



**Southern California Association of  
Marine Invertebrate Taxonomists**

3720 Stephen White Drive  
San Pedro, California 90731

August, 2001

**SCAMIT Newsletter**

Vol. 20, No. 4

**SUBJECT:** There will be no meeting in December  
**GUEST SPEAKER:**  
**DATE:**  
**TIME:**  
**LOCATION:**



*Pionosyllis* sp SD2  
Anterior dorsal view showing everted proboscis  
ITP I-7 rep2 2Jan2001 165 ft.  
RCR - 30May2001

NOTE: Your editor is playing catch up again, so for the next several newsletters the meeting information will be correct, regardless of the labeled date of the newsletter.

**NEW LITERATURE**

Measurement of community attributes has been the traditional way of examining the health, well-being, and structure of communities. Just which attributes are most useful has long been a subject of debate (and rightly so). New indices, and reductive analyses of communities are often proposed to correct the deficiencies identified in existing ones, or address an aspect of the community not previously considered. Clarke and Warwick (2001) add a twist to the examination of an index of biodiversity proposed in recent years, taxonomic distinctness. They propose examination of variation in taxonomic distinctness between all possible pairs of species in a study. The result is an expression of the mean path length through the taxonomic tree which relates these

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SCAMIT Newsletter is not deemed to be valid publication for formal taxonomic purposes.

community members. Application of this measure, and of the allied measure which describes the average taxonomic distinctness of a collection, seems to provide a new view. The authors find it sensitive enough to pick out impacted communities of nematodes in polluted areas, and an exceptionally pristine area. In each case this is facilitated by the ability to use the list of taxa known to occur to produce a baseline expectation for the average and variation data. One of the major advantages of this particular pair of indices is that they are quite insensitive to differences in sample size and taxonomic adequacy. In this respect it is an improvement on other measures of biodiversity such as richness and species diversity, and even species number. Another view of the biodiversity issue is provided by the taxonomic similarity index (Izsak & Price 2001). This seems to have applications in comparisons at several different geographic scales.

All POTW programs permitted in California have some sort of assessment of chemical contamination of the sediments and biota. Those which are classified as large POTW's usually have both, and have added bioassay responsibilities. Inherent in all these efforts is the concept that "pollutants" are introduced with the wastestream, or form in sea-water as a result of the introduction of the wastestream. A recent article by Fielman et al. (2001) points out that man is not the only manipulator of his chemical milieu. They report on studies of several species of polychaetes, some of which are viewed as indicator species, and/or are used in bioassays of effluent or receiving water quality. They found many species capable of synthesizing halogenated organic compounds as offensive molecules to use in competitions for space with other benthic inhabitants. A number of the compounds they found, produced naturally by the worms, are usually considered pollutants introduced with wastewater, or compounds formed by residual chlorine in sea-water following effluent chlorination/dechlorination.

It is essential that this information come to the attention of toxicologists and environmental chemists so that they can adjust their world view to accommodate the production of such molecules by receiving water organisms under natural conditions, not just by man as a result of his activities.

Small snails of the genus *Tryonia* are not usually found in POTW monitoring but they may occur in bays and estuaries which receive freshwater runoff. During work in upper Newport Bay a number of years ago a species in this genus proved difficult for the taxonomists involved. At that time the only document available which clearly described the animal was a draft put together by Dr. Dwight Taylor in the process of seeking endangered species listing for *Tryonia imitator*. Most members of the genus are freshwater, but we have a brackish water representative in Central and Southern California, the aforementioned *T. imitator*. Finally a good thorough work on this genus has become available. Hershler (2001) describes both the shell and soft-part morphology of all the species in the genus, including *T. imitator*. Those struggling with this taxon in embayment samples can heave a sigh of relief. Help is at hand.

With complexes of outwardly similar species within a single genus, the question of interbreeding/hybridization usually lurks somewhere in the background. It has been shown to exist in several cases locally with abalone and mussels. Both of these are broadcast spawners. The question of hybridization in groups where gametes are not released freely into the water column becomes more difficult to address as there may be behavioral boundaries to cross-fertilization. Ariani & Whittmann (2000) consider several species in the mysid genus *Diamysis* in the Mediterranean, some of which were reputed to have wide geographic distributions and occupy waters ranging from nearly fresh to fully salt. Their analysis showed several of the populations previously interpreted as belonging



to one wide ranging species were non-interbreeding and formed separate, reproductively isolated taxa. Once this was verified, additional attention to morphological detail showed that there were other differences previously written off as character variability that separated these non-interbreeding entities. Some of these were parapatric, and were deemed separable at the subspecific level only. Their distinctness was maintained by physiological tolerances and behavior relative to salinity which kept geographically overlapping populations separated along a secondary gradient of salinity. Were this salinity gradient to be disrupted, and the isolated subspecies reproductively united, they could successfully interbreed; thus their separation at subspecific level only.

