



**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

February 1986

Vol. 4, No. 11

Next Meeting: March 10, 1986

Guest Speaker: Dr. Jack Anderson, Director of Coastal Water Research
Project: "New Directions of SCCWRP"

Specimen Exchange Group: Sabellidae

Topic Taxonomic Group: Ampeliscidae

MINUTES FROM: February 10, 1986

New Cumaceans: Don Cadien, from MBC, Applied Environmental Sciences, provided a review of new and provisional species of Cumaceans encountered in samples collected between the Mexican border and Point Estero. The handouts distributed at the meeting are enclosed within this newsletter.

The annual meeting of the Southern California Academy of Sciences will be held at California State University, San Bernardino on May 2-3, 1986. A contributed papers session for marine invertebrate taxonomy is being hosted by SCAMIT. SCAMIT members are encouraged to participate in this session. This is a chance for each of you to present your work to the scientific community. Abstracts are due the first of March. Refer to the enclosed flier for details on how to participate.

SCAMIT nominations for officers during 1986-1987 are to be held in March. Please attend the meeting to make your nominations, or submit them by mail to the SCAMIT Secretary.

SCAMIT's special Amphipod workshop, with Dr. J. L. Barnard, is scheduled for April 21-23. Please start to formulate questions and topics that you would like to see included in this productive three day event. Last year's workshop was a great success, as Dr. Barnard's instructions were a great help to all who brought specimens and/or questions. Plan to attend this year too! As a special attraction, Dr. Barnard hopes to lead an early morning (around 0700 hours) bird watching walk in the back bay of Newport on April 21st. More details to follow.

List of Specimen's from February 10, 1986:

- HYP 52 Campylaspis hartae Lie, 1969
HYP 53 Campylaspis sp. B SCAMIT, 1986
HYP 54 Cyclaspis sp. C SCAMIT, 1986
LACO 67 Campylaspis rubromaculata (Lie, 1969)
LACO 68 Campylaspis nr crispa SCAMIT, 1986
LACO 69 Diastylis sp. A SCAMIT, 1986
MBC 41 Cyclaspis sp. A SCAMIT, 1986
MBC 42 Cyclaspis nubila Zimmer, 1936
PL 64 Anchicolurus occidentalis (Calman, 1912)
PL 65 Diastylopsis tenuis Zimmer, 1936

Travels with Olga.

Gustafsson Pensionat
Sveavagen 108 4re
Stockholm

17 September '39

Dear Albert: So little word from the outside world has been reaching me, that I wonder what has become of English-speaking people. You may be interested to know that your last letter has been opened and resealed. There is extreme caution now in everything sent in or out. Furthermore, apparently few boats are able to come through, and air service is indefinitely stopped. Thus, I take it that if there is any word enroute, it will be slow to arrive here.

I am having trouble getting my luggage in from London. It is, apparently, still at the London docks, with no boats available. All schedules have been cancelled, and no one knows when service will be resumed. I have cabled several times to London, inquiring, but there is little hope. Yesterday, I called on Mr. Sterling, the American minister to Stockholm, asking the possibility of my going over to get my baggage. He said he could arrange a visa for me to get to London, and another that I could re-enter Sweden, but that he had no idea how one could get over and back. There are tramp cargoes shuttling back and forth, but entirely unannounced. This is indeed a strange situation. Cables and telegrams still function, but one is permitted no code whatsoever, not even in addresses.

Sweden maintains its neutrality, but no one predicts how long. In the meantime, preparations are made against the possibility of air raids. Bensin (in U.S., gasoline) and England, (petrol) is prohibitive, and only certain classes of transportation are allowed its use. One sees trucks, taxi cabs, busses, and "tjanstbil"

(service cars), but no private cars, although privately owned cars are very common. It is a great pity that they cannot use alcohol, since there might be an unlimited supply of that here.

Winter is gradually coming on. There has been no frost yet, but it cannot have been far above that. The flowers are still very beautiful, as all vegetation, but frosts will change that. The city, however, is ramified with beautiful waterways, and pleasant hills and valleys. I imagine Stockholm is beautiful in any season.

The language is still a handicap for me, but one gradually learns it. It is far easier to read than to hear it spoken. There are three letters, å, ä and ö, not represented in English, but w does not exist. The å (pronounced ö) is very common in words, and the "sk" is about as difficult for me as the "th" for a Scandinavian. English is taught in the schools, hence many of the younger people know some English (book), also German (tysk). American movies are very popular and perhaps teach a good deal of English. But the language of the streets and homes is Swedish. Here is a sign, posted in all street cars (called, appropriately, "Spårvagnar"): "Du, som är ung och frisk, lämna Din sittplats åt den som bättre behöver den" (meaning youth relinquish seat to age). Courtesy and good behavior are both obviously important.

Food and service are excellent. Butter is better and more plentiful than any place I have ever seen. It is always served in quantity and in some ornamental shape. Breads are variable, often somewhat sweet, some with anise, or other condiment. And sweets and pastries are made in endless varieties. Meats are never monotonous (or even fish). One has lamb with dill sauce, or "kolsoppa med kow" (cabbage soup with sausages); bif med lignon (roast with whortleberry) etc., etc. The Smorgåsbrička in one place at least, is served in a fascinating manner. There is a service plate, ca. 15 inches long, rectangular, with 5 depressions, each of which has a different delicacy; thus, spiced herring, baked ham with boiled egg and vegetable, cheese, vegetable salad, boiled potatoes. This comes in many varieties BUT ALWAYS good.

I shall say nothing of the continental situation. You know much more of that than I, since only Swedish newspapers are now available to me. Professor Bock told me that the Grippsholm (Swedish passenger boat) left yesterday for America, with a full passenger list. I gather also that there may be as many as 4 boats a month, leaving Scandinavia. (The Grippsholm left Göteborg), but some of the Norwegian boats leave from Bergen or Stavanger). I take it, therefore, that one can obtain passage to America, if imperative.

You will realize, of course, that ocean service has been greatly reduced, hence I hope you will not be too concerned if letters can not go through often. I have asked the American Assoc. Uni Women for permission to finish my year in the east after completing work in Stockholm, but have not yet heard. Thus I may leave from Scandinavia before the year is out.

You would much enjoy this beautiful country. I hope you will see it some day.

Notes: Olga sent us two Swedish newspapers: Stockholms-Tidningen and a tabloid paper, Aftonbladet, the size of which was similar to the London Evening Standard, 14x22.



SOUTHERN CALIFORNIA ACADEMY OF SCIENCES



ANNUAL MEETING

May 2 - 3, 1986

at

**CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO
in cooperation with**

- DESERT STUDIES CONSORTIUM, CALIFORNIA STATE UNIVERSITIES ·
- SOUTHERN CALIFORNIA BOTANISTS · AMERICAN CETACEAN SOCIETY ·
- SOUTHERN CALIFORNIA OCEAN STUDIES CONSORTIUM ·
- UNIVERSIDAD AUTONOMA de BAJA, CALIFORNIA SUR ·

TWO FULL DAYS of symposia and contributed-paper sessions! Professional and student papers, in all branches of the natural and social sciences, are solicited for presentation. Abstracts of the papers to be presented are due to the Program Chairman by March 1.

AWARDS OF \$100.00 EACH FOR THE BEST STUDENT PAPERS IN THE SUBJECT AREAS OF: PLANT ECOLOGY · DESERT ECOLOGY · BOTANY · ENVIRONMENTAL SCIENCE · VERTEBRATE ZOOLOGY · AND SCAS OPEN CATEGORIES TO BE DETERMINED.

(Note: Student papers qualifying for the awards must have only one author. Co-authored papers are welcomed for presentation on the program, but only single-authored papers will be judged.)

ABSTRACTS -- DUE MARCH 1, 1986

For the format of your abstract, see other side. Some sections have earlier deadlines, but all are due by March 1 to the Program Chairman, Southern California Academy of Sciences, 900 Exposition Blvd., Los Angeles, CA 90007. Tel: (213) 744-3384.

(over)

S A M P L E A B S T R A C T

So that your abstract can be reproduced photographically exactly as you send it in, please follow this form: typing within 6" x 4" space on white bond paper. (You may outline the form in light blue pencil or nonreproducible ink, or simply measure the space on another sheet and use that as backing.) Use a good typewriter, 12-pitch type, with carbon ribbon in good condition.

Title of Your Paper (Capital and lower case letters, except where capitals are standard. Underscore the title.)

J. S. AUTHOR, Affiliation, City, State, Zip. (Your name in caps, affiliation and address in caps and lower case.)

SECOND AUTHOR (if any), follow same style.

Drop down two lines (from whatever is your last line above) and type your abstract, keeping it to 150 words if possible, but no more than the maximum length indicated below.* If needed, neatly drawn-in symbols or Greek letters are acceptable, but use India ink. Remember that your abstract is to be reproduced photographically from the copy that you send in, so be sure it is both accurate and neat. And when you have finished, mail it flat to the address indicated below for your section. As you see, some sections will be putting their programs together as units and require an earlier deadline. These and all others are, for program-printing purposes, due by MARCH 1 to SCAS.

*(If needed, abstract may run to this line but please, no further!)

Along with your abstract, please submit--on a 3" x 5" file card--the following:

1. Your name, affiliation, mailing address, and your telephone number.
2. Whether student or professional.
3. Title of your paper.
4. The section in which you wish to present it (the subject field).
5. The time required (maximally, 20 minutes).
6. Audio-visual equipment needed, if any.

PLEASE SUBMIT AS FOLLOWS:

BY FEBRUARY 21

SCOSC -- to Southern California Ocean Studies Consortium, PH1-217, California State University, Long Beach, CA 90840. Attn: Dee Dee Rypka.

ACS ---- to Diana McIntyre, American Cetacean Society, PO Box 2639, San Pedro, CA 90731.

SCAS Folklore Section -- to Robin Evanchuk, Folklore & Mythology Program, 1041 GSM, University of California, Los Angeles, CA 90024.

BY MARCH 1 -- THESE AND ALL OTHERS DIRECTLY TO: Program Chairman, Southern California Academy of Sciences, 900 Exposition Blvd., Los Angeles, CA 90007.

NEW CUMACEANS
D.B. Cadien, MBC Applied Environmental Sciences
10 February 1986

According to Barnard & Given cumaceans are the third most common type of microcrustacean taken in benthic core samples, surpassed in number only by amphipods and ostracods. Despite their abundance they are relatively poorly described. Of the 120+ species known to occur in California nearshore waters less than 1/3 have been described in the open literature, although a far larger percentage are in common usage within the local taxonomic community. Even so, cumaceans remain one of the least effectively standardized of the microcrustacean groups.

Although some descriptive work on the Californian cumaceans was done in the early part of this century by Zimmer and Calman, and some of the species described by Hart and Lie from Puget Sound and Vancouver Island prove to range commonly into our area, the California regional biota was not "worked up" prior to the investigations of Given. In the process of working on the collections amassed during the AHF State Survey of the mainland shelf Given described several species and erected a series of provisional names for others which he did not formally publish. These became available through his contacts within the community and through the circulation of his 1970 Thesis. In the thesis several of the provisionals were illustrated, and brief diagnoses were presented for a number of the others. Quite a few remained unknown quantities, however, because of ambiguities in their diagnoses, or inadequacies of Given's original material. Even some of the described species (ie. Leucon armatus) were little known beyond their original diagnosis.

