

May, 1995

SCAMIT Newsletter

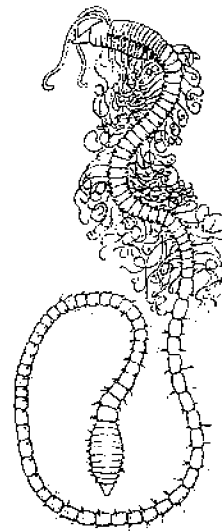
Vol. 14, No.1

NEXT MEETING:	SCBPP Problem Non-polychaete and Polychaete Species
GUEST SPEAKER:	none
DATE:	June 12 and June 19
TIME:	9:30am - 3:30pm
LOCATION:	See below

JUNE 12 & 19 MEETINGS

The non-polychaete taxa meeting will be held on 12 June in the Times-Mirror Room of the Los Angeles County Museum of Natural History. Eusirid (particularly *Rhachotropis*), phoxocephalid (particularly *Heterophoxus*), and ampeliscid amphipods will be the topic. Other SCBPP non-polychaete taxa not already discussed are also welcome, and will be addressed as time permits.

The polychaete meeting will be on June 19 at MEC (Marine Ecological Consultants) in Carlsbad. If you need a map please contact the secretary. This will be the last meeting for SCBPP problem polychaetes species. The



(*Aphelochaeta monilaris* from Hartman 1960)

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ARCO FOUNDATION, CHEVRON USA, AND TEXACO INC.
SCAMIT Newsletter is not deemed to be a valid publication for formal taxonomic purposes.

next meeting will be spent dealing with problems from the SCBPP QC reanalysis.

Will all members attending either meeting please bring a list of their SCBPP encountered species so that they may be incorporated into a master species list. Multiple copies for group distribution would be greatly appreciated.

1995 SCAS MEETINGS

The 1995 Southern California Academy of Sciences meetings were held 5-6 May on the campus of California State University, Fullerton. A number of SCAMIT members presented papers, although the focus was on ecology rather than taxonomy in most cases. Included were:

"Ascidian Introductions into Southern California Harbors" - Gretchen & Charles Lambert, CSU Fullerton

"Sediment Contaminants and Toxicity in Southern California: Assessment of Multivariate Techniques to Determine Biological Impact" - C.L. Maxon, Doug Diener, and Art Barnett, MEC Analytical Systems.

"Embryo Development Bioassays for Assessment of Stormwater Effluent Toxicity Using Marine and Freshwater Fish" - L. Skinner, A. de Peyster, & Ken Schiff, CSU San Diego & Kinnetic Laboratories

"Observations of Oceanic Processes and Water Quality Following Seven Years of CTD Surveys in Santa Monica Bay" - Ann Dalkey & John Shisko, EMD City of Los Angeles

"San Diego Regional Storm Water Monitoring Program: Contaminant Inputs to Coastal Wetlands and Bays" - Ken Schiff, Kinnetic Laboratories

"Distribution of Total Organic Carbon and Nitrogen in Sediments of the Southern California Bight" - Mary Bergen, E. Zeng, J. McAnally, P. Garibay, & R. Hall; SCCWRP, CSDMWWD, and EPA Region IX

Since the last SCAMIT symposium held in conjunction with SCAS was several years ago, perhaps it is time to have another. Given the primarily terrestrial and freshwater focus of this years Introduced Species Symposium, it was suggested that SCAMIT might begin to organize a symposium for the 1996 SCAS meeting dealing exclusively with introduced marine invertebrates in the Eastern Pacific. Member comments and suggestions are solicited. If you think you might wish to participate, please write or phone the editor.

REFERENCE MATERIAL AVAILABLE

Through the kind offices of member Tony Chess material (primarily microcrustacean, but also some specimens from other phyla) from Albion in Mendocino County, California and from Baranof Island in Southeast Alaska will soon be available for comparison and reference. The bulk collections were sent by Tony to Don Cadien, who is currently sorting them to species. A list of the species for which material is available will be placed in the SCAMIT Newsletter within the next few months. Those members interested in getting specimens for comparison with their normal monitoring collections should either write or call Don Cadien and indicate which taxa are desired. If you use standardized containers and/or labels and would like the material placed in them, please send them to Don.

SCAMIT TAXONOMIC LIST

Members with additions, corrections, elaborations, deletions, or any modifications to the SCAMIT Taxonomic Listing of Benthic Invertebrates are again encouraged to submit these to either Ron Velarde or Dave Montagne (addresses, telephone, etc. are listed in the front of your copy of Version 1) for inclusion in the second version of the list. The modified list will be released in the summer or early fall after completion of all SCBPP taxonomy and after review of submitted changes. Make sure that any submissions are documented. Undocumented changes will not be accepted and included in the new version.

CLEARING METHODS

Don Cadien requested that members who clear specimens for identification prepare a document describing their application of clearing procedures. We may find that there are significant differences in practice between agencies, and that these may have the potential to produce different results. Most clearing procedures are very simple, so their documentation should not require too much work.

COOPERELLA'S FAMILY

Cooperella subdiaphana has recently been examined morphologically (Morton 1995), and the family Cooperellidae has been submerged in the Petricolidae as a result.

NEW LITERATURE

In a recent (1994) review of the isopod family Paramunnidae, Winkler extended the known range of *Munnogonium tillerae* south to the

Straits of Magellan at the tip of South America. The paper deals exclusively with magellanic collections, however, and aside from the *M. tillerae* record, has little local applicability.

POLYCHAETE NEWSLETTERS

There are currently two newsletters available to those people working with polychaetes. One is an electronic mail news service available on the Internet. It is called *Chaetozone*. This is a very inexpensive way to communicate with polychaete researchers and workers all over the world. A list of the latest polychaete papers is included in this newsletter along with details of interesting articles in localized journals or "grey" literature. Also *Chaetozone* maintains a list of polychaetologists accessible by e-mail. This newsletter will appear at two month intervals. The editor is Dr. Geoffrey B. Read of Wellington, New Zealand. To subscribe send a message by e-mail to Geoff Read at:

1. read_g@kosmos.wcc.govt.nz (preferred)
2. gread@actrix.gen.nz
3. CompuServe 100033,1332 (last resort)

Recently, several SCAMIT members received issues of *Polychaete Research* a new development of the former *Polychaete Research Newsletter*. This publication has a broader scope and includes taxonomic 'publications' for the purpose of the International Code of Zoological Nomenclature. It will still contain informal news and reports on work in progress of polychaete research, but in a separate newsletter section. Contributions in the form of short papers (4 printed pages), research notes and comments that would benefit polychaetologists working throughout the world are invited. This latest volume #16 is devoted to papers derived from the 2nd *Polychaete Colloquium and Workshop* held in Cardiff, April 1993. Reports and papers from

the 3rd workshop held last year in April at the University of Newcastle, NE England, will appear in a future edition of *Polychaete Research* as well as those papers from the 4th workshop to be held this June 12-16 at Queens University in Belfast. It is intended that one issue a year will be published. The publisher of *Polychaete Research* is:

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 Bioline
 School of Pure and Applied Biology
 University of Wales Cardiff
 P.O. Box 915
 Cardiff CF1 3TL
 United Kingdom
 tel.: (0222) 874000
 fax: (0222) 874305
 e-mail (Janet) to: sabjbecardiff.ac.uk

Also, an electronic copy of *Polychaete Research* may be obtained courtesy of Bioline Publications at: bio@biostrat.demon.co.uk.

LABEL PAPER

SCAMIT member, Leslie Harris has been keeping informed through e-mail about the wet storage label paper problem. She recently saw two useful comments regarding a replacement for Byron Weston *Resistall* and a cautionary note about using *Rite in the Rain* paper. Erik Ahlander of the Department of Vertebrate Zoology at the Swedish Museum of Natural History reported the availability of a Swedish rag paper called *Svenskt Arkiv* that has been used in the fish collection at the Swedish Museum. It is more paper-like than *Resistall*, but works very well in alcohol and formalin. It is available in two weights, viz. 80g/m² and 100g/m². The heavier paper has a tendency to cause paper jams in printers and has a coarser writing surface. It seems to be only available in A4 size, which is a little larger than the standard 8 1/2 X 11. It is produced and sold by:

Tumba Bruk AB
 S-147 83 TUMBA
 Sweden
 Phone +46 8 53069500

The e-mail message regarding *Rite in the Rain* paper cautioned users against long term wet storage of this paper. It does not always hold up well. However, it was reported in the SCAMIT newsletter [13(10)] that the Kinnetics Lab in Encinitas, CA, has used this label paper for at least a decade and have experienced no problems with deterioration or ink fading so far.

