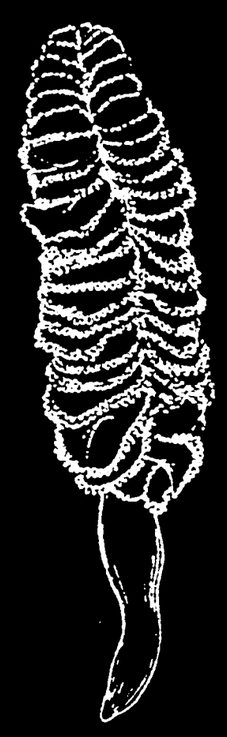
Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

June, 1994

Vol. 13, No. 2

NEXT MEETING:	Sea Pens
GUEST SPEAKER:	Dr. Gary Williams of California Academy of Sciences
DATE:	July 11, 1994
TIME:	9:30am - 3:00pm
LOCATION:	MEC - Marine Ecological Consultants 2423 Impala Dr., Carlsbad (see map on pg. 6)



Ptilosarcus sp. (from Brusca 1980)

JULY 11 MEETING

This meeting will be on the biology of sea pens. The guest speaker will be Dr. Gary Williams of the California Academy of Sciences. All members interested in sea pens are encouraged to attend and bring along any problem specimens.

MINUTES FROM MEETING ON JUNE 13

This was the first of many intercalibration meetings for the SCBPP. These meetings should provide members involved with this project a chance to compare and discuss their findings to improve consistency of taxonomic

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.

usage. At this meeting we attempted standardization of provisional names in the Nemertea and Platyhelminthes in preparation for the SCBPP sampling to take place next month. Representatives from several POTWs and consulting firms brought specimens and voucher sheets to the meeting to compare with each other. A few changes were made to the SCAMIT Taxa List and are noted below. Some voucher sheets for the provisional species on the SCAMIT Taxa List were distributed at the meeting. Interested parties who could not attend should contact the authors of the taxa for copies of these sheets. Authors of provisional taxa are listed in the SCAMIT Taxonomic Listing.

A technique essential for identification of both flatworms and nemerteans is that of clearing, or removing the opacity of the tissue. Using methyl salicylate (oil of wintergreen) seems to be the most common way of clearing in both these phyla. Taxonomists who commonly work with these phyla agree that typical squash mounts are insufficient for species level identification. There are three reasons for this: 1) without clearing, eyes cannot be reliably differentiated from glands and/or tissue granules; 2) genital structures cannot be seen without clearing; and 3) details of nemertean stylets cannot be seen in uncleared specimens.

Although oil of wintergreen is the most commonly used clearing agent, other aromatic oils including cedarwood oil, oil of clove, and bergamot oil can also be used. Regardless of the agent chosen the specimen must first be dehydrated in alcohol (with absolute alcohol as the last step) prior to clearing. Depending on the size and tissue density of the specimen it may be necessary to leave the specimen in the clearing agent for up to a day. For small, thin, or lightly muscled animals 45 minutes to an hour will probably suffice. The examination of the specimen must be done in the clearing agent, as transfer to another solution will rapidly render the animal opaque again.

As a result of the meeting two of the provisional taxa on the SCAMIT Taxonomic Listing have been further identified. Polycladida sp. H Phillips 1987 becomes a synonym of *Cryptocelis occidentalis*, and Polycladida sp. O of Phillips 1990 becomes *Acerotisa sp.*

POLYCHAETE WORKSHOP
JUNE 22, 1994

A one day workshop was held at the worm lab of the Natural History Museum of L.A. County. The guest speaker was Dr. Sergio I. Salazar-Vallejo from CIQRO in Mexico. He spoke about the professional history of the eminent polychaetologist, Dr. E. Rioja and the current status of Rioja's collection.

Dr. Rioja trained in Spain and was influenced by the work of Fauvel and other French researchers. Early in his career, Rioja erected the family Oweniidae and proposed the Order Sabellida. By the 1930's he had written extensively and published invertebrate texts, science books for children, and was actively involved in issues of science education. In 1935 he rose to the position of Minister of Education for Spain.

