Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

February 1985 Vol. 3, No. 11

Next Meeting:	March 11, 1985
Special Workshop on Amphipods:	March 7th and 8th
Specimen Exchange Group:	No exchange
Topic Taxonomic Group:	Arenicolidae, Maldanidae

MINUTES FROM FEBRUARY 11, 1985

Dr. Richard Bray, CSULB, Consumer Mediated Nutrient Transport into Rocky Subtidal Reefs:

Richard Bray spoke to us about his work with the blacksmith (Chromis punctipinnis) and their role in the transport of organic nutrients into rocky subtidal reef communities. Blacksmith forage above the reef during the day on drift zooplankton and shelter at night in crevices and holes in the reef. Ammonium (NH_4) excreted through their gills may be an important source of nitrogen to benthic algae, especially during periods of nutrient poor water.

The in situ study of this hypothesis was conducted at night using buckets secured to the reef as artificial shelters. Blacksmith were placed in buckets which were then sealed. Initial water samples were collected with syringes, and after a 20 min. incubation, final water samples were taken. In a separate study, crevices with and without blacksmith were sampled as was the water column just away from the crevices.

The buckets and crevices which contained blacksmith had significantly more ammonium in them than the empty controls. The water column samples

contained less ammonium than either the crevices with or without blacksmith suggesting that some ammonium regeneration occurs from the sediments.

Ammonium uptake experiments using juvenile Macrocystis pyrifera were conducted in the laboratory at night. Blacksmith were placed in buckets either alone or together with Macrocystis. Initial water samples were taken followed after 20 min. by final water samples. Buckets with blacksmith alone had significantly higher levels of ammonium than those buckets containing blacksmith and Macrocystis together indicating that ammonium uptake by Macrocystis had occurred.

Recently Dr. Bray has been involved in a tethered diving program sponsored by NOAA at the Catalina Marine Science Center. The program offers marine scientists several advantages including longer bottom times with waystation assisted decompression, diver to surface and diver to diver communications, piped in warm water and the ability to dive alone.

Using the tether diving system, Dr. Bray has expanded his nutrient regeneration study to include some common macroinvertebrates like Tethya, Parastichopus and Strongylocentrotus. The experiment is run like the bucket study described above. Ammonium excretion by the invertebrates, while lower than values found for blacksmith, was still a significant source of ammonium. In fact, benthic invertebrates may be a more important source of ammonium for algae than fish because they remain on the reef in close proximity to the benthic algae 24 hours a day.

Workshop on Amphipod Taxonomy:

Dr. J.L. Barnard (Smithsonian Institution) will conduct a workshop on gammarid amphipods March 7 and 8 at 9:30 AM until ? at the Cabrillo Marine Museum. Contact John Shisko or Ann Martin at Hyperion 213/322-3136 x 26 if you plan to attend.

Parking Policy for Cabrillo Marine Museum:

Free parking for meetings can be arranged by contacting Cathy Crouch at 213/548-7562 the week before the meeting.

Proposal to Fund Publication Costs:

John Dorsey is writing a proposal to Science Applications, Inc. to obtain funding for SCAMIT for the purpose of publishing taxonomic papers. These funds would be used to assist SCAMIT authors in defraying publication costs and technical costs such as electron microscopy. He is including a list of potential papers whose publication would be funded by this proposal. Members who may be eligible for these funds should submit a title and brief abstract for each inclusion in his proposal by the March 11th meeting.

New Baby:

Another SCAMIT F_2 arrived on February 9. A warm welcome to Courtney, daughter of Lori Veriker of Point Loma.

Helpful Hints:

Problem with Ann Martin's Listriella key, SCAMIT Newsletter Vol. 3, No. 7. Juvenile L. eriopisa have a notch on the posterior edge of epimeron 3; and do not have elongate rami of uropod 3. Both characters were used to separate this species in the key. (See Barnard (1959) Pac. Nat. 1(4):pg. 24, fig. 10.) Use caution when keying out juvenile specimens.

1985-1986 Election of SCAMIT Officers:

Once again it is time for the election of SCAMIT officers. After three years as president, John Shisko has decided not to run again; as he so eloquently claimed "it's time to get some new blood into this office". John has been an outstanding president, building SCAMIT from its first conception to the successful, widely recognized and respected organization that it is today. He may be stepping down from the presidency, but SCAMIT will not give his blood too much rest--his talents are too valuable for our organization.

An excellent group of candidates have been nominated for the various positions to be held in 1985-1986. All are charter members of SCAMIT having considerable experience in the marine sciences. Biographical sketches of each candidate are given below. Please carefully consider your choices, and most importantly ... VOTE! As you have heard many times before, an organization only is as successful as its members are active; this is so true for our group, so please vote. Please fill in your choices on the ballot included in this month's newsletter and return to John Dorsey at Hyperion Treatment Plant, 12000 Vista del Mar, Playa del Rey, CA 90291.

The following is a brief summary of each candidates qualifications:

PRESIDENT

Dave Montagne

Dave has an extensive background in marine pollution ecology, mainly through his employment since 1970 with the County Sanitation Districts of Los Angeles County. He has worked on many long-term monitoring surveys related to the District's White Point ocean outfall. Presently, he is the supervisor of the District's Marine Biology Laboratory (since 1978). Dave's taxonomic interests primarily are with polychaete worms with a valuable publication on the genus Phyllodoce and a manuscript in preparation on Dorvilleids. He also is co-author on several ecological publications describing marine communities around the White Point outfall.