INTRODUCED *Philine*

During the most recent CSDLAC trawling effort off Palos Verdes nearly twenty individuals of a *Philine* were taken which at first sight seemed to be juvenile *Philine alba*. This caused some excitement since juvenile *P. alba* had not previously been seen, although the large lenticular adults were well known and common. The animals were translucent milk white with numerous minute opaque white spots. Specimens ranged from about 15-30mm in length. They were collected, preserved in formalin without relaxation, and returned to the lab. Microscopic examination immediately revealed that we still had not seen juveniles of *P. alba*, and that what we had collected was probably *P. auriformis*.

Previous reports of *P. auriformis* in the north east Pacific have come from the San Francisco Bay complex, and from Bodega Bay on the outer coast above San Francisco. The species was described from New Zealand by Sutter around the turn of the century, and first reported in San Francisco Bay within the last decade. Its occurrence in open coastal waters at between 23 and 137m off Palos Verdes came as a shock, especially as no trace of these animals was found in January 1995 in the

previous trawl survey at the same sites.

The identity of the specimens was established by close comparison with the redescription of the species by Rudman (1970), and by direct comparison of shell, radula, and gizzard plates with specimens of *P. auriformis* from Richmond Harbor, San Francisco Bay. Tony Phillips (CLAEMD) indicated that the species had also been taken by them recently in Santa Monica Bay, but was identified only as *Philine* sp. *Philine auriformis* is widely distributed in New Zealand, and tertiary fossil specimens are also known. Rudman (1970) considered it to be a New Zealand endemic, although reporting a tentative record from Victoria, Australia. Given the local history of the last known introduced *Philine* (sp A), this species is expected to spread throughout the Bight, perhaps displacing other predatory cephalaspid mollusks. One dissected *P. auriformis* had a small *Melanochlamys diomedea* in its gizzard, and eating the competition may be the adopted competitive strategy.

ANIMAL HOUSE

The same series of trawl samples turned up a most unexpected example of undocumented amphipod behaviour. A small *Nassarius* shell was collected which bore evidence of being inhabited, and was assumed to harbor a hermit crab. Since it was small, and chances for a live identification were poor, the shell was collected and preserved for examination in the laboratory. During preservation the occupants of the shell swam out; two small amphipods. It was immediately assumed that these were *Photis conchicola* for which domicoly in gastropod shells is well documented (Barnard 1962, Carter 1982). Further observation proved this not to be the case, as the amphipods were far too long to be *Photis*.

Examined in the laboratory the amphipods

proved to be a pair (♂♂, and ♀♀) of *Gammaropsis* similar to or identical with *G. thompsoni*. Because of the condition of the male G2 (no defining spine on palm), these animals key to *G. tonichi* Barnard 1969 in Conlan's key to the genus (1983). Barnard's species was described from Bahia de Los Angeles in the Gulf of California, and has not previously been reported from Southern California Bight waters. If this is really *G. tonichi*, its peculiar habitat may be responsible for the lack of records. Only the single pair was taken, at a depth of 23m. Members please keep your eyes open for small occupied gastropod shells in trawl and benthic grab samples. The aperture of the one domicile seen to date was partly occluded by a fine membrane of amphipod silk bearing light debris and fine silt. The general appearance was very similar to that seen intertidally in *Photis conchicola*-inhabited shells.

WHERE IS OCTOPUS VELIGERO?

The same March trawls found the search for field characteristics of *Octopus veligero* continuing. The crew of the CSDLAC vessel Ocean Sentinel was augmented by a visit by Megan Lilly (CSDMWWD) who is currently maintaining a series of six *O. rubescens* and two *O. californica* in tanks for observation and videotaping. Efforts were continued to gather live *O. veligero* so that key field marks could be recognized, and documented, with the identity of the animal confirmed by dissection in the laboratory. A SCBPP trawl station near the Redondo Submarine Canyon where an *O. veligero* was taken in August 1994 was retrawled twice during May, but only *O. rubescens* and *O. californica* were encountered.

Photis brevipes TYPE

In response to a SCAMIT inquiry about

Shoemaker's type(s) of *Photis brevipes* Elisabeth Nelson of the Smithsonian called to say she had located the type (a male), but had not yet checked uncatalogued material in the collection to see if some females from the Presidential Cruise collections from which the species was described could be located. She will examine these specimens to fill in the gaps in Shoemaker's original description. We should shortly have a better idea which (if any) of the west coast forms currently termed "Photis brevipes" are actually conspecific with Shoemaker's species from Bahia Magdalena on the outer coast of Baja California.

STAINING PATTERNS

A SCAMIT meeting to discuss polychaete staining patterns has been proposed for the August meeting. Included in this newsletter is a table of published accounts by various authors on polychaete staining. This was suppose to accompany the article by Tom Parker (CSDLAC) on staining patterns in the last volume. The editor apologizes for this omission.

ANOTHER NEW SCAMITteer

Congratulations are in order for Dean Pasko (CSDMWWD) and his wife, Francine. They are the proud parents of a baby boy born on May 22. They have named him Samuel Granger. He weighed in at 8 lbs. 10 oz. and was 21 inches long.

MINUTES OF MAY 8 MEETING

We began the meeting with a review of a videotape produced by Dean Pasko (CSDMWWD) showing a series of nemertean taxa as seen through the microscope both uncleared and cleared. In several cases Dean

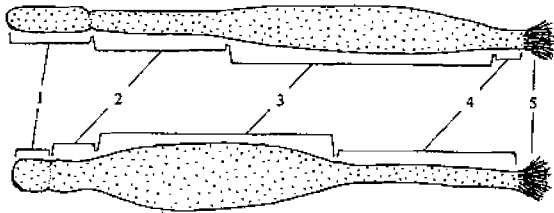
found that taxa he was attempting to separate at a specific (usually provisional) level were often left at generic or familial levels by other workers. This was particularly true with the three local genera of the Lineidae; *Lineus*, *Micrura*, and *Cerebratulus*. From discussions at the meeting it appeared that the generic limits of these taxa are not the same for each of the participating agencies, particularly with regard to juveniles. Since soft tissue characters such as length and depth of the cephalic grooves, size and prominence of the mouth, position and size of the proboscis pore, etc. are all subject to at least some extent to variation with degree of contraction. This variation is reduced by the use of relaxants, and common handling practices in the SCBPP project, but some degree of variability still remains. It is probable that the treatment of these taxa in the QA sample reanalysis will demonstrate differences between original and QA analysts.

Indeed, with many nemerteans, it appears the more specimens are examined the lower becomes the confidence with which any identification can be tendered. At some point we will have to accept an inability to speciate some of the local nemerteans, and report them at a higher level.

We examined voucher specimens of three species of chaetodermatid mollusks provided by Ron Velarde. These had been identified for CSDMWWD by Dr. Amelie Scheltema. Dr. Scheltema has recently completed reexamination of many of the north east Pacific chaetodermatids as part of the Santa Maria Basin Taxonomic Atlas project. According to Ron she dealt with 18 or 19 species in that work, and has produced a key to aplacophorans from our area. When her section of the Atlas will be released is not known, but hopefully it will be before the end of the year. The three species taken off San Diego by CSDMWWD were *Chaetoderma pacifica*, *Chaetoderma marinelli*, and *Falcidens* n.sp. (we will not repeat the manuscript name

here. The latter species appears to be the same as *Falcidens* sp. B of Shrake from the BLM project in the late 70's.

C. pacifica appeared to be characterized by a nearly uniform diameter through all the body sections except for a slight enlargement around the mouth, and at the base of the branchiae. The midgut region also had small scales arranged somewhat haphazardly, giving a disheveled appearance. This species was called *Crystalophrisson nitidulum* var. *pacifica* in Schwabl (1963, figs. 17-18). Several of the SCBPP chaetodermatids from the Pt. Loma



Partition of the caudofoveate body: 1)foregut, 2)midgut, 3)digestive gland, 4)prepallial region, 5)pallial region (from Salvini-Plawen 1975)

area and from off Palos Verdes seemed to be this species.

None of the examined materials seemed to match the vouchered *C. marinelli*. Other specimens were examined from SCBPP collections, which in addition to *C. pacificum* and *Falcidens* sp B, included specimens apparently referable to *Falcidens* sp A of Shrake and *C. hancocki*.

We anxiously await the issuance of the mollusk volume of the Atlas which contains Dr. Scheltema's aplacophore section. From the portions we were privileged to examine in draft it appears that the key will depend heavily on spine complement. This may be a bit difficult for us non-specialists to use, but should prove a useful tool.

MINUTES FROM MAY 22 AND 23 MEETINGS

This two day polychaete meeting focused on cossurids and cirratulids of the *Aphelochaeta/Monticellina* complex that were found in the SCBPP samples. At this long meeting SCAMIT members also had the chance to review the polychaete portion of vol. 4 of the MMS Atlas (Blake and Hilbig, 1994) together and make some decisions regarding the validity of these species for our area.