#### WHAT ARE SPECIES?

Like the proverbial blind men who attempt to describe an elephant by each touching a different part, we have all struggled to know what characteristics define a species. Touching just the organism morphology only partially provides for a valid species concept. Touching the genetics, or molecular marker may appear to have final resolution but may be weakened by difficulty in widespread application. Taxonomy has always provided scientific names and hierarchy for the organisms studied by ecologists and physiologists. The use of taxonomic information in the high cost operations and legal issues surrounding programs of bioassay, habitat resource, endangered species, pharmaceutical discovery, and international importation, have made taxonomic validity ever more critical. Though some biologists may consider a species as any organisms that successfully reproduce fertile offspring, several other concepts have been developed. In the book, *Species: The Units of Biodiversity*, Claridge et al (1997) bring together authors to review and explore the important details underpinning these various species concepts.

A reader may explore the variety of concepts used for virus, bacteria, fungi (sexual, asexual, and sterile), lichens, algae, higher plants, insects, birds and mammals. It is clear a species concept that functions appropriately for bacteria or for parasitic insects, may not be very useful when applied to lichen or mammals. A grand unifying theory of the universe, physics, or matter, may be achievable, but a grand unifying theory of The Species seems beyond reach.

The 10th chapter entitled: "Species of marine invertebrates: a comparison of biological and phylogenetic species concepts" might be a good place for careful reading. The authors point out that morphological methods of species determination greatly underestimate biodiversity and that both biological or phylogenetic concepts must be carefully applied to prevent unreliable measures of biodiversity. Jumping to chapter 18 a reader can review: "The ideal species concept-and why we can't get it"(hint: does "one size fit all" ever fit all?). The last chapter: "A hierarchy of species concepts: the denouement in the saga of the species problem" provides a broad review of the numerous species concepts and produces a hierarchy chart to link and order these diverse ideas.

For those SCAMIT newsletter readers who think that erecting another provisional species name, discovering an improperly described holotype, or trying to straighten out some nomenclatural tangle, is the source of much taxonomic confusion; consider that at least 22 different species concepts are used today. When these concepts are compared to each other, many of them provide contrasting biodiversity measures! This book's collection provides an excellent review of species concepts. - Tom Parker (CSDLAC)



## RESTRICTING COSMOPOLITAN POLYCHAETES

In 1988 Hutchings and Glasby wrote that cosmopolitan listings of *Loimia medusa* are unreliable and transferred all Australian records to *L. batilla* Hutchings and Glasby 1988. They additionally described that multi-row arrangements of uncinial teeth are found in some juveniles and adults. They recommend that uncinial structure is of limited specific character value. Instead they rely upon the structure of the lateral lobes for diagnosis. Hutchings and Glasby published a redescription of *Loimia medusa* in 1995. No type specimen exists for *L. medusa* and they designated, described, and illustrated a neotype.

The SCAMIT newsletter in 1997 (Vol 16, No. 6) carried a brief review of their publication and suggested that local California records of *L. medusa* were an error of nomenclature. In Volume 7 of the MMS Taxonomic Atlas, Hilbig produced a description of *L. medusa* but suggested that California records may eventually belong to a new or different species. When SCAMIT members met to review this volume they opted not to follow her lead. The provisional voucher sheet issued here is constructed to include local specimens formerly identified as *L. medusa*. The new designation is *Loimia* sp A SCAMIT 2001. This designation has replaced the *Loimia medusa* listing in the 4<sup>th</sup> Edition of the SCAMIT Taxonomic List.

This current nomenclatural change considers species in the genus *Loimia* to have relatively limited, rather than international, geographic distributions. These species are difficult to distinguish due to their few obvious structural differences and a long history of listing many *Loimia* specimens within the brief original description of *L. medusa*. There is also a general suspicion among many polychaete

workers about the validity of *L. medusa* records from greatly distant locations such as Australia, the Red Sea, the Philippines, and California.

Staining pattern descriptions are limited to Hilbig's notation and those provided on the voucher sheet in this issue (see attachment). Hilbig's staining results include: solid green stain on first lappets, a green with blue margin stain on second lappets, thorax deeply staining blue cells, deep blue staining transverse row along the side of first 8 neuropodia, no abdominal stain, and anal papillae stain dark green.