John Dorsey
John presently is vice-president of SCAMIT. He has a broad practical and academic background in marine sciences with an emphasis on pollution ecology. He received a B.S. in Marine Biology from California State University, Long Beach in 1972, and his M.A. from the same university in 1975 (thesis research on the polychaete assemblage around a small sewage outfall on San Clemente Island). From 1976-1980, John did doctoral research on the ecology of Nereid polychaetes living along a large sewage-treatment farm in Australia; and received a Ph.D. in 1982 from the University of Melbourne. In addition to ecological research on which he has several publications, he also has an interest in polychaete taxonomy, particularly with the Syllidae. Several publications have resulted from his studies in polychaete systematics. John presently is employed as a Water Biologist at the Hyperion Treatment Plant (City of Los Angeles) where he is involved with the ocean monitoring program.

VICE-PRESIDENT

Leslie Harris
Leslie currently is employed at Marine Biological Consultants, Inc. where she is the leading polychaete taxonomist on a large project describing the biota of the Santa Maria Basin (MMS Project). In addition to polychaete taxonomy, Leslie also has a background in algal systematics. Prior to MBC, Leslie worked for 10 years at the Southern California Coastal Water Research Project. At SCCWRP, she specialized in polychaete and algal taxonomy, and compiled and edited the Proceedings of the Taxonomic Standardization Program.

Susan Williams
Sue presently is curator of polychaetes at the Allan Hancock Foundation, University of Southern California (since 1980). Her interests in polychaete systematics particularly is with Ampharetids and Terrebellids on which she has several publications now submitted for publications. She earned her B.S. in Marine Biology from California State University, Long Beach in 1972, and her M.S. in Biology, also from that university in 1979 (research on systematics of Terebellides). Sue always can be counted on to bring sometimes baffling, but always interesting, species of polychaetes for specimen exchanges.

Ron Velarde
Ron presently is a biologist with the Point Loma Wastewater Treatment Facility (City of San Diego) where he has worked since 1983. His taxonomic interests are with polychaetes (particularly Syllids) and nudibranch molluscs. He earned his B.S. degree in Marine Biology from California State University, Long Beach in 1976, and did post-graduate research on the systematics and ecology of Autolytid polychaetes.

SECRETARY

Thomas Parker
Tom has been a biologist in the Marine Biology Laboratory, County Sanitation District of Los Angeles County since 1973. There he has become well versed in the taxonomy of many groups of invertebrates. Tom received his B.S. and M.S. degrees in Biology from California State University, Long Beach in 1970 and 1974, respectively.

TREASURER

Ann Martin
Ann presently is the Treasurer for SCAMIT and has held that position since SCAMIT was founded. Ann has recently (1984) joined the water biologist staff at the Hyperion Treatment Plant where she specialized in the identification of amphipod crustaceans. Prior to working at Hyperion, Ann was a member of the laboratory staff at the County Sanitation Districts of Orange County. She worked there for nearly 10 years reaching a position of senior laboratory and research analyst. She received her B.S. from California State University, Long Beach in Marine Biology in 1974 and her M.S. from the same university in 1982 (thesis research on polychaete bioassays).

Phil Chang
Phil has been a biologist with the Hyperion Treatment Plant (City of Los Angeles) since 1977 where he specializes in the identification of molluscs and bioassay procedures. Phil received his B.S. degree in Biology (1974) and a B.S. in Fine Arts (1981), both from California State University, Los Angeles.

Jimmy Laughlin
Jimmy has been a benthic ecologist and invertebrate taxonomist with the Southern California Coastal Water Research Project since 1978 specializing in crustacea, polychaetes and echinoderms. He received his B.S. in Marine Biology in 1978 from California State University, Long Beach.

List of Specimens from February, 1985:

CMM 32	*Scyphoproctus oculatus*	Reish, 1959
LACO 45	*Dodecaseta oraria*	McCammon & Stull, 1978
LACO 46	*Notomastus (Clistomastus) tenuis*	Moore, 1909
none	*Mediomastus californiensis*	Hartman, 1944
SCCWRP 51	*Mediomastus ambiseta*	(Hartman, 1947)
AHF 30	*Dasybranchus glabrus*	Moore, 1909
AHF 27,MBC 26,OC 54	*Heteromastus filobranchus*	Berkeley & Berkeley, 1932

AHF 28	Amastigos acutus	Piltz, 1977
AHF 29	Anotomastus gordiodes	(Moore, 1909)
MBC 27	Leiochrides sp. A	Harris
SCCWRP 52	Decamastus gracilis	Hartman, 1963

Travels with Olga
Plymouth, England (sent from)
14 August 1939
(a postcard, with heading of Br.
Mus. on Cromwell Road)

Dear Frieda- I am within two weeks of departure from England, hence deemed it wise to send you an advanced address. From about the 6th of Sept., I expect to be at: (as above). I leave today for several days in Plymouth, but return here before the week.

