

February, 1997

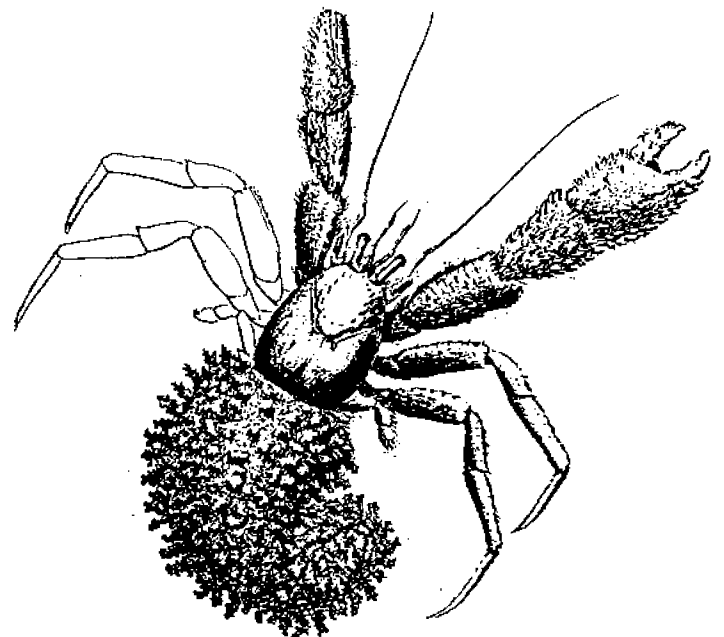
SCAMIT Newsletter

Vol. 15, No.10

NEXT MEETING:	Discussion of Taxonomic Atlas Vol. 14
GUEST SPEAKER:	None - Megan Lilly (CSDMWWD) leader
DATE:	10 March 1997
TIME:	9:30 am - 3:30pm
LOCATION:	Marine Biology Laboratory, City of San Diego Suite 201 (upstairs), 4918 N. Harbor Drive (see attached map)

The March meeting will be held at the City of San Diego Marine Biology Laboratory. As in previous meetings to discuss volumes of the MMS Taxonomic Atlas series, please come equipped with your copy, and any notes, corrections, comments, or annotations. This meeting will be followed at a later date by a second meeting with several of the authors, to pass on our comments, and hear their replies. A map to the lab is attached to this Newsletter.

The April meeting is a Thursday/Friday (10 and 11 April) workshop on cnidarians at Dancing Coyote Ranch in the mountains behind Vista. Plan ahead to attend. The meeting announcement is attached. Since accommodations may be tight please notify John Ljubenkov if you do plan to be there.



Pagurus constans (from Stimpson 1907)

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.

NEW LITERATURE

None of the papers circulated at the meeting directly pertain to the taxonomy of invertebrates, although one paper on fish (Schultz et al 1996) presents an exciting chemotaxonomic tool we might also use for invertebrates. The authors produced a polyclonal antiserum, whose reactions with extracts of eggs and juveniles of several fish (snappers - Lutjanidae) showed a diversity of reaction patterns providing insight into both their identity, and their presumptive evolutionary relationships. The authors' intent in this investigation was to allow identification of normally unidentifiable early life history stages. We have equivalent problems with closely related species complexes in many local invertebrates. Perhaps in the future..., but not yet. This technique relies on proteins, which are denatured during the preservation process.

Fish also form the basis of a paper on long-term population variability (MacCall 1996). Switching between warm and cool temperature regimes at periods of 50-70 years seems to be the underlying physical structuring factor which is reflected in radical fluctuation of population density in some pelagic fishes (anchovy and sardine in our area). Lack of recognition of cycling with these long periods leads to major problems in monospecies fisheries, causing major social and economic dislocations during the switch from one species to another. Similar long-term cycling in invertebrate populations is not yet demonstrated, but probably occurs.

Shorter term analyses such as those of Stull and Tang (1996) are more common than the longer view above, and document variability on an intermediate temporal scale. In the present paper the 21 years of data analyzed covers a period of major change in impact around a domestic waste discharge into the Southern California Bight. Long term monitoring of this nature is becoming increasingly available as programs associated with discharge permits continue to accumulate data.