The situation was relatively stable for some years after Given's thesis became available. Almost all of the monitoring work undertaken in California was from waters over the inshore portion of the shelf, and few species which had not been presented by Given were found. Then several major explorations of habitats not normally within the range of monitoring programs were performed. First the BLM sampling of the southern California borderland, and more recently the MMS reconnaissance of the southern Santa Maria Basin and Santa Lucia Bank. The new species added to the list of California cumaceans in these two efforts have left us in the unenviable position of having a largely undescribed fauna. Despite the lack of officially described species there are now mechanisms (SCAMIT chief among them) which allow intercalibration between those actively working with the undescribed species. It is with the hope that intercalibration and standardized use of provisional names will result that I am presenting a "rogues gallery" of new cumaceans encountered in our samplings between the Mexican border and Point Estero at depths between 6 and 1000 meters.

KEY TO THE DESCRIBED AND UNDESCRIBED SPECIES OF LEUCON
FROM CALIFORNIA WATERS

by D. Cadien - MBC Applied Environmental Sciences

947 Newhall St., Costa Mesa CA.

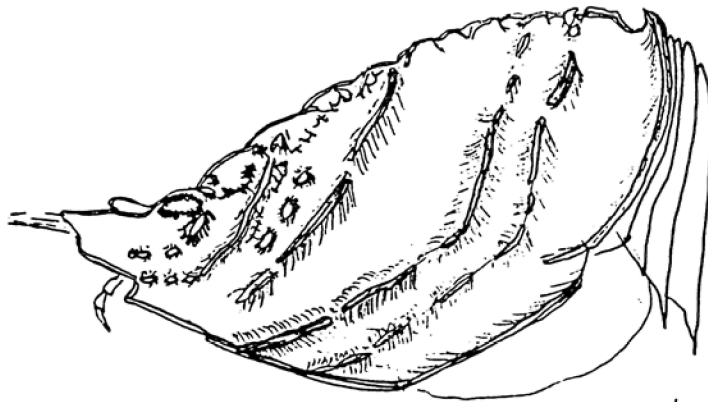
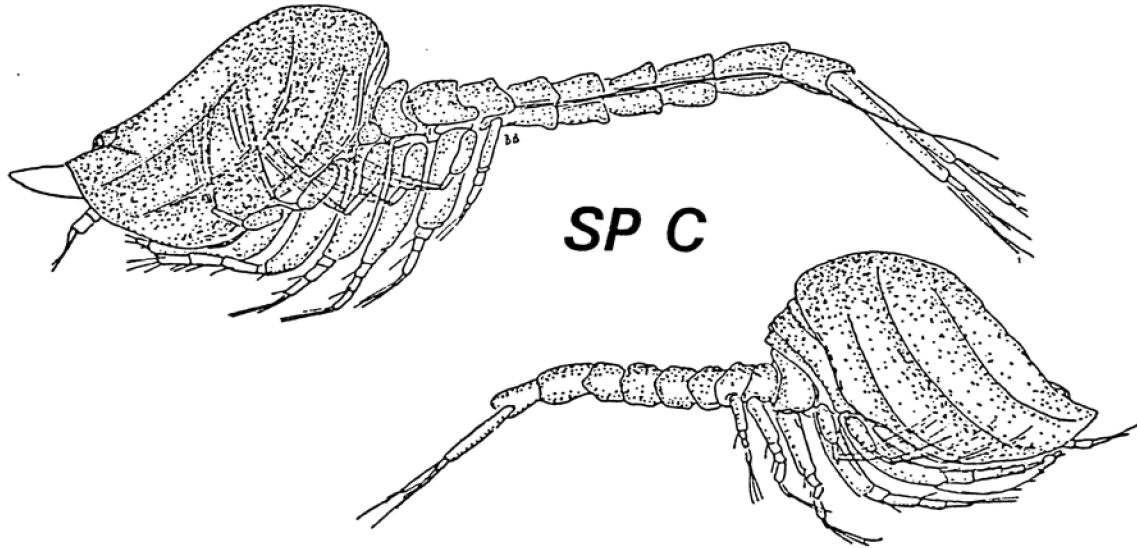
92627 TEL. (714) 646-1601

10 February 1986

1. With one or more dorsal crest teeth.....2
Without dorsal crest teeth.....Leucon sp. B (MBC)
2. With more than one dorsal crest tooth.....3
With only one dorsal crest tooth; last pleonal segment produced
posteriorly into a rounded lobe.....Leucon sp. I (MBC)
3. Article 2 of pereopod 1 with spines or teeth.....4
Article 2 of pereopod 1 without spines or teeth.....6
4. 2-3 anterior pointing "cheek spines" present; inner ramus of uropod
longer than outer.....Leucon sp. H (MBC)
No "cheek spines" present; inner ramus of uropod shorter than outer....5
5. Teeth on dorsal crest and antero-ventral edge small; next to last
pleonal segment twice as long as wide; inner ramus of uropod, 1st
article 1/3 longer than 2nd article.....Leucon subnasica [in part]
Teeth on dorsal crest and antero-ventral edge strong; next to last
pleonal segment only 50% longer than wide; inner ramus of uropod,
1st article 2X as long as 2nd article.....Leucon magnadentata
6. Dorsal crest teeth confined to anterior 1/2 of carapace.....7
Dorsal crest teeth not confined to anterior 1/2 of carapace.....9
7. Dorsal crest teeth small.....8
Dorsal crest teeth large, with gaps between some teeth....Leucon sp. J (MBC)
8. Rostrum tapering and upturned at a 45° angle.....Leucon subnasica [in part]
Rostrum blunt and not much upturned above horizontal; the pseudo-
rostrum may be pointed.....Leucon sp. G (MBC) [in part]
9. Uropods stout, peduncles only slightly more than twice as long as wide;
1st article of inner ramus more than three times as long as the 2nd
article.....Leucon armatus
Uropods slender; 1st article of inner ramus twice or less as long as
2nd article.....10
10. 1st article of inner ramus of uropod twice as long as 2nd article; small
forward-pointing tooth on carapace just below dorsal crest about 1/2
way along toothed portion of crest.....Leucon sp. A (Myers)
1st and 2nd articles of inner ramus on uropod about equal in length;
no forward-pointing tooth on side of carapace.....Leucon sp. G (MBC) [in part]

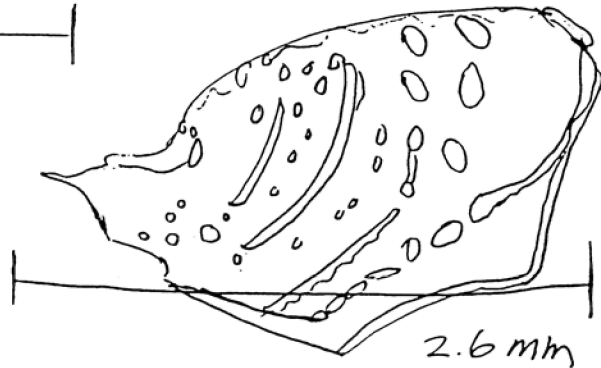
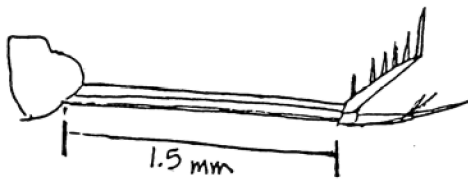
NOTE - *Leucon* sp. A, B, C, D of Given and sp. A of Gillingham (MLML) have not been evaluated by the author and are not, therefore, included in the key. These species may or may not be the same as some of those included. It is suspected for instance that *Leucon* sp. A of Myers is in fact the same as *Leucon* sp. D of Given.

NEW SPECIES OF *CAMPYLASPIS* 1

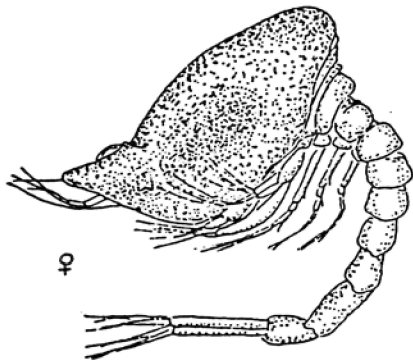


3.0 mm

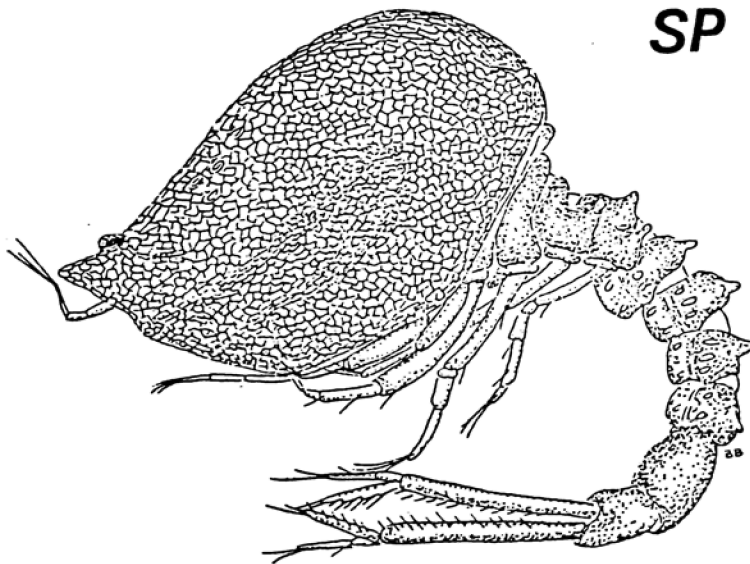
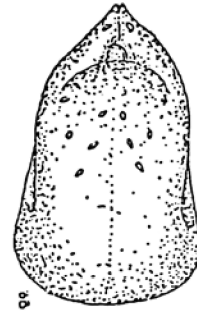
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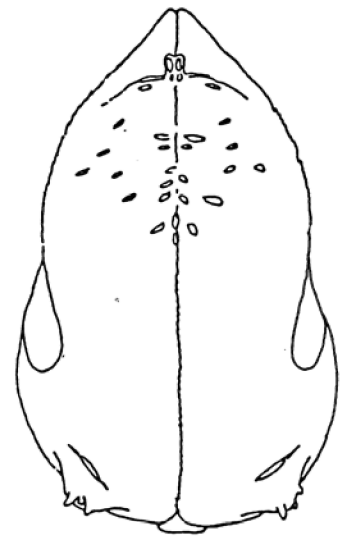
NEW SPECIES OF *CAMPYLASPIS* 2