Another Postcard*
Citadel Hill
Plymouth England
15th Aug 1939

Dear Albert: I am here for a few days, to be at the Marine Biological Station. It is a very interesting and beautiful spot. Came over today on a 6-hour train ride from London. This is a famous port and has a long historical record.

Scyphoproctus oculatus Reish, 1959
Capitellidae

SCAMIT Code: CMM 32

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Reish, 1959
Hartman, 1969

Diagnostic characters:

1. Thorax with 12 segments; capillary setae on 10 segments (varies from 9-11).

2. Prostomium broadly rounded, with a pair of eyes.

3. Peristomium smooth, 3-5 times as long as prostomium.

4. Asetigerous segment follows peristomium.

5. Abdomen terminates in a flat disc with about 5 pairs of embedded acicular setae and 2 ventral lobes.

Related species:

Decamastus also has 10 thoracic setigers with capillary setae but has no post-peristomial asetiger and no anal disc.

Scyphoproctus gravieri (from Japan): no eyes; anal disc with 11 groups of acicular spines on either side.

Distribution:

Intertidal to subtidal in mud; southern California and Channel Islands.

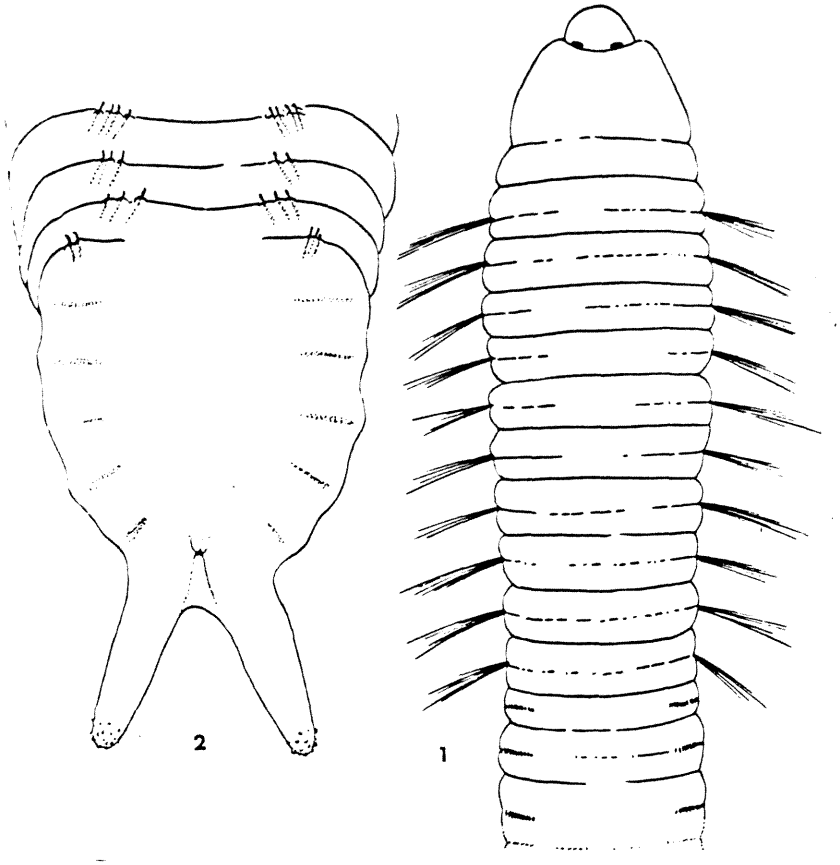


Fig. 1. Anterior end;
Fig. 2. Posterior end;
(from Hartman, 1969

SCAMIT Code: LACO 45

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:
McCammon & Stull, 1978

Diagnostic characters:

1. Thorax with 11 setigers with capillary setae in both rami.
2. First abdominal notopodium with capillary setae.
3. First abdominal neuropodium with all capillaries, all hooded hooks, or a mixture.
4. Remaining abdominal setigers with hooded hooks in both rami.
5. Branchiae present.

Distribution:
Southern California, especially Palos Verdes; shelf depths.

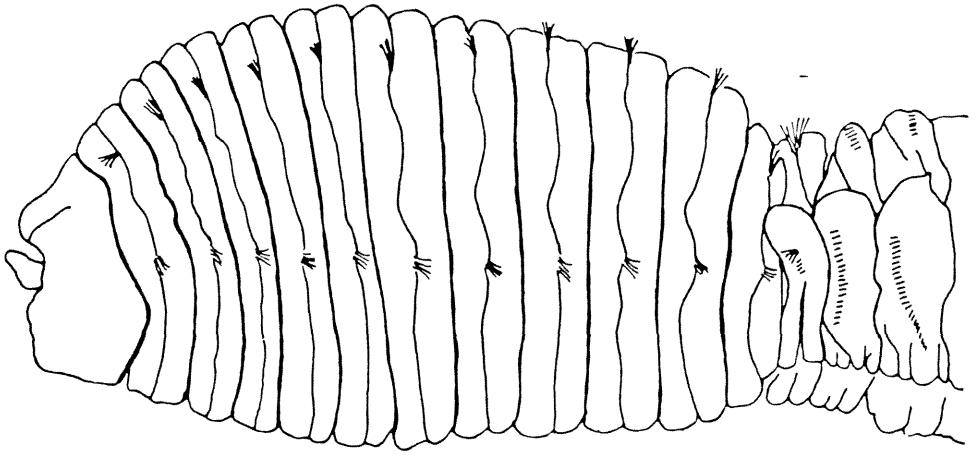


Fig. 1. Lateral view of anterior end
(from McCammon & Stull, 1978).

