Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

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SCAMIT Newsletter

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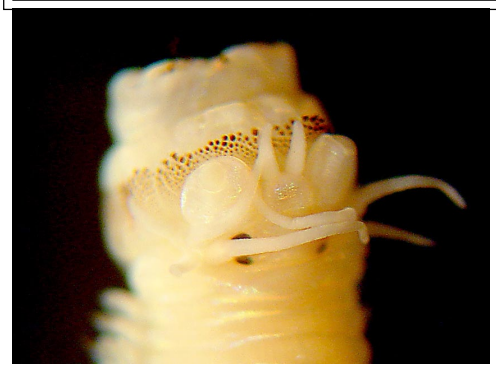
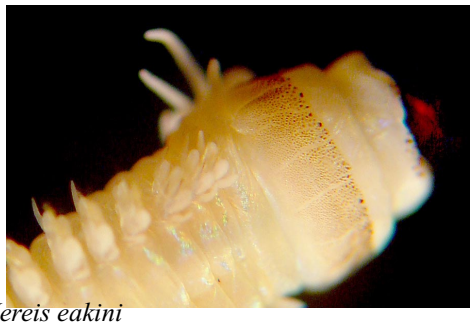
SUBJECT:	**Glyceridae**
GUEST SPEAKER:	**none; Leslie Harris Discussion Leader**
DATE:	**21 October 2002**
TIME:	**9:30 a.m. to 3:30 p. m.**
LOCATION:	**Worm Lab** **Los Angeles County Museum of Natural History** **900 Exposition Blvd**



Nereis eakini
Anterior dorsum showing paragnaths.
Images by L. Harris and K. Barwick 8-19-02



Nereis eakini
Anterior ventrum showing paragnaths.
Imagaes by L. Harris and K. Barwick 8-19-02

DE(a)NOVO

Thanks to the efforts of Dean Pasko and his wife, Francine, we have another new SCAMITE. The following is taken from an email sent by Dean:

"Granger Dean Pasko was born on July 13, 2002 @ 8:15 pm. He weighed in at 10 lbs 1 oz, and was 23 inches in length (i.e., HUGE!). His taxonomic specialty: Pectus lactis (Homunculidea:Feminidae) and at 8 weeks, he is doing GREAT! Sleeping at long stretches through the night, and happy and gurggling during the day."

We hope to have a picture for you later. Congratulations to all. It will be a while before he is adept at recognizing different vertebrates, with invertebrates a bit further along in the development path.

CREDIT

I forgot to give credit where credit was due in last month's newsletter. Rick Rowe, (CSD) took the wonderful digital image of the juvenile *Gorgonocephalus* featured on the cover. I also must apologize to the hard copy subscribers for the poor quality of the cover images in the last few issues of the NL. As it turns out , the stock of paper that we use for the letterhead is the culprit. I had some test prints run on our letterhead stock and on plain white stock and the images came out much clearer on the white stock. As a result, the cover page of the newsletter will now be printed on white stock paper, with the remainder of the newsletter being on the letterhead. When we run out of our current supply of letterhead, we will change the entire newsletter over to being printed on white stock. This will improve print quality and save SCAMIT the cost of having letterhead printed. Never fear, however, the address, logos, etc, will still be printed on all the pages in the appropriate places.
– M. Lilly (CSD)

AUGUST MINUTES

The meeting was held at the Natural History Museum of Los Angeles County polychaete collections room. President Kelvin Barwick began the business part of the meeting by announcing upcoming meetings. On September 9th, Ron Velarde will lead a meeting in San Diego on Epitoniidae. On October 21st, Leslie Harris will lead a meeting at NHMLAC covering Glyceridae. We anticipate that Steve Shaddack will be able to stop by this way in November and discuss Biolink. In keeping with SCAMIT tradition, there will be no SCAMIT meeting in December.

Leslie announced that a member requested having a meeting on ostracods. Any volunteers?

The Delta workshop was mentioned, and everyone was encouraged to attend the first day which is the introductory portion.

Kathy Langan passed out a voucher sheet on *Aonides* spp and a table comparing characters of *Aonides* spp specimens from City of San Diego, Los Angeles County Sanitation District, and City of Los Angeles. The voucher sheet and table are included with this newsletter.

There were two guests at the meeting. Curtis Cash was recently hired by the City of Los Angeles and is also working on his Master's degree at Cal State Northridge. His research involves marine parasites, and he said he would be willing to give a talk at a SCAMIT meeting in the future. Crissy Piotrowski is a curatorial assistant in the department of Invertebrate Zoology and Geology at the California Academy of Sciences in San Francisco. She is currently involved in the Bay 2K project which is a qualitative study of invertebrates in San Francisco Bay.

Rick Rowe produced 2 CDs as a result of the recent *Pista* exchange workshops. He passed out copies to representatives from each agency. CD #1, titled "*Pista* spp LHDraws, 19Aug2002", contains Leslie Harris's drawings of morphology and stain patterns. CD #2, titled *"Pista wui* CSDImage, 18 Aug2002", contains images of the morphology and stain patterns of two specimens of *Pista wui* collected from San Diego. Rick also passed around prints of some of the images.