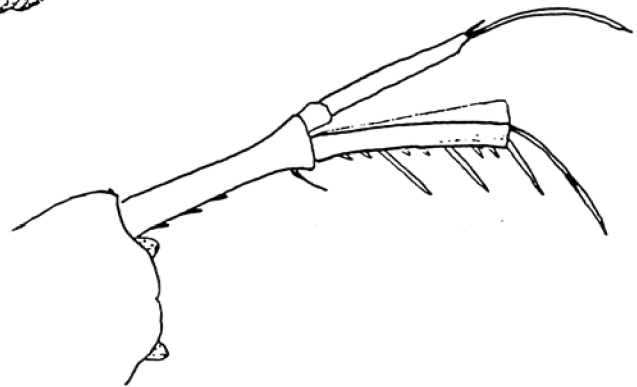
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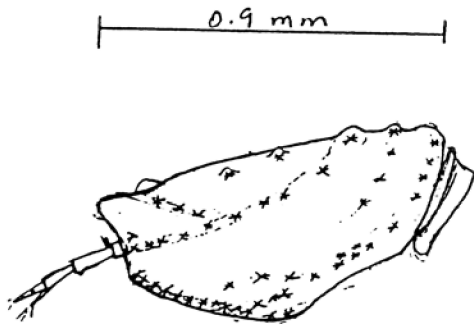
SP E



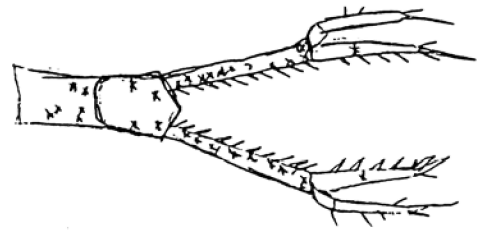
SP O



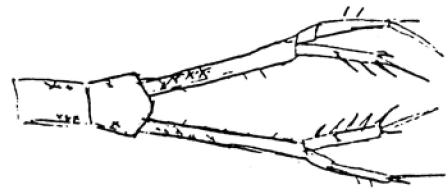
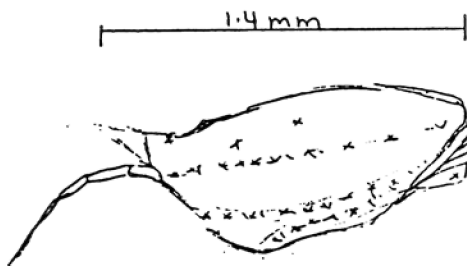
NEW SPECIES OF *CAMPYLASPIS* 3



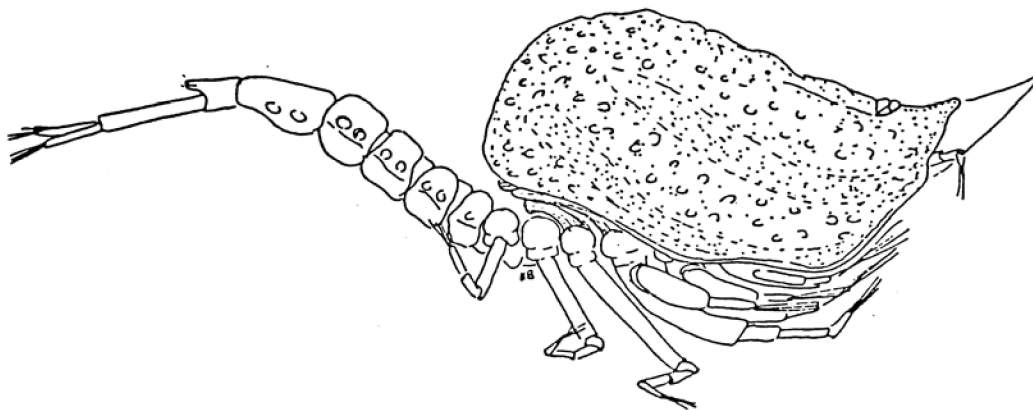
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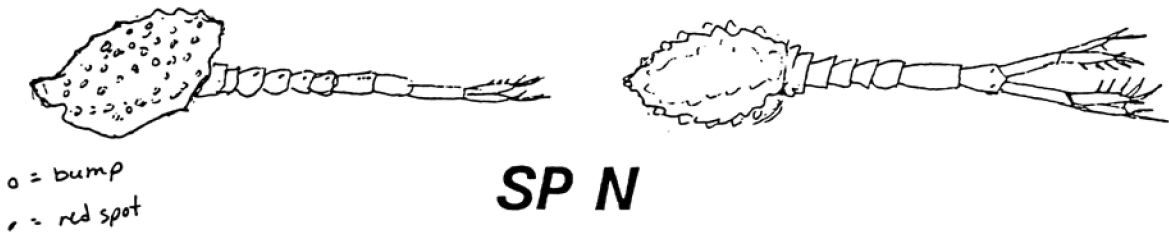
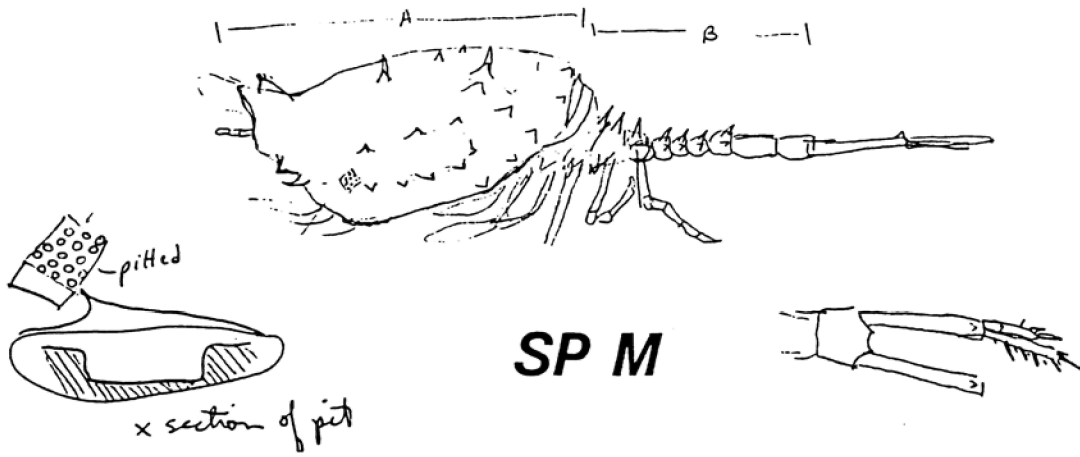
NR CRISPA