SCAMIT Code: LACO 46

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Moore, 1909
Hartman, 1947; 1969

Diagnostic characters:

1. Thorax with 11 setigers of capillaries only.

2. First setiger with notosetae only.

3. Anterior thorax weakly areolated.

4. Prostomium with 2 patches of eyespots; may be difficult to see if retracted.

5. Abdominal notopodia elevated.

6. Branchiae absent.

7. Methyl green staining: paired mid-ventral "racing stripes"; this may be a generic pattern for Notomastus, as other species also show it.

Related species and differences:

N. lineatus - first setiger biramous.

N. lobatus - first setiger biramous; branchiae present as digitate filaments.

N. magnus - first setiger biramous; branchiae present as dendritic tufts.

N. precocis - first setiger biramous; last 3 thoracic neuropodia with hooded hooks.

Distribution:

Western Canada to southern California; intertidal, shelf, canyon depths.

Mediomastus californiensis Hartman, 1944
Capitellidae

SCAMIT Code: none

Date examined: February 7, 1985
Voucher by: Susan Hamilton

Material used for voucher:
Hancock Cat. No. N1488; Tomales Bay, California (type collection).

Literature:
Hartman, 1944, 1947, 1969

Diagnostic characters:

1. Thorax with 10 setigers: 1-4 with capillaries; 5-10 with hooded hooks.

2. Setiger 1 biramous.

3. Epithelium smooth; proboscis papillated; body frequently coiled.

4. Abdominal setae hooks only; no capillaries.

5. Abdominal segments relatively short and thick. From dorsum, posterior segments appear squarish. Lateral view, length:width is about 1:2.

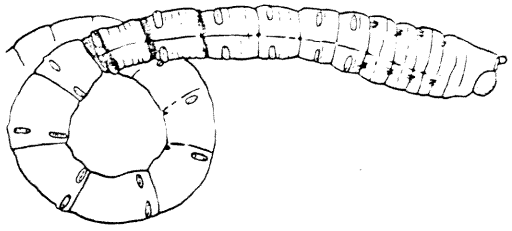
Related species and differences:
Mediomastus ambiseta

1. Last 25 or so abdominal setigers with simple setae in notopodia.

2. Abdominal segments relatively long, with length:width of 4:1 to 8:1.

Distribution:
Central to southern California; intertidal to shelf depths; mud.

Note:
Staining pattern with methyl green not always dependable for species separation.



Anterior end showing staining pattern, lateral view (modified from Hartman, 1969).

SCAMIT Code: SCCWRP 51

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Capitita ambiseta Hartman, 1947

Mediomastus ambiseta Hartmann-Schroder, 1962; Fauchald, 1977

Diagnostic characters:

1. Thorax with 10 setigers: 1-4 with capillaries; 5-10 with hooded hooks.
2. Capillary setae present in last 25 or so abdominal segments.
3. Abdominal segments relatively long. Length:width ratio 4:1 to 8:1.
4. Pygidium with digitate process.

Related species:

Mediomastus californiensis - abdomen with hooks only; abdominal segments relatively short.

Distribution:

Southern to Baja California; intertidal and shelf depths.

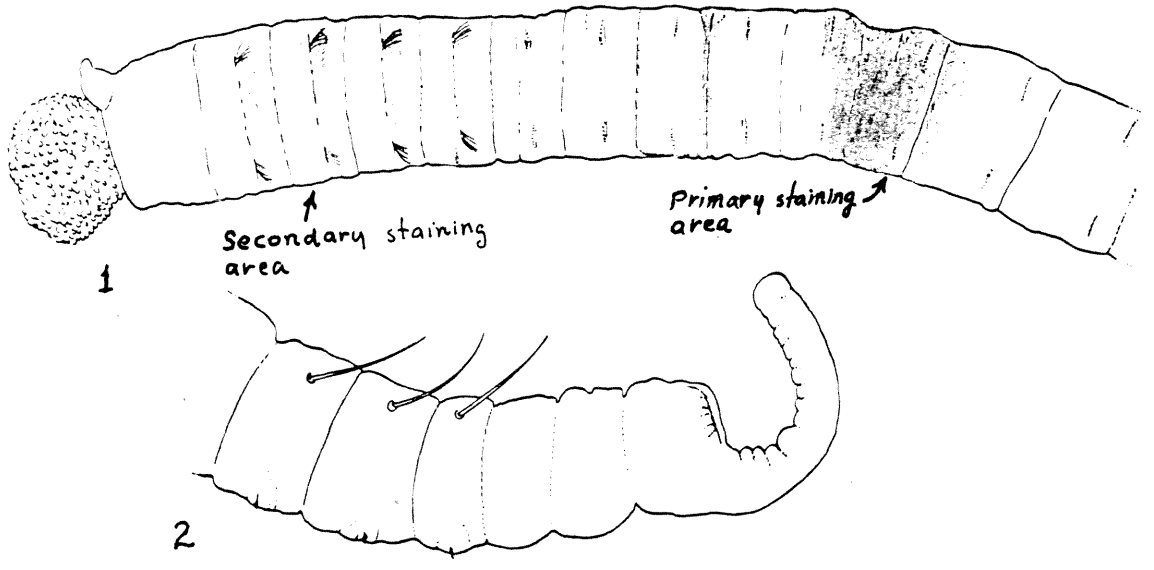


Fig. 1. Anterior end, lateral view, showing staining pattern;
Fig. 2. Pygidium, lateral view
(modified from Hartman, 1969).