We then proceeded to the topic for the rest of the day, west coast nereidids. Leslie led the discussion. She first passed out a multi-page handout that she and Crissy Piotrowski (California Academy of Sciences, SF) prepared for a similar workshop she gave at CAS. This included information on several species of nereidids found in the San Francisco Bay area and elsewhere on the coast. Good diagrams of the paragnath-bearing areas of the proboscis can be found in Light's Manual (1975) and Hilbig's chapter in the MMS Santa Barbara Channel – Santa Maria Basin Atlas (1997). First we tackled *Nereis procera*. Leslie had examined Ehler's type specimen of *N. procera*

at the Museum of Comparative Zoology. The type, from the Gulf of Georgia, was approximately 120mm long and 4mm wide. It was in good condition except for the posterior third of the specimen (approximately 40mm). Leslie said the paragnaths were very tiny and colorless and thus difficult to see, even at 50X under the dissecting scope. Paragnaths were present on all eight areas of the prostomium, with a thin band of paragnaths on areas VII and VIII. Leslie commented that they were difficult to illustrate correctly since they were smaller than the point on her pencil as seen through a camera lucida. She had to exaggerate the size of the paragnaths on her illustration just so they could be seen. There were 8-9 teeth on the jaws. Leslie suggested using *Nereis* sp. A for the specimens we had previously called *N. procera* in southern California, since they don't match the type. After Leslie's description of Ehler's type specimen, we agreed this was indeed different from the common soft-bottom species we encounter.

Next we discussed *Platynereis bicanaliculata* which is usually associated with algae and epifauna on hard substrates. Leslie shared her knowledge of the color variation in live *Platynereis* along the coast. All the live specimens she has seen in southern California have been iridescent blue-green in color. The specimens in central California were bright yellow-red in color. The specimens from the Puget Sound area up to Vancouver were iridescent purple-green. Leslie noted there was no apparent correlation between color and substrate or associated organisms. Some ideas were discussed as to the taxonomic significance of color in live specimens.

Platynereis sp: We viewed the paragnaths in a specimen of *Platynereis* from the Olympic peninsula that Leslie provided. She used this specimen to demonstrate what dentate paragnaths look like. In areas VII and VIII on this specimen, the dentate paragnaths consisted of a line of multiple pieces fused together into one structure. We also examined the posterior parapodia. The posterior dorsal cirrophores were longer and bigger around than our local *bicanaliculata* which have smaller, more triangular dorsal cirrophores.

We then discussed the following species:

Gymnonereis crosslandi: Everyone agreed that there were currently no problems identifying this taxon.

Ceratocephale pacifica: This is a deeper water species, and it was suggested that we keep an eye open for it during the next Bight project.

Ceratonereis paucidentata: This species was described from Alaska, rarely found in California, and SCAMIT has not reported it from southern California.

Cheilonereis cyclurus: This species is commensal with hermit crabs. No one reported finding it.

Neanthes acuminata: We discussed the general, unresolved debate as to whether *Neanthes* deserves subgeneric placement under *Nereis* and recent publications on the genetic make-up of different populations identified as *N. acuminata.* Refer to the Annelida-L archives for further discussion on these topics.

Neanthes brandti and *N. virens*: Both species have been reported from California. Their main distinction is the number of paragnaths: abundant in *brandti* and sparse in *virens*. This is not a reliable character as the number can vary with size and other factors.

Nereis eakini: This species occurs on rocks and algae. It is distinct in that it has numerous tiny paragnaths forming a wide band around the oral ring. There is also an anterior row of large cones. We viewed Leslie's specimen from the Olympic Coast National Marine Sanctuary, Washington, and passed around her illustrations of a specimen collected from an oil

rig in the Santa Barbara Channel. *N. eakini* is described from central California, intertidal. It also occurs subtidally and prefers hard substrate.

We diverged momentarily from the topic of nereidids to talk about micro-knives. Leslie found one that is very sharp, relatively cheap, and works well for polychaete dissections. It is a Sharpoint 15 degrees Microsurgical Knife, with a 5mm blade. They can be purchased for about $15 from Fine Science Tools at FineScience.com. Leslie then described her dissection technique for exposing the nereidid proboscis. Other members prefer to make their own micro-knives by breaking off edge pieces from single-edge razor blades and gluing the pieces to wood dowels, or using flakes of obsidian which are incredibly sharp-edged.

Nereis latescens: This species has a distinct color pattern even when it's preserved. It has brown or rust-colored pigment on the prostomium and anterior segments, forming transverse, interrupted bands across the dorsum.

Leslie cautioned us about identifying juvenile nereidid specimens. Juveniles typically have a smaller number of paragnaths than adults and fewer paragnaths in areas VII and VIII. For example, a juvenile may only have a single band of paragnaths on the oral ring, while an adult may have a anterior band of large cones and multiple bands of smaller cones on the oral ring. Leslie passed around her illustrations of adult and juvenile specimens of *Nereis* sp. A which showed this difference. Another variable for specimens of all sizes is the loss of paragnaths due to re-absorption, epitoky, abrasion, fighting, etc. A primary character for some species of nereidids is the presence of enlarged dorsal cirri in the posterior region. The dorsal cirri of these species enlarge as the animals grow which means that small specimens may not exhibit this character. Also, these structures are soft and easily contracted. An adult *Nereis vexillosa* in relaxed condition will have long, strap-like dorsal cirri while contracted specimens have short, broadly rounded cirri.

