



**Southern California Association of  
Marine Invertebrate Taxonomists**

3720 Stephen White Drive  
San Pedro, California 90731

October 1984

Vol. 3, No. 7

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Next Meeting:	November 19, 1984
Specimen Exchange Group:	Anomalodesmata (Pandoridae, Lyonsiidae, Periplomatidae, Thraciidae, Poromyidae, Cuspidariidae, Venticordiidae)
Topic Taxonomic Group:	Natantian decapods

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MINUTES FROM OCTOBER 15, 1984

A Visit From Chevron: Roslyn Muller flew down from San Francisco to attend the meeting. Roslyn works for Chevron USA, Inc. and has been instrumental in helping us obtain financial support from this and other oil corporations. Her efforts have paid off; she called on October 16th with news that our proposal was accepted by Chevron and a check for \$2500 will be in the mail by November.

Roslyn gave us a brief description of Chevron's biological activities and why they are supporting SCAMIT. Chevron conducts oil exploration off Santa Barbara and must prepare Environmental Impact Reports and Statements. This environmental work is contracted to various consulting firms (e.g. Dames and Moore, McLellan Engineers). Collections of organisms from these studies are housed at the Santa Barbara Natural History Museum. The work of SCAMIT is useful to both environmental firms and the museum, therefore SCAMIT indirectly helps Chevron. Because other oil corporations engaged in similar environmental studies also benefit from SCAMIT's work, Chevron has solicited support from these other companies in behalf of SCAMIT. Our sincere thanks go to the personnel of the Chevron corporation!

Error on September's Voucher Sheet: Some of you may have noticed the Cirratulidae voucher sheets included verbatim descriptions from Hartman's 1969 Atlas. This was an error; they were included by mistake and not caught prior to distribution of the newsletter. Sincere apologies from the SCAMIT officers.

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copy right  
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New Baby: The newest SCAMIT F<sub>2</sub> arrived September 28, 1984 weighing in at 6 lbs. 12 oz. Her name is Maile Ann and mom and dad are Cathy Crouch (SCAMIT secretary) and Steve Bay. Congratulations to both!

Taxonomic Notes:

Bivalves: Dave Montagne noticed that the "catalogue of the Living Bivalvia of the Eastern Pacific Ocean" by Bernard (1983) uses different nomenclature than that commonly used in southern California, including some species that we have discussed during SCAMIT meetings. We decided to discuss this at the December meeting when a mollusk topic group will be examined. For those of you who are interested in mollusks, review Bernard's work and plan to attend the meeting. There undoubtedly will be lively discussion!

Polychaetes: Two important nomenclatural changes have been made regarding the family Paraonidae. Hartley (1981) noted that the generic name Acesta is preoccupied by a bivalve genus, and therefore suggests that Acesta be replaced by the name Acmira. Secondly, revisions by Strelzov (1979) have resulted in a ICZN ruling (Melville, 1979) whereby the generic name Tauberia is now a junior synonym of the genus Levinsenia. Simply put, Acesta now is Acmira, and Tauberia now is Levinsenia.

Hartley, J.P. 1981. The family Paraonidae (Polychaeta) in British waters: A new species and new records with a key to species. J. Mar. Biol. Ass. U.K. 61:133-149

Melville, R.V. 1979. Opinion 1139 Paraonis Grube, 1873 (Polychaeta, Paraonidae): Designation of a type species under the plenary powers. Bull. Zool. Nomen. 36:114-118

Strelzov, V.E. 1979. Polychaete worms of the family Paraonidae Cerruti, 1909 (Polychaeta, Sedentaria). New Delhi: Amerind Publishing. 212pp.

Specimen's Wanted: Tony Phillips and John Dorsey are looking for eyeless Ehlersia and a new species that they are preparing for description at the December WSN meeting. If you have any of these critters, they would like to look at them. Please bring any specimens to the next meeting or, if you can't make it, contact Tony or John at (213) 322-3131 ext. 269 or 772-3394 ext. 269.

Help Wanted: Curatorial Assistant - Los Angeles County Museum of Natural History. The Los Angeles County Museum of Natural History (LACM) is seeking a full-time Curatorial Assistant to work in the newly established Section of Invertebrates. Candidates should have a B.S. or M.S. degree in biology (or equivalent), some training in crustacean systematics (experience with peracarids would be especially useful), experience working with natural history collections, and some experience with computers, although the latter is not essential. Duties will consist primarily of management of the invertebrate collections, which at this time are largely crustaceans. The position is with the County of Los Angeles and includes excellent fringe benefits; starting salary range is \$1540-\$1919/mo. Contact Dr. Richard C. Brusca (Curator of Invertebrates), Los Angeles County Museum of Natural History, Exposition Park, Los Angeles, CA 90007 (213) 743-2019.

