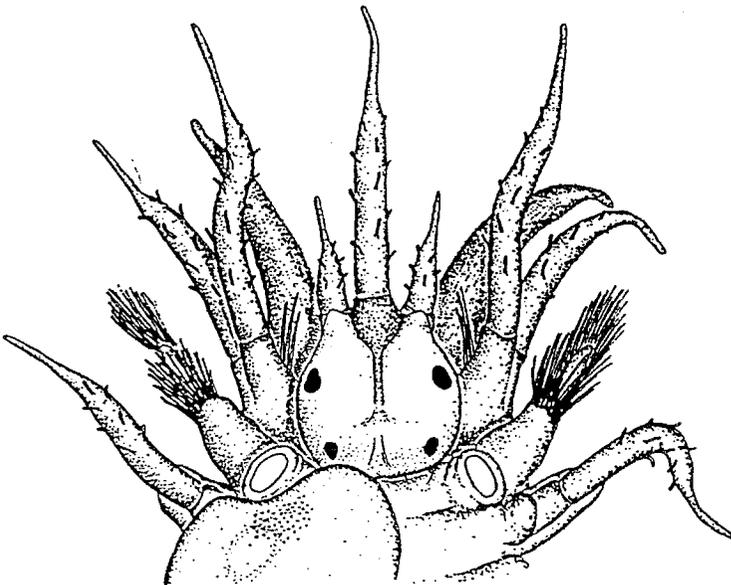


May, 1997

## SCAMIT Newsletter

Vol. 16, No.1

<b>NEXT MEETING:</b>	Scaleworms, Where do we Stand?
<b>GUEST SPEAKER:</b>	Ron Velarde, Discussion Leader
<b>DATE:</b>	9 June 1997
<b>TIME:</b>	9:30am - 3:30pm
<b>LOCATION:</b>	Worm Lab, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA



*Malmgreniella macginitiei* Ruff 1995

### 9 JUNE MEETING

Scaleworms again become the topic during the 9 June meeting. In the wake of Gene Ruff's section on the Polynoidae in Volume 5 of the MMS Taxonomic Atlas series most SCAMIT worm folk had to reexamine their material. This meeting is for us to compare notes and material to see if we agree or disagree with Gene, and to consider forms not included in his treatment. Other families of scaleworms are also suitable topics, but the emphasis will be on polynoids. Bring new, different, troublesome, or controversial specimens for comparison with the type materials in the Natural History Museum collections. The results of this meeting will be discussed with Gene at another meeting later in the year.

---

FUNDS FOR THIS PUBLICATION PROVIDED, IN PART, BY THE  
ARCO FOUNDATION, CHEVRON USA, AND TEXACO INC.

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

## MEMBERS?

While compiling the voting statistics reported in the last Newsletter it became apparent that I no longer had a good handle on who was, and who was not a member. I decided to do a little sleuthing through the mailing labels to find out who receives (and perhaps reads) the SCAMIT NL. Although the membership has expanded beyond the original group from Southern California we are still predominantly regional. Nearly 2 out of every 3 members is from the southern California region. Five members reside in northern California in the San Francisco Bay area. Another 14 members are from Oregon or Washington, with the majority in the Puget Sound region. Four more are from the same area, but from the Canadian side of the border. Eleven other members reside in other parts of the United States, mostly along the eastern seaboard. We also have a member in Japan. A new list of the membership, and their taxonomic specialties is attached.

With our expansion into the electronic arena we may or may not expand our membership, but we will almost certainly increase the exposure of the information and opinion presented in the SCAMIT NL. We will also (I hope) be able to broaden the opinion presented by eliciting comment from on-line readers. In the mean time the monthly SCAMIT meetings still serve the majority of the members. Suggestions on how to increase participation by members outside the radius of meeting availability would be most welcome. We aim to serve all the membership, but we need your ideas.

Treasurer Ann Dalkey will be sending us all an E-mail to ask if we still want to be sent the NL through the mail. Any members who feel they no longer need to receive the NL on paper, and are content with the online copy (downloadable and printable if desired), please notify her via E-mail (address on last page). She will then stop sending you a paper copy, and SCAMIT will begin to reduce distributional costs for the NL.