Also, at this meeting SCBPP samples were exchanged for QA/QC reanalysis amongst the various agencies involved in the project. This reanalysis should begin now so that we may resolve problems with any conflicting identifications as soon as possible.

The meeting opened on Monday with Tom Parker (CSDLAC) giving members an update on the taxonomy of the phyllodocid genus *Eumida*, which has had some problems with inconsistent identification amongst local species. At the end of this newsletter Tom provides a brief history and summary of this genus and includes several voucher sheets and a table to help us differentiate between species of *Eumida* and related genera.

The rest of Monday's meeting was spent examining cirratulids of the *Aphelochaeta/Monticellina* complex. Tony Phillips (HYP) has been able to differentiate between species of this complex using methyl green staining patterns. Included in this newsletter are voucher sheets illustrating these patterns along with the other diagnostic characters that should be used to separate these species. Most of these species will be included in an upcoming volume of the MMS atlas. At the meeting we examined different agencies' *Aphelochaeta* species and concurred that everyone had animals that were the same, but with slight variations in staining patterns. This

may be due to the fact that everyone has a different technique for staining their polychaetes. It was decided at this meeting that for purposes of the SCBPP the following names would be used in the data:

Aphelochaeta marioni (Saint-Joseph 1894)
Aphelochaeta monilaris (Hartman 1960)
Aphelochaeta sp. C Dorsey 1984
Aphelochaeta sp. 1 of Phillips (a new species to be described in the MMS atlas)
Monticellina dorsobranchialis (Kirkegaard 1959)
Monticellina tessellata (Hartman 1960)
Monticellina sp. HYP1
Monticellina sp. HYP2
Protocirrinensis sp. HYP1
Protocirrinensis sp. HYP2

Tony Phillips (HYP) has found two provisional species of *Monticellina* from the SCBPP samples. They have been found at 80 - 200m depth. Neither has any methyl green staining pattern. These are being referred to as *Monticellina* sp. HYP1 and *Monticellina* sp. HYP2 for now. Tony will provide voucher sheets in an upcoming newsletter. The diagnostic characters for these two species are listed below.

Monticellina sp. HYP1 -

- ◆ body color pearly white with slight iridescence
- ◆ no methyl green stain pattern either dorsally or ventrally
- ◆ posterior setigers of the pygidium are rugose or ruffled in appearance
- ◆ neurosetae are serrated, but not denticulated like *M. dorsobranchialis*
- ◆ pygidium is dorso-laterally compressed and cup-shaped

- ◆ branchiae are completely wrapped around the body

Monticellina sp. HYP2 -

- ◆ larger and more robust in size than *M. sp. HYP1* with very compressed setigers anteriorly
- ◆ body color is pearly white but not iridescent
- ◆ very prominent ventral groove
- ◆ no methyl green stain pattern either dorsally or ventrally
- ◆ neurosetae are serrated like *M. sp. HYP1*
- ◆ missing pygidium

Anyone with *Monticellina* with these characteristics should contact Tony Phillips, as he would like to examine more specimens.

As reported in SCAMIT Newsletter vol. 13(12) an odd cirratulid in SCBPP samples that was thought to be a *Timarete* is actually a *Protocirrinensis*. Tony Phillips has found two different types of *Protocirrinensis* in his samples from the SCBPP. Included in this newsletter are voucher sheets describing these two types. The second was originally thought to have been *Aphelochaeta multifilis* (Moore, 1909), but upon further examination turned out to be another *Protocirrinensis*.

The second day of the meeting focused on cossurids. Member, Leslie Harris passed out a table she had constructed of *Cossura* species and their diagnostic characters. We reviewed this table and made a few corrections and additions. The revised version of this table will be included in next month's newsletter.

In an upcoming volume of the MMS atlas 6 species of *Cossura* will be described. This includes a new species, which appears in the SCAMIT Taxa List as *Cossura* sp. A. All of these species have distinct methyl green staining patterns, which will also be included in the atlas.

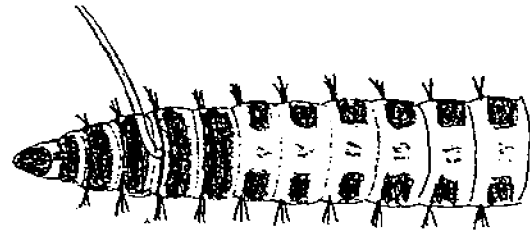
It has been the common practice of SCAMIT members to separate different species of *Cossura* mainly by their staining patterns. It was suggested by Leslie Harris (NHMLAC) that there are other characters that need to be examined. They include:

- 1) The # of digitate lobes on the proboscis.
- 2) The placement of the branchial filament.
- 3) The relative thickness of the anterior notosetae in proportion to the anterior neurosetae (Are the neuroseta so thick that they can actually be counted?).
- 4) Where the areas of transition on the body are located and are these transitions due to a change in the stain pattern, a change in body shape or a change in the setal fascicles.
- 5) The stain pattern on the lateral edge or area between the noto- and neurosetal fascicles. (Is the pattern continuous?)

At the meeting we were able to compare the stain patterns of *Cossuras* found in the samples from the SCBPP by the various agencies. We found that we all had two different patterns, and with some slight variation these two patterns were seen by all the agencies. Once again, the variation in the staining patterns may have been due to the technique used or the size and maturity of the specimens. Rick Rowe (CSDMWWD) found that he achieved a fairly consistent stain pattern in the cossurids if he let them sit in a saturated solution of methyl green crystals and 70% ethanol for about 20 minutes and then let them de-stain

for 2 hours in 70% ethanol. The time of the de-staining seems to be very critical because the stain leaches out so quickly. The specimens should probably be examined every 30 minutes during the 2 hours for a visible pattern. If your solution of methyl green is super concentrated the amount of time you let a specimen stain past it's saturation point shouldn't matter. SCAMIT hopes to review more of these staining techniques at the August meeting.

At the meeting we stained type specimens of *Cossura candida* using Rick's technique and found that the stain pattern matched one of our two patterns. These cossurids exhibited a dark stain on the prostomium and the first 3 setigers down to the branchial filament. We decided that we would continue to call our specimens with this pattern *Cossura candida*, especially for the SCBPP. As for specimens with the other pattern, where "shoulders" or squares of stain are present dorsally as illustrated below, we would refer to those as *Cossura* sp. A for now.



Cossura sp. A Methyl Green Staining Pattern

The rest of the meeting on Tuesday was spent reviewing volume 4 of the MMS atlas. Some mistakes in figures were noted along with differences of opinions by SCAMIT members with regard to species names. The mistakes and differences are noted below. All other names have been accepted by members for now. The oligochaetes were not considered in this discussion.

Mystides borealis pg. 139

Figure 4.9 B - The dorsal cirrus is much smaller than the ventral cirrus, unlike its illustration here.

Clavadoce splendida pg. 146

The descriptions of *Clavadoce splendida* Hartman, 1936 and *Clavadoce nigrimaculata* (Moore, 1909) seem similar, but the types are very different. See remark at the top of page 148 and Hartman's key for better differentiation between these two species.

Eulalia bilineata pg. 152

This should be *E. californiensis* (Hartman 1936). *E. bilineata* doesn't occur on our coast. It is a European species. No type material is available of *E. bilineata* only topotypes.

Sige bifoliata pg. 158

Under the material examined section those specimens from Sta. R-8(1) are not *Sige bifoliata* but our common *Sige* sp. A. Also the figure 4.19 of *S. bifoliata* has a much longer median antenna than Moore's original drawing in Hartman's atlas.

Nereiphylla castanea pg. 166

SCAMIT members don't agree with the new synonymy of *Phyllodoce ferruginea* Moore, 1909b. This is due to the fact that our specimens from So. Cal. don't exhibit a flattening of the tentacular cirri like the type-specimen of *N. castanea* from Japan. (See the note from Eibye-Jacobsen on page 167.) While members don't agree with the synonymy it is agreed that the genus should be *Nereiphylla*, not *Phyllodoce*. Until the type material can be reviewed by SCAMIT members we will use this *Nereiphylla castanea*.

Goniada brunnea pg. 223

Figure 7.3 E-F is a posterior view not an anterior view.

Podarkeopsis brevipalpa pg. 261

This species is not known from So. California.

Aglaophamus verrilli pg. 337

Notice synonymy of *Aglaophamus dicirris* Hartman, 1950. *A. dicirris* in our SCAMIT Taxonomic Listing needs to be changed to this.

Nephtys caecoides pg. 344

N. parva Clark and Jones, 1955 should not be under *N. caecoides*. Also, in the description the proboscis has 20 bifid distal papillae, not 22.