\* Christmas Party:  
SCAMIT will have a Christmas party on December 15th. Plans will be made at the next meeting.

↓ Helpful Hints: A good supplier of dissecting instruments was suggested by the Point Loma folks. They have found that Fine Science Tools, Inc. has an excellent selection and good prices. For a catalog write to them at Unit #10, 1512 Industrial Way, Belmont, CA, 94002 or call (800) 521-2109 or (415) 595-2323 (collect).

List of Specimens from October 15, 1984:

HYP37 Listriella diffusa  
LACO38, SCCWRP44 Listriella goleta  
LACO37 Listriella melanica  
MBC23 Synchelidium rectipalmum  
SCCWRP45 Synchelidium shoemakeri  
PL52, MBC21 Westwoodilla caecula  
HYP36 Monoculodes hartmanae  
MBC22 Monoculodes norvegicus

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Travels with Olga:  
24 Queensberry Place SW 7  
26 July 1939

Dear Frieda and Chauncey: A mail boat must have arrived in port yesterday. At least, I have several interesting letters, including one from you and one from Albert. I am getting so far behind, and pressed for time, that I shall have to ask you and Albert to exchange letters, or I will not be able to keep up.

London is a continuous series of interesting experiences for me. Every day seems to be unique. I am glad to have Monro's influence, but he leaves for a month and a half on a vacation after this week. Hence I like to discuss with him as much as possible while he is here. We get along very well together, even though we disagree on several important points. I will not be so at ease with Farwel (Anjers, France) for he is a much older man, rather retiring, and will not speak English. Monro is a typical Englishman. (I do not know what that means to you, but I have had to change my ideas from the ones I formed of "abnormal Englishmen" who have gone to America.) Monro is both clever and jovial, and a gentleman! I value his opinions and criticisms a good deal, and often find myself at the wrong end of the stick in a discussion.

London means very much more to me now than it did a week ago. I have traveled a great deal in it, always choosing some other spot after 5 PM, when I must leave the Br. Mus. Often I go through Piccadilly Circus (circle, in our sense), past famous Hyde Park, the world-known Ritz Hotel (strangely uniformed lackeys, and doormen) with its St. James' Park adjacent, beautiful Regent Street, Trafalgar Square, Leicester Square (pronounced le ces' ter), Pall Mall, etc. One of the most striking sights to see in London's streets these days is "trenches".

They are unsightly ditches, dug deep enough to contain a concrete (steel reinforced) channel to which the population may run in case of bombardment. The people express themselves variously on them. Some think trenches are the only sure means of defense. Others hate the beastly sight of them and think England is wasting good money. You can't help but form an opinion since every little, or big, park (and they are legion) has its trenches. Sunday I went to Regent Park (Zoological Park, Queen Mary's Gardens, Open Air Theatre, etc.) and there were the trenches. I went also to the Kew Gardens, in another section of London. They were fully as beautiful as reputed to be. I was most impressed with the wonderful, varied and numerous hollies. One sees even Californian redwoods in Kew Gardens. There are Italian Gardens, Chinese pagodas, etc., etc.

I am still having to learn how to eat and order food in London. Perhaps by the time I leave I shall know. There is no such thing as a restaurant for breakfasts. "Morning coffee" (and what coffee??), yes, but few have it. Breakfasts are eaten in English homes. For lunch there is the "Snack Bar" (cold sandwiches, "sweets" and tea). "Sweets" include all kinds of pastries, and such assortments as I have not seen before. Afternoon teas, which everyone has, comes anywhere between 4PM and 7:30 or 8 PM. It may be anything from a cup of tea, to high tea, which is practically a complete meal. Dinner comes only after 7 PM. I find that I can have high tea at about 6 or 7 PM and get quite enough. A dinner 2 or 3 times a week suffices. Thus, you see, how different

from American. Saloons common, often women frequenting the bar, but a preponderance of men.

Common sights: Policemen riding bicycles; well dressed women (no slacks on English women), street musicians, "hawkers" (neo-beggars); miniature automobiles; horse-drawn vehicles or more often man-propelled carts; gooseberries the size of plums; high cost of foods. Our American dollar has suffered greatly in devaluation. It does not go far in England.