## SCAS MEETINGS

The 1997 Southern California Academy of Sciences meeting was held May 2-3 at Fullerton College. The symposia covered a wide range of topics: Larval Fish Recruitment, Marine Fishes, Marine Invertebrates, Coastal and Estuarine Biology and Processes, Southern California Deserts, Geology, Archaeology, Anthropology, Non-native Plants and Animals, Terrestrial Biology, and Environmental Justice and Land Use. Although, the 2 day meeting was sparsely attended, Fullerton College did an outstanding job at hosting the Academy and many of the presentations were very informative. While many SCAMIT members were not able to attend amongst the few that were several gave presentations. These are summarized below.

On Friday morning Dr. Jim Allen (SCCWRP) updated attendees on the recruitment in southern California soft-bottom fishes, a topic that he has studied extensively thru trawl surveys taken over the last 2 decades. Dr. Allen discussed size, spatial, and temporal information related to recruitment in this group of fishes. He discussed interspecific differences in length-at-recruitment and how sampling gear may bias estimations of size at recruitment. For instance a beam trawl with a 0.3cm body mesh is better for catching fish settling at 1 cm than a standard otter trawl. He also identified information gaps in this extensive database such as those in the size at age one and spawning times of adults.

That afternoon Ken Schiff (SCCWRP) in a joint study with Dr. Allen discussed bioaccumulation in flatfish based on research done for the Southern California Bight Pilot Project. Ken compared the DDT and PCB concentrations in liver tissue from 3 commonly occurring flatfish species in the Southern California Bight; Pacific sanddab, longfin sanddab, and Dover sole. Ken had both "good news" and "bad news" for us. While he found that virtually 100% of these 3 fish populations were contaminated with total DDT and/or total PCB the tissue concentrations have

declined significantly when compared with historical surveys. In fact, DDT concentrations from reference areas have declined 10-fold since 1977.

On Saturday morning Jeff Armstrong (CSDOC) presented his thesis project from Cal State University, Long Beach on environmental factors affecting the phenotypic plasticity of *Capitella capitata* (Type 1). Jeff examined the effects of water temperature (15°-22° C) and food quantity (0.03-0.21 mg/worm/day) on the taxonomic characteristics used to identify this species of polychaete. He noted two distinct morphologies with respect to prostomium and pygidium shapes. One group exhibited lobed pygidiums while the other group didn't. Differences were also detected amongst egg size and shape. The group exposed to a lower temperature (15° C) produced larger sized eggs. He also noted 2 egg shapes; round and oval. So polychaete taxonomists can take heart there are environmental factors confounding the accurate identification of individuals within the *Capitella capitata* species complex.

Dr. Tim Stebbins (CSDMWWD) followed Jeff with a presentation on long-term changes in soft-bottom crustacean assemblages near a deepwater ocean outfall. This was a joint study with Tim's colleague and fellow SCAMIT member Dean Pasko. This study examined patterns and changes amongst the soft-bottom crustacean communities by comparing data from stations located 0.5 km of the City of San Diego's ocean outfall and stations located 9 km north of the outfall. The study period included two El Niño events and an outfall pipe break in 1992 with construction following thru 1993 and two years (1994-95) after the pipe was lengthened and no discharge was made to that same area. From the data no strong correlations could be made between the patterns observed in the crustacean assemblages and these events. Dr. Stebbins found that peracarids make up 75% of the crustacean assemblage over the 11 year study period except for the year 1990 where ostracods are the dominant crustacean group due

to an explosion of *Euphilomedes carcharodonta*. He also noted an increase in abundance and taxa in the years prior to 1990 with a small decrease and leveling off after 1990. He did not feel that this was due to an increase in the taxonomic ability of his co-workers to recognize more species but due to improved wastewater treatment (from primary to advanced primary treatment) and natural population fluctuations.