Nephtys californiensis pg. 346

Again, description should read proboscis with 20, not 22, bifid distal papillae.

Nephtys cornuta pg. 350

Description should read proboscis with 18, not 14, bifid terminal papillae.

Nephtys ferruginea pg. 351

Description should read proboscis with 20 bifid distal papillae, not 22.

Nephtys signifera pg. 356

This is a junior synonym of *Nephtys ferruginea* Hartman, 1940. The publication synonymizing these two names is in press.

Nephtys simoni pg. 358

The description should read proboscis with

20, not 22, bifid papillae.

UPDATE FOR LOCAL *EUMIDA* SPECIES
Tom Parker (CSDLAC)

The taxonomy of the phyllodocid genus *Eumida* has long been confused. Boundaries between *Eumida* and the related genera *Eulalia*, *Sige*, and *Pterocirrus* have also been unclear. Local taxonomic usage in these genera has been very uneven, with little consensus on the appropriate characters for generic and specific separation. Among those proposed and/or used in the literature are prostomial dimensions, eye size, dorsal cirri placement and shape, tentacular formula, setal length/body width ratio, and pigmentation pattern. Local efforts to standardize identification of *Eumida*-like polychaetes began in the SCCWRP Taxonomic Standardization Program in the 1970's. Susan Hamilton (Pt. Loma Lab) produced a set of voucher sheets for distribution through the Program which characterized *Eumida* sp 1-5.

Subsequently attempts were made to develop differential characters based on length ratio of setae and cirri. While of utility in separating some species pairs, the ratio character was not generally adopted, and requires more development before routine use. The included table lists relative length of setae to distal cirral extension in the hope it may later be proven of diagnostic value.

No SCAMIT voucher sheets have been produced for any of these *Eumida*-like taxa. Discussions during preparation of the SCAMIT Taxonomic Listing clearly indicated inconsistency in identification of local species and in use of Hamilton's provisional taxa. Recent literature has helped clarify some of the problems with *Eumida*/*Eulalia*/*Sige*/*Pterocirrus* and their constituent species. Pleijel (1990) described

the transfer of some taxa from *Eumida* to *Sige*. Eibye-Jacobsen (1991) reviewed *Eumida*, producing a history of taxonomy in the genus, a key to species, nomenclatural discussion, and a cladogram. Pleijel (1991) reviewed the family Phyllodocidae and rediagnosed the genera. Pleijel's Scandinavian regional monograph of the family Phyllodocidae (1993) illustrated and described the *Eumida* from that region. Blake and Hilbig (1994) listed and described two species of *Eumida* from southern California, and transferred *Eumida bifoliata* to *Sige*.

In his 1990 paper Pleijel differentiated *Sige* from the other genera; "the prolonged superior parapodial lobes distinguish *Sige* from all other phyllodocids provided with five antennae." In 1991 he pointed out that species of *Sige* have prolonged digitate dorsal setigerous lobes, while species of *Eumida* and *Eulalia* have "symmetrical lobes."

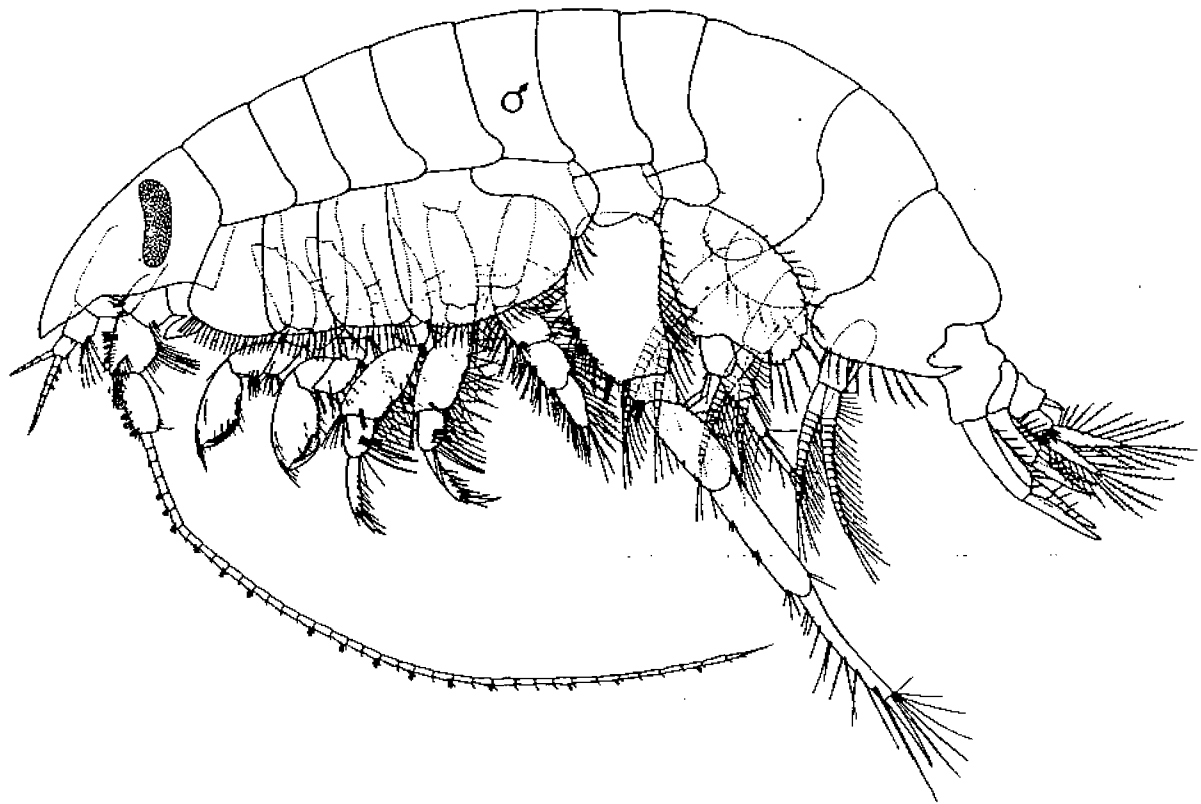
Eibye-Jacobsen (1991) listed numerous characters for *Eumida* and stated "The shape of the dorsal cirri is a most important diagnostic character in *Eumida*." He indicated that setal articulation, while useful in separating *Eumida* from other genera, was rarely useful in separating species within the genus. In his phylogenetic character table he listed states for 21 characters in *Eumida* and *Sige*. The states of only two characters differ consistently between these genera. These are the developed vs. reduced condition of segment 1 dorsum, and the digitate vs. non-prolonged condition of the superior neuropodial lobe.

The attached voucher sheets stabilize local taxa, incorporate recent literature changes, and update the original names applied by Hamilton in 1976. The attached table compares Hamilton's *Eumida* sp 2 to several similar species, and shows few clear morphological differences between them. There appear to be only slight differences between *Eumida* sp 2

and *Eumida longicornuta* in the examined characters. Until other differential characters can be found, *Eumida sp 2* should be treated as a synonym of *Eumida longicornuta*.

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Heterophoxus affinis (from Jarrett & Bousfield 1994)

SCAMIT OFFICERS:

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Volumes 8 - 13	\$ 20.00/vol.

Single back issues are also available at cost.

Published accounts of polychaete staining

author	Onuphidae	Fabriciniae
author's comment	Winsnes Noted that aberrant patterns may be new species. Suggests combined use with anatomical features. Specimens from different samples react differently; specimen size doesn't impact stain patterns, only it's intensity. Accepts fairly large variation with species, both intensity and pattern. Some differences suggested as fixation response.	Fitzhugh Considerable variation between paratype and holotype in 1st three setigers. Maybe due to sexual dimorphism differences.
author	Maldanid/Bogueidae	Sabellidae
author's comment	Wolf Didn't report variability. Stated it shows glandular (mucous) cells.	Banse Stable patterns, little variation in stain.
author	Terebellidae	Sphaeroridae
author's comment	Williams "fell short of expectations"; "limited use" for Terebellids.	Blake and Hilbig "appears to be species-specific". Includes several other families.
author	Trichobranchidae	Magelonidae
author's comment	Solis-Weiss/Fauchald Variability may be due to poor specimen condition; otherwise consistent, but non-differential.	Nateewathana/Hyilleberg No variability noted, stain is species specific.
author	Euchone	Sabellidae
author's comment	Banse Little variation in stain noted; variation in Euchone but still useful.	Giangrande Stain pattern stable but not diagnostic.
author	Cossuridae	Nephtyidae
author's comment	Blake and Hilbig "appears to be species-specific". Includes several other families.	Hilbig Considers diagnostic of some species.
author	Capitellidae	
author's comment	Warren, et al "suspect that fixation and preservation may influence..pattern observed". Comparison should only be made between individuals subject to identical fixation and preservation. Larger species do not show stain bands. "May be considerable individual variation, especially in the number of setigers stained."	