Dasybranchus glabrus Moore, 1909
Capitellidae

SCAMIT Code: AHF 30

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Moore, 1909
Hartman, 1947, 1969

Diagnostic characters:

1. Large, robust species.

2. Thoracic setigers 13, all capillaries; thoracic segments crowded.

3. Peristomium with collar-like anterior border; prostomium frequently retracted.

4. Abdominal segments very short and much-crowded.

5. Branchiae retractile, 2 or 3 short, thick cylindrical filaments issuing from a pore directly dorsal to the neuropodium.

6. Abdominal uncini in almost complete cinctures with a small mid-ventral separation.

7. Contrary to the original description (based on 1 specimen), thoracic segments are areolate. Poorly preserved material appears to have a smooth epithelium.

Related species and differences:

Dasybranchus lumbricoides (Southern California record questionable - species described from Philippines. Comparison based on material identified by Hartman from southern California.)

1. Heavily areolated thorax- difficult to see setal fascicles.

2. Peristomium not collar-like.

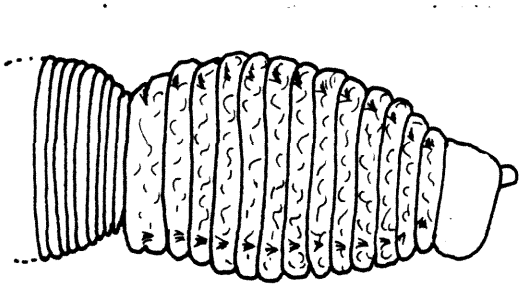
3. Body proportions differ - not as crowded and compact.

4. Anterior abdominal segments with lobes; wide dorsal separation.

5. Branchiae consist of many dendritic filaments.

Distribution:

Central California to western Mexico and Channel Islands - intertidal to shelf depths in silty sand and mud.



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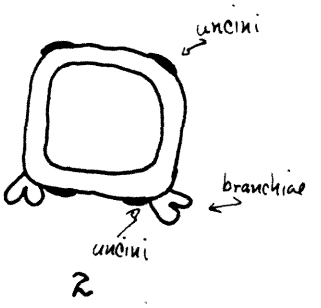


2

Fig. 1. Anterior end, lateral view;
Fig. 2. Cross section, branchiate abdominal segment.

SCAMIT Code: AHF 27, MBC 26, OC 54 Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Berkeley & Berkeley, 1932
Hartman, 1947, 1969

Diagnostic characters:

1. Thorax with 11 setigers: 1-5 with capillaries; 6-11 with hooded hooks.

2. Setiger 1 biramous.

3. Proboscis papillated; first 5 setigers slightly areolated.

4. Transition thorax to abdomen not abrupt.

5. Abdominal segments at first long and cylindrical, then progressively shorter, finally becoming longer in the last 20 segments before pygidium.

6. Branchiae begin about 30th abdominal setiger, each a simple digitate dorsal process just behind the notopodium; filaments gradually increase in length and number to 12 or more.

7. Methyl green staining: thorax uniformly light green EXCEPT for the last segment, which is dark. Abdomen stains lightly, if at all.

Related species and differences:

Heteromastus filiformis (see Hutchings & Rainer, 1981 for redescription).

1. Distinct gills absent. However, Hutchings & Rainer describe..."gills short, broadly-based rounded lamellae projecting posteriorly over the adjacent segment, commencing about segment 100, well-developed by segment 120."