Two other presentations that may have been of interest to SCAMIT members were given on Friday morning by Ami Groce (CSDMWWD) and Jason Mubarak (MEC Analytical Systems) which described spatial and temporal patterns in juvenile recruitment of demersal fish populations over the last decade in the Southern California Bight. The data used was collected from otter trawl surveys taken as part of the City of San Diego's Ocean Monitoring Program and the Orange County Ocean Monitoring Program.

## NEW LITERATURE

The most recent issue of the *Veliger* has several articles which may be of interest to the readership. The first (Shimek 1997) is a description of a new scaphopod from the central north Pacific, which bears an anemone externally similar to the brown tent anemone we briefly examined at the Cnidarian Workshop. Given the depth range of the new mollusk species, it is unlikely that this is the same species we have observed at upper slope and outer shelf depths off California, but the similarities are intriguing. The scaphopod is a *Fissidentalium* much like the two currently known from our area, *F. megathyris* and *F. erosum*.

McDonald and Nybakken (1997) commence on a novel project of publishing the massive world-wide database on nudibranch feeding habits they have put together over the last decade or so. Of particular interest is the way they have chosen to do so. They will publish a series of short summary articles in the journal covering the

general patterns of feeding in the groups covered, but not the details of the individual records. This latter base data is offered as the first electronic supplement to the Veliger. It is available as a series of files which can be requested via anonymous FTP through E-mail. If this process were more widely adopted it might offer relief for publishers burdened with massive databases which provide the raw data other researchers need, but which are very expensive to print. In the past the most common solution has been for the authors to offer to provide the base data to those readers of a paper sufficiently interested to ask for it. The current solution is much easier, both for the originators and potential users of the data.

The third paper of particular interest in the current issue (Roginskaya and Grintsov 1997) demonstrates that problems with introduced marine species are not restricted to our waters. They trace the pattern of expansion in a population of nudibranchs invading the Black Sea from an origin on the Atlantic coast of the United States. This invasion is somewhat more typical than ours involving *Philine auriformis* in that the Black Sea is essentially a huge "estuary" with reduced salinity rather than a fully marine open coast. The scale of the affected area is large, and similar to that which has been covered by our own invader along the California coast. It is also useful for us to see our own fauna as a source for invading "alien species". There is a tendency to consider the process of introduction as one-sided, with exotics from other portions of the world ocean converging on our shores to take advantage of ecosystems perturbed by human actions. Far from one-sided, introductions are polymorphic, with constant movement in every possible direction of transport.

The use of radular teeth for establishment of gastropod intertaxon relationships was examined by Guralnick and de Maintenon (1997) using a case study of selected columbellids. They demonstrate that position of a tooth on the radular ribbon does not necessarily denote homology.

They found differing origins for "central" teeth which were assumed on the basis of position to be rhachidian teeth. Previously the reliability of radular teeth as taxonomic characters has been considered from the standpoint of wear, and of intrataxon variability in response to differences in food substrate. The present report also raises issues of interpretation of radular structure itself, and shows that homology is not necessarily determinable from relative radular position. At least in higher level taxonomic studies of genera, families or larger taxa, the derivation of radular teeth provides additional information, and should be examined.

Microstructure of teeth, this time the teeth of ophiuroids, was discussed by Medeiros-Bergen (1996). She investigated a number of southern California species, using fresh collections from the San Diego Area, and museum specimens from the Natural History Museum of Los Angeles County. Although I doubt that many of us will be examining the teeth of brittle-stars in the detail she did, her findings regarding feeding method and tooth structure are interesting. The degree of fidelity to one type or another within families was also very interesting, and the apparent family mis-allocation (on the basis of tooth structure) of *Ophiocomina nigra* and *Ophiopteris papillosa* to the Ophiocomidae is suggestive. It will be interesting to see if further anatomical studies support transfer of these taxa to another family.