Comparison of Hamilton's provisional species #2 with similar published Eumida

	<u>sp. 2 of Hamilton</u>	<u>longicornuta</u>	<u>bahusiensis</u>	<u>sanguinea</u>	<u>tubiformis</u>
<u>proboscis papillae</u>	smooth, w/distal papillae	smooth, some ridge w/distal papillae	smooth, w/papillae diffusely arranged distally	smooth, w/micropapillae diffusely arranged w/six longitudinal bars	smooth, w/distal papillae & micropapillae
<u>dorsal pigment</u>	horizontal bars w/some on prostomium	dusky or w/horizontal bars w/some on prostomium	horizontal bars & intersegmental on head	weak horizontal bars	brown or w/dark patches
<u>parapodial lobe shape</u>	rounded	rounded	rounded	rounded	superior and inferior lips extended, parapod extended
<u>dorsal cirri shape</u>	length/width subequal	length/width subequal	length/width subequal	longer than width	length/width subequal
<u>setal length relative to dorsal cirri</u>	slightly longer ~ setal length	slightly longer ~ setal length	slightly longer ~ setal length	longer >.5 x setal length	longer >.5 x setal length
<u>setal length relative to ventral cirri</u>	shorter than parapodial lobe	longer or shorter than parapodial lobe	longer than parapodial lobe	longer than parapodial lobe	equal to lobe length
<u>antennae placement</u>	between eyes	slightly anterior to eyes	between eyes	between or anterior to eyes	between eyes
<u>habitat</u>	silt, 75-620M	shallow subtidal	mud-sand, 10-135M	all sediments' intertidal-175M	mixed, 200-620M

SCAMIT Code:

Date Examined: May 30, 1995
Voucher by: Tony Phillips
Hyperion

Synonymy: Protocirrineris sp. 2 (Phillips)
Aphelochaeta multifilis

Literature: Day, J.H. 1967
Petersen, M.H. 1991
Wolf, P.S. 1984

Diagnostic characters:

1. pair of grooved palps anterior to setiger one absent;
2. two groups of tentacular cirri (Figure 1) present on setigers 4-6;
3. branchial filaments start setiger 3;
4. acicular spines absent, only capillary setae present (through 150+ setigers);
5. eyes not evident;
6. prostomium short with three achaetous rings, no differentiation in width, body of uniform width continuous through posterior setigers, first 10-12 thoracic setigers not as compressed as posterior setigers;
7. methyl-green stain pattern (Figure 1) present on both dorsal and ventral areas of prostomium, stain also present dorsally through first three setigers, between notopodia and neuropodia through first 20-30 setigers, and ventrally on base of neuropodia, no stain evident remainder of animal, ventrally stripes present through approximately 20 thoracic setigers.
8. distinct non-pigmented arch present on anterior portion of prostomium (Figure 1) just behind tip;
9. pygidium not present.

Depth Range: 59 meters

Distribution: Southern California Bight - Santa Monica Bay

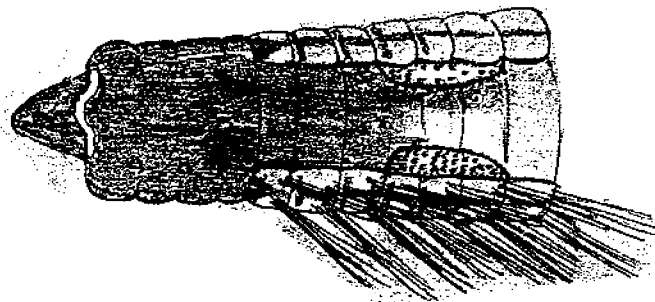


Figure 1

Remarks: This beast was mistakenly identified as Aphelochaeta multifilis. In earlier haste I had noticed that both noto and neurosetae were smooth capillaries, no acicular spines present, aka.....Aphelochaeta. What had been a pair of tentacle scars quickly disappeared when debris was brushed off. Having just finished my voucher sheet for Protocirrinervis sp. A, checking this animal to be a member of the same genus quickly opened my eyes to the groups of tentacular cirri on setigers 4-6. Oops. This animal differs from P. sp. A by placement of tentacular cirri groups, methyl-green stain, body shape, and preserved body color. P. sp. A has a brownish body color where P. sp. B is a light-grey.

Two specimens of this beast have been collected, both incomplete, at a single station in central Santa Monica Bay.

SCAMIT Code:

Date Examined: May 11, 1995
Voucher by: Tony Phillips
Hyperion

Synonymy: Tharyx sp. D (Dorsey) (in part)

Literature: Blake, J.A. 1991
Dorsey, J.H. 1985 (unpublished)

Diagnostic characters:

1. pointed prostomium;
2. anterior thoracic are not inflated or laterally expanded, setigers not compressed;
3. pair of grooved palps anterior to setiger one present;
4. abdominal segments not moniliform;
5. only simple capillary setae present;
6. pygidium slightly inflated, distinct ventral groove and slight dorsal groove;
7. methyl-green stain pattern on dorsal prostomium and first few setigers may show speckling in smaller forms (10-15 mm) (Figure 1), larger individuals with dense speckling on posterior of prostomium and anterior setigers (Figure 2), there is a distinct clear area around tentacle scars separating the posterior prostomium and anterior setigers, speckling on anterior setigers begins in center of setiger one and expands laterally with progressive setigers before disappearing around 15th setiger, ventral thoracic setigers (5-20) bands evident (Figure 3), central bands nearly continuous between neuropodia, 2-3 anterior and posterior weaker, single ventral spot present on posterior setigers directly between each setal bundle (Figure 4), a pigment spot also present on posterior of each parapodia, no stain on last 20+ posterior setigers and pygidium, distinct lateral stripes (continuous dorsal and ventral) on 30+ setigers in front of non-stained posterior setigers.

Depth: 150 - 200 meters

Distribution: Southern California Bight - Santa Monica Bay to Newport Beach;

Remarks: This species is very spectacular for its methyl-green stain of the abdominal setigers with stripes. The ventral thoracic stain patch is much stronger than that seen on Aphelochaeta monilaris.

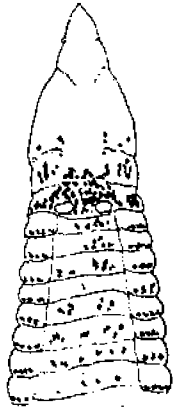


Figure 1



Figure 2

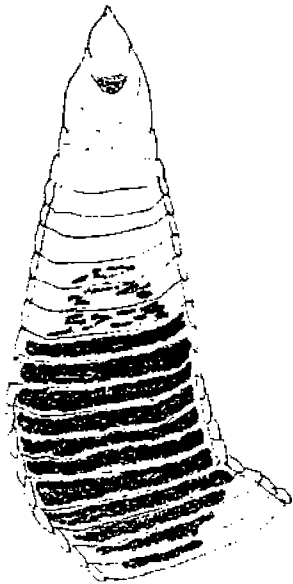


Figure 3

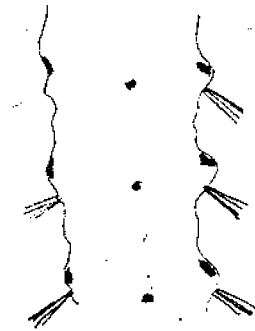


Figure 4

SCAMIT Code:

Date Examined: May 11, 1995
Voucher by: Tony Phillips
Hyperion

Synonymy: Aphelochaeta sp. C (Dorsey)
Tharyx sp. C (Dorsey)
Tharyx nr sp. C (Dorsey)

Literature: Blake, J.A. 1991
Dorsey, J.H. 1985 (unpublished)

Diagnostic characters:

1. pointed prostomium;
3. pair of grooved palps anterior to setiger one present;
4. abdominal segments not moniliform;
5. only simple capillary setae present;
6. pygidium slightly inflated, distinct ventral groove and slight dorsal groove;
7. uniform light greenish-blue hue to whole worm when placed in methyl-green stain
8. ventral thoracic region (approx. setiger 5-15) has natural light brown to gold patch present, retains this color after placed in methyl-green stain.

Depth: 45 - 150 meters

Distribution: Southern California Bight - Santa Monica Bay to San Diego, Puget Sound

Remarks: This species could be confused with Monticellina tessellata if not closely examined. The lack of a dorsal crest anterior to the first setiger and the presence of a ventral brown/gold patch on the anterior thoracic setigers separate Aphelochaeta sp. C (Dorsey). Aphelochaeta sp. C (SCAMIT) is found in large numbers in the transitional zones around the Hyperion outfalls in Santa Monica Bay.