Nereis grubei: In 1954, Reish synonymized *N. grubei* (described from Chile) with *N. mediator* (described from Pacific Grove, CA) without seeing type or topotype material. While the two species may be the same, Leslie prefers to use *N. mediator* until the synonymy can be verified.

Nereis pelagica neonigripes: In Hartman's Atlas, the type locality is listed as Point Fermin, southern California, but according to Leslie, the actual type specimens are from Pacific Grove, Monterey County, CA (holotype, USNM 20201) and Kodiak Island, Alaska (paratype, LACM-AHF POLY 0830). This was originally described by Hartman as *N. (N.) neonigripes* (Hartman 1936), later she speculated that it might only be a subspecies or variety of *N. pelagica* (Hartman 1944), and eventually cited it as *N. pelagica neonigripes* (Hartman 1963, 1968). Hilbig (1997) synonymized *N. neonigripes* under *N. pelagica.* There are two things wrong with this synonymy according to Leslie. The first is that southern California specimens do not match Swedish specimens of *N. pelagica* she collected in April. The second is that Hilbig appears to have based her synonymy on 2 California specimens she compared to Hartman's 1940 description of *N. pelagica*?; Leslie examined the specimens on which Hartman's 1940 description is based and found that they actually belong to *Nereis* sp. A (= *N. procera* NEP a*uctt*.). Incidentally, one of the characters considered diagnostic for *N. pelagica neonigripes*, the presence of darkened parapodial lobes, is useless since similar colored lobes occur in other species. Based on her examination of types and other specimens, Leslie feels *N. neonigripes* is a valid species and should not be considered a subspecies. It occurs in intertidal and shallow subtidal areas,

preferring algal and epifaunal overgrown substrates; preserved specimens in good condition are light pink with middorsal white and dark pink spots in a vertical line.

Nereis sp I: This was Leslie's specimen from San Diego Bay, collected August 11, 2001 from shallow water. There were several specimens of typical *N. procera* in the same sample, but this specimen stood out as being different. It had 5 very large irregular paragnaths in areas VII and VIII forming an anterior row; in addition there were 38 small paragnaths in scattered rows. There were no paragnaths in area I. Area II had 4/6 small paragnaths. Area III had small paragnaths. Area IV had 13/14 small cones. Area V had 0 paragnaths. Area VI had 1/3 medium paragnaths. Aside from the strikingly different large paragnaths in VII & VIII the specimen fit *N.* sp. A (= *N. procera* NEP *auctt*.) and Leslie wondered if this specimen was simply an aberrant *N.* sp. A.

Nicon moniloceras: Locally this species has been recorded only by Veronica Rodriguez (Universidad Autonoma de B.C.) and Leslie. It is unique in our area because the frontal antennae have distal articles.

Nereis neoneanthes: Dot Norris (CCSF) brought this specimen collected from just outside San Francisco Bay in sandy sediment at a depth of 25-30m. It was compared to the LACM paratypes for verification. Dot commented that *N. neoneanthes* is common right outside the Bay. *N. neoneanthes* was described from Alaska and Oregon by Hartman (1948). The CCSF specimens appear to be the first record for California. In this species the posterior dorsal lobe is elongated and strap-like, similar to that of *Neanthes succinea* and *Nereis vexillosa*. As in *N. succinea*, the cirrus is carried more proximally on the dorsal lobe than in *N. vexillosa*, in which the cirrus is carried distally. *N. neoneathes* can easily be distinguished from these two species by the high number of paragnaths in area V, up to 10 arranged in an irregular triangle on some specimens. Areas VII and VIII have an anterior row of large cones and multiple posterior rows of smaller cones. We then viewed a parapodium of this specimen under the compound scope and observed that there were homogomph falcigers in the notopodia which is diagnostic of the genus *Nereis*. In the neuropodia, there were two bundles of setae. The superior bundle was composed of heterogomph falcigers, and the inferior bundle was composed of heterogomph spinigers.

Crissy brought an interesting specimen from off Pt. Richmond, San Francisco Bay. It was collected from soft sediment in shallow water. Tentatively identified as *Neanthes succinea*, the tentacular cirri were longer than usual and had conspicuous bright white rings around the bases (when alive). We were unable to verify the ID on this specimen and Chrissy was advised to look at several specimens of *N. succinea* to establish the degree of variation in tentacular cirri.

SPECIES ID CLUB

Following is an email from Bonnie Becker regarding the species ID club:

"New listserv for the Species ID Club! Visit the Benthic, Fish, and Pelagic Collections for a free tour! Sorry to fill your boxes, but this is a quick email to let you know that there is a NEW listserv, species@sio.ucsd.edu.
For those of you who aren't aware of it, we have been meeting monthly to learn about local plants and animals, and how to identify them. If you are interested in this group, and want to keep posted on our events, sign up. Please let new students or other interested parties know as well.
We are open to all, from "hardcore" ecologists to interested physicists. Feel free to contact me with questions.
NEXT MEETING! Visit the Benthic, Fish and Pelagic Collections on Wed, September 18, from 3-5 pm. Snacks included!
Cheers,
Bonnie"