Discharge data of a different sort is addressed in Stull et al (1996) which examines both sediment contamination and infaunal biota around the same discharge as the last paper. This paper is the first in a series, and presents methods used to evaluate the relationship between infaunal bioturbation and mobilization of historic pollutant deposits.

The anthropogenic disturbance of species introduction is considered in two other recent papers (Lafferty and Kuris 1996, and Moyle and Light 1996). In the first case the authors discuss application of the concept of biological control (as developed in terrestrial systems) to introductions of exotic species into marine waters. They conclude that it is possible to attempt control of marine introductions biologically, but that existing strategies are inadequate to the task.

A more basic look at the nature of biological invasions (either natural or anthropogenic) is taken by Moyle and Light. They present a series of empirical rules controlling invasions into fresh water systems. These may or may not apply equally well to more open marine systems, but merit our consideration. Their structured examination of the problem is informative.

Vetter (1996) comments on an apparent disconnect between species morphology and life history. We all make inferences of function from form since experimental information is lacking for most infaunal species. The wide functional differences shown by the leptostracans studied by Vetter point out that such inferences are not always accurate. If we fail to remember the underlying assumptions of such inferences, and indices derived from them, we run the risk of overstating our results. Vetter's interesting cautionary tale about "best-guess" inference should be required reading for us all.

A flyer was received which announced a new publication of interest to west coast crustacean workers. Forest & Holthuis (1997) have produced an annotated facsimile of Milne-Edwards 1883 "Recueil de Figures de Crustacés

nouveaux ou peu connus", an extremely rare volume which contains illustrations of animals described but not previously figured by him.

Although not cheap (\$83.20), this new release offers something very few workers have had, a chance to see the original illustrations of species they may routinely encounter. These are provided on 44 facsimile plates, and, combined with the authors' comments and annotations, form a valuable tool for crustacean folk. The publisher indicates the edition is limited, but if they sell out you can bet they'll print again. It can be ordered from Backhuys Publishers, P.O. Box 321, 2300 AH, Leiden, The Netherlands, or via E-mail at backhuys@euronet.nl

MMS ATLAS CORRECTION

In volume 4 of the MMS Atlas on page 247 there is a mistake in the Hesionidae key. Couplet 12B describes notosetae present "at least from setiger 4". This is incorrect and does not match the text description for the corresponding species. The couplet should read "at least from setiger 5".

Tom Parker - CSDLAC

WSN 97 MEETING

77th Annual Meeting of the
Western Society of Naturalists
Sponsored by
Universidad Autónoma de Baja California Sur
(UABCS)
La Paz, Baja California Sur, Mexico
January 8, 9, & 10, 1997

As evidenced by the crowd of approximately three hundred students of the natural sciences, the subtropical climes of La Paz were the perfect choice for this midwinter's meeting of the Western Society of Naturalists. The long list of registrants necessitated holding the morning symposia in the conference center at the host Hotel Araiza Inn Palmira and the afternoon four

concurrent contributed paper sessions at the University (UABCS).

Steven Webster of the Monterey Bay Aquarium opened Symposium I: *The Ecology of the Gulf of California* with a historical perspective on the relationship of Ricketts and Steinbeck and their original research in the Sea of Cortez in 1940. The remaining presentations covered biological-physical interactions, distribution and dynamics of seaweed assemblages, corals, and human uses of the islands of the Gulf of California. The final presentation by Alejandro Robles-Gonzalez of Conservation International Mexico, described the challenges and preservation opportunities provided for by the establishment of the Northern Gulf Biosphere Reserve. Symposium II: *Desert Ecology* began with a presentation by Paul Dayton of Scripps Institute of Oceanography. He has returned for many years to the same desert location just north of the Gulf of California. And what better way would a marine biologist spend his vacation than observing and dissecting the interactions of desert plants and animals. The final Symposium III: *The Marine Fishes of Baja California* concentrated on those uninteresting creatures of the sea that possess bony skeletons and eat many invertebrates.

Over one hundred presentations filled the afternoon *Contributed Paper Sessions*. Sessions concentrated mainly on marine research and covered larval, invertebrate, molecular and neurobiology; corals, birds, mammals, algae, sea grasses, fish, subtidal, pelagic and intertidal ecology; and marine pollution, biogeography, introduced species and marine habitat restoration. Of special interest to SCAMIT were presentations by John Ljubenkov of MEC Analytical Systems describing a new species of stinging anemone from southern California and the Gulf of California and Mary Wicksten of Texas A & M University summarizing some of her work on cleaning commensalism in moray eels and shrimp.