SCAMIT Code:

Date Examined: May 27, 1995
Voucher by: Tony Phillips
Hyperion

Synonymy: Tharyx sp. D (Dorsey) (in part)
Tharyx sp. E (Dorsey)

Literature: Blake, J.A. 1991
Day, J.H. 1967
Dorsey, J.D. 1985 (Unpublished)
Fauvel, P. 1927

Diagnostic characters:

1. pointed prostomium;
2. anterior thoracic region slightly inflated with distinct lateral compression - ventrally giving the appearance of a cobra with its hood inflated;
3. pair of grooved palps anterior to setiger one present;
4. anterior setigers not moniliform;
5. only simple capillary setae present;
6. pygidium inflated, both dorsal and ventral groove present;
7. methyl-green stain forms distinct patch on anterior ventral thoracic region (Figure 1) between setigers 5-20, continuous transverse bars extend between neuropodia and dorsally along anterior face of parapodia, dorsally this stain is evident on anterior of notopodia for approximately 15-20 setigers, prostomium not stained though some speckling may occur just anterior to first setiger (Figure 2), posterior to ventral thoracic stain patch a single spot situated between setal bundles extends for 20-30 setigers along with stain patch on anterior of parapodia (Figure 3), no stain on posterior setigers or pygidium.

Depth Range: 30 - 75 meters

Distribution: Southern California Bight - Santa Monica Bay to San Diego;
Puget Sound

Remarks: The methyl-green stain on the ventral thoracic region is more intense than that seen for A. monilaris and A. sp. 1 (Blake). A. marioni can be separated from A. monilaris by the presence of ventral stain spots posterior of the ventral stain patch and if the pygidium is present, the presence of both a dorsal and ventral groove. A. sp. 1 (Blake) can be separated by the lateral stripes on posterior segments and the dorsal stain present posterior to the tentacle scars anterior of the first setiger.

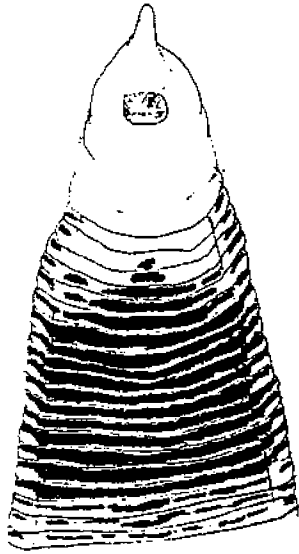


Figure 1

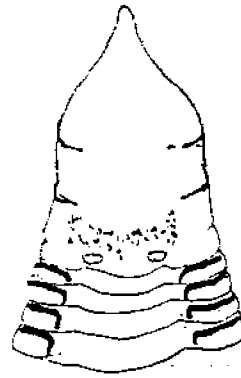


Figure 2

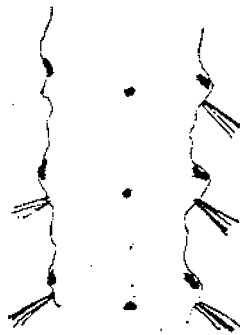


Figure 3

SCAMIT Code:

Date Examined: May 11, 1995
Voucher by: Tony Phillips
Hyperion

Synonymy: Tharyx sp. G (Dorsey)

Literature: Blake, J.A. 1991
Dorsey, J.H. 1985 (unpublished)
Hartman, O. 1960
Hartman, O. 1969

Diagnostic characters:

1. small form (Figure 1), up to 10 mm, less than 1 mm wide;
2. pair of grooved palps anterior to setiger one present;
3. abdominal segments moniliform;
4. only simple capillary setae present;
5. pygidium inflated;
6. methyl-green stain pattern (Figure 2 and 3) on dorsal prostomium and first few setigers may show some slight speckling, ventral thoracic setigers (5-15) bands evident, central 4-5 bands nearly continuous between neuropodia, those anterior and posterior weaker, no stain present on posterior setigers;

Depth: 60-150 meters

Distribution: Southern California Bight - Santa Monica Bay to San Diego;
Puget Sound

Remarks: Specimens collected in Puget Sound are much larger (15 mm) and more robust. They show the same methyl-green stain pattern and the abdominal moniliform segments.

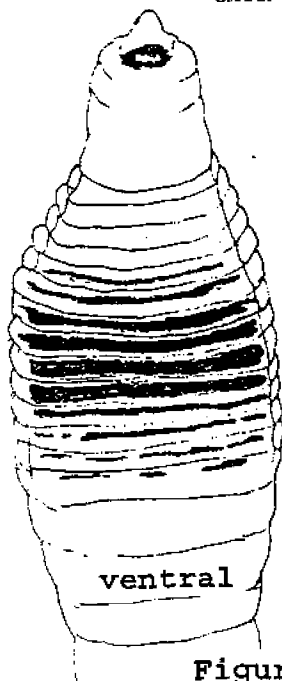


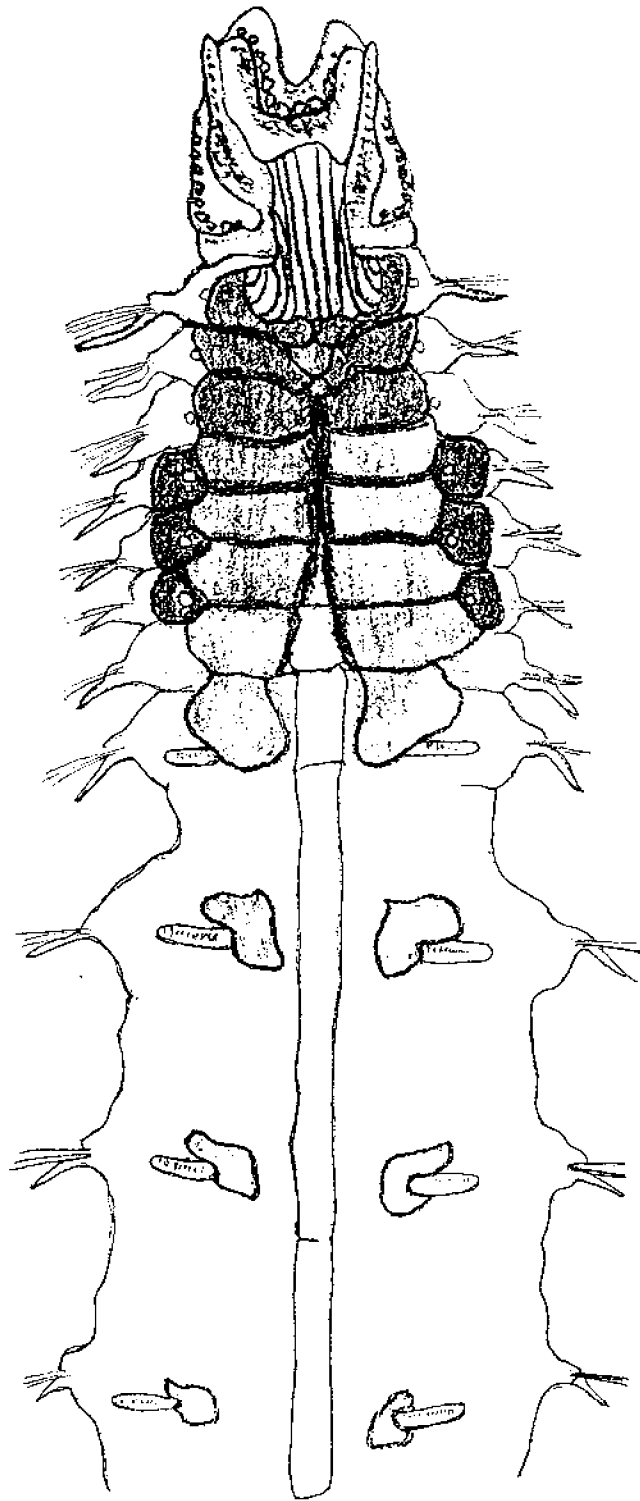
Figure 2



Figure 1
(from Dorsey 1985)

Figure 3
(from Dorsey 1985)





***Polycirrus californicus* Moore 1909**

Eumida longicornuta (Moore 1906)
Phyllodocidae

SCAMIT Vol. 14, No. 1

May 22, 1995
Voucher By: T. Parker

SYNONYMY: *Eumida* sp. 2 of Hamilton 1976

LITERATURE: Hamilton's SCCWRP Taxonomic Standardization Handouts (*Eumida* sp. 1-5)
SCAMIT Newsletter, Vol. 6, No. 8, 1987
Pleijel 1990
Pleijel 1991
Eibye-Jacobsen 1991
Pleijel 1993
SCAMIT Taxonomic List 1994
Blake and Hilbig 1994

DIAGNOSTIC CHARACTERS:

1. Less than 10 mm long, commonly 3-5mm entire. Width to 1.4 mm sans parapodia.
2. Prostomium rounded or with small frontal peak at point of terminal antennae insertion. Medial antennae inserted between eyes, extends sometimes to segment 2-3.
3. When everted, pharynx walls smooth. Distal papillae visible when fully everted.
4. Four pairs of tentacular cirri extended to segments 7-9.
5. Neuropodial lobes without prolonged or digitate lobes in either superior or acicular position. Neuropodia may appear with slight lip above and below point of aciculum.
6. Dorsal cirri are clearly cordate. Base is nearly as broad as length, often drawn out to a distal tip.
7. Setae typically not extended (or only slightly) beyond most distal margin of dorsal cirri.
8. Pigmentation on dorsum form clear horizontal bands across each segment. When exposed, intersegmental region shows similar shaped but lighter banding. Prostomium pigmentation densest anterior to and between eyes.