UPCOMING CONFERENCES

The "California and the World Ocean '02 – Revisiting and Revising California's Ocean Agenda" Conference will be held this year at the Fess Parker's Doubletree Resort in Santa Barbara from 27 -30 October. For more information go to their website at:

http://www.resources.ca.gov/ocean/CWO_02/Call_index.html

B'98 UPDATE

The trawl portion of the B'98 report has been completed in draft and submitted to the Steering Committee for final editorializing. The benthic section is being drafted at this time, and will be submitted to the Steering Committee in October. Other sections on Oceanography and Chemistry are already done and waiting to be joined by the biological chapters. Seems like us biologists always slow up the process by our lengthy specimen extraction and identification, made even more lengthy by an involved QC process. The results are worth waiting for, however. The trawl chapter includes cladistic analyses of the catch for the first time (many thanks to Greg Deets of CLAEMD for his perseverance and hard work in preparing numerous analyses) as well as recurrent group analyses, and phenetic analyses in a cross-method examination of fish and invertebrate assemblages. The benthic analyses should be equally interesting when the results are finally presented.

Along the way several new indices were developed. All have very similar derivations to that of the BRI developed from the SCBPP benthic data. They cover the benthos of bays and harbors (since the biota of these habitats proved sufficiently different to warrant their own index), and indices for trawled organisms, fish alone, and invertebrates alone. All are indices of "pollution", aka anthropogenic disturbance, particularly those types associated with POTW discharge of domestic waste, industrial metals, and chlorinated organic compounds. They place a given site on a calibrated scale of pollution impact based on the organisms which have chosen to live at that site. As in the case of the BRI, nearly all of the biological information available is used, yielding a robust index which represents available information on the degree of naturalness of the biotic community measured; infauna of bays, trawl caught fish, trawl caught invertebrates or trawl fish and invertebrates combined in a single number.

Benthic data from Baja California was collected and made available through the cooperation of our Mexican colleagues. Taxonomy was standardized to ensure comparability, and a series of stations from the US/Mexican border to Todos Santos Bay were included in the analysis. These, and the island and bay/harbor habitats investigated, broadened the scope of the B'98 benthic survey beyond that of previous efforts. I think you will find the results quite interesting when they are posted. Papers in referreed journals will follow in time, and many aspects covered in the B'98 report will be available in the open literature eventually.

All the reports will be available in time to allow them to be read, and their recommendations considered, prior to the final organization of scope and effort allocation for Bight '03. If we can incorporate the lessons learned in the first two regional monitorings in the third, we stand to learn even more and get an enhanced information return on the effort invested.

MORE NEW BOOKS

Davie, P.J.F. (2002). Crustacea: Malacostraca: Phyllocarida, Hoplocarida, Eucarida (Part 1). In, Wells, A. & Houston, W.W.K. (eds) Zoological Catalogue of Australia. Vol. 19.3A. CSIRO Publishing, Melbourne. 551 pp. [Hoplocarida co-authored with Shane Ahyong]

Davie, P.J.F. (2002). Crustacea: Malacostraca: Eucarida (Part 2) Decapoda - Anomura, Brachyura. In, Wells, A. & Houston, W.W.K. (eds) Zoological Catalogue of Australia. Vol. 19.3B. CSIRO Publishing, Melbourne. 641 pp.

These volumes form a comprehensive account of primarily taxonomic information on the Australian Malacostraca other than members of the superorders Pericarida and Syncarida (these volumes will be also published in the next few months by Gary Poore & Jim Lowry et al.).

Volumes are available for purchase separately (Aus$140 & $150), or at a discount for the pair (Aus$260). See web sites listed below:

Volume 19.3A -

http://www.publish.csiro.au/books/bookpage.cfm?PID=3243

covers the shrimps, prawns, lobsters and yabbies, listing over 1200 species known from Australian waters (including Australian Territorial waters).

Volume 19.3B -

http://www.publish.csiro.au/books/bookpage.cfm?PID=3244

similarly details more than 1200 species of Australian crabs (Brachyura) and related groups such as hermit crabs, porcelain crabs, squat lobsters, mole crabs and their ilk (Anomura). Each genus and species includes a complete list of primary synonyms with full reference citations. All available species names include data on type localities, as well as information on where types are deposited etc. Also included are notes on ecology and distribution of species both inside and outside of Australian waters and hence the information is widely applicable to nations bordering the Indian and Pacific oceans.

All higher taxa, down to families and subfamilies, are fully diagnosed and available names listed, so hopefully this will become an important resource of worldwide interest.

Where possible, references are given to the best keys for identification at each taxon level. Great pains have been taken to check and provide accurate dates and full citations for all the older literature. A limited number of new taxonomic decisions are also taken.

NEW LITERATURE

The recent B'98 effort brought us into bays and estuaries for the first time in cooperative regional monitoring efforts. Both trawls and benthic infaunal samples were taken from several embayments within the Southern California Bight. San Diego Bay was prominent among these and Allen et al (2002) present a 5 year examination of the fish assemblages of that water body which complements the regional effort. Their sampling was performed in three areas of concentration, was seasonal, and provided a great deal of detail on the constituents of the bay fauna and how they change over time. Comparison of their results with those of B'98 will be fruitful, but they must be undertaken cautiously since the bay study used several different gear types to acquire their specimens.

We are all mass murderers, every one of us! We participate in the collection and preservation of biological samples which invariably results in the death of small marine animals. Some biologists are more concerned with this than others, and strive to kill as few animals as possible while performing their duties. On a smaller scale, everyone (field biologist or not) is a mass murderer of organisms; the washing of hands extirpates millions of bacteria. Adherents to the Jain religion believe that all life is sacred, and would view someone wielding a can of insecticide against a column of ants in a kitchen as a fiend incarnate. It is all in how you look at it...how your world view is framed.