SP F



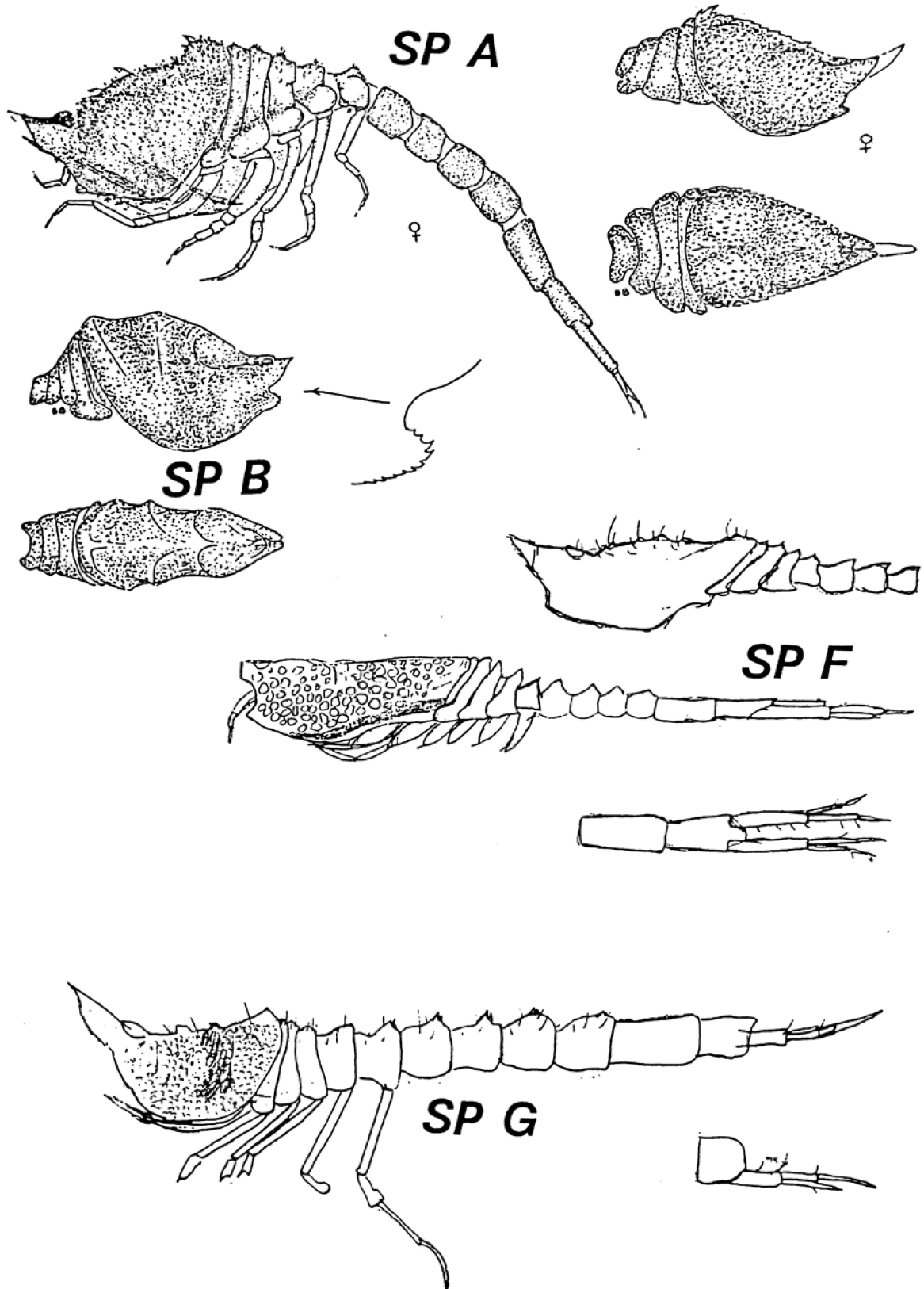
NEW SPECIES OF *CAMPYLASPIS*



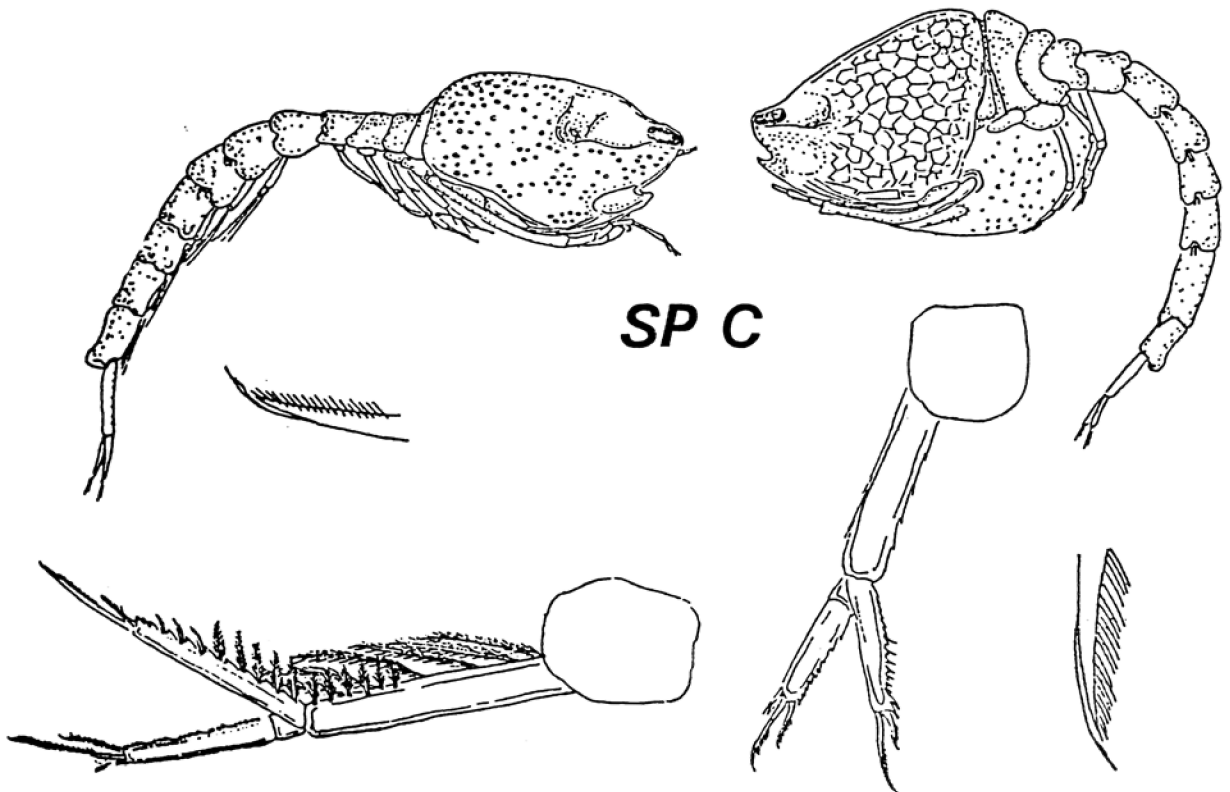
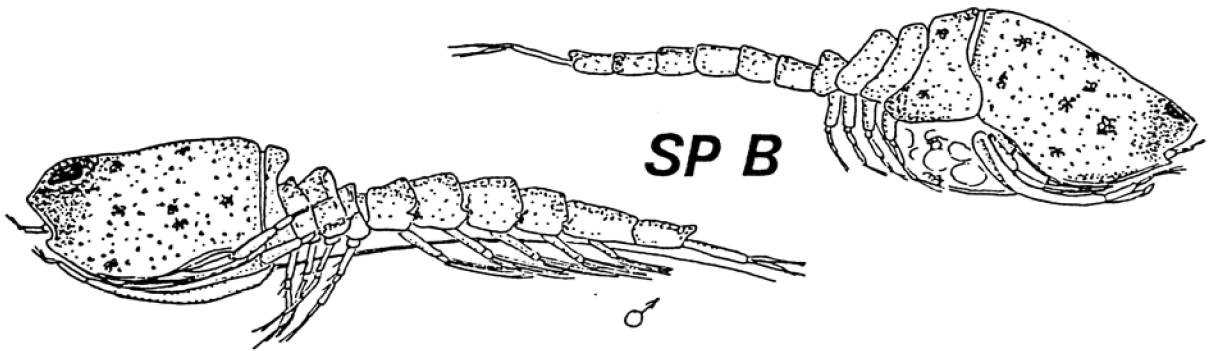
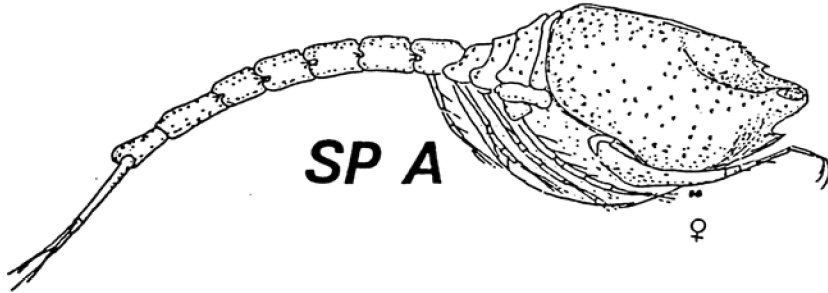
AND *PROCAMPYLASPIS*



NEW SPECIES OF CUMELLA



NEW SPECIES OF CYCLASPID



NEW SPECIES OF *HEMILAMPROPS*



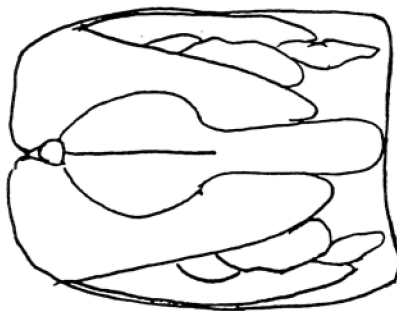
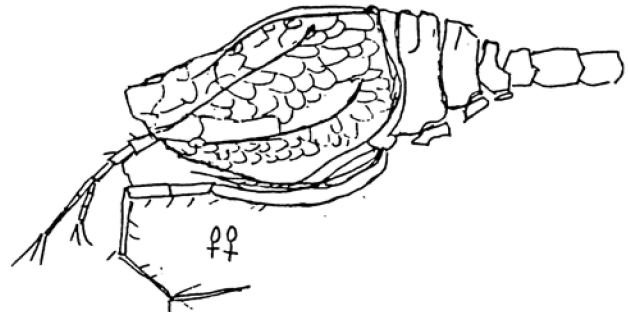
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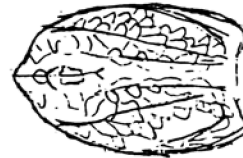
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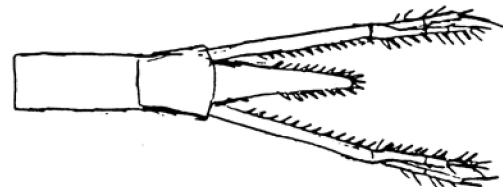
2.2 mm



SP B



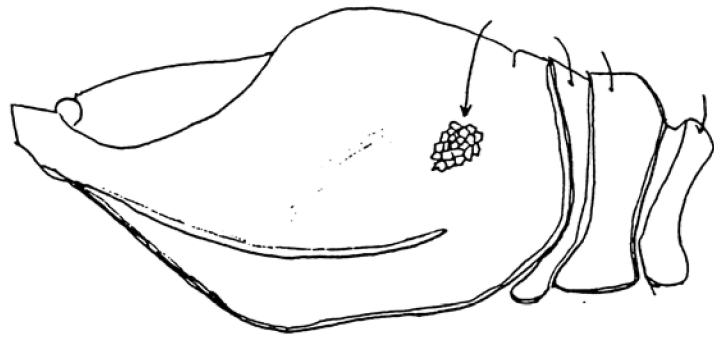
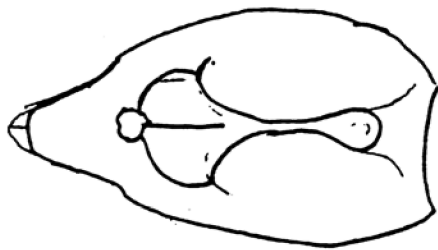
0.46 mm



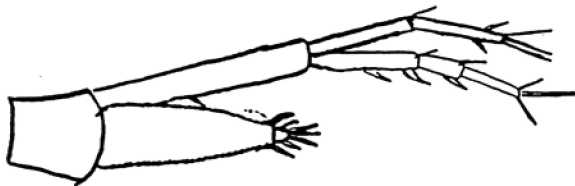
NEW SPECIES OF LAMPROPS



SP D

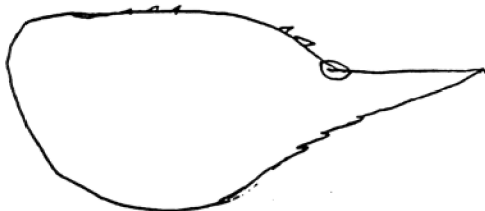


1.26 mm

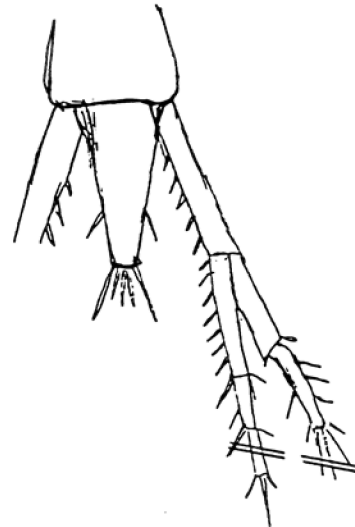


SP E

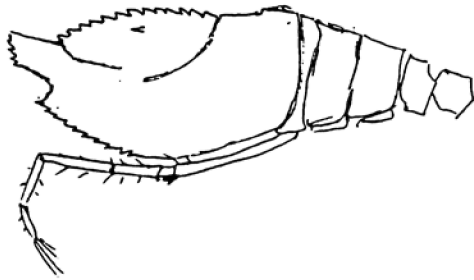
0.9 mm



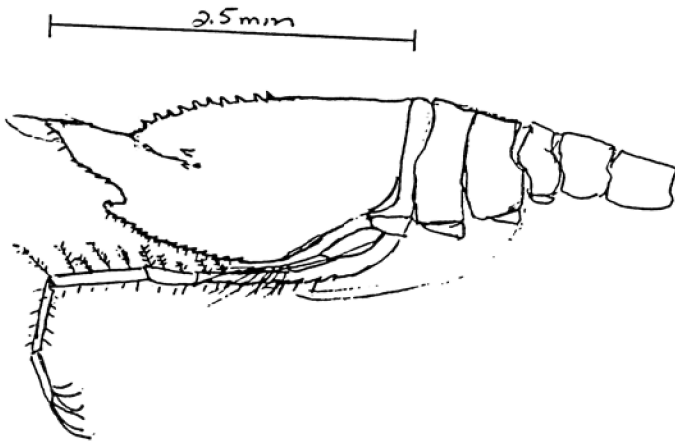
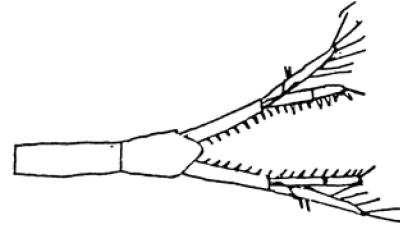
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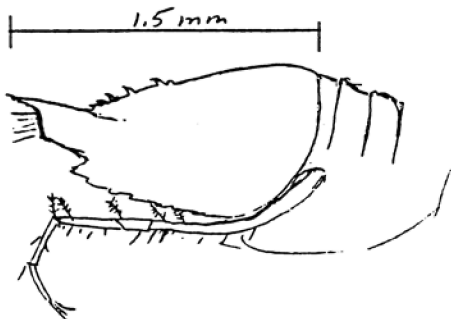
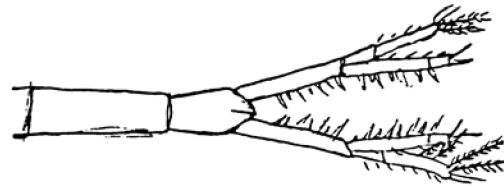
NEW SPECIES OF *LEUCON* 1



