to an item in the last Newsletter expressing regrets to Dr. Geoff Reed, creator and operator of the Annelida website and list server for use of materials from that source without appropriate creditation. Don requested that those submitting things for inclusion in the SCAMIT NL which are drawn from other sources include the original source information so that the originator can be properly credited.

Our "nemertean people" are looking forward to next month's meeting at the Santa Barbara Museum of Natural History where Coe's nemertean collection will be examined. It will be very informative to examine his type specimens and evaluate our interpretations. This will be the first in hopefully a series of meetings to investigate Coe's material. After we initially evaluate where we are with the material, we may invite some nemertean specialists to give us their perspective.

The Fifth California Islands Symposium will be held at the Santa Barbara Museum of Natural History in Santa Barbara on March 29 to April 1, 1999. For more information about the meetings, check their website at

<http://www.sbnature.org/symposium99.htm>.



The Annual Meeting of the Southern California Academy of Sciences will be held at California State University, Dominguez Hills on April 30-May 1, 1999. For more information about the meetings, check their website at

<http://dhvx20.csudh.edu/~sqinn/scas/>.

Dr. Derek Ellis then gave a very interesting and informative two-part presentation. First, he talked about the Island Copper Mine Collection and then told us about seabed restoration around the mine.

The Island Copper Mine Collection is being brought to the Los Angeles County Museum of Natural History, a number of lots have already arrived. Dr. Ellis estimates the collection, which is mostly polychaetes, consists of 1,000-1,500 species and between 200,000 and 500,000 specimens. The Island Copper Mine is located on N. Vancouver Island, British Columbia, Canada. In 1971, a required monitoring program was started at 26 stations with 3 reps each. Both pre-operational and operational data were collected, and currently, post-operational monitoring is being conducted and will continue until 2001, 6 years after mine closure.

Having this long term data of pre-operational, operational, and post-operational conditions provides an excellent opportunity for a time series analysis of variability using benthic infauna. This type of analysis has traditionally been performed on terrestrial animals, the classic example being the peppered moth.

In the monitoring of the Island Copper Mine stations, a Ponar grab was used to collect the samples. The samples were then passed through a 0.5mm mesh screen. Dr. Ellis explained their criteria of defining juveniles and immatures during processing of infauna samples. Juvenile specimens were defined as measuring 1/3 the size of the most abundant adult form and having no gametes. They were able to identify many of these individuals to species. Immature specimens were defined as

measuring a fraction (1/8) of the adult size. These were individuals that had recently settled (a few days to a few weeks). Immature specimens were mostly identified to the genus or family level. Don Cadien added that age-staging was somewhat different for amphipods and other peracarids. Age-specific morphology in *Photis* juveniles and sub-adults, for instance, has been recently discussed on the Bight'98 Taxonomic Reflector. Sub-adults of *Photis* are defined as having no secondary sexual characteristics but may be as big as adults. Sub-adults can usually be identified to species. Juveniles are smaller than sub-adults and are not differentiated by secondary sexual characteristics. One usually has to back off to genus level on the identification of this age group.

Ellis's group performed studies to look at differences using 0.5mm, 1.0mm, and 2.0mm screens. Even though the infaunal data were different, the overall conclusions regarding impact and/or state of recovery that were reached were the same. They created the Rapid Preliminary Assessment (Ellis & MacDonald 1998), a report that could be given to the industry within a few days after sampling that contained preliminary conclusions. Prerequisites for making this assessment are: 1) key stations must be identified and selected for the analysis, and 2) the staff must be very experienced in the identification of benthic infauna from that region.

The next portion of Dr. Ellis's talk was on restoration of the seabed near the mine after operation ceased in 1996. At that time, the mining pit was flooded with seawater followed by a cap of freshwater. When the mine was in operation, the tailings that were produced at the mill passed through a de-aeration tank, were mixed with seawater, and then were discharged into the nearby inlet. Tailings are very fine, but heavy particles, and mostly settle at a depth of 100 meters or deeper. Tailings are relatively inert, and leach only small amounts of manganese.