Dispersal, isolation, and speciation of deep-sea amphipods is considered by France and Kocher (1996). Their subject was the "cosmopolitan" abyssal scavenging amphipod *Eurythenes gryllus*. They examined mitochondrial rRNA sequences of specimens nominally belonging to this species from a broad selection of sources. The results indicated that genetic variability was generally higher along a bathymetric than along a geographical gradient. This was interpreted as indicating that isolating mechanisms which might form barriers to genetic exchange between individuals in this world-wide metapopulation were associated with differences in depth.

Using a value of 4% difference in genome as the lower limit for similar but genetically distinct species, the authors suggested the existence of 5-6 sibling species hidden within the samples they analysed. These had no obvious morphological correlates which would allow easy separation of phenotypes, although their genotypes were sufficiently distinct that they could be considered species. Differences in size seemed to be often associated with these cryptic sibling species.

Much of this cryptic speciation occurred at bathyal depths, with less both in shallower and deeper depth zones. Although this is comforting in the sense that such cryptic complexes may be less common in the depths of our sampling programs, they none-the-less occur. As has been suggested by many workers; "cosmopolitan" species are only cosmopolitan until the characters which separate the sibling species composing them are recognized.

We do live in an age, however, where human transport of larval forms is continual, and artificial bridging of speciation barriers is constant. Not only does the potential for true cosmopolitanism (although either caused or abetted by human activity) exist, but the potential of reestablishing gene flow between populations which were isolated and well on the way to species level divergence is very real.

Allozyme studies have proven invaluable in helping to sort out zoanthid cnidarians in northern and northeastern Australia (Burnett et al 1997). The zoanthids world-wide are a mess because they exhibit great ecophenotypic variability in colony morphology. In consequence these large and conspicuous members of reef communities have been heavily over described in terms of species, and under described in terms of characters. Many of the traditionally used characters have been demonstrated in recent studies to have no taxonomic significance.

Although the species considered do not occur in our area, the methods used to distinguish them

and the problems encountered in the process are quite instructive to workers on our local fauna.

Application of chemical taxonomic approaches to investigation of the history of life on earth continues in Cavalier-Smith et al (1996). The authors examine the nature of the relationship between early metazoans and their protozoan forebearers using the evidence contained in 18S rRNA mitochondrial DNA gene sequences. They analysed a series of sponges, and combined their results with published information on a variety of different forms for a cladistic analysis of animal, plant, fungal, and protoctist groups. Their analysis supports the monophyly of Kingdom Animalia, with choanoflagellate protozoans the most closely related protoctists. They could not fully resolve the question of whether or not sponges are homophyletic or paraphyletic, although they found them clearly monophyletic.

In the latest issue of *Marine Pollution Bulletin* Hiscock (1997) provides a viewpoint article which considers use of preexisting data in environmental evaluations. In some senses his comments are applicable to the regional monitoring effort currently underway in our area. He does, for instance, identify the continental shelf break as an area of concern from the standpoint of limited habitat area and vulnerability to impact. But most of his comments are directed at information needs which are not the same as ours. He is concerned with occasional, and often catastrophic, impacts such as oil spills, dredge spoil disposal, etc. Our concerns are for site predictable long term low level insults. Different types of data are required to address the differing questions these two situations require. Even so, his comments on data availability and the necessity of balancing acquisition of new data against the reanalysis of existing data are apropos. I think that our regional monitoring effort has shown that a well selected mix of pre-existing and newly acquired data can provide the answers to new questions.

Hiscock's viewpoint article did not offer detail in his statements about the necessity for data quality

control, an area we found of major concern during the Pilot Project. Mary Bergen and Dave Montagne have put together a full explanation of the problem, and the methods we used to address it in the SCBPP, for publication in the SCCWRP annual report (and probably also in another journal).

As funding levels for marine research and monitoring decline (a trend not likely to reverse soon if ever) use of "available data" and the problems such use entails will become more and more frequent. All data which can be brought into comparability with other data **should** be used. There is nothing like a broad temporal and geographic database to provide perspective in interpretation of new small scale and short-term datasets.