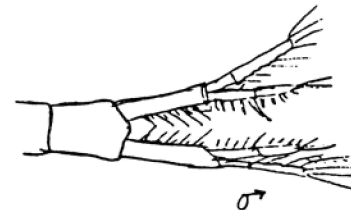
SP A



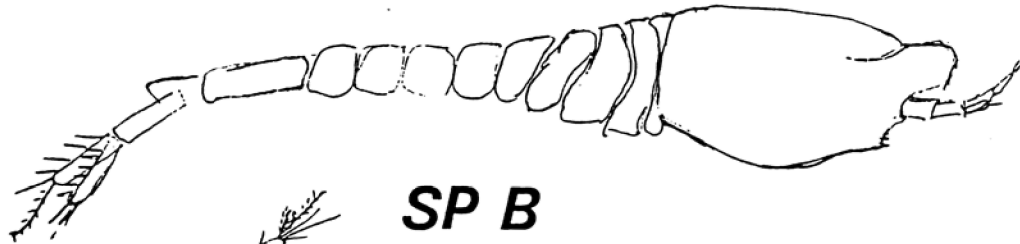
SP H



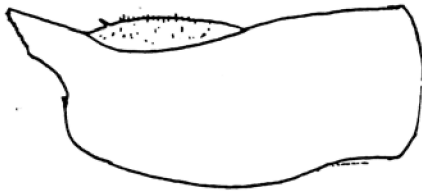
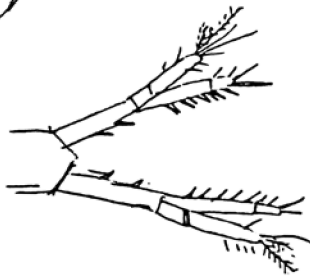
SP J



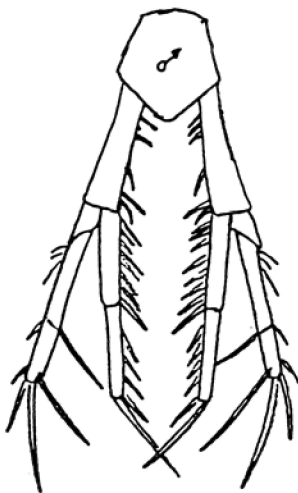
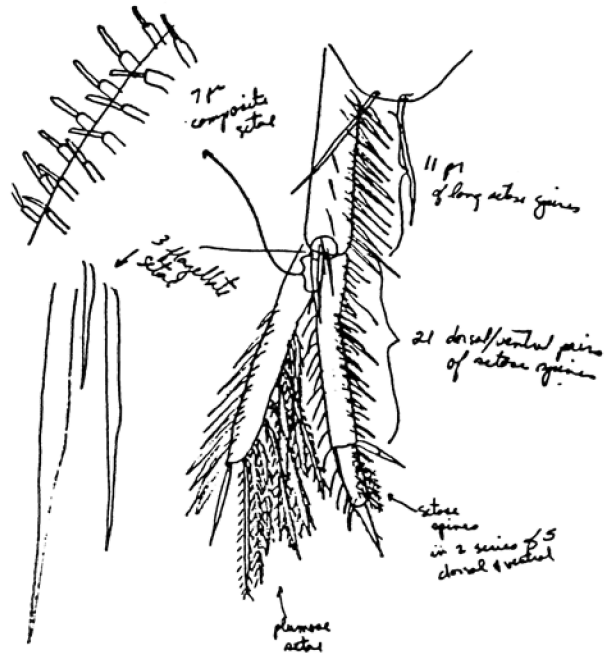
NEW SPECIES OF *LEUCON* 2



SP B



SP I



SP G



SCAMIT Code: OC 58

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969
Moore, 1923
Williams, in press

DIAGNOSTIC CHARACTERISTICS:

1. Palae absent.
2. Four pairs branchiae, long and subulate. The anterior two pairs inserted on the same segment with the remaining two pairs following on successive segments, forming an oblique, medially directed line.
3. Prostomium trilobed, with a pair of transverse nuchal organs.
4. Rudimentary notopodia present on segments 4 and 5; a few very fine setae barely emerge from segment 5. Notopodia of following 12 segments normal.
5. Thoracic uncingers number 11.
6. Abdomen with 10-11 abdominal segments; notopodial rudiments and dorsal cirri present. Pygidium with two conical papillae.

REMARKS: This species will be moved to Paramage due to the rudimentary notopodia. In Amage, the anterior segments are fused and these structures are absent (Williams, in press). Amage longibranchiata has similar rudimentary notopodia, but has branchiae on separate successive segments and therefore belongs to Mexamage (Williams, in press).

DISTRIBUTION: Central and southern California; shelf and slope depths.

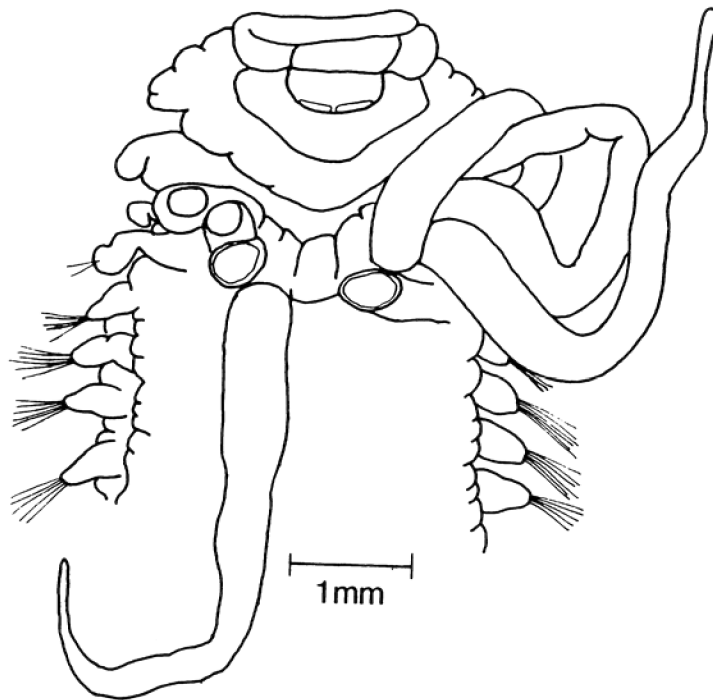


Figure from Williams, in press.

SCAMIT Code: AHF 40

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Banse, 1980
Chamberlin, 1919 (as E. crescentis)
Hartman, 1969

DIAGNOSTIC CHARACTERISTICS:

1. Thoracic setigers 17, including 16 uncingers; uncini (Fig. 1) in double rows from setiger 7/8.
2. In the posterior thorax, the tori gradually extend across the ventrum until they almost meet in the last two thoracic segments (Fig. 2).
3. Branchiae three pairs, the first pair largest. Terminal branches very short and originate in series rather than dichotomously, forming a whorl or spiral (Fig. 3).
4. Tentacular lobe with narrow band of eyespots.
5. Latero-ventral folds conspicuous, largest on first branchial segment.

RELATED SPECIES AND DIFFERENCES:

Eupolymnia congruens: gills clearly dichotomously branched (see Hartman, 1969 p. 589).

- REMARKS:
1. Banse (1980) synonymized E. crescentis and E. heterobranchia and provided a detailed redescription.
 2. Due to the presence of lateral folds, this species could be keyed to E. congruens in Hartman, 1969. The species key is a bit misleading for the genus; thorough reading of the diagnoses is recommended.

DISTRIBUTION: Alaska to western Mexico; intertidal and shelf depths.



Fig. 1 and 2 from Banse, 1980; Fig. 3 from Johnson, 1901.

Lanice "conchilega" (Pallas, 1766)
Terebellidae

Vol. 4, No. 11

SCAMIT Code: LACO 63

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969

DIAGNOSTIC CHARACTERISTICS:

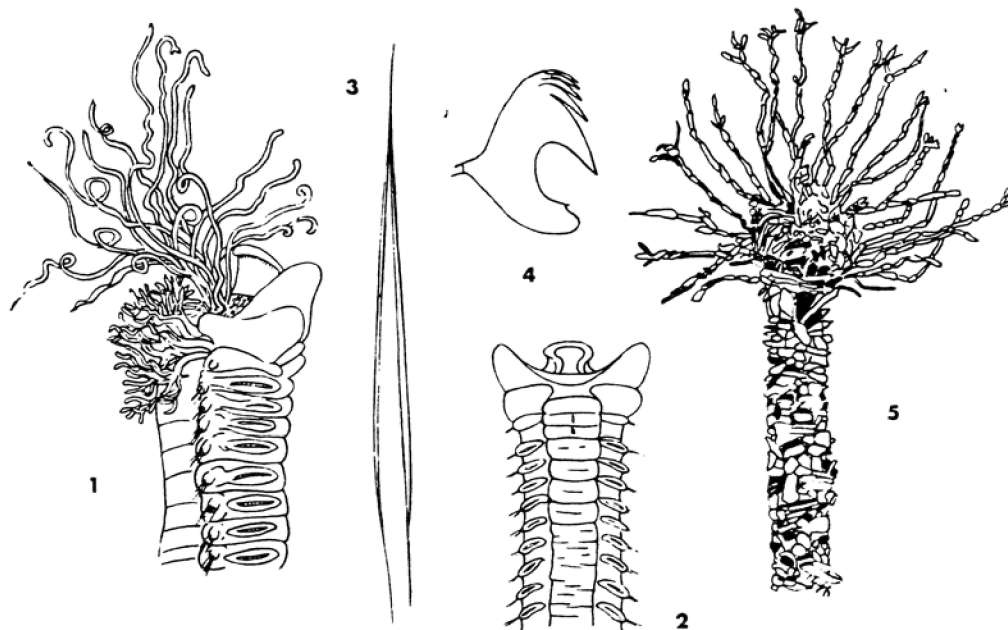
1. Thoracic setigers 17, including 16 uncingers; uncini in double rows in last 10 thoracic segments.
2. Conspicuous lateral lappets on segments 2 and 4, the first very large.
3. Branchiae 3 pairs, each with a thick basal stalk and distally branched.
4. Tessellated top of tube; tube decorated with sand grains.

RELATED SPECIES AND DIFFERENCES:

Only species of Lanice reported from western North America.

- REMARKS:
1. Lanice superficially resembles Loimia and Pista elongata, as all have similar lappet morphology and three pairs of branched gills.
 2. Lanice conchilega has been reported from a broad geographic range and probably represents a species complex that has yet to be worked out.