Biodiversity data, e.g. number of species, number of individuals, and names of species are being gathered to assess how quickly the seabed is being restored. Within 2 years of mine closure, animals previously excluded at the stations with the greatest amounts of tailings are returning. Some habitat change (to coarser grain sediment) has also occurred.

One measure of recovery is determining if the animal community has achieved a sustainable succession. Dr. Ellis listed 2 such criteria: 1) the number of species and total number of organisms must fall within the ranges of reference stations nearby, and 2) several opportunists must have sustained themselves in large numbers for 1 or 2 years. He uses the term opportunist to indicate a relatively stable species (= secondary opportunist).

A discussion ensued about succession and recovery. What defines recovery? How do you know when the community has reached it? We agreed on one thing: benthic communities never return to the "same" condition because they are naturally variable in time and space. In a study off Pt. Conception, the Minerals Management Service defined recovery on damaged hard-bottoms as obtaining the original composition and age structure of the population. Realistically, this could take decades to reach, if it could be reached at all, due to the continual natural fluctuations of populations over time. Dr. Ellis is hoping that he has the data to persuade regulatory agencies that his view of recovery as the achievement of a stable successional sequence has more merit than other more rigid definitions. He does offer a more "biological" and realistic dynamic view of benthic communities. Regulators have often proven more interested in measurable threshold definitions in the past, and despite the mine data, Dr. Ellis may have a difficult time finding acceptance for a dynamic definition of "recovery" in regulatory applications. We wish him well in his attempt.

After this very informative presentation, we were able to sit back, relax, and enjoy a slide show by Leslie Harris. She showed us some excellent instructive, colorful slides of live worms (and a few other invertebrates). Leslie's presentation emphasized the color and pattern characters lost in preserved material.

After lunch, Ron Velarde and Leslie Harris opened a gift box of polychaete literature from Sue Williams. Members eagerly sorted through the piles, taking reprints that were of interest to them. It was suggested that people who hold reprints will make copies (upon request) for others who may want the same reprint(s).

The topic of the afternoon was new and interesting polychaetes from the Bight'98 sampling. Tony Phillips started the discussion by telling us about the samples he's been processing from Santa Cruz Island, Catalina Island, and Long Beach Harbor. Tony described several interesting species he encountered in the Santa Cruz Island samples. The dominant ampharetid he identified was *Ampharete* sp SD 1. See Kelvin Barwick and Rick Rowe's voucher sheet of February 1995, attached, (or [www.SCAMIT.org](http://www.SCAMIT.org)) and Kelvin Barwick and Rick Rowe's Table of Characters for the Ampharetidae which was included in the SCAMIT Newsletter, Vol. 17, No. 5. He also found several specimens of *Spinospaera* sp SD 1. See Rick Rowe's voucher sheet of May 1997 which was included in the SCAMIT Newsletter, Vol. 16, No. 10 and is available in the Taxonomic Tools section of the SCAMIT website.

There were also many different species of cirratulids. Tony cautioned us about identifying cirratulids without posterior ends. Since many cirratulids have similar anterior ends, you must have **distinct** anterior characters to define the genus or species. Tony has found a large amount of variation in where the modified setae begin within a single species. He cited an example. In a specimen



measuring 5mm, the modified setae started on setiger 40; in a specimen measuring 10mm, the modified setae started on setiger 20; in a third specimen measuring 12-13mm, the modified setae started on setiger 90. Therefore we must be very careful when identifying cirratulids without posterior ends (it's difficult enough even when we do have the posterior end!).

Tony then passed around draft voucher sheets for several provisional species that he has encountered. The first was *Monticellina* sp B981 from the Channel Islands, collected at station 2511, August 5, 1998 at a depth of 102 m. The body is linear and has a short pointed prostomium. The peristomium is very elongate and consists of 4 setigers. A unique character of this species is the anterior peristomium which forms a ridge over the prostomium. This specimen has a distinct methyl green stain pattern which is illustrated on Tony's ID sheet.