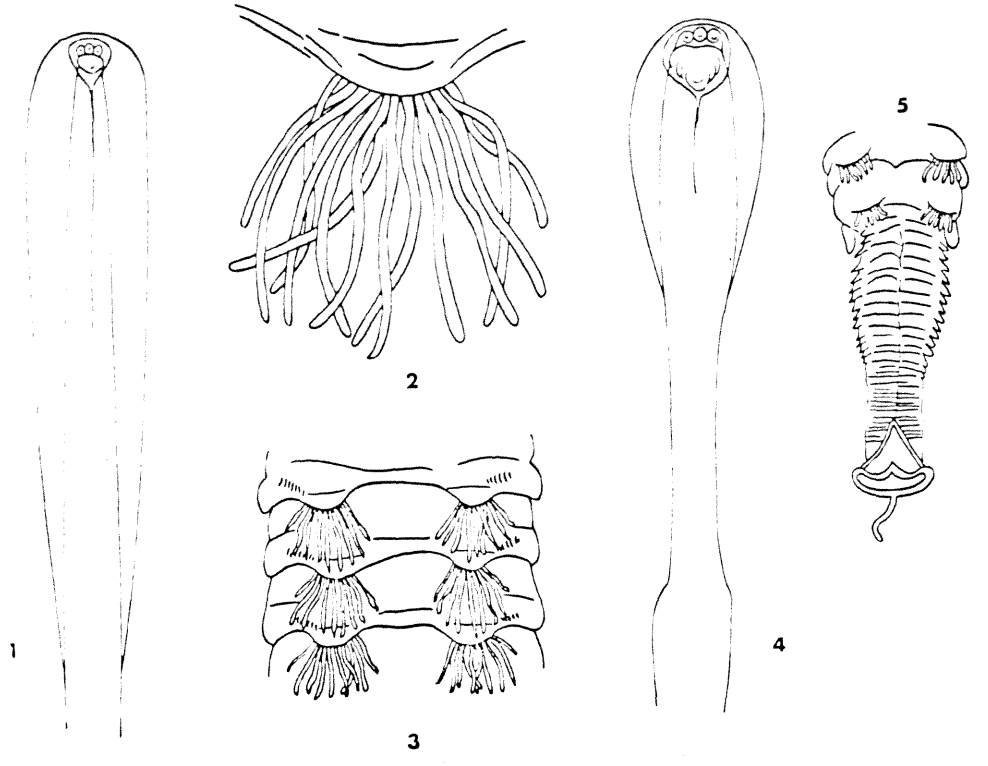
2. Prostomium longer.

3. Demarkation at thorax/abdomen: abdomen larger.

4. Methyl green staining: uniform light green thorax; abdomen with dark green stripes connecting the parapodia of each segment.

Distribution:

Western Canada to southern California; shelf and canyon depths; mud.



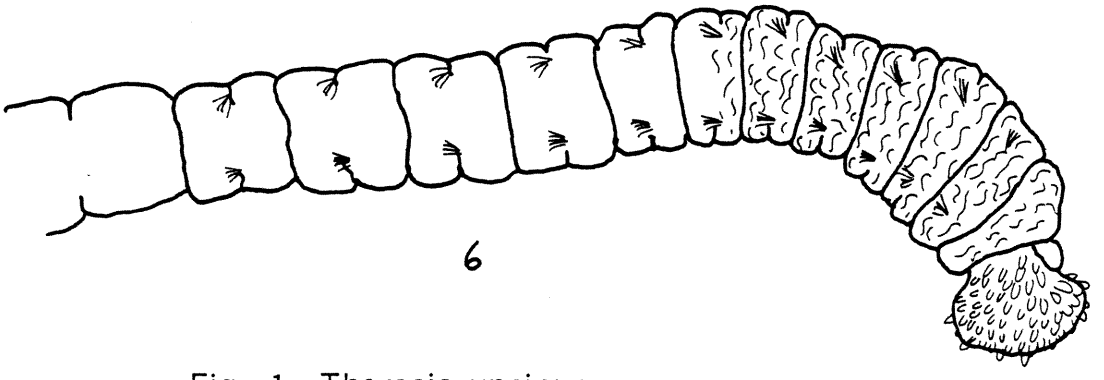


Fig. 1. Thoracic uncinus;
Fig. 2. Closeup of branchial tuft;
Fig. 3. Branchial segments, dorsal view;
Fig. 4. Abdominal uncinus;
Fig. 5. Caudal end
(1-5 from Hartman, 1969).
Fig. 6. Anterior end, lateral view.

Amastigos acutus Piltz, 1977
Capitellidae

SCAMIT Code: AHF 28

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Piltz, 1977
Ewing & Daurer, 1981

Diagnostic characters:

1. Body small, threadlike.
2. Capillary setae absent; hooded hooks only.
3. Thorax with 8 setigers; first 2 setigers indistinctly separated from the peristomium and each other, 3 times longer and broader than remaining segments.
4. Abrupt transition to abdomen.
5. Prostomium acute, with 2 eyespots.
6. Setiger 1 biramous.
7. Branchiae absent.
8. Pygidium small, conical; setae present in all segments up to pygidium.

Related species and differences:

Amastigos caperatus (Atlantic coast).