DISTRIBUTION: California, intertidal to shelf depths; North Atlantic, etc.



Figures from Hartman, 1969.

SCAMIT Code: AHF 42

Date Examined: November 12, 1985
Voucher by: Susan Williams

LITERATURE: Banse, 1980
Hartman, 1969
Hobson & Banse, 1981

DIAGNOSTIC CHARACTERISTICS:

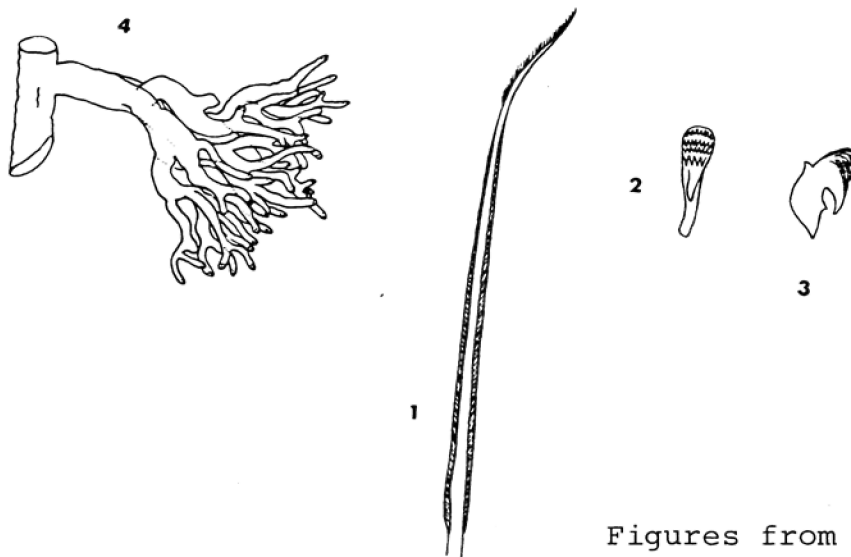
1. Notosetae (Fig. 1) on 35-40 segments; distally dentate.
2. Uncini (Figs. 2, 3) from setiger 3; in single rows for six segments, then in double rows to the end of the thorax. Abdominal uncini in single rows.
3. Branchiae two pairs, each with a stem and many distal branches (Fig. 4).

RELATED SPECIES AND DIFFERENCES:

Neoleprea californica: abdominal uncini in double rows. Banse (1980) removed this species from Terebella.

Neoleprea japonica: notosetae on about 25 segments.

DISTRIBUTION: Alaska to California; littoral zone.



Figures from Hartman, 1969

SCAMIT Code: MBC 38

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hobson & Banse, 1981
Imajima & Hartman, 1964
Okuda & Yamada, 1954
Uschakov, 1955

DIAGNOSTIC CHARACTERISTICS:

1. Thoracic setigers 17; about 40 abdominal segments
2. Notosetae not obviously dentate; but under oil immersion striations appear, giving a "fuzzy" look.
3. Uncini from setiger 2; in double rows in posterior thorax, the toothed edges facing each other (Fig. 1).
4. Branchiae two pairs, with short stems and short, wide terminal tufts.

RELATED SPECIES AND DIFFERENCES:

Nicolea zostericola: thoracic setigers 15

Nicolea chilensis: thoracic setigers 18

Nicolea gracilibranchis: branchiae with elongate stems (see illustration); differences in uncinal dental formulae and morphology of nephridial papillae.

REMARKS: This species will key to Scionides in Hartman's Atlas, but it differs in number of branchiae (3 vs. 2) and other features (Banse, 1980).

DISTRIBUTION: Central and southern California; shelf depths.

Fig. 1 from Hobson & Banse,
1981



Polychaetous Annelids from Matsushima Bay

Okuda & Yamada, 1954

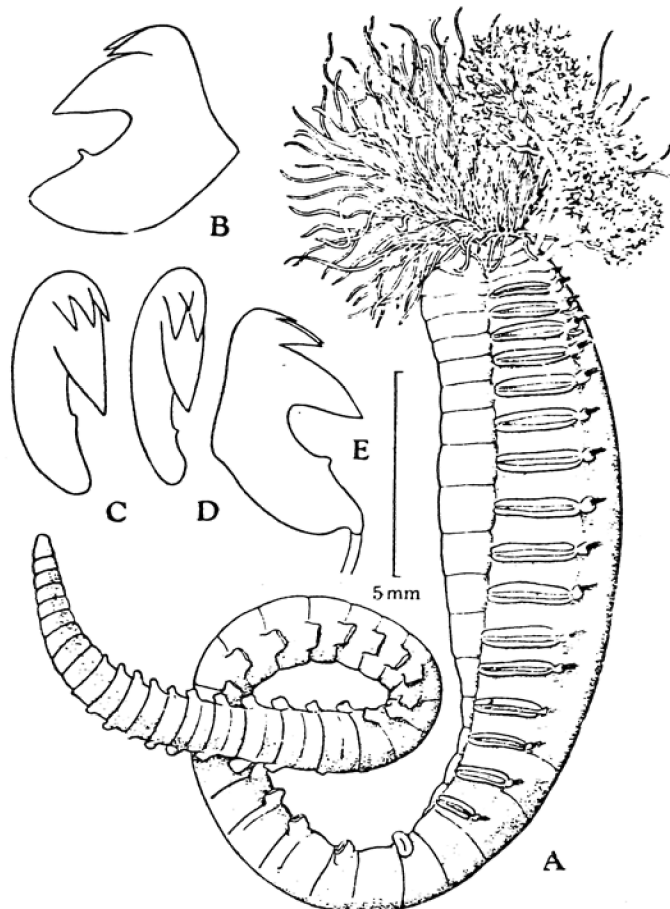


Fig. 9. *Nicolea gracilibranchis* Grube. A, Lateral view of entire body; B, Uncini from thoracic segments; C-E, Uncini from abdominal segments.

Pista alata Moore, 1909
Terebellidae

Vol 4, No. 11

SCAMIT Code: PL 61
CMM 10

Date Examined: November 12, 1985
Voucher by: Susan Williams

LITERATURE: Hartman, 1969
Moore, 1909

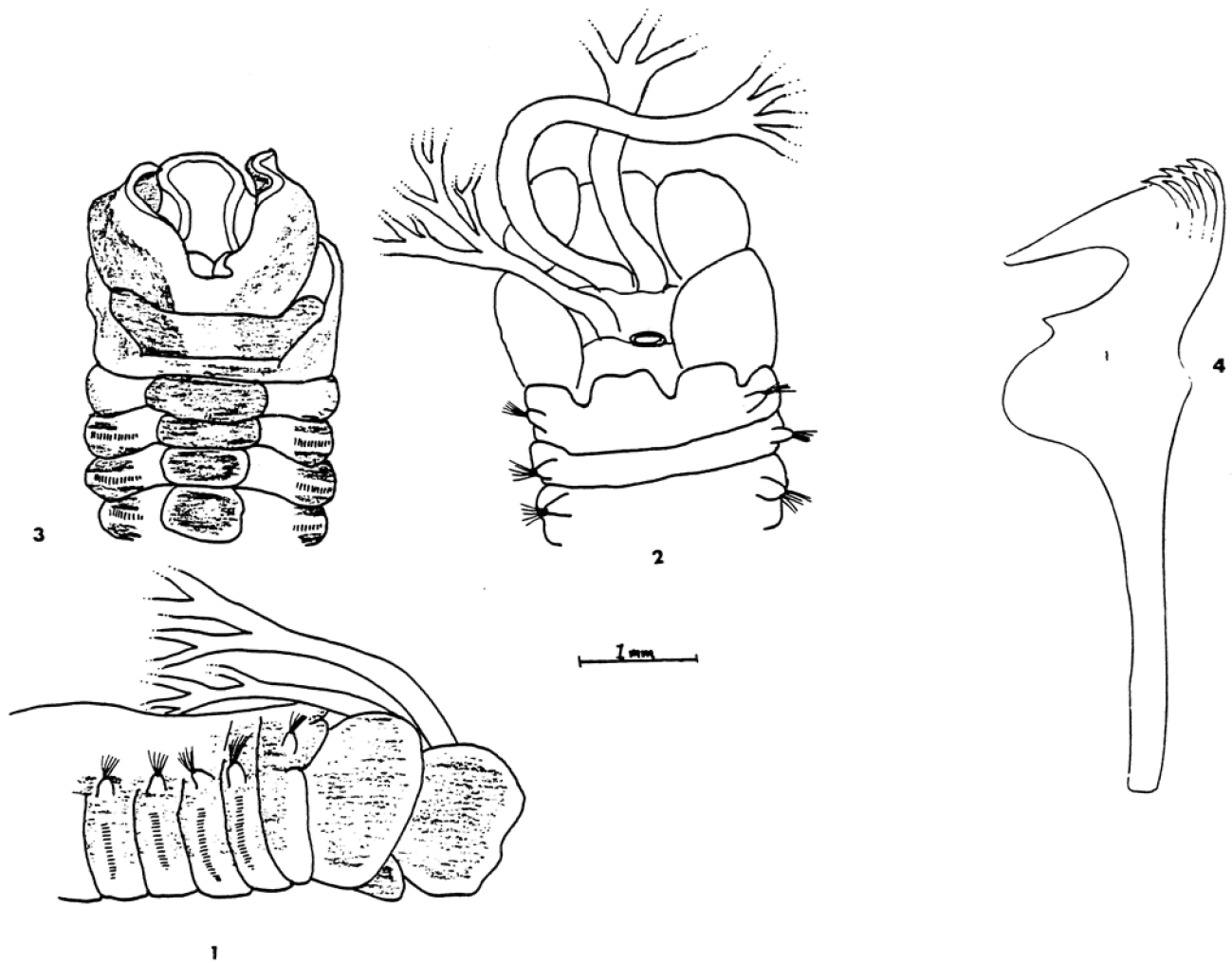
DIAGNOSTIC CHARACTERS:

1. Thorax with 17 setigers; uncini from setiger 2, in double rows from setiger 7.
2. Anterior thoracic uncini with long handles (Fig. 4); posterior uncini have only a short remnant, if any.
3. Lateral lappets largest on segments 1 and 3 (Fig. 1).
4. Transverse shelf with a median forward projection across dorsum of setiger 1 (Figs. 1, 2).
5. Branchiae 2 pairs: each with a long trunk which divides 3-5 times and again several times to resemble a plume. NOTE: length of trunk may vary from short to long.
6. Methyl green staining (Figs. 1, 3): note that stain does not completely encompass unical tori and that the dorsum stains only through setigers 2-3.

RELATED SPECIES AND DIFFERENCES:

Pista alata may be distinguished from other Pacific species by the characteristic dorsal transverse shelf.

DISTRIBUTION: Central and southern California; intertidal and shelf depths.