The next species described by Tony was *Aphelochaeta* sp B981 from Santa Cruz Island. There were 6 specimens collected at station 2515 on July 23, 1998 at a depth of 102 m. It has a pointed prostomium, a simple pygidium, and approximately 20-30 anterior thoracic setigers that are compressed. After staining with methyl green, there is an unstained ring all the way around the anterior peristomium.

Tony next passed around his ID sheets on *Chone* sp Hyp 1 and *Chone* sp Hyp 2. *Chone* sp Hyp 1 has spatulate setae with long tips and a distinctive methyl green staining pattern. *Chone* sp Hyp 2 has radioli with long filiform tips and spatulate setae without tips. Both sheets included illustrations of the methyl green staining patterns.

Tony's complete descriptions of these provisional species will be put on the Bight '98 Infaunal Taxonomists Reflector List. Ron Velarde suggested putting the descriptions on the SCAMIT website, to make this information available to a wider audience.

Rick Rowe then discussed the common species that CSDMWWD is encountering in San Diego Bay samples. The most common species at this point is *Euchone limnicola*.

*Pseudopolydora paucibranchiata* is also very common. This species is described with an entire, rounded prostomium; however, after looking at thousands of specimens, Rick has noticed that a few specimens have a slightly incised prostomium. These few specimens match all of the other characters listed for *Pseudopolydora paucibranchiata* by Light, 1978. This led to a discussion of Tony Phillip's message to the Reflector List (December 2, 1998) regarding *Dipolydora barbilla*. *D. barbilla* has barbate notospines in the posterior and distinct pigmentation bands across the dorsum (not solid) which separates it from our common, local *Dipolydora socialis*.

Rick told us about two unique specimens of *Caulleriella* he has encountered from San Diego Bay. They seem to be the same species and have bifurcate setae and a multi-annulate peristomium. The specimens are reproductive even though they are quite small (6-8mm total length). They do not match any described species, so they will be identified as *Caulleriella* sp until more material can be collected.

### My Biological Life

Donald J. Reish

Chapter 12: 1951 concluded and beyond

The Pacific Division of the AAAS met on the USC campus in June 1951, while I was busy studying for my prelims. This meeting was an important influence on my life, which, in turn, affected the lives of many of my students. Curtis Newcombe arranged a symposium on water pollution at the meeting. Dr. Mohr spoke on protozoans as indicators of pollution. I just recently learned he filled in for the originally scheduled speaker. The State of California had just established the State Water Pollution Control Board (as it was known then), and



California Department of Fish and Game had the responsibility of conducting biological studies. CDF&G approached Dr. Mohr to head up the studies in southern California. He, in turn, selected Bob Menzies, Howard Winter and Chuck Horvath to conduct surveys in Los Angeles/Long Beach Harbors, San Gabriel River, Newport Bay, San Diego Bay, and Avalon Bay. They were hired as seasonal aids which limited their employment to 9 months. Horvath obtained a small orange peel bucket from Scripps. These studies were the start of benthic studies at USC. I identified the polychaetes from these surveys, and later became a seasonal aid after their 9 month period was completed. My first study was to survey Alamitos Bay, the beginning of my long interest in that body of water. I was responsible for writing up many of the reports, two of which were published in the CDF&G quarterly. I later surveyed the biota of the San Gabriel River after it was dredged (there was no benthic life in 1952); this was my first pollution abatement publication.

Continuing the happenings of 1951; I began to write up my dissertation. In August my friend (since childhood) Paul was drowned in Baja California; a rip-tide claimed him. He was his parents only child and I drove them back to Corvallis. It was a sad trip. His father had initiated the Microbiology Dept at Oregon State.