1. First 2 thoracic setigers not elongated.
2. Posterior end with long caudal appendage.

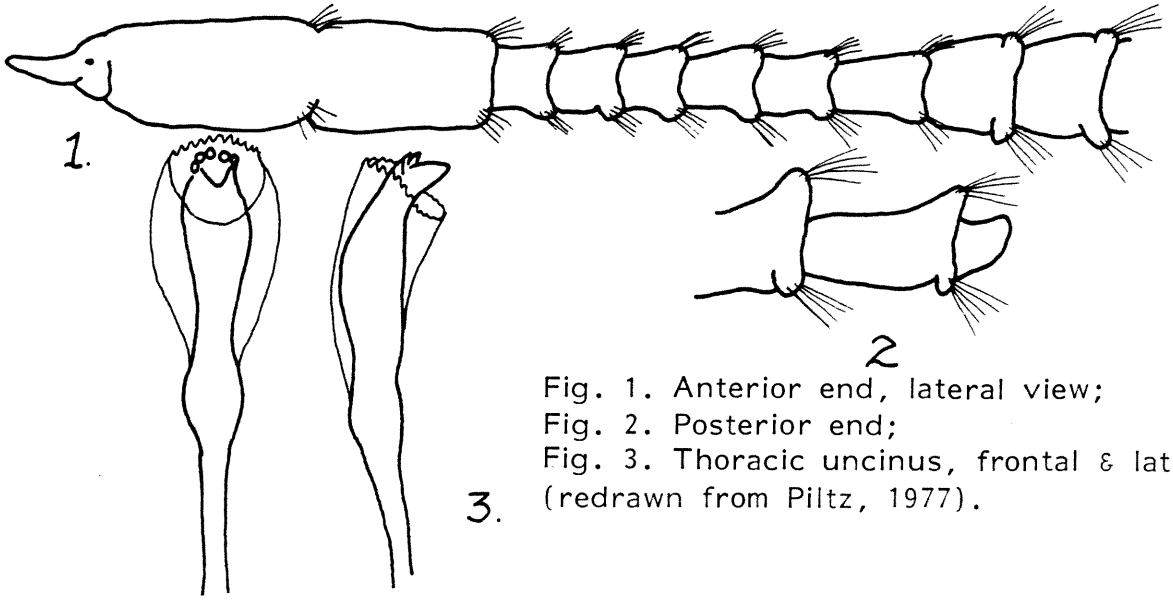


Fig. 1. Anterior end, lateral view;
Fig. 2. Posterior end;
Fig. 3. Thoracic uncinus, frontal & lateral views (redrawn from Piltz, 1977).

SCAMIT Code: AHF 29

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Eunotomastus gordiodes Moore, 1909, p. 278
Anotomastus gordiodes Hartman, 1947, p. 441; 1969 p. 355

Diagnostic characters:

1. Thorax with 17-18 setigers of capillary setae; first setiger with notosetae only.

2. Body long,linear, smooth and shiny, light in color; lateral suture runs from the peristomium to setiger 4/5.

3. Transition from thorax to abdomen indistinct.

4. Postmedian abdominal segments with palmate branchiae behind notopodia.

5. Pygidium with 6 cirri.

Distribution:

Central and southern California; intertidal to shelf depths; mud.