The precipitous decline of the black abalone population which occurred over the last decade in southern California has now been documented northward into central California (Altstatt et al 1996). Once again the culprit appears to be abalone withering syndrome rather than harvesting pressure, human disturbance in the intertidal, or general "pollution". The syndrome in turn has been related to epizootics of a rickettsia-like prokaryotic organism, and secondarily to warmer waters. The organism seems able to exist in cool waters, but affects the abalone population more severely as water temperature increases.

Anecdotal reports from abalone fishermen in Mexico suggest that the abalone population along the outer coast of Baja California was affected around 1992, after declines were significant in the Southern California Bight. It seems likely that the epizootic began somewhere in the Bight, and spread first south into warmer waters, then northward into cooler waters.

Evidence of withering syndrome is now beginning to show up at the northernmost sites investigated in the present study. The disease outbreak has not yet played itself out, but further expansion

northward may be delayed by cooler waters there. There is also some evidence that other abalone species are also beginning to show symptoms of withering syndrome. The end of this problem is not yet in sight, and the outcome in terms of both fishery and community ecology is still in doubt.

### MINUTES OF 6 MAY MEETING

During the business meeting the Treasurers Report covering the 1996-97 fiscal year was presented. A summary is attached. Our available funds continue to dwindle as the cost of newsletter production and distribution exceed revenue from dues by 100+ %.

We mentioned the necessity of finding individuals to work on Edition 3 of the SCAMIT list. The corrections and additions which have been accumulated so far were circulated. Individuals with expertise in particular groups are sought to examine Edition 2 for errors and omissions, and to incorporate taxonomic changes from the literature encountered since the current edition was released in February 1996. Any volunteers? If not we will be contacting you to step forward and contribute to the effort.

Our guest speaker was Dr. Doug Eernisse from California State University, Fullerton. I met him in the Malacology section prior to the meeting and he selected a series of museum specimens for reference during the meeting.

He actually gave two different presentations to us during the meeting. The first was based on his "Chiton Stack" a HyperCard based database he has designed and constructed for use with Macintosh computers. This is a very useful worldwide compendium of information on and description of chitons, their taxonomy, and their distribution. As the stack is copyrighted, I suspect that it is available from him for a fee (we did not ask during the meeting). The stack contains a huge amount of data, especially on distribution.

During its construction he thoroughly perused the literature, abstracting records he felt could be used with confidence and incorporating the range information they contained. The completeness of the database was enhanced by the availability of very recent monographic treatment of the world chiton fauna by Kaas and Van Belle (1985a, 1985b, 1987, 1990, and 1994).

The stack is also highly visual, with everything mapped on several scales, as well as illustrations of relevant aspects of each species. The amount of work which went into this was immense. Dr. Eernisse is, however, planning on porting his stack to the WWW in some form, to promote utilization of the information it contains, and to allow others to add new information to the base he has established.

During the presentation (which he ran off a laptop connected to an overhead projector) he demonstrated several related stacks, although he only mentioned, and did not show us his stacks designed for DNA sequence alignment and other chemotaxonomic tools.

He also told us how he had gotten interested in chiton taxonomy in the first place. It was a classic case of expanding effort. He first began an investigation of reproduction in one species, only to find several distinctly different reproductive modes in this "species". He later resolved this into a multi-species complex of siblings, describing several in the process. As he continued his investigations he found that taxonomy within the family was as confused as in the genus, then discovered this extended on into higher categories as well. Like many of us his simple question of "What is this species?" mushroomed into a revisionary view of the entire group.

After a break, he then proceeded to present a brief review of chiton structure, ecology, and systematics. We discussed his section of the MMS Taxonomic Atlas, and when it might be available (he did not know). Most of the chiton

fauna of California will not be covered in the section, as the collections from the Santa Maria Basin which form the nucleus of the text were all collected subtidally. Dr. Eernisse did, however, attempt to provide a complete guide to the offshore chiton fauna, something which has not been available previously. We attempted to key several of the species which Tim Stebbins had brought from San Diego, and found the key to function quite well.