Early in 1952 I proposed to Janice and we set a June wedding date. Jerry Barnard went with me when I selected the ring for her. I thought that I would have my dissertation completed before the wedding. Ha! (I finished in December). Curtis Newcombe, who worked with the U.S. Public Health Service, suggested that I apply for a grant to study the relationship of polychaetes to pollution. Dr. Mohr served as the principle investigator as required by USC. It wasn't funded until mid-1953.

I had applied for a faculty position at Cal Poly-San Luis Obispo, but I later withdrew my name because I didn't qualify to teach microbiology. Mid-September of 1952 I was offered a faculty position at the new campus of Cal Poly Pomona. Janice had just accepted a position at LA City Schools. I turned the job down because I didn't think my 35 Buick could make the daily 60 mile round trip. Jerry Barnard took the job and stayed there one year. My 9 month CF&G seasonal position terminated in early 1953. Dr. Hartman obtained a temporary appointment with the Hancock Foundation to collect and sort benthic samples as I had described earlier. She was impressed with what we had done with benthic work in the bays and harbors.

There was considerable interest in the Arctic Ocean in the early 50's, probably due to the cold war with Russia. Personnel at USC were actively involved with biological studies at Point Barrow, Alaska. John Mohr had spent the summer of 1952 at Point Barrow and in 1953 he took Chuck Horvath, Jerry Barnard and me with him to the Arctic. It was my first real experience in an entirely different zoogeographical area. It became clear to me how important it is for a biologist (at least one interested in whole organisms) to visit and study diverse biological regions. I flew by myself to Point Barrow on military planes. At Fairbanks I got on the wrong plane and flew to Barter Is. which is on the Alaska—Canadian—Arctic border. We then flew to Pt. Barrow at 1500 feet along the Alaska Arctic coastline. It was quite a trip especially since I had to wear a parachute (no instructions). The others were envious of me since none of them had flown that route. Jerry and I worked together especially with the biota of Nuwuk Pond. A pond which was freshwater for the top 6-7 feet with fresh water fauna and the remaining 10 to the bottom was saline with marine fauna. Water froze to 6-7 feet each winter hence the fresh water floated on top of sea water. We did a paper on this, and I did two others based on



my Arctic experience. We returned to the warmth of southern California and I began to work on the U.S. Public Health Service grant (EPA didn't exist until 1970).

Next: Conclusion of my SC days

“(3) **Error 2:** In the “Bibliography”, the Hessler (1972) reference has an unnecessary apostrophe between the “m” and the “g” in the name *Serolis m'grayi*-- should just be **MGRAYI.**”

### **CORRECTION:**

Member Tim Stebbins (CSDMWWD) contributed a section on SCB isopods in the December newsletter and would like to correct some aspects of his original submission.

“(1) **Ommision:** Under my note on the Limnoriidae, I said that the key to world species in Cookson (1991) included *L. algarum* and *L. lignorum* from our area. I failed to mention that two other local species are also included: *L. quadripunctata* Holthuis, 1949 and *L. tripunctata* Menzies, 1951. These latter two species are also described in detail in Cookson's paper.”

“(2) **Error 1:** The newsletter lists Cookson's first name as **LESLIE**, however, her name is **LAURIE**.

### **BIBLIOGRAPHY**

- Ellis, Derek V. and Valerie I. MacDonald. 1998. Rapid preliminary assessment of seabed biodiversity for the marine and coastal mining industries. *Marine Georesources and Geotechnology*, 16:307-319.
- Light, William J. 1978. Invertebrates of the San Francisco Bay Estuary System. Family Spionidae (Annelida, Polychaeta). The Boxwood Press, Pacific Grove, California. 211 pp.
- Imajima, Minoru. 1997. Polychaetous Annelids from Sagami Bay and Sagami Sea collected by Emperor Showa of Japan and deposited at the Showa Memorial Institute, National Science Museum, Tokyo. Families Polynoidae and Acoetidae. *National Science Museum Monographs No. 13*. 131pp.



Please visit the SCAMIT Website at: <http://www.scamit.org>

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