*Loimia* is an ecologically important polychaete. *Loimia* populations have been noted as tube-irrigating polychaetes that significantly increase benthic oxygen consumption and the release of ammonium and nitrate from sediments. It was demonstrated (Mayer 1992) that *Loimia* can stimulate nitrification and denitrification. Worm respiration and excretion can make a >50% impact upon sediment-water fluxes of oxygen. The general impact of such tubicolous animals introducing oxygen to subsurface sediments stimulates the nitrifying bacteria and gives these tube zones 2-200 times more potential for nitrification. - Tom Parker (CSDLAC).

## ICC5

The fifth international crustacean meeting was held last month in Australia. A number of local workers attended. The following précis was prepared by member Todd Haney (NHMLAC) with contributions by Lisa Haney (CSDLAC) and Jody Martin (NHMLAC)

“The Fifth International Crustacean Congress was held in Melbourne, Australia, from 9-13 July, 2001. By all accounts, the Congress was a tremendous success, and the organizer, Dr. Gary C. B. Poore, and his capable staff were the perfect hosts. The Congress commenced with introductory remarks by Dr. Poore



followed by the official opening by Mr. John Landry MBE, Governor of Victoria. Participants, numbering close to 280, represented 43 different countries and presented 330 talks and posters. Plenary papers were given by Tim O'Hara, Kenneth Soderhall, Philip Rainbow, Geoffrey Boxshall, and Jim Lowry. Special symposia and general topics were divided among categories such as Burrowing Crustaceans, Symbiosis, Vitellogenesis and Gametes, Fisheries and Aquaculture, Systematic Methods, Disease Defences and Parasites, Phylogeny of the Peracarida, Growth and Aging, Systematics of the Anomura, Feeding, Higher Crustacean Systematics, Cryptic Species, and more.

Of the 29 registered participants from the United States, nine biologists attended from southern California. Dr. Michel Boudrias (University of San Diego) presented research on crustacean locomotion, with one talk on the burrowing behavior of a vernal pool ostracod and another presentation on the generation of thrust by limbs of an amphipod. Dr. Ju-shey Ho (California State University Long Beach) presented his research on copepod parasites, with emphasis on an invasive species found on fishes in Japanese waters. From the Crustacea laboratory of Natural History Museum of Los Angeles County, presentations were made by Joel Martin, Sarah Boyce, Todd Haney, Sandra Trautwein and Regina Wetzer. These talks included research on the: collection of coral reef Crustacea, updated classification of Crustacea, molecular phylogeny of calappid crabs, leptostracans of the West Coast, morphology of whale-lice, molecular systematics of xanthid crabs, and genetic diversity in phreatoicidean isopods. The talks are available on-line at:

<http://204.140.246.70/presentations/ICC5/>

The Congress was also attended by Lisa Haney (Los Angeles County Sanitation District), whose primary interests include the taxonomy and ecology of peracarid Crustacea, and Dean Pentcheff (San Pedro), whose interests in Crustacea stem partly from the broader theme of marine biomechanics.

The Congress concluded with an elegant banquet and dancing at the historic Melbourne Plaza Ballroom. Altogether, the Congress proved to be a great success in terms of the atmosphere that was fostered for the free exchange of ideas and research on the many fronts of crustacean biology. Glasgow, Scotland was put forward as a prospective venue for the Sixth International Crustacean Congress.”

Todd A. Haney, Research and Collections  
Natural History Museum of Los Angeles  
County  
900 Exposition Boulevard, Los Angeles,  
California 90007 U.S.A.  
E-mail: [todddhaney@crustacea.net](mailto:todddhaney@crustacea.net)  
Telephone: (213) 763-3473  
Fax number: (213) 747-0204

## 20 AUGUST MEETING MINUTES

The meeting began with president Ron Velarde reminding attendees of upcoming meetings. The Western Society of Naturalists will be convening their 82nd annual meeting from November 9-12, 2001 at the Ventura Beach Hotel in Ventura, CA.

The Western Society of Malacologists will be holding their 2002 meeting in Monterey at the Asilomar Conference Center from 20-24 July. For more details see the August edition of the *Festivus*.

The City of San Diego has published, thanks to the hard work and dedication of member Dean Pasko, a report titled, “City of San Diego Marine Biology Laboratory Contributions to Taxonomy 1999 - 2000”. In it are voucher sheets, ID sheets, works in progress, etc.



produced by the taxonomy group for the years mentioned. In addition there is a section on presentations and publications as well as other contributions. Only a limited number of the reports were produced but copies may be available at cost if requested. Contact Dean Pasko at: [dpasko@sdcity.gov](mailto:dpasko@sdcity.gov).