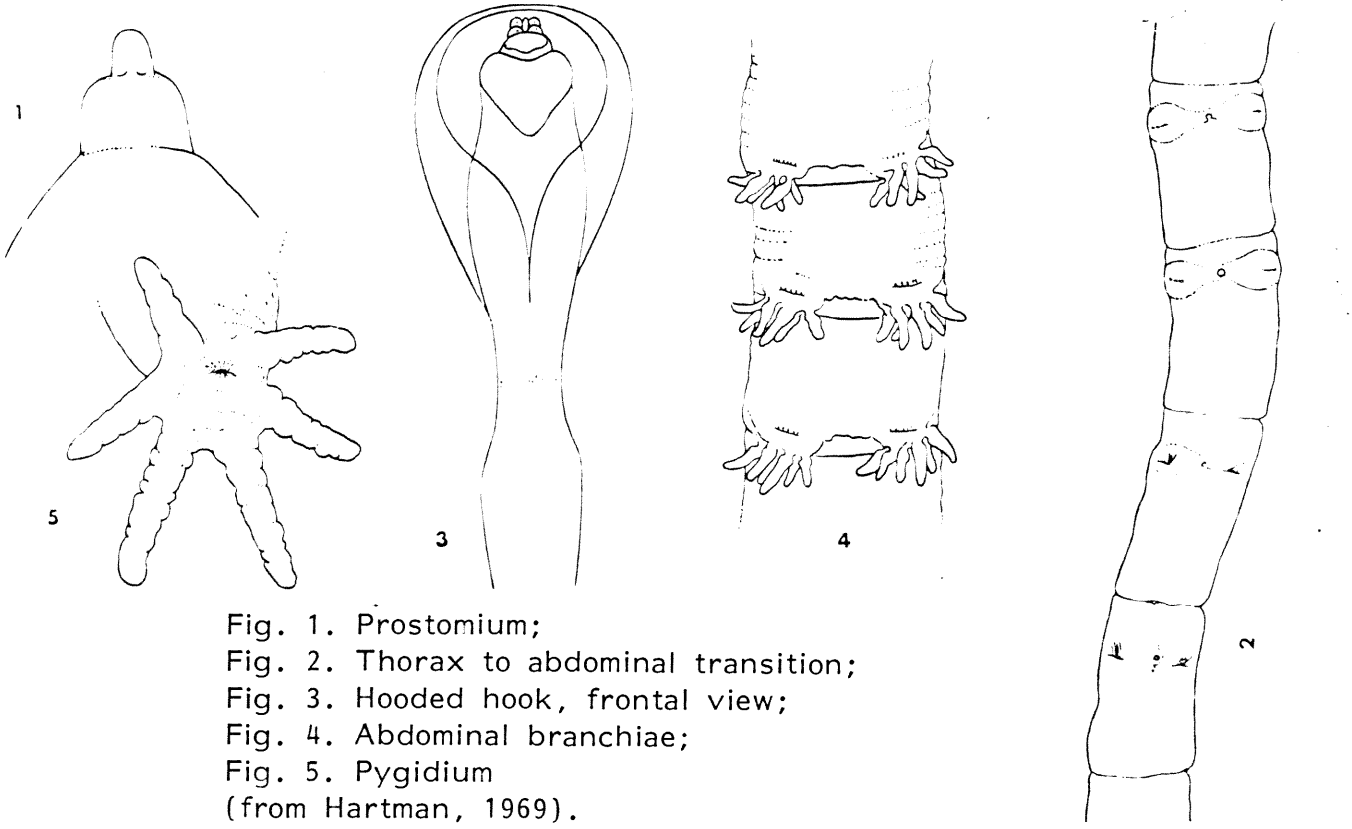


Fig. 1. Prostomium;
Fig. 2. Thorax to abdominal transition;
Fig. 3. Hooded hook, frontal view;
Fig. 4. Abdominal branchiae;
Fig. 5. Pygidium
(from Hartman, 1969).

Decamastus gracilis Hartman, 1963
Capitellidae

SCAMIT Code: SCCWRP 52

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:
Hartman, 1963; 1969

Diagnostic characters:

1. Thorax with 10 setigers, all capillaries.
2. Setiger 1 biramous.
3. Epithelium smooth.
4. Transition from thorax to abdomen not abrupt.
5. Anterior abdominal setigers cylindrical, then somewhat moniliform, becoming collared further back.
6. Notopodia of first few abdominal setigers raised ridges that approach mid-dorsally.
7. Branchia absent.

Distribution:
Western Canada to southern California, shelf and canyon depths.

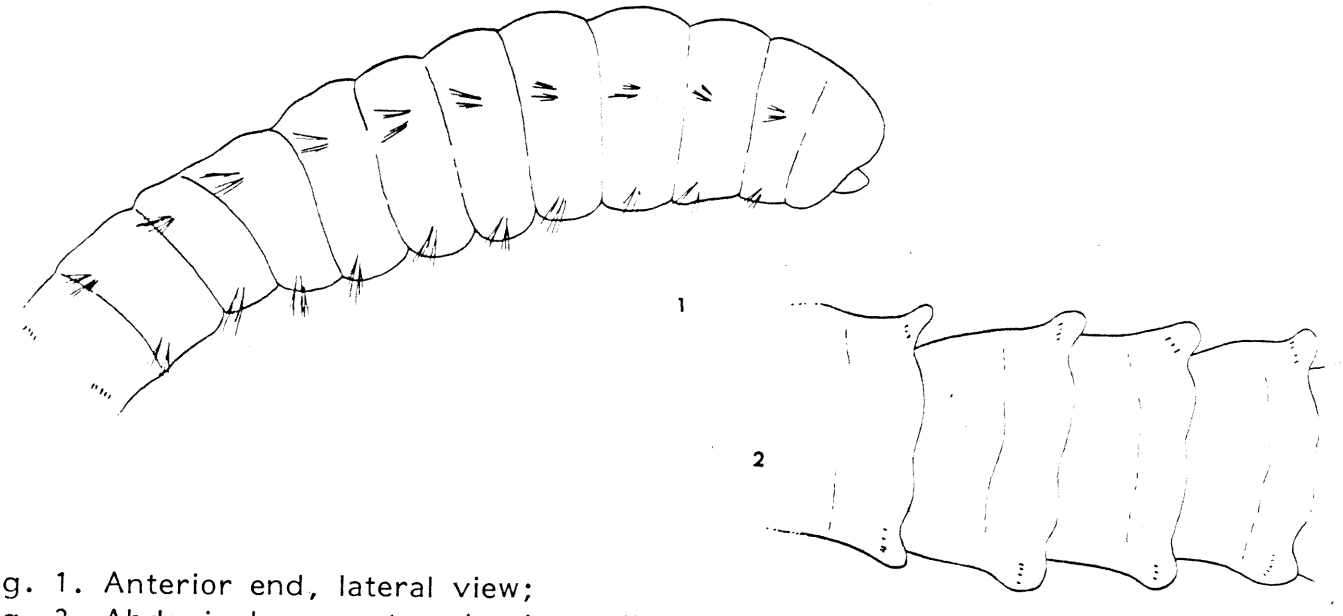


Fig. 1. Anterior end, lateral view;
ig. 2. Abdominal segments, showing collard effect
(from Hartman, 1969).

Leiochrides sp. A Harris
Capitellidae

SCAMIT Code: MBC 27

Date examined: February 7, 1985
Voucher by: Susan Williams

Literature:

Hartman, 1963

Diagnostic characters:

1. Thorax with 12 setigers; first setiger with notosetae only.

2. Last 2 thoracic setigers with hooks in the neuropodia; all notosetae capillaries.

3. Thorax tapers gradually into abdomen.

4. Thorax weakly areolate.

5. Palmate branchiae present in posterior abdomen; dorsally situated.

Related species and differences:

Leiochrides hemipodus - thoracic setae all capillaries. i.e., no hooks in thoracic neuropodia.

Distribution:

Central and southern California, canyon and slope depths (600-1000 m). Specific locales: Santa Maria Basin, Point Conception, Point Dume, Orange County Deep Sludge, Santa Monica Bay, Tanner Canyon.

Literature

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