Specimens of *Lepidochitona* (formerly *Ischnochiton*) *interstinctus* and *Placiphorella* sp A were examined. The former keyed easily, while the identity of the later was not fully established. It seemed to be very like *Placiphorella atlanticus* (of which *P. pacificus* is now a synonym), but differed in color pattern. While this species is very wide-spread, the present specimens from off San Diego would represent a range extension north from Panama. This did not surprise Dr. Eernisse, who felt this sort of range extension was to be expected within the genus. Specimens of the animal are being sent to R. B. Clark (the most recent revisor of the genus) for verification, and are being retained as sp. A until he replies.

We hope to persuade Dr. Eernisse to present a meeting on the relationships between higher invertebrate taxa (from cladistic analyses based on DNA sequences) later in the year. He has been a major contributor to the subject of invertebrate phylogeny, and it is a continuing research interest of his.

**A BIG EASY ONE  
OR  
WHERE HAVE ALL THE LIMBATES  
GONE?**

The terebellid polychaete, *Amaeana occidentalis*, is widely reported from the Southern California benthos. It is easily recognized based upon its often brilliant purplish pigment, huge frilly prostomial structure, unique papillated thorax, and finger-like notopodia. The original description by Hartman (1944) merely lists the

notopodia with fine pointed setae. According to literature descriptions and illustrations in Uebelaker (Vol VII, page 52-26 and 52-27) and Imajima and Hartman (1964, page 347), *Amaeana* possesses both simple limbate and capillary hispid or pencillate notosetae. However Hutchings and Glasby (1986) list *Amaeana* with smooth capillaries and very narrow wings. Specimens I have seen from local waters (confirmable as *Amaeana* also by their rod-like abdominal spines) never possess these limbate setae but only exhibit capillaries that are hispid along their length. Can anyone provide a current description and illustration of *Amaeana* limbate setae based upon a specimen they have examined from local waters? If you can't find these setae either, do you have any idea who might have taken them? In our lab we typically blame the janitor when things can't be found, but that seems unlikely in this situation. -Tom Parker (CSDLAC)

now proceed. The museum also now operates a WWW site, <http://www.nature.ca>.

Dr. Judith Fournier is retiring as of 21 June 1997. We wish her well, and thank her for many kindnesses in the past. We also assume that, like many long-time taxonomists, she will continue to pursue her research goals in some sort of emeritus status. Correspondence which you might have previously sent to her should be directed to Dr. Jean-Marc Gagnon, Chief Collection Manager for Invertebrate Collections. He can be reached at

Dr. Jean-Marc Gagnon  
Chief Collection Manager  
Canadian Museum of Nature  
P.O. Box 3443 STN D  
Ottawa ON K1P 6P4, Canada  
Tel: (613) 364-4066  
FAX: (613) 364-4027  
e-mail: [jmgagnon@mus-nature.ca](mailto:jmgagnon@mus-nature.ca)

## INDEX SCAMITALIA

We all owe member Faith Cole our thanks for another years worth of effort at keeping up the SCAMIT Newsletter Index. It now covers all of the first fifteen volumes in their entirety. She has asked us to pass on a request for corrections or additions to members who consult the index. She will be glad to make corrections and add in items which have been overlooked previously. Contact her via E-mail at [cole.faith@epamail.epa.gov](mailto:cole.faith@epamail.epa.gov). The new index is attached to this newsletter

## CANADIAN MUSEUM OF NATURE

The staff and collections of the Canadian Museum of Nature are all (as of mid-April) moved into new modern facilities just outside Ottawa. The inaccessibility of the collections for specimen loan and or examination which these facilities upgrades caused are at an end. All collections are now "open for business" and if you have requests, or have materials to return to the museum, you can

## OTHER NEWS FROM CANADA

In recent correspondence we received news of the impending retirement of Dr. E. L. Bousfield from active taxonomic work. After a career spanning over half a century - and extending into retirement from official positions, he is ending his professional career to concentrate on his personal life. It is sad, however, that this decision is due at least in part to ill health. Works-in-progress that could not be brought to completion in time have been turned over to co-authors or colleagues. *Amphipacifica* Volume II(3) is being printed, and has an expected publication date of 15 May. Fate of the journal is unclear following that issue. Hopefully someone has been selected or has stepped forward to take the reins as Managing Editor from Dr. Bousfield. Perhaps the situation will become clearer when issue 3 of volume 2 is received.