Figures 1, 2, 3 original; shaded areas are methyl green staining pattern

Figure 4 from Hartman, 1969

Pista disjuncta Moore, 1923
Terebellidae

Vol 4, No. 11

SCAMIT Code: OC 60

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969
Moore, 1923

DIAGNOSTIC CHARACTERS:

1. 17 thoracic setigers; body robust; dorsum of first 5 segments deep brown.
2. Branchiae 2 pairs, widely separated medially; very bushy and large. Stalk short, thick, divides abruptly into several branches, then subdivides immediately. Branches long, low, spreading, densely crowded.
3. Anterior thoracic uncini with long handles; in posterior thoracic segments the handles are reduced and "replaced by a delicate ligament" (Moore, 1923, p. 195).
4. Lateral lappets of moderate size on segments 3 and 4, distally rounded. Segment 2 has small lappets at the neuropodial level (Fig. 1).
5. Methyl green staining of special note: Uncinal tori encircled by green, ventral scutes basically solid (Fig. 2); dorsum of thorax strongly stained (Fig. 1).

RELATED SPECIES AND DIFFERENCES:

Pista nr. disjuncta: lappets more pointed; minute eye-spots on outer margin of tentacular lobe; pale, less robust; shallow water form.

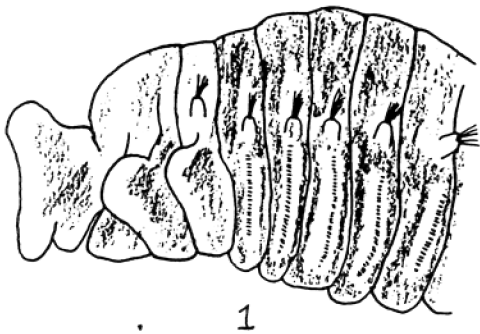
Pista elongata, P. pacifica, P. moorei: 3 pairs branchiae

Pista sp B: one pair branchiae

Pista alata: transverse dorsal shelf at setiger 1

REMARKS: This species was previously known as Pista nr. fasciata (BLM Project)

DISTRIBUTION: California; in deeper shelf and slope depths.



1



2

(Branchiae not shown)

Pista nr. disjuncta Moore, 1923
Terebellidae

Vol 4, No. 11

SCAMIT Code: OC 61

Date Examined: November 12, 1985
Voucher by: Susan Williams

LITERATURE: Hartman, 1969
Moore, 1923

DIAGNOSTIC CHARACTERISTICS:

1. 17 thoracic setigers; body usually pale, not so robust/muscular as P. disjuncta.
2. Branchiae 2 pairs; club-gill form, with distal compact tuft of branched filaments.
3. Minute eyespots on outer margin of tentacular lobe: most evident on young or small specimens.
4. Anterior thoracic uncini with long handles; handles reduced in posterior uncini.
5. Lateral lappets on segments 3 and 4 of moderate size, distally pointed; those of segment 2 smaller, rounded at neuropodial level (Fig. 1).
6. Methyl green staining essentially the same as P. disjuncta.

RELATED SPECIES AND DIFFERENCES:

See other voucher sheets and below.

REMARKS: Pista disjuncta and P. nr. disjuncta are obviously closely related and may represent shallow and deep water sympatric species (i.e. isolated by reproductive/ecological factors). They differ in relatively minor ways (lappet structure, eyespots, body form) and, unlike other California Pista species, share essentially the same methyl green staining pattern, but still may be distinguished from each other. Since the two forms are recognizable, I feel they should remain separate.

DISTRIBUTION: California; shallower shelf depths.

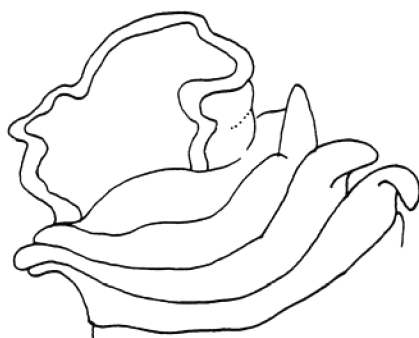


Fig. 1 Ventro-lateral view

SCAMIT Code: CMM 12

Date Examined: November 12, 1985

Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969
Hobson & Banse, 1981
Moore, 1909

DIAGNOSTIC CHARACTERISTICS:

1. 17 thoracic setigers.
2. Thoracic uncini with long handles in anterior segments (Fig. 1); posterior uncini with reduced handles (Fig. 2).
3. Branchiae three pairs, diminish in size posteriorly, arborescently branched.
4. Lateral lappets well-developed on segments 1 and 3; segment 2 reduced (Fig. 3).
5. Tube chitinized, with tessellated top resembling a coarse sponge.

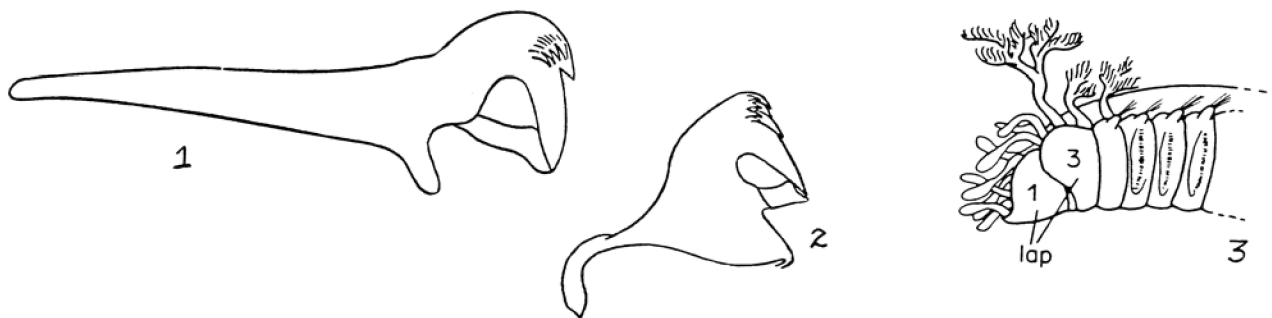
RELATED SPECIES AND DIFFERENCES:

Pista alata, P. disjuncta, P. brevibranchiata: two pairs branchiae.

Pista moorei: branchiae with long stem and rows of branches arranged in a spiral.

Pista pacifica: first thoracic uncini with smooth crown; large lappets on segment 4; posterior thoracic uncini with long handles.

DISTRIBUTION: Southern California to western Canada; littoral, in rocky habitats.



Figs 1,2 from Hartman, 1969
Fig. 3 from Hobson & Banse,
1981

SCAMIT Code: PL 62
HYP 49

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Banse, 1980
Hartman, 1969
Safronova, 1984

DIAGNOSTIC CHARACTERS:

1. Body very linear, less robust than other Pista species.
2. 17 thoracic setigers; all thoracic uncini with long handles.
3. One pair of branchiae; club-shaped, with terminal tuft of simply branched filaments (Fig. 1).
4. Lateral lappets large on segment 2, smaller on segment 3 (Figs. 2, 3).
5. Ventral scutes with dramatic methyl green staining pattern in posterior thorax: half green and half light, sharply demarcated (Fig. 4).

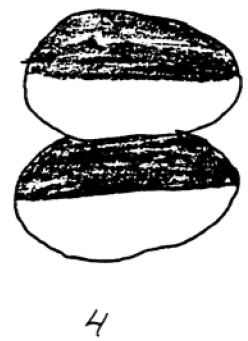
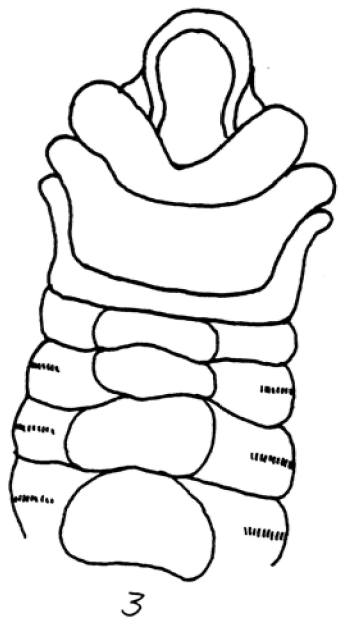
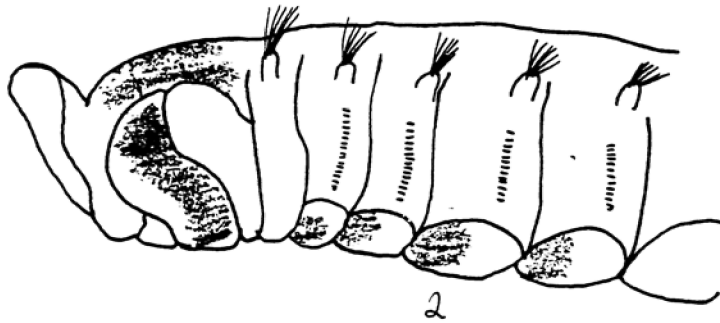
RELATED SPECIES AND DIFFERENCES:

Pista sp B is unique among Pacific species in having only one pair of gills.

REMARKS: This species has probably been confused with Pista cristata in the past, due to similar branchial structure and a broad definition of P. cristata to include 1 or 2 pairs of gills. See Banse, 1980 for a redefinition.

DISTRIBUTION: California; very common in shelf depths.

(Branchiae not shown)



SCAMIT Code: CMM 9

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1944; 1969

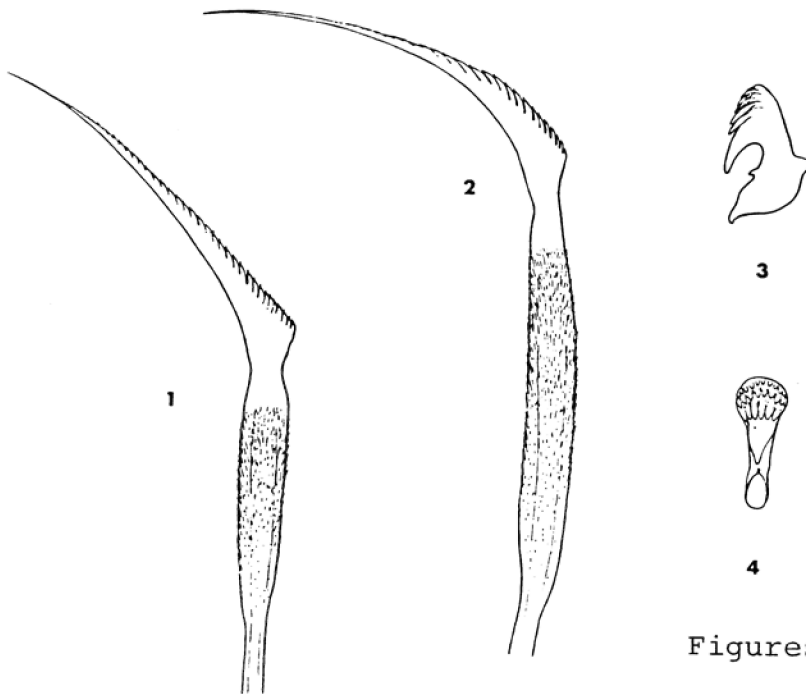
DIAGNOSTIC CHARACTERISTICS:

1. Body consists of 41 thoracic and over 100 abdominal setigers.
2. Peristomium with several dark eyespots.
3. Branchiae absent.
4. Thoracic notosetae of 2 kinds (long & short), both with pectinate ends and swollen, spinous subdistal parts (Fig. 1, 2).
5. Unici present from setiger 2, with large basal tooth and a heavy crest of numerous small teeth (Figs. 3, 4); uncini in double rows from mid-thorax.