The Gulf of California and Baja contain unique and stunningly beautiful environs. Poorly regulated fishing practices and increasing numbers of visitors have negatively impacted many species and varied habitats. Most importantly, the Western Society of Naturalists meetings introduced these problems to many attendees and provided a forum for discussion of research on possible solutions.

Rick Rowe - CSDMWWD

SCAMIT ELECTION

It is with pleasure that I report a chink has appeared in the proverbial armor, and that our election procedure does leave room for individual action! Last year reelection of the current slate of officers was unanimous, an "iron curtain" type of democratic result, since no other candidates were put forth for the offices. This year, with only the incumbents running again (by default, since no other alternatives were offered), I feared a repetition of last year's exercise. Rejoice!!! We actually have write-in candidates this year!! With 18 ballots received, we appear on the way to a repeat of last year's result. There is still plenty of time for someone to pursue a dark horse write-in candidacy, voting continues until the end of March. More later. Thanks to those members who have taken the time to exercise their mandate, although they are still in the minority.

COLLECTIONS MANAGEMENT

We recently received an advertisement for a new collections management software package called "Biota". Anyone with direct experience using the product is encouraged to share it with other members. The package looks to be a very comprehensive relational database specifically designed to handle the complex tasks of biological collections management. Since all of us keep collections to one extent or another, we may find this dedicated product more convenient than doing the programming required to produce data entry templates for an existing commercial relational database. A MacIntosh version is

described in the announcement, with a MSDOS version due in spring 1997. Price is currently \$125, including manual.

The package is a product of Sinauer Associates. You can receive information on it from them at: Tel: 413)519-4300, or Fax: 413)549-1118, via E-mail: orders @sinauer.com or on the web at <http://www.sinauer.com>

KEEPING CURRENT

One challenge all taxonomists face is keeping their knowledge of nomenclature current. For those with a somewhat northern affinity, please internet-up to the annelid resources web page and copy off the 1996 version of Orensanz' "Benthic Polychaetes of British Columbia and Washington". This list includes synonymies, authority, and any possible questionable name status for over 500 species.

Tom Parker - CSDLAC

AAZN NEWS

The latest newsletter from the American Association for Zoological Nomenclature provides an update on the status of the proposed revisions to the ICZN code which have been under review for more than a year [see SCAMIT NL 14(2)]. These revisions will become provisions of the 4th Edition of the Code if and when accepted. Comments on the circulated Discussion Draft of the new edition were received from many members of the taxonomic community, and changes to the Draft have resulted. Unless modified again, these will be incorporated into the new code. Among the most interesting are the inversion of precedence with regard to what are effectively *nomina oblita*; a proposal to abandon the concept of the gender of generic names, and fix the ending of the specific epithet as that originally proposed; and a proposal to require the diagnoses of new nominal taxa in the Latin alphabet. Further information on the progress of the Commission towards the next Code can be had in the AAZN Newsletter. It can

be obtained by joining the AAZN (an act which also supports the activities of both the AAZN and the ICZN). Dues are \$20.00/year.

Contact: Dr. Allen L. Norrbom, Treasurer
National Museum of Natural History MRC-168
Smithsonian Institution, Washington DC, 20560

18 FEBRUARY MEETING

Because of scheduling difficulties the meeting was canceled at the last minute. Efforts in the days leading up to the 18th to get the word of the cancellation out seemed effective, since no one showed up at the Museum for the meeting. We replaced the meeting unofficially with a workshop session held at SCCWRP in Fountain Valley on the 20th of February. Dr. Ellis spoke over the course of the day on topics related to long-term monitoring programs, adding on materials from the talk on his class experiences (the subject of the 18th meeting) at days end. We did not totally miss out, in fact those that were able to switch their participation from the 18th to the 20th got more than they would have on the 18th. SCAMIT members were present in plenty among the full-house crowd in the SCCWRP conference room. The days topics were 1) At What Point recovery?; 2) Permitting and Biological Collections; and 3) Staffing Strategy for Monitoring.