Member Tony Phillips (CLA-EMD) announced that their lab had moved to a new building (the next one over) and to be sure to look for them in the new spot if visiting. After years of waiting they are now finally installed in new quarters with a magnificent view of the waves breaking on the beach at Playa del Rey (Dockweiler Beach). Similar moves are ahead for the Pt. Loma Lab, and for the CSDLAC Lab, but neither building will be ready for some time.

Member Larry Lovell (SIO) then discussed his trip to Iceland for the Polychaete Conference. The first two days consisted of presentations and posters and the third day was a "mid-conference" break during which the participants were taken on a wonderful tour of some of the rugged and beautiful terrain of Iceland. Larry spoke of huge, four-wheel drive buses that had high clearance and were used for fording swift, relatively deep rivers. For the fourth and fifth days the talks and posters were resumed. Larry said that he had a great time and enjoyed Iceland immensely. The 2004 polychaete meeting will be held in Madrid, Spain the 1<sup>st</sup> week of July.

Next up was Don Cadien (CSDLA) who had just participated in a nudibranch survey that that morning on Point Loma. This was a summer census of the Cabrillo National Monument area at the tip of Pt. Loma to complement the winter survey of the same area performed earlier in the year. It was arranged through the auspices of Bonny Becker and included her, Jim Lance, and Don Cadien. As expected, the species list was both longer than in the winter, and shorter than in past years. Only a small number of opisthobranch

specimens were observed in areas teeming with them a decade earlier. This decline parallels declines up and down the west coast of North America in recent years.

With the open forum concluded it was time to move on to the heart of the meeting which was Rick Rowe's (CSD) thought provoking talk on Managing Taxonomic Data. Rick started the meeting with addressing the obvious benefits if the POTW labs, or their contract agencies, as well as some of the museums in Southern California, were to be able to swiftly and efficiently share taxonomic information through a central database that was accessible to participating taxonomists/members. He reviewed the current situation, which is everyone using different programs and different systems with information being distributed via paper voucher sheets somewhat haphazardly. Granted, SCAMIT has done much in the last 20 years to standardize the taxonomy of the participating taxonomists in the Southern California Bight and beyond, and our web-site with its Taxonomic Tools Section has also helped the speed with which the information is distributed, but this concept of a central, interactive library, could take it much further.

After Rick's presentation, the meeting quickly became an open discussion and many ideas were tossed out and problems addressed regarding the hurdles inherent in such a project. Dave Montagne (CSDLA) reviewed the system currently in use by his lab and discussed its different features. He also brought up many interesting points in terms of management difficulties and other feasibility issues. There are many software packages that are designed specifically for managing taxonomic data and Rick reviewed a few of these in his presentation. By the end of the day we had tentatively outlined the philosophy behind the database in terms of what information would be entered/included and how it would be used. Examine the attachment provided at the end of this newsletter which



was distributed during the meeting. It provides links for further information on the subject of taxonomic databases. Our initial intent to meet again in December has been modified to allow circulation and evaluation of new programs now in the works. The next meeting on this topic will be in the early portion of 2002, when we will refine our expectations of the database and start to discuss which software package would be the best for our needs

### FILM AT 11

The third (and probably final) field season at Guana Island in the British Virgin Islands took place during the month of July. This was Marine Science Month in Guana this year, and several team members were there the entire month. Don Cadien was there for three weeks this year, but the work load was a bit less intense than in previous years. The emphasis this year was not on additional collections, but local interface. Four students from the local college, Labade Stout Jr. College on the adjacent island of Tortola, worked for the entire month on projects with the team from the Natural History Museum of Los Angeles County headed by Todd Zimmerman. The team this year included Dr. Jody Martin (Curator of Crustacea), Dr. Gordon Hendler (Curator of Echinoderms, and head of Collections), Dr. Kirk Fitzhugh (Curator of Worms), Todd Haney, Rick Ware, and Don Cadien. Leslie Harris, a fixture of these efforts since their inception, was laid up with a bad back and could not participate. Direction and assistance in the student projects absorbed a good deal of time. There was feedback, however, and the students assisted with such activities as the continuing faunal characterization and eelgrass mapping. Other student groups also participated for shorter intervals. A symposium was held presenting results of the Guana studies. Todd Zimmerman gave a description of the program and it's methods, Don Cadien reprised some of the peracarids taken so far, and Rick Ware

discussed the seagrass beds around the island. Other presentations dealt with goby/parasite population dynamics, the student projects, salt-pond evolution and ecology, and efforts to persuade the Guana resident flamingos to reproduce.