RELATED SPECIES AND DIFFERENCES:

Spinosphaera pacifica: Thoracic setigers 23; eyespots absent.

DISTRIBUTION: Central California to western Mexico; intertidal, in rocky habitats.



Figures from Hartman, 1969

SCAMIT Code: OC 59 (in part)

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1961, 1969
Treadwell, 1914

DIAGNOSTIC CHARACTERISTICS:

1. Body markedly coiled
2. Notosetae on 40-50 plus segments; notopodia very reduced on posterior segments.
3. Branchiae on setigers 1-3; tufts of long, simple filaments.
4. Eyespots absent (or not obvious).
5. First 12 segments short and broad, crowded. Ventral scutes through setiger 12/13, biannulate, set off from neuropodia (Fig. 1).
6. Abdominal tori of moderate size, not elongated.
7. Methyl green staining of note: dorsum stains a dark solid green through setiger 10/11 and is darker than the ventrum.
8. Tube reddish brown, coiled (Fig. 2), tough, incorporating coarse material (forams, plant debris, etc.)

RELATED SPECIES AND DIFFERENCES:

Streblosoma sp A: 7-9 pairs of branchiae; deep-water

Streblosoma sp B: fewer thoracic setigers, shorter branchial filaments, abdominal tori elongate, etc. (see voucher sheet).

- REMARKS:
1. The holotype of S. crassibranchia was examined. It is a small (9mm), incomplete juvenile, now dried. Ventral scutes are well-developed through about setiger 14, then less obvious.
 2. The description in Hartman, 1961 appears to refer to a mixture of S. crassibranchia and S. sp B.

DISTRIBUTION: California, shelf depths.

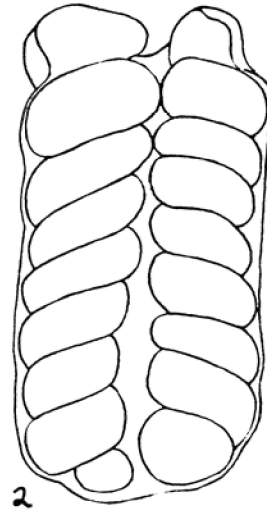
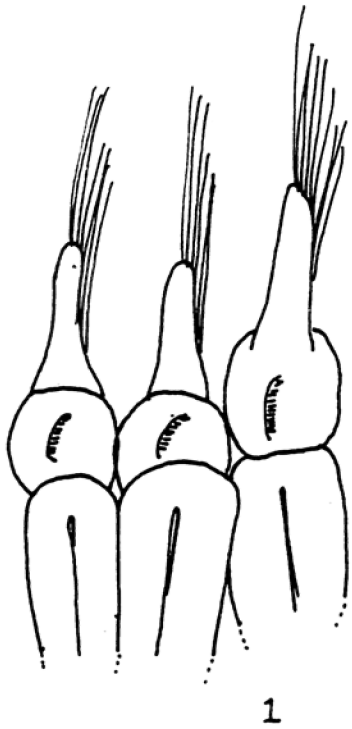


Figure 1 original; Fig. 2 from Hartman, 1969

SCAMIT Code: OC 59 (in part)
LACO 61

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1961; 1969
Treadwell, 1914

Diagnostic Characters:

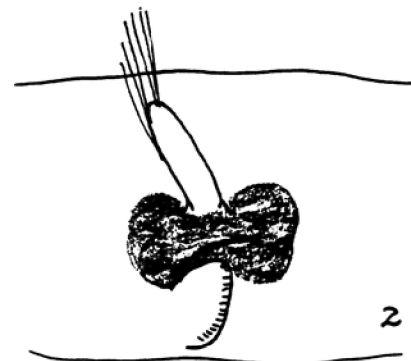
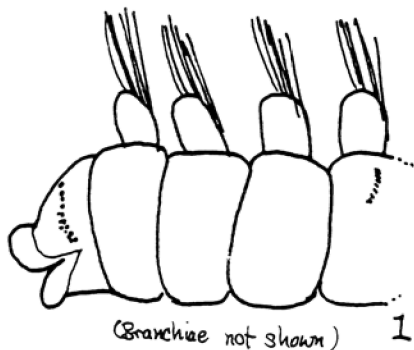
1. Body fairly linear to somewhat coiled.
2. Notosetae on 24-31 setigers.
3. Eyespots present behind tentacular base (Fig. 1).
4. Branchiae on setigers 1-3; simple, short filaments.
5. Broad, continuous ventro-lateral glandular shields through setiger 8/9; then abruptly the ventrum is smooth, with no trace of scutes.
6. Uncinal tori gradually lengthen in posterior thorax and are well-developed pinnules in the abdomen.
7. Methyl green staining of note: ventrum a dark green through setigers 8/9; dorsum a light green; in posterior thorax there is a green patch between notopodium and neuropodium (Fig. 2).
8. Tube gray, silty, coiled.

RELATED SPECIES AND DIFFERENCES:

Streblosoma sp A: 7-9 pairs of branchiae; deep-water.

Streblosoma crassibranchia: notosetae on 40-50 plus segments; no elongation of tori; methyl green pattern with dark dorsum, lighter ventrum.

DISTRIBUTION: California; common in shelf depths.



SCAMIT Code: LACO 62

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Williams, 1984

DIAGNOSTIC CHARACTERISTICS:

1. Thoracic setigers 18; abdominal setigers 30-35
2. First notopodia well-developed, with fine, greatly prolonged notosetae (Fig. A).
3. Uncini begin on setiger 6; the first acicular (Fig. B) and the remaining thoracic uncini long-stemmed with an avicular head surmounted by a crest of small teeth (Fig. C). Thoracic uncini average 25-30 per neuropodium.
4. Branchial lamellae moderately fused, with no anterior extension.

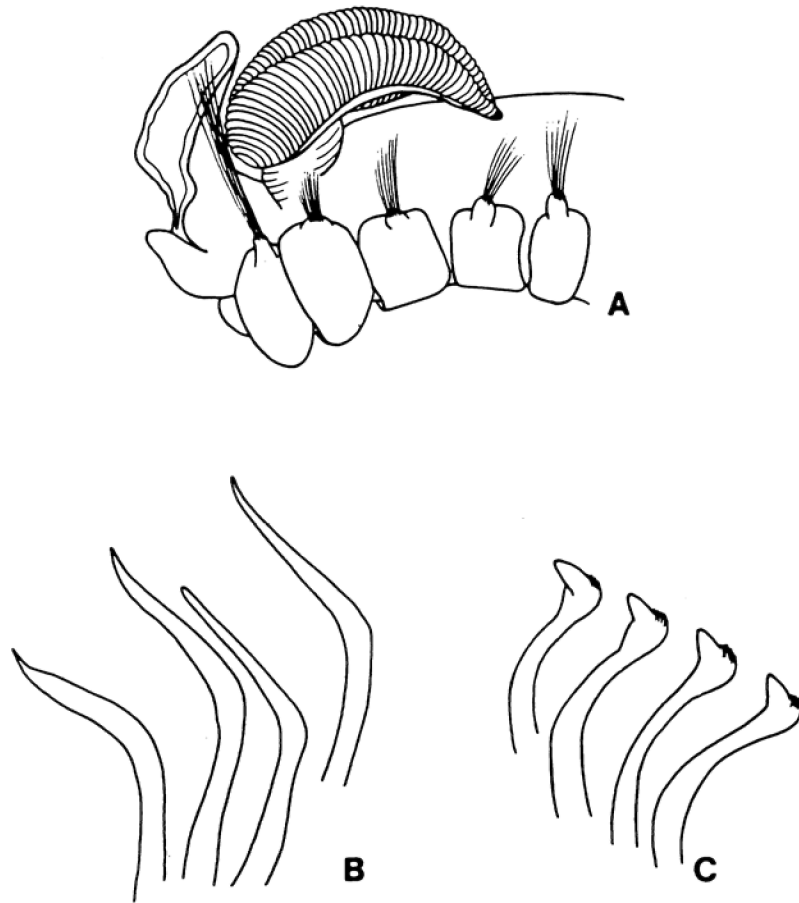
RELATED SPECIES AND DIFFERENCES (California, shelf depths):

Terebellides reishi: First notosetae somewhat reduced; abdominal setigers 40-55.

Terebellides kobei: Anterior extension of branchial structure; setiger 3 with a rounded projection at the level of the notopodium.

Terebellides sp C: Branchiae not fused; first notosetae well-developed but not prolonged; large lappet projection on setiger 2; thoracic uncini average 12 per neuropodium; mature to small (12mm) size.

DISTRIBUTION: Oregon to western Mexico; shelf and slope depths.



Terebellides californica n. sp. A) anterior end, B) acicular setae, setiger 6, C) thoracic uncini.

Figures from Williams, 1984

SCAMIT Code: AHF 41

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969
Johnson, 1901

DIAGNOSTIC CHARACTERISTICS:

1. Notosetae from second branchial segment; continue almost to pygidium.
2. Uncini from setiger 2; absent from extreme end of body.
3. Uncini in flattened rings (Fig. 1) after setiger 5; gradually return to single rows posteriorly.
4. Branchiae 3 pairs, each with many slender filaments.

RELATED SPECIES AND DIFFERENCES:

Thelepus hamatus: branchiae 2 pairs

Thelepus "setosus" complex: thoracic uncini occur in straight rows.

DISTRIBUTION: Alaska to California; intertidal and littoral depths.



Figure from Hartman, 1969

SCAMIT Code: MBC 37

Date Examined: November 12, 1985
Voucher by: Susan Williams (AHF)

LITERATURE: Hartman, 1969
Hobson & Banse, 1981

DIAGNOSTIC CHARACTERISTICS (NE Pacific variety):

1. Notosetae from second branchial segment, present on about 50 segments; absent from about last 40-plus segments.
2. Uncini from setiger 3; thoracic uncini in straight rows (Fig. 1).
3. Branchiae three pairs, each with many simple filaments (Fig. 2).
4. Numerous eyespots behind tentacular bases.

RELATED SPECIES AND DIFFERENCES:

Thelepus hamatus: two pairs branchiae

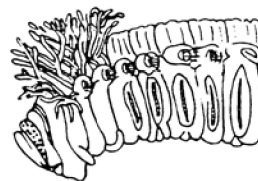
Thelepus crispus: thoracic uncini in flat rings.

REMARKS: Thelepus setosus has long been regarded as a cosmopolitan species, but really isn't. Hutchings and Glasby's review of the Telepinae will be published soon in the Proceedings from the Pettibone Symposium (Proc. Biol. Soc. Wash.) and should provide guidelines for defining our California species.

DISTRIBUTION: British Columbia to California; in shelf depths.



1



2

LITERATURE: TEREBELLIDAE (POLYCHAETA)

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