We hope that he will have a full recovery from his recent health difficulties, and a life of pleasant and well-earned relaxation. He leaves a legacy of

ideas and contributions which others will be using for a very long time.

### TAXONOMY AT NSF

Most of us feel that taxonomy, and especially alpha taxonomy, has increasingly become the unwelcome step-child in the biological establishment. This seems particularly odd in a period where the word "biodiversity" has achieved the status of a bureaucratic catch-phrase, and where concerns with species extinctions are expressed world-wide.

Well, at least for the next year, taxonomy will have a friend at court. Dr. Jody Martin, Curator

of Crustacea at the Natural History Museum of Los Angeles County, has been asked to (and has agreed to) become chairman of a committee reviewing grant applications at the National Science Foundation. He and his family will move to the Washington area for a year, beginning in June or July 1997.

He will return to his position at the museum after the expiration of his appointment. In the interim the business of the Crustacea Section will be continued by Collections Manager [and member] George Davis.

### BIBLIOGRAPHY

- ALTSTATT, JESSICA M., Richard F. Ambrose, John M. Engle, Peter L. Haaker, Kevin D. Lafferty, and Peter T. Raimondi. 1996. Recent declines of black abalone *Haliotis cracherodii* on the mainland coast of central California. *Marine Ecology - Progress Series* 142(1-3):185-192.
- BURNETT, W. J., J. A. H. Benzie, J. A. Beardmore, and J. S. Ryland. 1997. Zoanthids (Anthozoa, Hexacorallia) from the Great Barrier Reef and Torres Strait, Australia: Systematics, evolution and a key to species. *Coral Reefs* 16(1):55-68.
- CAVALIER-SMITH, T., M. T. E. P. Allsopp, E. E. Chao, N. Boury-Esnault, and J. Vacelet. 1996. Sponge phylogeny, animal monophyly, and the origin of the nervous system: 18S rRNA evidence. *Canadian Journal of Zoology - Revue Canadienne de Zoologie* 74(11):2031-2045.
- FRANCE, SCOTT C., and T. D. Kocher. 1996. Geographic and bathymetric patterns of mitochondrial 16S rRNA sequence divergence among deepsea amphipods, *Eurythenes gryllus*. *Marine Biology* 126(4):633-643.
- GURALNICK, ROBERT, and Marta J. de Maintenon. 1997. Formation and homology of radular teeth; A case study using columbellid gastropods (Neogastropoda: Columbellidae). *Journal of Molluscan Studies* 63(1):65-77.
- HARTMAN, OLGA. 1944. Polychaetous Annelids Part VI. Paraonidae, Magelonidae, Longosomidae, Ctenodrilidae, and Sabellariidae. *Allan Hancock Pacific Expeditions* 10(2 and 3):239-388.
- HISCOCK, KEITH. 1997. "Use Available Data". *Marine Pollution Bulletin* 34(2):74-77.
- HUTCHINGS, PATRICIA A., and Chris J. Glasby. 1986. The Polycirrinae (Polychaeta: Terebellidae) from Australia. *Records of the Australian Museum* 38:319-350.
- IMAJIMA, MINORU, and Olga Hartman. 1964. The Polychaetous Annelids of Japan. Part 2. *Allan Hancock Foundation Occasional Papers* 26:239-452.
- KAAS, P., R. A. Van Belle. 1985A. Monograph of Living Chitons (Mollusca: Polyplacophora). Vol. 1. Order Neoloricata: Lepidopleurina. E. J. Brill/W. Backhuys: Leiden. 240pp.