Activities of the group were documented this year by photojournalists associated with the Natural History Museum. A program on the work was televised on National Geographic Explorer in August. Further film coverage is expected later on PBS. A display relating to the work has been prepared in the museum, and a full-page article in the Los Angeles Times also sought to bring the project to a wider audience. Despite all this related activity some additional collections were made this year. In Leslie's absence Don was tasked with microphotography, but took few pictures. Live processing of the collected samples occupied most of his time. Old friends were relocated again, including the undescribed shallow water aplacophore taken last year and now being worked on by Amalie Scheltema. A single specimen of a cephalocarid crustacean was taken. A manuscript on this animal has already been prepared for submission by Jody Martin. A number of other interesting finds were also made, including additional specimens of new polychaetes taken last year by Kirk Fitzhugh.

Gordon Hendler spent a good deal of time in experimental work with ophiuroids. He also was excited to report additional specimens, some videotaped, of a swimming ophiuroid. This small undescribed species is in the same genus as our local *Ophiuroconis bispinosa*, which will soon be transferred to a new genus in another family. Anyone with access to living specimens of the local species please contact Dr. Hendler. He is anxious to observe and document the swimming behavior of the local species too (if it does swim like it's Caribbean relative). The Guana animal was taken in 50-60 feet of water, while our local species is normally found deeper and taken by remote grabs.



Those interested in learning more about the project, or viewing some of the many organisms whose living appearance has been documented so far can visit the project website at

[http://www.nhm.org/~tzimmerm/bvi\\_800/0bvi-idx.htm](http://www.nhm.org/~tzimmerm/bvi_800/0bvi-idx.htm)

### JOB ANNOUNCEMENTS

(the following is a copy of an email sent to a co-worker)

Onsite Environmental has three open positions with an environmental consulting firm here in Sacramento. The positions are **all mid to senior level positions** in the biology field. Below is an attachment for each position: 1) Wildlife Biologist; 2) Wetland Scientist; and 3) Fisheries Biologist.

#### Job Description for a Wildlife Biologist

Job ID #: 132321

Date Opened: 07/25/2001

Location: Sacramento, California

Title: Wildlife Biologist

Skills: Oral & Written Communication

#### Job Description:

One of California's foremost planning and resource management firms, is in immediate need of a Mid to Senior level Wildlife Biologist Project Manager. This company specialize in the following services: CEQA & NEPA, Urban Planning & Design, Livable Communities, Geographic Information Systems, Biological Resources, Mitigation & Construction Monitoring, Water Resources, Air Quality & Noise Assessment, and Environmental Services for Life Sciences Facilities.

The Candidate will be responsible for the management and preparation of technical studies and technical analyses for environmental assessments, management plans, and various other environmental studies. The responsibilities for this position will include

study protocol design and negotiation, data collection and analysis, report and proposal writing, project / task management, and client / agency interaction.

Candidate should have a B.A. / B.S. in biological sciences. Candidate must have a minimum of five (5) years of relevant post-degree experience. Professional experience with terrestrial wildlife, including mammals, amphibians, birds, reptiles and / or plants, California and / or Great Basin threatened and endangered species experience is preferred. Experience with environmental assessments and endangered species studies and consultation with the California Department of Fish and Game and US Fish and / or Wildlife Service is highly desirable. Experience in design, protocol negotiations, and conduct of large and small field surveys is also preferred. Candidate must have excellent oral and written communication and have the ability to travel and conduct fieldwork. Key qualities for the successful candidate, beyond technical expertise, include self-motivation, initiative, and the ability to work well in a diverse team environment.

#### Job Description for a Wetlands Scientist

Job ID #: 132290

Date Opened: 07/25/2001

Location: Sacramento, California

Title: Wetland Scientist

Skills: Oral & Written Communication

#### Job Description:

One of California's foremost planning and resource management firms, is in immediate need of a Mid to Senior level Wetland Scientist Project Manager. This company specialize in the following services: CEQA & NEPA, Urban Planning & Design, Livable Communities, Geographic Information Systems, Biological Resources, Mitigation & Construction Monitoring, Water Resources, Air Quality & Noise Assessment, and Environmental Services for Life Sciences Facilities.



Candidate will manage multiple wetland delineation projects and wetland permitting processes. This position involves management and preparation of technical studies, regulatory permits, and technical analyses for environmental assessment, mitigating and / or restoration plans, monitoring plans, and various other environmental studies. More specifically this position includes study design, data collection & analysis, proposal & report writing, project / task management, and client / agency interaction.