During the subsequent Franco revolution many highly trained Spanish citizens fled their country. By 1938, Rioja had immigrated to Mexico and was teaching high school biology. Soon afterwards he was also writing science text for Mexican publishers and also working as a part time researcher.

He made numerous trips to areas such as Acapulco and Vera Cruz and made faunistic surveys and observations. Many of these works supported the Fauvelian philosophy of cosmopolitan species and utilized existing European species names. He published papers on various families such as Serpulidae and Syllidae. In addition he investigated

phylogenetics. Near the end of his life he published an average of 11 papers per year.

For many years it has been assumed that Rioja's type specimens were lost or destroyed. Recently, his polychaete collection has been relocated. Unfortunately, Dr. Rioja did not voucher his type specimens and these samples will require re-identification and designation of neotype specimens.

Correspondence with Dr. Salazar-Vallejo is encouraged. His address is Dr. Sergio I. Salazar-Vallejo, Depto. Ecología Acuática, CIQRO, Apdo, Postal 424, Chetumal QR 77000, Mexico.

SCAMIT and the SCBPP

Members who have not been able to attend recent meetings are probably unaware that SCAMIT is intimately involved in the Southern California Bight Pilot Project (SCBPP) to be performed in the next 12 or so months. You may have heard the acronym before, or an associated one (EMAP), and not known what they refer to. I will briefly present what the project is, how it will be performed, who will perform it, and how SCAMIT is involved.

Regional Monitoring

For years regional monitoring in the Southern California Bight has been the Holy Grail of many agencies; desirable but unattainable. The recent recommendations of the National Research Council for adoption of regional monitoring as a means to reduce costs, while maintaining or increasing data utility, provided the impetus lacking in previous attempts. EMAP provided the last ingredient in the mix of need and desire for regional monitoring; a basic design and administrative framework which could be adopted without years of preparation. EMAP (Environmental Monitoring and Assessment Program) is an EPA program designed to gather basic data about all ecosystems (both terrestrial and aquatic) encountered in the U.S.A. It uses a standard statistical design; standardized sampling, sample handling, and analytical protocols; standardized data analysis; and comprehensive QA/QC procedures. Although EMAP is a national program, EPA has found it desirable to join with local agencies to pursue monitoring which meets national and regional goals simultaneously. This combination of forces is embodied in the SCBPP, an experiment to test the suitability of the EMAP model as a means of monitoring point and non-point source impacts in the coastal waters of the Bight.

Who's Involved

In December of 1993 a proposal outlining the SCBPP was submitted to EPA-ORD seeking EPA EMAP funds to support the project. Agencies involved in the preparation of this proposal (and in the project) were SCCWRP; EPA Region IX; The California State Water Resources Control Board (and Regional boards from Los Angeles, Santa Ana, and San Diego); and the four major dischargers into the Bight - The City of Los Angeles Bureau of Sanitation, The County Sanitation Districts of Los Angeles County, The County Sanitation Districts of Orange County, and the City of San Diego Metropolitan Wastewater Department. The proposal was adopted, and EPA funds were added to funds from the Santa Monica Bay Restoration Committee to contract services not to be provided by the participating agencies. Manpower and material to perform most of the field and laboratory activities are being provided by the staffs of the dischargers on a revenue neutral basis. In other words, the participating regulatory agencies have allowed the dischargers to redirect their current monitoring efforts to perform the sampling and analyses called for in the SCBPP proposal. EPA-ORD

is also involved as more than a funding source. Considerable guidance is being provided both by the EPA-EMAP staff, and by their contractor Versar. Numerous scoping/planning meetings have been held involving representatives of the four dischargers, SCCWRP personnel, EPA Region IX personnel, and Versar staff.