The first of these three formed the basis of the morning session, and provoked considerable discussion in the audience. Dr. Ellis based much of this talk on his experience of over 25 years monitoring the impacts of coastal mining at the Island Copper Mine (ICM) on Vancouver Island in British Columbia. Although there is some difference from the type of monitoring performed by most members of the audience (continuous vs. fixed term disposal for instance), the cases are basically comparable. This morning session attempted to answer the question "when has a damaged ecosystem recovered sufficiently that monitoring it can be stopped or curtailed".

In the ICM case this question is one of considerable importance to the industry, as monitoring draws on a dwindling or non-existent revenue stream after mine closure. Under the permit in force, responsibility for environmental monitoring reverts to the state once a "normal" community is in place. A sizable (\$M) bond is posted against undetected damages. In the case of California dischargers, if damage declines to the point of being very minor or non-detectable the frequency or intensity of monitoring may be scaled back, but it does not end until a discharge permit is no longer necessary.

Many individual points of interest were covered during the discussion of the subject, but the meat was reached at the end, when Dr. Ellis showed us his proposed model for the recovery process. Although it was not explicitly stated during the meeting, it was understood that the same model could be applied to an ongoing, but changed discharge. The basic premise of this model is that the successional sequence leading from an early colonizing r-type community which characterizes the site during the height of impact to a fully recovered benthic community has two distinct break points. The first of these is at the point when the successional sequence is fully engaged, and becomes irreversible succession. The second is at the point when the succession reaches the broad and variable "climax community" which is indistinguishable from normal unimpacted areas.

It is possible that this is equivalent to the "balanced indigenous population or BIP" with which anyone who has participated in a 301(h) application or program is familiar in the US, but I doubt it. Such a "variable climax" community seems less exacting than the BIP concept, which has only limited ability to recognize the inherent variability of natural populations. As such it would appear that the Canadian standard as implemented by Dr. Ellis is more realistic, and a more reasonable standard than the one demanded in the US.

During the morning discussion we also considered biomass measures. That used in the ICM case differs radically from that used by monitoring programs in California. At ICM biomass was measured on live material retained on a 2mm screen as the boat returned to the dock.

Organisms passing through the screen were not considered to be meaningful biomass contributors. This course was followed for two reasons: analysis of preliminary data indicated that the larger individuals were the only ones contributing significant biomass; and reanalysis of preserved samples indicated a loss of weight (or sometimes weight gain) over time. This variation in preserved weight was seen as an impediment to comparison both within and between surveys. It has been reported in the literature repeatedly (see Ellis 1987 for a summary of previous reports) and no satisfactory method of determining the direction and magnitude of change in weight has been found other than repeated weighing.

Dr. Ellis did not comment on questions of the relative merits of wet-weight biomass techniques which grew out of the SCBPP experience. He suggested we contact Brenda Byrd at the University of Victoria, who now is handling the biomass analysis for the ICM project.

The second topic was taken up after a lunch break. The relationship of biological collections from monitoring programs to archival institutions which Dr. Ellis presented is one of considerable interest locally. Permit requirements for archival are always lacking in detail (or just plain lacking). During the SCBPP we initially proposed that archival be included in the design and budgeting of the program. This was not done, and the collection now is struggling to find a home which will fully accommodate the needs of both the archival institution, and SCBPP participants. It is not unusual for archival arrangements to be overlooked in program design and budgeting. Dr. Ellis sheepishly informed us that he himself had forgotten to include the subject in a draft of a handbook for mine monitoring programs he and his wife Katherine are presently preparing.

Dr. Ellis proposed a cooperative arrangement in which the archival institution also serves a quality assurance or quality control function. The question of cost was raised by several in the audience. Leslie Harris, the only representative of an archival institution present, attempted to address the cost issue. It was clear that the multipurpose involvement Dr. Ellis proposed would have several layers of cost associated with it. Costs for archival of voucher collections form the first level. A second level is required for the less onerous, but less desirable (from the archivalists viewpoint) maintenance of the bulk collections.

A third effort, and an additional source of cost, is verification of identifications on the part of the taxonomists at the archival institution. An hour of time for these outside experts will usually run several times the cost of the original identifier, a cost which requires budgetary attention.