Candidate must have a BA/BS in biological or environmental sciences. Candidate must have a minimum of five (5) years of relevant post-degree experience. Professional experience with wetland habitats and regulatory permitting, including wetland delineation, Section 404 permitting, and related endangered species consultation, California and / or Great Basin threatened and endangered wetland plant and animal species experience is preferred. Experience in conducting large and small wetland delineation and field surveys, and in consultation with the US Army Corps of Engineers, California Department of Fish and Game, and / or US Fish and Wildlife Service is also preferred. The candidate must have excellent oral and written communication skills and experience managing technical work. Candidate must have ability to travel and conduct fieldwork. Key qualities for the successful candidate, beyond technical expertise, includes self-motivation, initiative, and the ability to work well independently and in a diverse team environment.

**Job Description for a Fisheries Biologist**

Job ID #: 132263

Date Opened: 07/25/2001

Location: Sacramento, California

Title: Fisheries Biologist

Skills: Oral & Written Communication

**Job Description:**

One of California's foremost planning and resource management firms, is in immediate need of a Mid to Senior level Fisheries Biologist Project Manager. This company specialize in the following services: CEQA & NEPA, Urban Planning & Design, Livable Communities, Geographic Information Systems, Biological Resources, Mitigation & Construction Monitoring, Water Resources, Air Quality & Noise Assessment, and Environmental Services for Life Sciences Facilities.

Daily responsibilities for this position will be to manage Fisheries & Aquatic Ecology projects. More specifically to include study design, data collection & analysis, proposal & report writing, project / task management, and client / agency interaction.

Candidate must have a BA/BS in fisheries or biological sciences. Candidate must have a minimum of five (5) years of relevant post-degree experience. Professional experience with anadromous fish and resident salmonids, West Coast threatened & endangered species experience is preferred. Experience with stream ecology, water quality, environmental assessments and endangered species consultation with the California Department of Fish and Game, US Fish and Wildlife, and/or National Marine Fisheries Service is highly desirable. Experience in conducting stream surveys is also preferred. The candidate must have excellent oral and written communication skills and experience managing technical work. Key qualities for the successful candidate, beyond technical expertise, includes: self-motivation, initiative, and the ability to work well independently and in a diverse team environment.



For immediate consideration and / or more information on the above positions, please send resume via e-mail to [marquez@onsite-inc.com](mailto:marquez@onsite-inc.com) or call Marc Marquez at the contact numbers below. Onsite Companies will initially interview all qualified candidates.

Contact Name: Marc Marquez  
 Phone: (916) 561-4402  
 Fax: (916) 921-0477  
 Tollfree (800) 230-0406  
 Contact e-mail: [mmarquez@onsite-inc.com](mailto:mmarquez@onsite-inc.com)

Last but not least the following was recently posted by Jeff Shields to the CrustL listserv:

From: Carolyn Friedman  
 <[carolynf@u.washington.edu](mailto:carolynf@u.washington.edu)>  
 Subject: Permanent laboratory technician position open in Bodega Bay

“We have an opening for a senior lab technician. The salary range is \$2220-2697/mo (can red line to current salary in the range). The employee would participate in laboratory and field projects dealing with mortalities of

wild and cultured marine invertebrates. The employee will also participate in wet lab and general laboratory maintenance, maintaining seawater systems (including the occasional plumbing), interact with the aquaculture community and other duties as required. Candidates with experience in molecular diagnostics, pathogen challenges, and western blot analysis are desired as these are also duties frequently performed in our laboratory. The position will be through the California Department of Fish and Game and will be sited at the Bodega Marine Laboratory. We need to fill this position ASAP.

Interested parties please email me ([carolynf@u.washington.edu](mailto:carolynf@u.washington.edu)) or Jim Moore ([jimmoore@ucdavis.edu](mailto:jimmoore@ucdavis.edu)) as soon as you can.”

#### SECRETARIAL NOTE

The Secretary would like to apologize for the error in the Volume number in last month's newsletter (July 2001). The Volume and Number header read, “Vol. 19, No. 3” when it should indeed have read “Vol. 20, No. 3”. Please forgive my oversight. It has been corrected in the archived records. - M. Lilly

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

**SCAMIT OFFICERS:**

If you need any other information concerning SCAMIT please feel free to contact any of the officers e-mail address

President	Ron Velarde	(619)758-2331	<a href="mailto:rgv@mwharbor.sannet.gov">rgv@mwharbor.sannet.gov</a>
Vice-President	Leslie Harris	(213)763-3234	<a href="mailto:lharris@bcf.usc.edu">lharris@bcf.usc.edu</a>
Secretary	Megan Lilly	(619)758-2336	<a href="mailto:mssl@mwharbor.sannet.gov">mssl@mwharbor.sannet.gov</a>
Treasurer	Ann Dalkey	(310)648-5544	<a href="mailto:cam@san.ci.la.ca.us">cam@san.ci.la.ca.us</a>

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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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## SCAMIT Provisional Species Voucher Sheet

*Loimia* sp A SCAMIT 2001

March 2001

Examined by T. Parker, CSDLAC

### Literature:

Hutchings, P., C. Glasby. 1988. The Amphitritinae (Polychaeta:Terebellidae) from Australia. Records Australian Museum. (40) 1-60.