RELATED SPECIES AND CHARACTER DIFFERENCES:

See accompanying table for diagnostic characters and similar species.

DISTRIBUTION: Throughout Southern California in 24~200M.

COMMENTS:

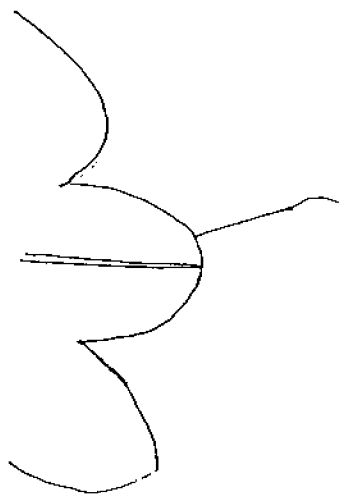
No morphological character(s) has been found to separate *E. longicornuta* from *E. sp. 2*. The shallower depth range for *E. longicornuta* is not considered here an adequate diagnostic character. Segments 1 & 2 do not possess pigmentation entirely across dorsum in contrast to illustration provided by Blake and Hilbig (1994) in MMS atlas



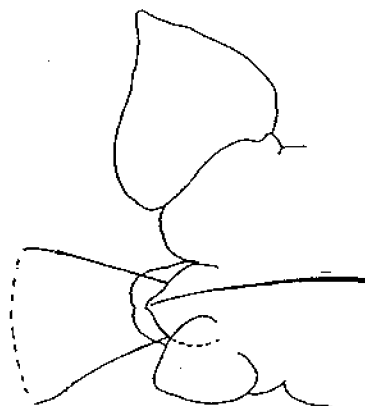
prostomium
LACSD-Y8C



dorsal pigmentation
LACSD-Y8C



parapodial lobes, seg. #28
anterior view
ventral cirri only
LACSD-Y8C



parapodial lobes, seg # 27
posterior view
both cirri
LACSD-Y8C

May 22, 1995
Voucher By: T. Parker

SYNONYMY: *Eumida* sp. 1 of Hamilton 1976

LITERATURE: Hamilton's SCCWRP Taxonomic Handouts (*Eumida* sp. 1-5)
SCAMIT Newsletter, Vol. 6, No. 8, 1987
Pleijel 1990
Pleijel 1991
Eibye-Jacobsen 1991
Pleijel 1993
SCAMIT Taxonomic List 1994
Blake and Hilbig 1994
Not Fauchald 1977 (as *Eumida bifoliata*)

DIAGNOSTIC CHARACTERS:

1. Less than 8mm long, commonly 3-5mm entire. Width to 0.75mm sans parapodia.
2. Prostomium rounded with 4 terminal antennae, less than length of prostomium. Medial antennae inserted between eyes, extends sometimes beyond segment 1 to segment 3.
3. When everted, pharynx walls smooth or wrinkled without papillae. Ring of papillae on distal end only.
4. Four pairs of tentacular cirriform cirri extended to segments 6-7.
5. Superior neuropodial lobe is prolonged or digitate and is a diagnostic character for the genus.
6. Dorsal cirri variable, but typically longer than broad. May be moderately cordiform or approaching lanceolate condition.
7. Setae typically extend well beyond (>.5 x setal length) most distal margin of dorsal cirri.
8. Pigment spots on dorsum most dense at lateral margins of body wall and centrally on many segments. This pattern resembles 3 longitudinal lines. Prostomium and segments 1-2 may be diffusely speckled.

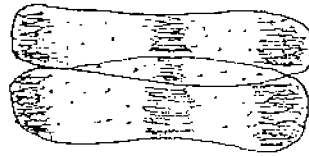
RELATED SPECIES AND CHARACTER DIFFERENCES:

Species of *Eumida* lack the digitate superior neuropodial lobe that is diagnostic for *Sige*.

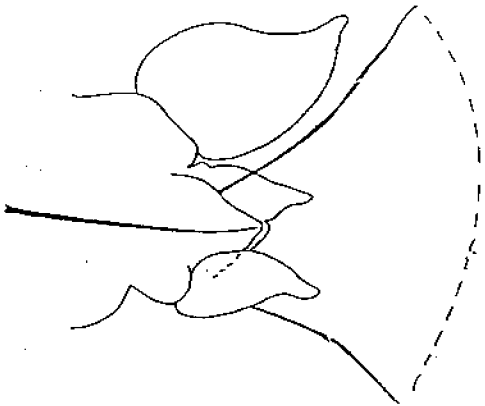
DISTRIBUTION: Throughout Southern California in 30-305 M.



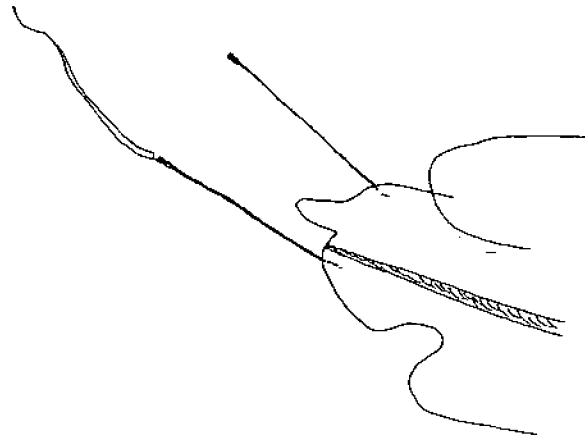
prostomium
LACSD-T50



dorsal pigmentation
LACSD-T50



parapodial lobes w/o cirri
anterior view, seg #13
LACSD-T50



parapodial lobes w/cirri
posterior view, seg. #~18
LACSD-T50

Sige sp. B SCAMIT 1995
Phyllodocidae

SCAMIT Vol. 14, No. 1

May 22, 1995
Voucher By: T. Parker

SYNONYMY: *Eumida* sp. ♀ of Hamilton 1976
Eulalia sp. ♀ (Hamilton 1976), fide SCAMIT 1994

LITERATURE: Hamilton 1976, SCCWRP Taxonomic Handouts (*Eumida* sp. 1-5)
SCAMIT Newsletter, Vol. 6, No. 8, 1987
Pleijel 1990
Pleijel 1991
Eibye-Jacobsen 1991
Pleijel 1993
SCAMIT Taxonomic List 1994
Blake and Hilbig 1994

DIAGNOSTIC CHARACTERS:

1. Length ~ = 15 mm entire. Width 0.75 mm sans parapodia.
2. Prostomium pentagonal with lateral angle inward just anterior to eyes. Distal tip distinctly flattened with 4 terminal antennae > 0.5 x length of prostomium. Medial antennae inserted centrally on prostomium but anterior to eyes, to about segment 2.
3. Everted pharynx walls smooth without wrinkles. Distal end not observed.
4. All three tentacular segments visible dorsally, but segment 1 reduced laterally. 4 pairs of cirriform tentacular cirri with fine tips that extend to segment 5.
5. Superior neuropodial lobe extends out into digitate lobe. Most developed beyond segment 25.
6. Dorsal cirri longer than broad anteriorly, broadens in mid body to heart shaped cirrus with broad base and tapered tip. Become narrower again in far posterior
7. Ventral cirri more narrow and clearly larger than wide. Extends just beyond distal end of superior neuropodial lobe.
8. Setal rostrum ends slightly beyond tip to superior neuropodial lobe. Flagellum of setae slightly beyond distal tip of ventral cirrus
9. Pygidium encircled in pigment with pigment bisecting terminus.
10. Dark brown pigment over all antennae, tentacles, segments, cirri, and lobes.

RELATED SPECIES AND CHARACTER DIFFERENCES:

S. fusigera with similar dark pigmentation, but lacks similar dorsal cirri morphology.
S. aliveri with similar pigmentation and parapodial structure, but is eyeless.
S. brunnea and *S. fauchaldi* both eyeless.