The subject of staffing was visited last. The general conclusion from his point of view was that during the initial phase of a project outside expertise and experience should be utilized. Then, once the design is finalized, and the first few monitoring efforts have been performed (and the design modified where necessary), staffing should be shifted towards in-house. The benefits of maintaining an on-site staff revolved around economy, response speed, and ability to effectively deal with the unpredictability of weather and other logistic factors. He also viewed stability as more characteristic of staff rather than consultants. This was challenged from the audience, with experience that consultant staff members may also have low turnover.

We must remember that this is based on the finite term discharge of the mining industry, and not the indeterminate term monitoring of municipal waste dischargers. The difference became apparent when Dr. Ellis responded to questions about staff at the end of the project by indicating that some had been moved to similar projects in other areas, while others had been terminated as their

positions became no longer needed. Even so, the life of many mine projects may roughly equate to the active working life of potential staff members.

At the end of the day Dr. Ellis briefly reprised the presentation he had intended to give to SCAMIT on the 18th about his taxonomy class at the University of Victoria. Since his retirement the class has been dropped from their program, but one of his former students has taken it up at another university.

Much of the information Dr. Ellis presented to us was derived from an article he presented in *Marine Pollution Bulletin* earlier (Ellis 1988). Those members who could not be present should consult this for information on his training program.

Taxonomy is seldom taught as the primary subject of a credited course. Dr. Ellis' class treated the subject of taxonomy, not the taxonomy of any given group. It is evident from the number of his students who have gone on to graduate study on taxonomic projects, and then to work in applied taxonomy that his own enthusiasm for the subject was contagious.

He stressed in his presentation the importance of the training function, without which we who are current practitioners are the "last dinosaurs". Our replacements will not appear out of thin air, they must be trained. After some discussion of the sad status of support for taxonomy world-wide, we concluded with a resolve to find the appropriate ears. Most discussions on the state of taxonomy appear in specialist journals, in museum cafeterias, or in limited distribution sources such as the SCAMIT NL. The policy makers who have some chance of actually increasing the support for taxonomy are not exposed to any of this. Until we can find the appropriate forum, all our discussions will remain "preaching to the converted", and will yield no additional support for what we perceive as an essential basis for nearly every other aspect of organism or evolutionary biology.

It was a very interesting day, and a chance for us to interact directly with Derek Ellis, a long-time member and supporter of SCAMIT. We hope that next time he is in the area he can join us again.

Octopus veligero OBSERVED

Megan Lilly (CSDMWWD) reports a specimen of *Octopus veligero* taken off Pt. Loma during their winter trawl sampling. The animal was an apparently mature male, and was not damaged in collection. It was returned to the lab and maintained there for observation and photography. She indicated that she was not able to get this specimen to display his typical lateral brown spots in the field. Only in the laboratory, and after recovering from capture disturbance did the animal display. Hopefully Megan will give us a full report on her observations of this captive specimen in future.

RARE NUDIBRANCH TAKEN

During the CSDLAC February trawls we were fortunate in catching two specimens of the rare deep-water dorid nudibranch *Platydoris macfarlandi*. This species is illustrated by Behrens (1991, pg. 70) who describes the color range as pink through deep red. Both of the specimens taken by us were a pale tan color, without any pink or red tone. Both had the thin marginal border of white mentioned by him as present in some specimens. They are easily recognized when alive, regardless of color, by the extreme stiffness of both the foot and notum.

No host sponge was evident in the trawl, and there was little to indicate that a reef had been encountered. The two specimens came up together from a trawl at 137m depth along the south flank of the Redondo Submarine Canyon. One went to the Cabrillo Marine Aquarium for display, and the other was deposited in the Natural History Museum of Los Angeles County collections.

NEWS FROM THE NORTH

Member Gary Gillingham of Kinnetics Labs in central California sent down several E-mail missives recently. One responds to the voucher sheet for the oedicerotid amphipod *Eochelidium* sp A which appeared in the December newsletter. Gary indicates that the animal was taken in 1993 samples from the Alameda Naval Air Station in San Francisco Bay, and reported as *Eochelidium* cf. *miraculum*. With the voucher sheets arrival he now recognizes his animal as the one we also took down here in 1993 and 1994. As an added note Don Cadien just encountered the species in samples from Seattle taken in January 1997. Gary also sent down a copy of his exchange about the following resource.

TRITON

Those of you who have searched, laboriously, through volumes of the Zoological Record for information on a particular animal or group will be very interested in the proposed Triton system. It is intended to make information from the Record available on the World Wide Web. It will have both free and subscription based information resources when completed.