- . 1985B. Monograph of Living Chitons (Mollusca: Polyplacophora). Vol. 2. Suborder Ischnochitonina Ischnochitonidae: Schizoplacinae, Callochitoninae, Lepidochitoninae. E. J. Brill/W. Backhuys: Leiden. 196pp.
- . 1987. Monograph of Living Chitons (Mollusca: Polyplacophora). Vol. 3. Suborder Ischnochitonina Ischnochitonidae: Chaetopleurinae, & Ischnochitoninae (pars). E. J. Brill/W. Backhuys: Leiden. 302pp.
- . 1990. Monograph of Living Chitons (Mollusca: Polyplacophora). Vol. 4. Suborder Ischnochitonina Ischnochitonidae: Ischnochitoninae. E. J. Brill/W. Backhuys: Leiden. 298pp.
- . 1994. Monograph of Living Chitons (Mollusca: Polyplacophora). Vol. 5. Suborder Ischnochitonina Ischnochitonidae: Ischnochitoninae (concluded). Mopaliidae. E. J. Brill/W. Backhuys: Leiden. 402pp.
- KRITZLER, HENRY. 1984. Family Terebellidae Grube, 1850. Chapter 52. *In*: Uebelacker, Joan M., Johnson, Paul G., Vittor, Barry A. (eds.), Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico. Volume 7. Minerals Management Service: Metairie, Louisiana.
- MCDONALD, GARY, and James Nybakken. 1997. A worldwide review of the food of nudibranch mollusks. Part I. Introduction and the suborder Arminacea. *The Veliger* 40(2):157-159.
- MEDEIROS-BERGEN, DOROTHY E. 1996. On the stereom microstructure of ophiuroid teeth. *Ophelia* 45(3):211-222.
- ROGINSKAYA, IRINA S., and Vladimir A. Grintsov. 1997. Range expansion of an alien invader - the nudibranch mollusk *Doridella obscura* Verrill, 1870 (Opisthobranchia: Corambidae) in the Black Sea. *The Veliger* 40(2):160-164.
- RUFF, EUGENE. 1995. Family Polynoidae Malmgren, 1867. Pp. 105-166 *IN*: Blake, J. A., B. Hilbig, and P. H. Scott (eds.). Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. Volume 5- The Annelida Part 2. 377pp.
- SHIMEK, RONALD L. 1997. A new species of eastern Pacific *Fissidentalium* (Mollusca: Scaphopoda) with a symbiotic sea anemone. *The Veliger* 40(2):178-191.

#### SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers.

			<u>e-mail address</u>
President	Ron Velarde	(619)692-4903	rgv@sddpc.sannet.gov
Vice-President	Don Cadien	(310)830-2400 ext. 403	mblcsdla@netcom.com
Secretary	Cheryl Brantley	(310)830-2400 ext. 403	mblcsdla@netcom.com
Treasurer	Ann Dalkey	(310)648-5544	cam@san.ci.la.ca.us

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.

## SCAMIT TREASURY SUMMARY, 1996-97

During the past fiscal year, April 1996 through March 1997, costs for producing the newsletter, \$3532.09, (including printing, postage, and supplies) remained approximately the same as during for last fiscal year (\$3399.61). SCAMIT hosted a polychaete workshop with Dr Danny Eibye-Jacobsen in May (\$286.83). Although at least one publication is presently underway, no publication grants were issued during the year. SCAMIT's primary source of income, \$1410.00, came from membership dues which covered half the costs for producing the newsletter. Grants and workshops will continue to be funded from the money collected for creating the Taxonomic Listing for SCCWRP during the 1994-95 fiscal year. The following is a summary of the expenses and income:

### Expenses

Newsletter	\$3532.09
Publications (Voucher reprints)	188.02
Grants	0.00
Miscellaneous	530.98
<b>Total</b>	<b>\$4251.09</b>

### Income

Dues	\$1410.00
Interest	322.06
T-Shirts	0.00
Donations	0.00
Miscellaneous	0.00
<b>Total</b>	<b>\$1732.06</b>

### Account balances (March 31, 1997)

Checking	\$ 535.34
Savings	15390.46
<b>Total</b>	<b>\$15925.80</b>