Purpose of the SCBPP

The project purpose is described in the proposal: "The ... SCBPP will apply EMAP assessment approaches to provide synoptic information about the ecological condition of reference, treated wastewater and nonpoint discharge areas on the mainland shelf. The SCBPP will evaluate the EMAP assessment approach as an alternative design for compliance monitoring programs. The SCBPP will also test EMAP indicators in an open coastal environment and will test indicators specific to the SCB that have not been used in EMAP studies to date."

Sampling Design

The basic sampling design is unmodified from previous EMAP use. In this design a hexagonal grid is placed randomly over a map of the sampling area, and one sample is obtained at a randomly selected site within each grid cell. The design allows subdivision of each hexagon to provide greater sample density in subpopulations of interest. Six subpopulations have been defined: 1) Geographic Zones - northern (Pt. Conception to Pt. Dume), central (Pt. Dume to Dana Pt.), and southern (Dana Pt. to Mexico); 2) Depth Zones - shallow (10-25m), mid-depth (25-100m), and deep (100-200m); 3) outfall areas of the four largest POTWs treated together; 4) outfall areas off the eleven largest stormwater discharges treated together; 5) Santa Monica Bay; and 6) Hyperion outfall area. About 40 samples are necessary within each of these subpopulations to achieve the desired precision goal. Sampling stations have been distributed to allow this goal to be met.

Although a number of abiotic parameters of both water and sediment will also be measured, the benthic biological monitoring (both infauna and trawled megafauna) is of most interest to SCAMIT members. Unreplicated benthic samples will be taken at 264 sites within the defined boundaries of the sampling area (10-200m depths in the open coastal zone between Pt. Conception and Mexico). One hundred and forty trawl stations will be occupied (from among the 264 benthic sites), and both fish and invertebrates will be identified, counted, weighed, and examined for disease and anomalies. Benthic infauna will be sampled with a Van Veen grab, trawls will be performed with a 7.6m otter trawl. Sampling will be performed between 11 July and 26 August 1994.

Quality Assurance and Quality Control

SCAMIT involvement (as an organization) with the SCBPP will be in the area of QA/QC. In addition to the adoption of the SCAMIT Taxonomic Listing of Soft Bottom Macroinvertebrates as the consensus taxonomic standard for the SCBPP, SCAMIT will be an integral part of the project's QA/QC plans. As part of the pre-analysis quality assurance effort taxonomists from the participating laboratories will be required to attend special SCAMIT/SCBPP workshops focusing on the taxonomy of troublesome groups, or those with numerous provisional species. These workshops are intended to promote uniform taxonomic treatment by the laboratories involved in the SCBPP.

Once sample analysis begins (in August), SCAMIT/SCBPP workshops will continue with at least monthly frequency to address taxonomic problems encountered with SCBPP specimens. Regular monthly SCAMIT meetings will be diverted to this end.

Although guest speakers may still present programs at these meetings, their main purpose will be examination of SCBPP problem taxa.

Meetings from August through at least December will be part of the quality control program of the SCBPP. These meetings form a mechanism for mutual assistance and information exchange among the taxonomists involved in the SCBPP. This is, in effect, only an intensification of the normal SCAMIT approach. After all samples have been analyzed and all problematic species have been dealt with in SCAMIT/SCBPP workshops, a synoptic data review will be performed. This review is intended to catch systematic differences between the participating laboratories which were not detected in a 10% QC exchange/reanalysis of samples.

SCAMIT Officers/Members Roles

As with other aspects of SCAMIT, our involvement in the SCBPP will be directed by the president. While the vice-president will be responsible for the SCAMIT/SCBPP workshops, the president will oversee involvement of SCAMIT members on taxonomic review teams, will nominate members to serve as expert referees in resolving differences between laboratories discovered during 10% QC reidentification, and will control the general level of SCAMIT involvement in the SCBPP. Although SCAMIT is a volunteer organization, the involvement of SCAMIT members employed by participant agencies/groups will be compulsory, as an aspect of the special (and temporary) modifications to their monitoring programs authorized by the regional water quality boards. I hope that others who are not usually able to attend meetings will take this opportunity to come to meetings and participate in the SCAMIT/SCBPP workshops. Just remember, specimens taken during the SCBPP will receive first attention at these workshops, problem specimens from other areas or programs will only be examined once all SCBPP related taxa have been discussed.