A corollary concern is the inflicting of pain, especially in the vertebrates that we deal with, which means fish almost exclusively. Rose (2002) has reviewed the neurobiology of fishes, including development of behavior, relative to man and other mammals. He demonstrates that fish do not have the brains to feel pain. It is not that pain is a higher function per se, but that its perception is located in areas of the brain which are undeveloped in all fish. He reports experiments in which fish avoidance of unpleasant stimuli are shown to be the same in nature and intensity in normal fish, and in fish which have had their cerebra surgically removed.

By all means be as careful and humane as you wish with regard to handling the fish we catch, but do not be mislead into thinking that they respond to stress and pain in the same way that we and other mammals do; they don't and can't. We can also probably conclude from this that the even simpler invertebrates which occupy most of our time are even less likely to experience pain, suffer remorse, stoicly endure privation, etc. It's not NO PAIN NO GAIN, it's NO BRAIN NO PAIN!

The history of biology is filled with interesting arcana, especially surrounding those who are acknowledged giants in the field. Perhaps the most thoroughly investigated and recorded biological life is that of Charles Darwin. Love (2002) discusses Darwin and barnacles; not the three volume monographic treatise itself, but its place in Darwin's intellectual and social history. It has always seemed unlikely to me that Darwin, while considering the broadest view of the natural world, was fired by the desire to delve very deeply into small sections of that world.

The voluminous documentation that accompanies the Origin of Species, particularly the painstaking detail of selective breeding, should point out to us that he was a meticulous observer of the minutae of nature. This, combined with the opportunities provided to explore little known portions of the world on board the Beagle, and the value of barnacle tests as a link between zoology and geology (a major preoccupation of his during the voyage in South America) make Darwin's interest in and contributions to barnacle taxonomy seem part of the main stream of his research rather than a side branch. Love reviews Darwin's involvement with Maclay's Quinarian system of classification, with the argument between Thompson and Owen over the placement of barnacles as crustaceans or mollusks, and other currents in the thought of the era. He also discusses Darwin's failure to prepare a volume devoted to invertebrates in his Zoology of the Beagle.

The broad scale view usually espoused by Darwin is shared by the authors of a recent paper on longer term cycles in oceanographic conditions (Mantua and Hare 2002). They discuss the PDO (Pacific Decadal Oscillation), a regime shift cycle of flexible length which appears to correlate with major biological variables in the north Pacific. The causes of the cycle are not well understood, and its exact boundaries and recognition characters are still debatable. The main means of differentiating PDO shifts from ENSO events are their period (much longer for PDO), and their extratropical vs tropical (for ENSO) location. In addition, the causes of ENSO events are believed to be known, while the origins of PDO swings remain in question. The state changes between regimes can be very abrupt, however, if PDO boundaries have been appropriately defined. The current paper serves as a useful entry point to the varied literature on this phenomenon through reference to a variety of different viewpoints and earlier publications.

Environmental change at smaller, temporal scales also presents problems, especially to small organisms. It's hard enough to live in any given bottom or watermass, and even harder to occupy a habitat that can't make up its mind. This neither-here-nor-there condition pertains to the surf zone of sandy shores, where

constant resuspension of sediments by energetic water motion leaves benthic critters in limbo. Some animals adapted to this habitat seem to function equally well as benthic and water-column animals. They swim well in water, and also move easily through the upper levels of the sediments. Yu et al (2002) describe the seasonal patterns of a group of such animals; amphipods from the surf zone of Korean sandy shores. Seasonality is expected in this habitat because of seasonal differences in the frequency and intensity of wave motion. We have local representatives of several of the genera treated, and three of the animals – *Allorchestes angustus*, *Pontogeneia rostrata*, and *Jassa slatteryi* - also occur in the Southern California Bight. The authors provide interesting and potentially useful information on the life histories of the considered species, including feeding habits and food.

WHERE WE WERE

Those fortunate members who attended the recent 20th Anniversary party celebrating the founding of SCAMIT may have noticed some persons expected to be there weren't. I was one of those, as was Leslie Harris, SCAMIT VP. Both of us had planned to come, and were looking forward to it, but work intervened. Leslie and I were in Panama participating in an introduced species evaluation of the two ends of the Panama Canal. We were part of an 11 member team headed by Dr. Andy Cohen of the San Francisco Estuarine Institute (and handling the ectoprocts, entoprocts, and phoronids). It included two other SCAMIT members as well, Gretchen Lambert (and her husband Charles, both handling urochordates) and John Chapman (handling peracarids). On the Saturday evening of the party we were all sitting in a Panamanian fast food emporium having dinner. Leslie proposed a toast to SCAMIT during the meal, and we drank to SCAMIT's good health and continued progress. We thought about you often during the next few days of busy field and laboratory work.

I was a last minute addition to the team, but was delighted to be offered the chance to participate. Others involved were from the US (Brian Wysore, algae), Mexico (Sergio Salazar-Viejo, polychaetes; Ernesto Campos, brachyurans), Canada (Dale Calder, hydroids), Brazil (Fabio Pitombo, barnacles). The goal of the trip was to compare the degree of development of introduced species at the two ends of the Canal about 30 years after a relatively comprehensive examination of the fauna. The Canal offers a sort of natural invasion laboratory where continually introduced fouling organisms can interact with recently separated geminates in the Pacific and Caribbean.