The free part, which should be available now, is the Name Index. It will provide an index to all animal names reported in the Zoological Record from 1979 to the present (hopefully it will be extended backwards in the future). Each entry will have author and date (if it did so in the Record), and will be linked through a taxonomic hierarchy.

The subscription part will provide full index entry and bibliographic details for all new and changed nomenclature associated with an animal name.

Information on costs, availability, and the system in general are available from Judith Howcroft, Special Projects Manager, Biosis UK, Garforth House, 54 Micklegate, York, England, YO1 1LF; via phone at +44 (0)1904 642816 or Fax at +44

(0)1904 612793, by e-mail at jhowcroft@york.biosis.org or <http://www.york.biosis.org/>

ELECTRONIC SCAMIT

We moved a number of steps closer to being boot-strapped into the information age this last month. SCAMIT now has a website, still getting it's bugs ironed out at this time, but we have a site. A big thank you to SCCWRP for providing us the opportunity to be on-line (they are hosting us), and to Larry Cooper of that organization for all his efforts in creating and maintaining the site. I should add that if you don't like what you see, blame the SCAMIT officers as Larry is patiently doing our bidding. If you do like what you see, then thank Larry for interpreting our desires for us.

We are not yet available by search. You must input the address directly for the time being (<http://www.sccwrp.org/scamit/>). Within a short period we should be fully linked, and available to browsers. We are learning that production of an on-line Newsletter is not the same as the production of a paper copy, but a separate and not necessarily overlapping process.

We would appreciate members' comments on the utility of our website to them, the value of having the Newsletter on-line for review or downloading, and the likelihood that an on-line Newsletter will satisfy their needs (so that a paper copy is not needed). SCAMIT's goals in transitioning from paper to electronic newsletter format are 1) an increase in availability (broadening of audience), 2) a facilitation of information exchange (more feedback from users), and 3) a reduction in production costs.

We expect (once linked) to attract some attention from other outside interests who are not SCAMIT members, and have no intention of becoming members. We welcome them, and hope that they will find what we do of interest, and worthy of information exchange. We are even more interested in our current members, however, and

worry that you may cease being dues-paying members if all you value of SCAMIT is freely available on the net. Let us know how you feel, please; it's important to us.

THE EDITOR THANKS...

Several of the items in the present Newsletter are attributed to members other than myself (at least I think my membership is current...). I thank these individuals sincerely, both for lessening my own

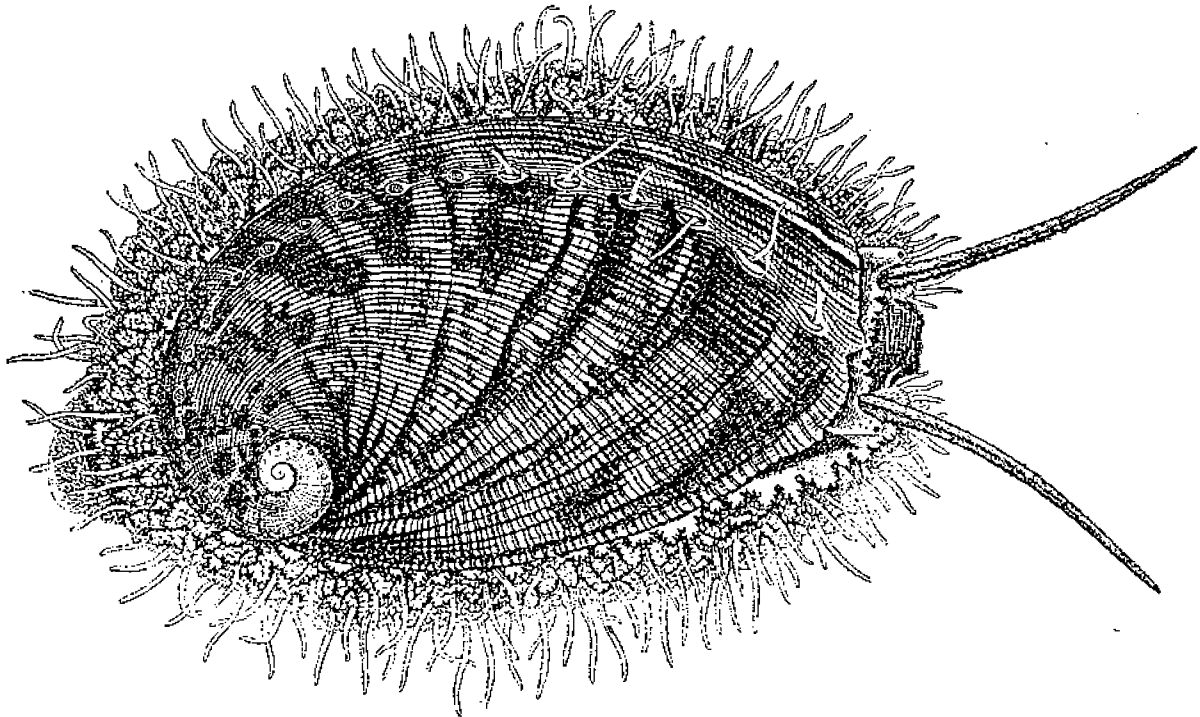
load, and for broadening the base of comment and opinion represented. I solicit and welcome all contributions of any nature (except the truly scurrilous or extremely obscene) pertinent to the broader interests of SCAMIT folk. With expanded representation of the membership in the Newsletter we all benefit. Or, if you can't find the time to prepare an article or note, drop me a line or e-mail with information I can pass on (as Gary Gillingham did herein).