Those of us who will be involved in this program through our agencies are looking forward to it. We will be examining sites we have not visited previously, and expect to encounter some animals different from those we usually see in our monitoring areas. Should this demonstration be successful, the basic approach to monitoring used over the last 20+ years may eventually be changed. While it is very likely that location specific data associated with point source discharges will continue to be gathered, SCBPP type regional data will increasingly provide interpretive context.

Many aspects (and most details) of the SCBPP have not been addressed here. If you are interested in further information on this program contact either the Project Manager - Dr. Jeff Cross @ SCCWRP, 7171 Fenwick Lane, Westminster, California, 92683; or Dr. Mary Bergen (Benthic Infauna) at the same address (Phone 714 894-2222).

Don Cadien, CSDLAC

NOMENCLATURAL CHANGES TO CALIF. AMPHIPODS IN AMPHIPACIFICA

The new journal *Amphipacifica* has provided us with a flurry of major revisionary regional monographs on amphipods. In both the first and second issues the emphasis has been on the families Pleustidae and Phoxocephalidae. The forms described and illustrated as variants of *Heterophoxus oculatus* (Holmes 1908) by Barnard (1960) are accorded specific status in the revision. This yields four possible species of *Heterophoxus* in southern Californian waters; *H. oculatus* (Holmes 1908), *H. affinis* (Holmes 1908), *H. nitellus* (Barnard 1960), and *H. sp. 1*. Other nomenclatural actions bearing

on southern California amphipod taxonomy are summarized below.

Pleustes depressus Alderman 1936 = *Thorlaksonius depressus* (Alderman 1936)

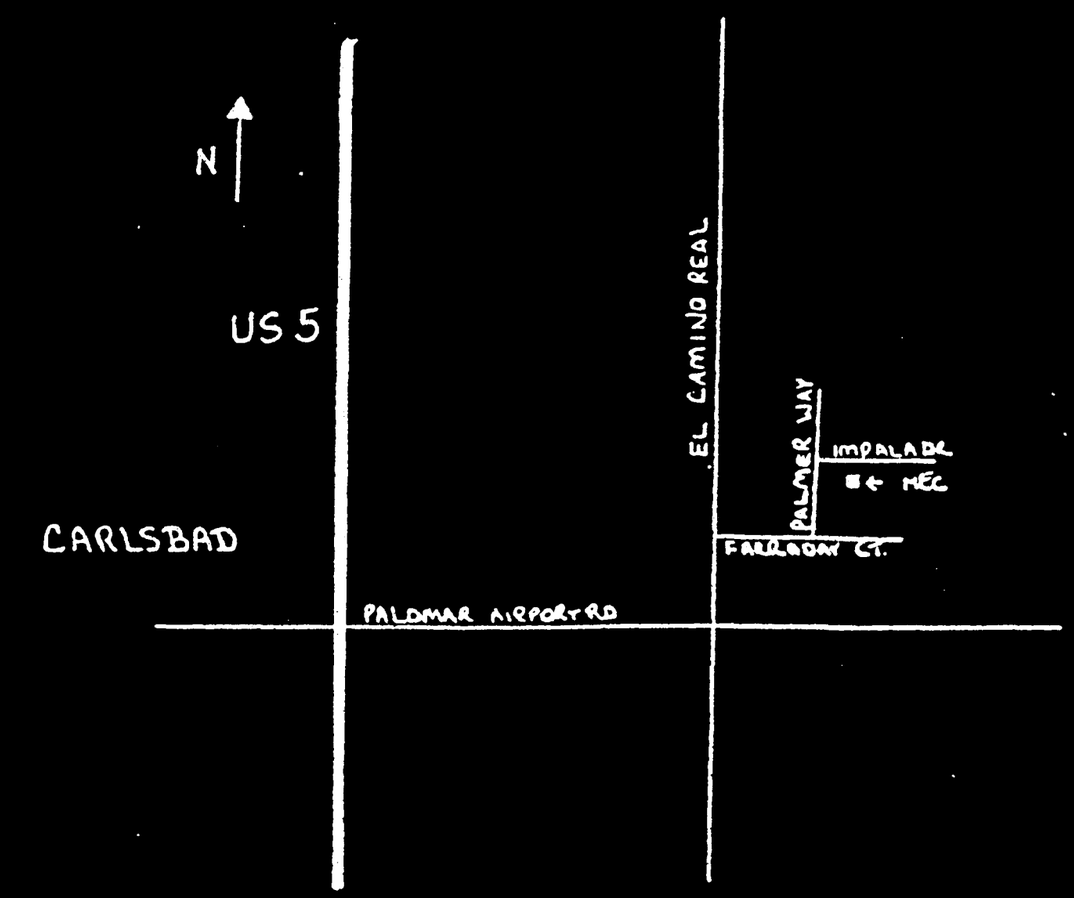
Pleustes platypa Barnard & Given 1960 = *Thorlaksonius platypus* (Barnard & Given 1960)