Most of the participants came bearing their own microscopes and lab equipment, and left a trail of befuddled customs inspectors behind. Once assembled in Panama we set up our first base-lab at the Naos lab of STRI (Smithsonian Tropical Research Institution) just outside Panama City, whose use Andy had reserved. We then began collecting on the Pacific side at locations Andy had prechecked and found to meet our needs. After three days we loaded into vans and drove across Panama to the Caribbean coast, setting up our second lab at the STRI Galeta lab outside Colón. While the Pacific side had been breezy and fairly cool, the Caribbean coast was quite warm and very humid. We were beset by biting midges from the nearby mangroves that we warred with for the remainder of our stay. Leslie went down with an allergic reaction to the bites, and a reaction to the anti-histamines she took to reduce the bite reaction [she remained ill for weeks after her return].

We worked long hours, starting early and often not ending til midnight or later in the lab. Very late one night Andy took a long walk on a short pier while returning some specimens to the sea, falling to the exposed intertidal and breaking several bones in his foot. He still ended up going collecting later on, but eventually had to have his wounds tended to at the hospital. The

rest of us managed with just bug bites and general good health. Each day we worked up the material we had collected between 2 and 4 collecting sites, examining everything live. On a few occasions we had collected more than we could handle, and saved samples for examination the next day. They often survived in running sea-water, but not all did. While we took some photos through the microscopes, most notes were hand written. Identifications were as complete as available literature allowed. Most of us had traveled fairly light, and had to make notes to facilitate later identifications back home. The materials were all curated, addressed, and left with Andy to be sent back to us after the Panamanian export permits came through. He has since sent the samples, and we are finishing up our remaining ID's. We expect to publish the results in both comprehensive and fragmentary form. While it would have been wonderful to be at the party to celebrate our history, it was equally wonderful to work with this fine group of congenial and accomplished biologists. We'll keep you posted.

THE WAY WE WERE?

After 20 years of existence SCAMIT continues. It has accomplished some of its initial goals, and contributed substantially to others. It has broadened its focus beyond the Southern California area, and invited participation from interested parties anywhere in the globe. It has set its feet on the information superhighway [what an execrable phrase!] and now has a continuous electronic presence accessible to all. It is also being touted as a model of a workable approach to regional taxonomic communication.

How did it come to pass? Not having been at the Party, I missed out in seeing and hearing Ann Dalkey's presentation on SCAMIT history. I am one of 75 charter members, however, and am going to try and present a personal record of what has happened in our 20 year history. [Others may remember it differently. If they do, all corrections, elaborations, and alternative realities can be forwarded to the Editor in rebuttal.]

The man behind SCAMIT [I can't comment on the woman behind the man] is John Shisko. It was his effort that dug up and coalesced support for a continuation of the SCCWRP Taxonomic Standardization Project begun by Jack Word and carried through to its end by Leslie Harris.

I was working at a consulting firm at the time and found the whole idea of monthly meetings to discuss taxonomic problems interesting, but unworkable without a funded parent organization like SCCWRP behind it. Since SCCWRP was reducing its support of the Taxonomic Standardization Project to move that support to other tasks, I saw no other support forthcoming. John's vision was clearer. He saw that with commitment from a number of agencies to involvement of their staff we could form the nucleus of a new organization. I thought that no group or agency would be interested in having their staff go to such meetings on a regular basis, spend time preparing presentations for them, etc. I have fortunately been proven quite wrong.

The new organization formed from the ashes of the Taxonomic Standardization Project was not called Phoenix, but rather? for the first few months of its existence. The name was opened to debate, and the participating members all considered what would be appropriate. SCAMIT was chosen from the names submitted. I suspect it was not for the melifluity of the acronym, but for the aptness of the actual name that we became the Southern California Association of Marine Invertebrate Taxonomists. We had quite a roster of charter members, some now sadly departed (see attached list). Of these 75 starters, many are still associated with the organization, while others have drifted away.

Nearly all still work in marine science, and retain an interest in taxonomy even though they do not get to practice that discipline on a daily basis.

During our first year we were hosted by MBC Applied Environmental Sciences, which had a large central lab area and enough microscopes at hand for the examination of specimens. Meeting days were a disruption, but that was offset by having the MBC SCAMIT members (like me) not having to travel, and doing billable work before and after meetings. It was also fairly centrally located south of Los Angeles and North of San Diego, the two greatest areas of concentration of members. John Shisko served as the first President, with Tony Phillips as Vice-President, and Ann Martin as Secretary/Treasurer. This latter is, of course, Ann Dalkey, who continued as Treasurer until this year. The office of Secretary separated from that of Treasurer in our third year. This first slate was all drawn from employees of the City of Los Angeles Environmental Management Division, and served for the first two years of the organization.

(To continue next issue) -Don Cadien (CSDLAC)

THAT LIFE-CHANGING JOB

SCAMIT members might consider the following if they have the necessary qualifications. It looks like the perfect solution for those suffering from dry skin.