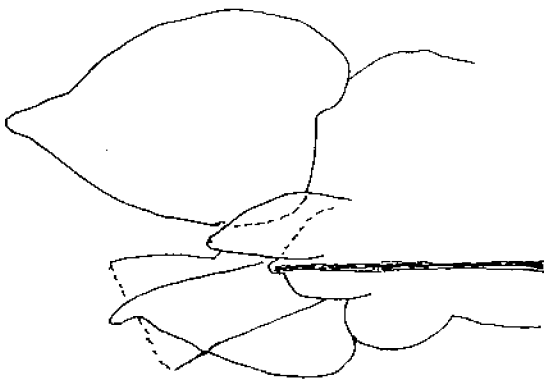
DISTRIBUTION: Palos Verdes sandy silt, 150 M



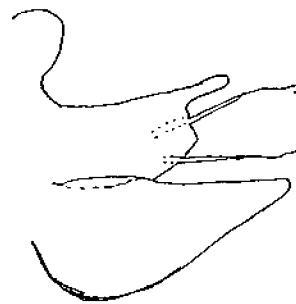
prostomium
LACSD-0186-1B



Pygidia
terminal view
LACSD-0186-1B



parapodial lobes
anterior view
LACSD-0186-1B



parapodial lobes, no dorsal cirri
anterior view, seg # 32
LACSD-0186-1B



anterior dorsal cirri
LACSD-0186-1B

***Pterocirrus montereyensis* (Hartman 1936)**
Phyllodocidae

SCAMIT Vol. 14, No. 1

May 22, 1995
Voucher By: T. Parker

SYNONYMY: *Eumida* sp. 5 of Hamilton 1976

LITERATURE: Hamilton's SCCWRP Taxonomic Standardization Handouts (*Eumida* sp. 1-5)
SCAMIT Newsletter, Vol. 6, No. 8, 1987
Pleijel 1990
Pleijel 1991
Eibye-Jacobsen 1991
Pleijel 1993
SCAMIT Taxonomic List 1994
Blake and Hilbig 1994

DIAGNOSTIC CHARACTERS:

1. Length 12mm incomplete. Width 1.5mm sans parapodia.
2. Prostomium rounded with 4 thick based terminal antennae, each nearly as long as prostomium. Medial antennae also thick based and extends to at least segment 2. Medial antennae insertion well forward of eyes, nears anterior end of prostomium. Prostomium appears divided into 4 plates or regions, each triangular in shape. Center anterior plate with median antennae. Both lateral plates inflated and with posteriorly placed eyespots. Central posterior plate situated between eyes and finely speckled.
3. Eyes may be large and dense, may occupy lateral pale areas seen in this specimen.
3. 4 pairs of thick tentacular cirri with foliose extension on ventral margin of ventral cirri. Cirri extend to segment 3 or 4.
4. Pharynx missing.
5. Large thin dorsal cirri with broad base, extended margins, and fine tip.
6. Ventral cirri missing.
7. Knobbed aciculum extended from parapodia.
8. Dorsum pigmented heavily across each segment and intersegmental area, fading to pale at lateral margins of dorsum.

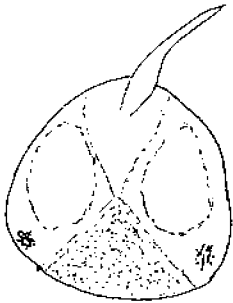
RELATED SPECIES AND CHARACTER DIFFERENCES:

Close to *Pterocirrus macroceros*

DISTRIBUTION: Palos Verdes amidst *Salmacina* in 23M. Also in rocky habitats with algae.

Pterocirrus montereyensis (Hartman 1936)
Phyllodocidae

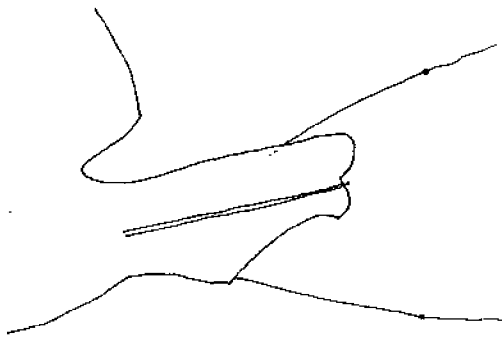
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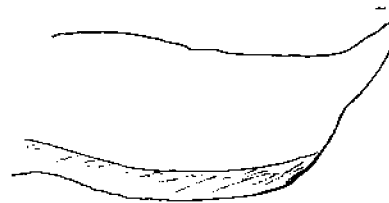
Prostomium
LACS0-T0-75



Parapodial aciculum
LACS0-T0-75



Parapodial lobes
anterior view, seg #45
w/o cirri
LACS0-T0-75



Second ventral tentacular cirri
LACS0-T0-75

Pterocirrus sp. A SCAMIT 1995
Phyllodocidae

SCAMIT Vol. 14, No. 1

May 22, 1995

Voucher By: T. Parker

SYNONYMY: *Eumida* sp. 3 of Hamilton 1976
LITERATURE: Hamilton's SCCWRP Taxonomic Standardization Handouts (*Eumida* sp.
1-5)
SCAMIT Newsletter, Vol. 6, No. 8, 1987
Pleijel 1990
Pleijel 1991
Eibye-Jacobsen 1991
Pleijel 1993
SCAMIT Taxonomic List 1994
Blake and Hilbig 1994

DIAGNOSTIC CHARACTERS:

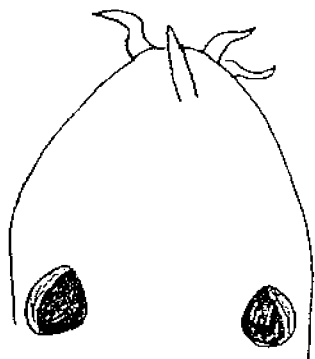
1. Length ~ = 6mm entire. Width = 0.75mm sans parapodia. Body discretely speckled with pigment, but overall appearance is pale and unpigmented.
2. Prostomium longer than wide, distal end slightly flattened. With four terminal antennae shorter than length of prostomium. Medial antennae equally short and inserted far anterior of eyes, almost to tip of prostomium.
3. Dissected pharynx with densely distributed finger-like papillae with rounded tips.
4. Tentacular cirri to ~ segment 5 dorsally. Dorsal ones cirriform, second ventral cirri broad, flattened, noticeably more massive and expanded than dorsal. These broad cirri with fine upturned tip.
5. Dorsal cirri broken off from this specimen. Ventral cirri small, tear drop shaped ~ < 0.5 x length of parapodia.
6. Setal rostrum without small fine teeth, but with strong dorsal tooth at tip of shaft. Flagellum of setae with coarse of heavy tooth pattern.
7. Parapodia extended far beyond (0.3mm) body wall. Broad base of parapodia tapers quickly to dorsally upturned terminal lobe. Under dissecting scope tip appears as continual taper from parapodia. Under compound scope, end of parapodia appears as short digitate lobe.
8. Discrete pigment spots on pale dorsum. Segmental lateral spots on both dorsum and ventrum.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Despite small parapodial digitate lobe apparent under high power, emphasis here is placed on pharynx morphology, foliose ventral tentacular cirri, and anterior medial antennae. This places the specimen in *Pterocirrus*. *P. imajimi* and *P. paruaseta* are both described with short or clavate lobes on the pharynx. *P. californiensis* was originally a *Sige* without any illustrations but with far forward

median antennae and expanded 2nd ventral tentacular cirri. Hartman synonymized it to *S. bifoliata*; Pleijel suggests it belongs in *Pterocirrus* based on Hartman's illustrations. It is unclear what illustrated characters Pleijel was using, but the antennae and tentacular cirri descriptions of Chamberlin's place it in *Pterocirrus*. The *P. californiensis* species level concept is too incomplete to assign a specimen to it.

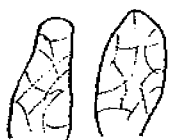
DISTRIBUTION: Pt. Loma in sand at 50 M. Palos Verdes in sandy silt at 60 M.



Prostomium
LACSD-YD-1C1



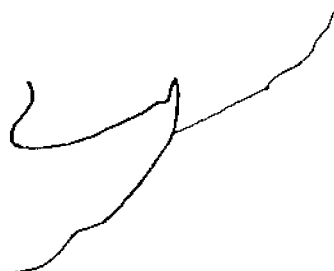
ventral tentacular cirri
LACSD-YD-1C1



Pharynx or proboscis organs
LACSD-YD-1C1



setal rostrum
LACSD-YD-1C1



parapodia, seg #23
dissecting scope view
w/o cirri
LACSD-YD-1C1



parapodia, seg # 23
compound scope view
w/o cirri
LACSD-YD-1C1