Foxiphalus major (Barnard 1960) = *Majoriphoxus major* (Barnard 1960)

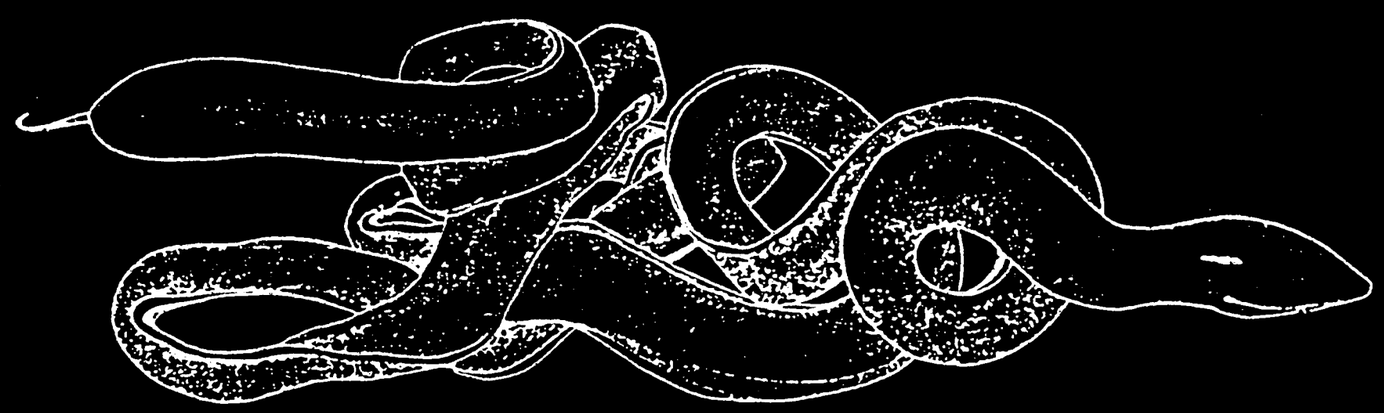
Eyakia calcarata Gurjanova 1938 [of Barnard 1960 & Barnard & Barnard 1981] = *Eyakia sp. 2* of Jarrett & Bousfield 1994

Paraphoxus oculatus (Sars 1879) [of Barnard 1960] = *Paraphoxus sp. 1* of Jarrett & Bousfield 1994

Parametaphoxus fultoni (Scott) [of Barnard 1960] = *Parametaphoxus quaylei* Jarrett & Bousfield 1994



Map to Marine Ecological Consultants (MEC)



Cerebratulus sp. (from Bayer and Owre 1968)

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