Hutchings, P., C. J. Glasby 1995. Description of the widely reported terebellid polychaetes *Loimia medusa* (Savigny) and *Amphitrite rubra* (Risso). Mitt.hamb.zool.Mus.Inst. (92) 149-154.

Hilbig, B. 2000. Terebellidae. *in* Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and the Western Santa Barbara Channel. Vol 7. eds: Blake, J. A., B. Hilbig, P. V. Scott. pp 258-260.

### Synonymy:

*Loimia medusa* of SCAMIT Taxonomic List Vol 3. 1998, not *Loimia medusa* (Savigny).

### Diagnostic Characters:

1. Lacks prostomial eyespot patches, no red dots on tentacles.
2. First lateral lobe directed anteriorly and ventrally to form thin ventral collar-like structure which recedes mid-line to expose oral opening. No apparent ventral scoop structure.
3. Lobes large and "ear" shaped, with second pair directed anteriorly but more dorsally; giving it a taller, not longer, appearance. See Figure 1.
4. Upper lip extended anteriorly, but mostly hidden by tentacle mass.
5. Notosetae capillaries without wings, or very narrow wings visible only via compound scope. Uncini usually with 5 teeth, each slightly thicker than tooth above. See figures 2 and 3.
6. Pygidium with 7 papillae distributed evenly around anus. See figure 4.
7. Staining: Ventral thorax on setigers 1-7 with strong diffuse stain. Dorsum stains more weakly revealing discrete very small dots. Uncinal base with dark stain around fascicle margin. Some specimens with body/parapodial walls slightly stained in oval pattern just anterior to uncini base. Abdomen unstained.

**Distribution:** Palos Verdes, California and much of southern California benthos, 30-60 meters in silty sand to silt.

### Material examined:

CSDLAC stations: 0792-1C5, 0193-2C, 0795-3C, 0197-0D, 0797-0D, 11-79W-30, 0799-1D, 0100-4D.

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## SCAMIT Provisional Species Voucher Sheet

### Related species and differences:

*Loimia triloba*: Three pairs of small lateral lobes, lobes apparently from segment 3 and 4 are small, with lobes of segment 4 elongate in shape.

*Loimia ochracea*: Incomplete specimen in poor condition, lateral lobes small, rounded to semi-spherical. Known only from limited Australian location.

*Loimia ingens*: Species complex designation without eyespots, 2 pairs of well developed lateral lobes, and a third at junction of segment 2/3. Terminal branchia filaments spiralled. Uncini in adults vary in number from 3-7 vertically arranged teeth. Unpigmented body or with banded tentacles, or mottled brown pigment on thorax and solid brown on ventral pads,

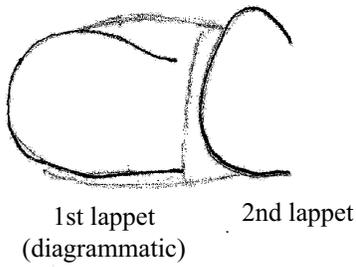
*Loimia batilla*: Tentacles with thin pigment bands. Eyespots absent. Lateral lobes unite ventrally to form scoop shape structure. Notosetae include thick broad winged structure and slender narrow winged setae. Uncini teeth 5-6 in vertical series.

*Loimia medusa*: Two small patches of eyespots on prostomium, small red dots on oral tentacles sometimes present, first lateral lobe anteriorly directed and ventrally forming scoop structure, covers base of tentacles, but is reduced at ventral mid-line to expose oral opening. Upper lip projecting anteriorly. Lobes generally "ear" shaped. Notosetae all smooth tipped with narrow wings. 4-5 uncinial teeth in vertical row. Anal papillae absent. Known from sandy/coral rubble in the Red/Iranian Sea. Neotype 32 mm long.