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Haliotis tuberculatus in life (from Fischer 1887)

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

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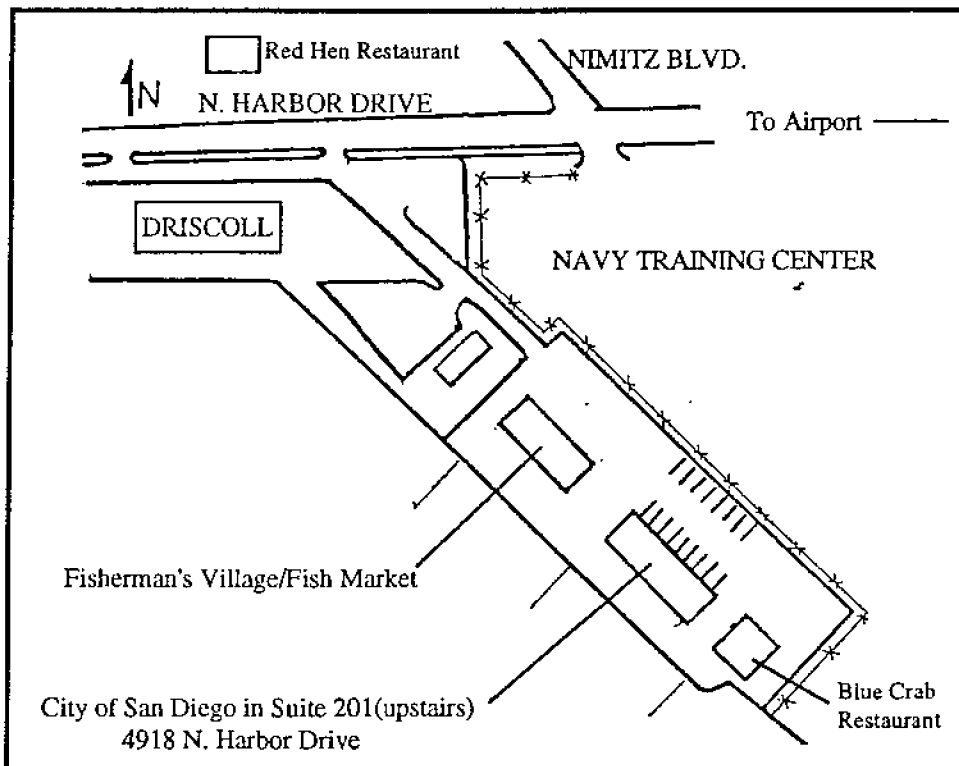
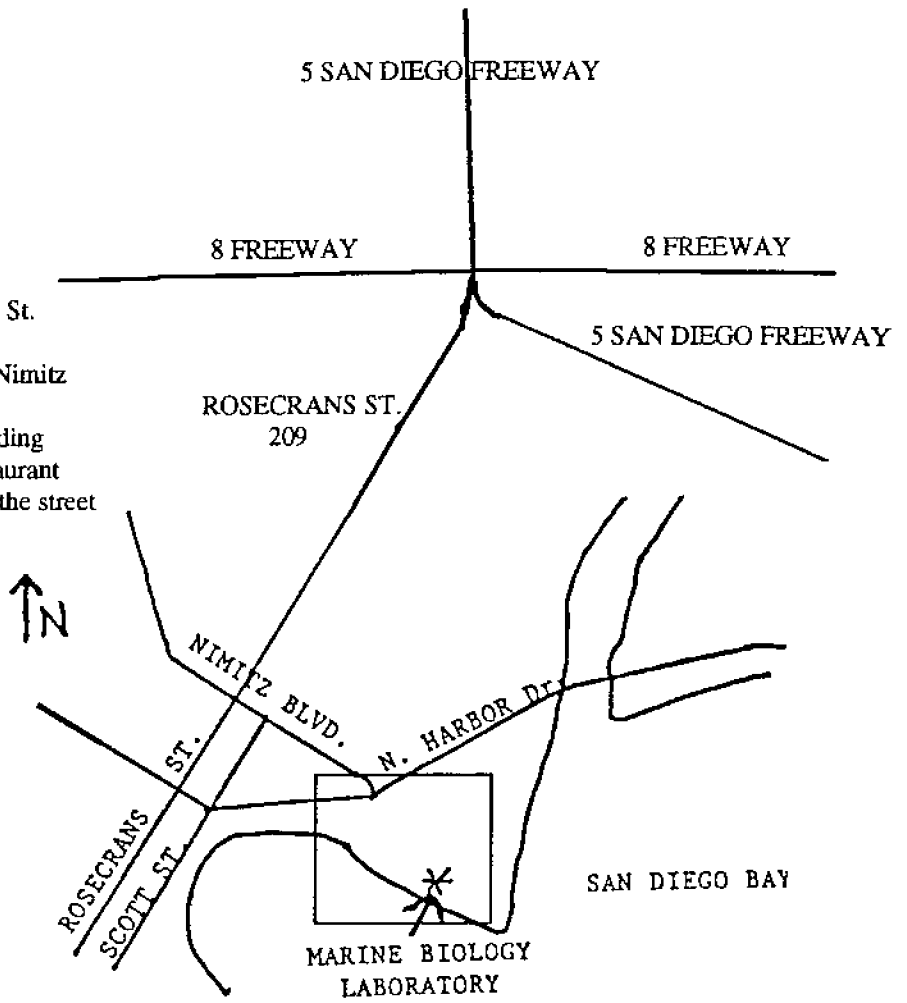
Back issues of the newsletter are available. Prices are as follows:

Volumes 1 - 4 (compilation).....	\$ 30.00
Volumes 5 - 7 (compilation).....	\$ 15.00
Volumes 8 - 14	\$ 20.00/vol.

Single back issues are also available at cost.

CITY OF SAN DIEGO'S MARINE BIOLOGY LABORATORY

From North, take 5 South to Rosecrans St.
 (209)
 Turn left on N. Harbor Dr. (light after Nimitz
 Blvd.)
 The entrance will be after Driscoll building
 (America III), look for Blue Crab Restaurant
 sign; the Red Hen Restaurant is across the street



Southern California Association of Marine Invertebrate Taxonomists
PRESENTS
a two day Workshop on

THE TAXONOMY OF BENTHIC CNIDARIA
emphasizing the fauna of So. California and adjacent Regions

Sessions on: Hydrozoa (including *Polyorchis*, Corymorphine Hydroids and their medusae, genus *Plumularia*, and Anthozoa (including burrowing anemones, gorgonians, sea pens and other octocorals). Participants are urged to bring specimens of problematical cnidaria which in combination with our collection will provide the basis of specimens for examination.

APRIL 10 and 11, 1997
held from 9 am to 4 pm each day at
DANCING COYOTE RANCH
20355 HWY 76, Pauma Valley, CA.

If you would like to attend please contact:

John Ljubenkov at P.O. Box 781, Pauma Valley, CA 90261, phone 619-742-2238
or fax: J. Ljubenkov @ MEC Analytical Systems, 619-931-1580.

If you are coming from a distance and need somewhere to stay there are motels and campgrounds, or camping for free on the Ranch, but please make contact for more information.