"The Los Angeles-based Reef Check Foundation is seeking to hire a mid-level coral reef fisheries scientist (Master's Degree or higher) to carry out field monitoring of both fin-fish and invertebrates targeted by the marine aquarium trade to start as soon as possible. The primary task will be to gather population data on coral reef fish and invertebrates, and to test a new stock assessment monitoring protocol (MAQTRAC) specially designed for marine aquarium trade organisms. The scientist will be based almost entirely in the field and will carry out the work primarily in the Philippines, Indonesia and Fiji. The scientist will be supported by a field network of Reef Check, Marine Aquarium Council and IMA scientists and managers and will collaborate with other partners including WWF and US NOAA. The position is funded for one year with possibility of renewal for a longer period.

Applicants should have:

1) Excellent species-level taxonomic skills with Indo-pacific coral reef fish and a good knowledge of coral reef invertebrate taxonomy;

2) At least two years experience field monitoring coral reef fish using underwater visual census methods in the Indo-pacific region;

3) Solid understanding of and ability to work with multivariate statistics and standard fisheries models including surplus production and yield-per-recruit models;

4) Ability to work independently and for long periods in remote locations where English is not commonly spoken;

5) Excellent health and be willing to spend at least 50% of the work days underwater;

6) Fluency in spoken English and demonstrated ability to write high quality technical reports;

7) A valid passport and ability to travel to and from the three target countries.

8) Certified diver (200+ dives).

For the right person, this will be a dream position to work in exotic locations and to carry out ground-breaking, much-needed research on a highly controversial fishery. This is an opportunity to develop the basic science needed to determine whether it is possible to sustainably manage the collection of coral reef fish and invertebrates for the marine aquarium trade. Applicants should send their CV, a list of

three references (with email address and telephone numbers), previous salary history and expected salary for this position in US$, and a cover letter providing further details about how the applicant's experience matches the requirements to Program Manager Lena Maun at rcheck@ucla.edu Tel: (1) 310-794-4985 Fax: (1) 310-825-0758.

The position will be open until filled and is open to citizens of any country. The applicant should be prepared to start field work by January1, 2003 at the latest."

Thanks to member Lisa Haney for sending this one along.

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

SCAMIT OFFICERS:

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Back issues of the newsletter are available. Prices are as follows:

Volumes 1 - 4 (compilation)	$ 30.00
Volumes 5 - 7 (compilation)	$ 15.00
Volumes 8 - 15	$ 20.00/vol.

Single back issues are also available at cost.

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Point Loma Wastewater Laboratory Biology Section

City of San Diego

PROVISIONAL SPECIES VOUCHER SHEET

Provisional Name: ***Aonides*** **sp SD 1** **Taxon: Spionidae** **Taxonomist: K. Langan**

Authority: **Date: 14May2002**

Common Synonyms:

Specimen(s):

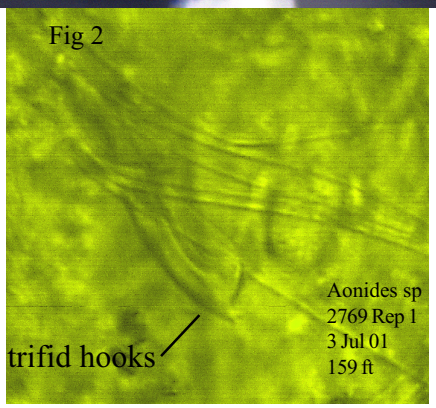
STATION	DATE	DEPTH	STORAGE LOCATION	VIAL#
B98: 2514	7/23/98	57m		P-127
B98: 2081	7/24/98	50m		P-127

See Related Species and Comments below.

Characters: Based on examination of 33 specimens from City of San Diego, Los Angeles County Sanitation Districts, and City of Los Angeles (Hyperion).

1. Occipital antenna present.
2. Prostomium rounded bluntly (Fig 1).
3. Branchiae start on setiger 2; 6-12 pairs, most specimens with 7 pairs (Fig 1).
4. Both bidentate and tridentate hooded hooks present (tridentate hooks are most common in posterior setigers) (Fig 2).
5. Neuropodial hooded hooks from setiger 11-34.
6. Notopodial hooded hooks from setiger 12-34 (Neuropodial hooded hooks usually start anterior to notopodial hooded hooks).
7. Pygidium with 4-8 anal cirri.
8. Methyl green staining pattern: Twenty-seven of the 33 specimens examined have thin, light staining bands on postbranchial setigers. Thirteen of the 33 specimens examined had light to moderate stain on the tip of the prostomium. (There was no correlation between stain pattern and collection location).

Illustrations:



Images by S. Douglass 5/02

Related Species:

- *A. glandulosa* Blake 1996. Hooded hooks bidentate. No occipital antenna. 8-11 pairs of branchiae, starting on 2. Bidentate hooded hooks from setigers 30-39 in neuropodia and from setigers 34-41 in notopodia.
- *A. mayaguezensis* Foster 1969. 15 to 16 pairs of branchiae. Bidentate hooded hooks from setigers 19 to 23 in neuropodia and from setigers 21 to 24 in notopodia. With 4 pygidial cirri.
- *A. paucibranchiata* Southern 1914. Hooded hooks tridentate. 10-11 pairs of branchiae.
- *A. californiensis* (Rioja 1947). Hooded hooks bidentate. 13-14 pairs of branchiae.
- *A. oxycephala* (Sars 1862). Hooded hooks bidentate. 20-30 pairs of branchiae.