### Comments:

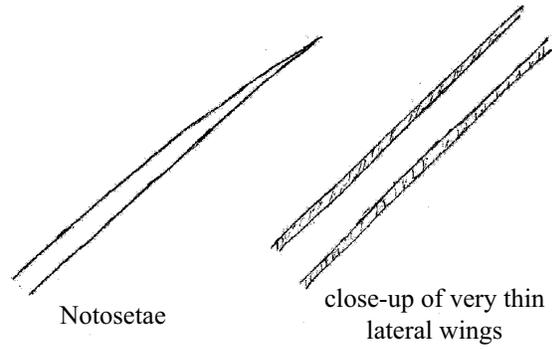
Hutchings and Glasby published a redescription of *Loimia medusa* in 1995 following their decision that Australian specimens recorded as *L. medusa* were misidentified. In 1997 the SCAMIT newsletter (Vol 16, No. 6) carried a brief review of their results and suggested that local records of *L. medusa* were erroneous. In Volume 7 of the MMS Taxonomic Atlas, Hilbig produced a description of *L. medusa* but warned that California records may eventually belong to a new or different species. This voucher sheet designation will replace the *Loimia* listing in the 4<sup>th</sup> edition of the SCAMIT Taxonomic List. Please see additional comments in this issue of the newsletter.

**SCAMIT Provisional Species Voucher Sheet**



1st lappet (diagrammatic)      2nd lappet

Figure 1.



Notosetae

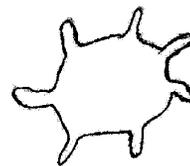
close-up of very thin lateral wings

Figure 2.



Thoracic uncini

Figure 3. (after H&G 1988)



Pygidial papillae  
end-on view

Figure 4.

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**LINKS to LINKS— Favorite sites for Taxonomic Informatics**

(R. Rowe Aug. 2001-updated Nov. 2001)

**An Overview of Biodiversity Informatics by Stan Blum** (Excellent introductory **SUGGESTED READING**)

<http://www.all-species.org/StamBlum.html>

**BIOLINK** - Collections and descriptive information database management software currently under development

<http://www.ento.csiro.au/biolink/software.html>

**DeltaAccess** G. Hagedorn Excellent information... most two years old

[http://www.bgbm.fu-berlin.de/projects/DeltaAccess/DELTAACCESS\\_IN.html](http://www.bgbm.fu-berlin.de/projects/DeltaAccess/DELTAACCESS_IN.html)

**DELTA** Mike Dallwitz

<http://www.biodiversity.uno.edu/delta/>

**Access to the DELTA software** And good source of links to other DELTA programs -

<http://www.biodiversity.uno.edu/delta/www/programs.htm>

- and articles including the following **SUGGESTED READINGS**:

**®Comparing DELTA & LucID** M. Dallwitz. A look at features of interactive identification programs. Remember that M. Dallwitz is the author of the DELTA format and DELTA software package.

<http://www.biodiversity.uno.edu/delta/www/comparison.htm>

<http://www.biodiversity.uno.edu/delta/www/intluc.htm>

and... a response from one of the developers of LucID

<http://www.biodiversity.uno.edu/delta/www/thiele.htm>

**®Desirable Attributes for Interactive Identification Programs**

<http://www.biodiversity.uno.edu/delta/www/idcriteria.htm>

**LucID** - CSIRO Interactive Identification package. Free demo downloads

<http://www.lucidcentral.com/lucid/about.htm>

**I.T.I.S.** (TRED, Taxonomic Workbench)

<http://www.itis.usda.gov/>



I.U.B.S./ International Union of Biological Sciences Taxonomic Database Working Group (TDWG). Database standards.

<http://www.tdwg.org/index.html>

Software for Biological Collection Management- W. Behrendson, TDWG Subgroup on Accession Data

<http://www.bgbm.fu-berlin.de/TDWG/acc/Software.htm>

**ETI** - Expert Center for Taxonomic Identification - Linnaeus II interactive identification software, World Taxonomist Database, World Biodiversity Database

<http://www.eti.uva.nl/>

Fishbase - Massive, multiyear project to catalog all fishes of the world and post identification material on the internet- 25,000 species, includes LarvalBase, and is multilingual

<http://www.fishbase.org/home.htm>

**Digital Taxonomy** THE site for links maintained by Mauro Cavalcanti the force behind FreeDELTA

<http://www.geocities.com/RainForest/Vines/8695/>

**Prometheus II** - Plants and the Royal Botanic Garden Edinburgh, but interesting reading about the construction of classification hierarchy.

<http://www.dcs.napier.ac.uk/~prometheus/>

**Listservers** - Archives of Delta-L site for taxonomic database information

<http://listserv.surfnet.nl/archives/delta-l.html>

US Organization for Biodiversity Information Listserver Archives including PEET, Taxacom, and TDWG

<http://usobi.org/archives/index.html>