References:

Blake, J.A. 1996. Family Spionidae *In*: Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. Volume 6 The Annelida Part 3- Orbiniidae to Cossuridae. Pp 81-224.

Blake, J.A. and J.D. Kudenov. 1978. The Spionidae (Polychaeta) from southeastern Australia and adjacent areas, with a revision of the genera. Memoirs of the National Museum of Victoria 39:171-280.

Diagnosis: All specimens examined have trifid hooded hooks which are most common in the posterior of the animal.
Branchiae start on setiger 2 on all specimens examined. Occipital antenna present

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern	length of first 10 setigers (mm)
CSD: P-127 Bight '98 Sta.2514 7/23/98, 57 m KLC	spm 1	7	29	27	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.86
	spm 2	9	34	34	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	no data
	spm 3	7	30	29	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	1.12
	spm 4	9	30	27	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	1.14
	spm 5	7	28	26	5	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.88
	spm 6	7	29	28	incomplete	tip of prostomium; post-branchial lateral stripes for approx. 10 segments	0.98
CSD: P-127 Bight '98 Sta. 2081 7/24/98, 50m KLC	spm 1	10	20	21	incomplete	few speckles on body	1.48
	spm 2	12	17	17	incomplete	few speckles on body	1.76
	spm 3	11	16	?	incomplete	few speckles on body	1.44
	spm 4	9	14	14	incomplete	few speckles on body	1.02
	spm 5	10	12	12	incomplete	few speckles on body	0.98
	spm 6	8	12	12	incomplete	few speckles on body	1.28
	spm 7	8	12	11	incomplete	few speckles on body	0.82
	spm 8	8	incomplete	incomplete	incomplete	few speckles on body	1.1
	spm 9	8	incomplete	incomplete	incomplete	few speckles on body	0.86
	spm 10	7	incomplete	incomplete	incomplete	few speckles on body	0.92
CSD: P-127, Sta 2769 (1) 7/3/01, 159 ft KB	spm 1	11	19	16	incomplete	few speckles on prostomium; few speckles on body	1

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern
Hyperion: #255 Sta. DN8 SMB 24m, 5/4/81 CAP	spm 1	7	21	18	5	post-branchial bands
	spm 2	6	28	27	incomplete	specking on prostomium; post-branchial bands
Hyperion: #455 Sta. A3 SMB 16m, 1/25/95 CAP	spm 1	7	28	21	4	stain on prostomium; post-branchial bands
	spm 2	7	26	21	N/A	post-branchial bands
	spm 3	7	24	21	N/A	post-branchial bands
Hyperion: #257 Sta. 2540 Santa Cruz Island 7/23/98, 24 m CAP	spm 1	7	25	19	5	moderate stain on prostomium; post-branchial bands
	spm 2	8	25	21	5	moderate stain on prostomium; post-branchial bands
	spm 3	7	22	22	5	post-branchial bands
	spm 4	6	23	21	5	post-branchial bands
Hyperion: #533 Sta. A1 SMB 17m, 1/5/98	spm 1	7	28	21	5	light stain on prostomium; post-branchial bands
	spm 2	7	25	19	regenerating	light stain on prostomium; post-branchial bands
	spm 3	7	24	22	regenerating	post-branchial bands
LA Co. San. Dist.: Bight '98 2393 LA 3 CB	spm 1	7	22	22	incomplete	none
	spm 2	7	?	22	incomplete	none

		pairs of branchiae	notopodial hooded hooks start	neuropodial hooded hooks start	no. of pygidial cirri	methyl green stain pattern
LA Co. San. Dist.:	spm 1	7	32	30	5	light stain on prostomium; post-branchial bands
Bight '98 2490	spm 2	7	26	24	5	light stain on prostomium; post-branchial bands
LA 1	spm 3	7	31	26	incomplete	light stain on prostomium; post-branchial bands
CB	spm 4	7	30	26	incomplete	light stain on prostomium; post-branchial bands
	spm 5	8	incomplete	incomplete	incomplete	light stain on prostomium; post-branchial bands
	spm 6	7	33	29	incomplete	light stain on prostomium; post-branchial bands
	spm 7	7	incomplete	26	incomplete	light stain on prostomium; post-branchial bands
	spm 8	8	31	25	incomplete	light stain on prostomium; post-branchial bands
LA Co. San Dist.:	spm 1	6	30	24	5	moderate speckling on post-branchial setigers
2393	spm 2	6	23	19	incomplete	moderate speckling on post-branchial setigers
LA 7	spm 3	6	23	20	incomplete	moderate speckling on post-branchial setigers
CB	spm 4	6	24	21	incomplete	moderate speckling on post-branchial setigers
	spm 5	7	23	21	incomplete	moderate speckling on post-branchial setigers
LA Co. San. Dist.	spm 1	2	16	16	incomplete	tip of prostomium; post-branchial light speckling
2491						
LA 1						
CB						
LA Co. San. Dist.	spm 1	8	21	19	5	none
0798-2D	spm 2	10	19	19	incomplete	none
	spm 3	8	22	17	incomplete	none
	spm 4	7	25	23	incomplete	none
	spm 5	7	incomplete	22	incomplete	none

Total= 50 spms

* Many branchiae missing on this spm. The only branchiae present are on the right side of setigers 3 & 4.