Our oranges are from South Africa!

KEY TO SPECIES OF SOUTHERN CALIFORNIA LISTRIELLA

BY

ANN MARTIN  
HYPERION TREATMENT PLANT  
12000 Vista del Mar  
Playa del Rey, Ca. 90291

1. Third pleon epimeron not notched, inner ramus of uropod 3 very elongated (greater than three times as long as the outer).....eriopisa  
Third pleon epimeron notched, inner and outer rami equal or subequal in length.....2
2. Rami of uropod 3 long, approximately twice as long as peduncle.....3  
Rami of uropod 3 short, equal to or slightly longer than peduncle.....4
3. Antenna long, sweeping past gnathopods, pigmentation and eyes present.....goleta  
Antenna short, just reaching gnathopod 1, lacking pigmentation and eyes.....albina
4. Characteristic band of pigment present on article 2 of antenna 1, slender pereopod 7 and uropod 3 rami....melanica  
Lacking band of pigment on article 2 of antenna 1, wide or "paddle" shaped pereopod 7 and uropod 3 rami..diffusa

PROCEEDINGS OF THE FIRST INTERNATIONAL POLYCHAETE CONFERENCE,  
SYDNEY, AUSTRALIA, JULY 1983.

Published by The Linnean Society of New South Wales

Edited by P.A. Hutchings.

Date of Publication January 1985.

The Proceedings contain over 30 refereed papers on the Systematics, Biogeography, Reproductive Ecology, Feeding Biology, Functional Morphology, Physiology and Ecology of Polychaetes and is essential to any polychaete worker or benthic ecologist. The contributors represent a wide cross section of International Polychaete Workers.

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ORDER FORM

Please supply    copies of The Proceedings of the First International Polychaete Conference, held at The Australian Museum, Sydney July 1983 and edited by P.A. Hutchings to:-

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Costs: Aust. \$35 (post free) if ordered and paid for before 31st December 1984 and Aust. \$45 (post free) thereafter. Please make cheques payable to the Linnean Society of New South Wales and mail to:

Mrs Barbara Stoddard,  
The Honorary Secretary,  
Linnean Society of New South Wales,  
P.O. Box 457,  
Milsons Point, N.S.W. 2061 Australia

SCAMIT Code: HYP37

Date examined: October 15, 1984

Literature:

Barnard, J.L. 1959. Liljeborgiid amphipods of southern California coastal bottoms, with a revision of the family. Pac. Nat. 1:12-28.

Diagnostic Characters:

1. Dark pigment pattern well retained on coxal plates, gnathopods, and pereopods 5-7 (Fig. 1 and 2); no pigment on antenna 1.
2. Antennae short (barely reaching gnathopods).
3. Rami on uropod 3 tear-drop shaped, short and broader than other species (Fig. 3).
4. Articles 4,5, and 6 on pereopod 7 broad.

Variability:

The intensity of pigment in preserved specimens varied from very dark to barely visible. Pereiopod 7 and uropod rami vary in broadness, but uropod rami retain their characteristic tear-drop shape.

Related species and character differences:

This species is difficult to distinguish from L. melanica; the pigment pattern, broad pereiopod 7 and shape of uropod 3 rami are good characters to separate the two species.

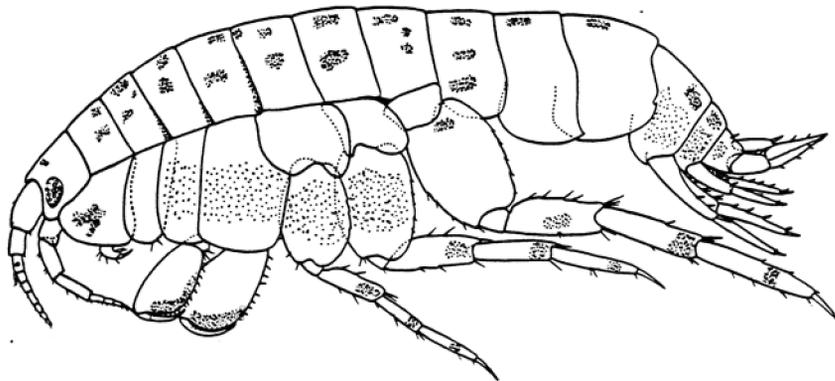


Fig. 1. Female L. diffusa (From Barnard, 1959).

Depth range: 25m - 60m

Distribution:

Pt. Conception to the Mexican Border

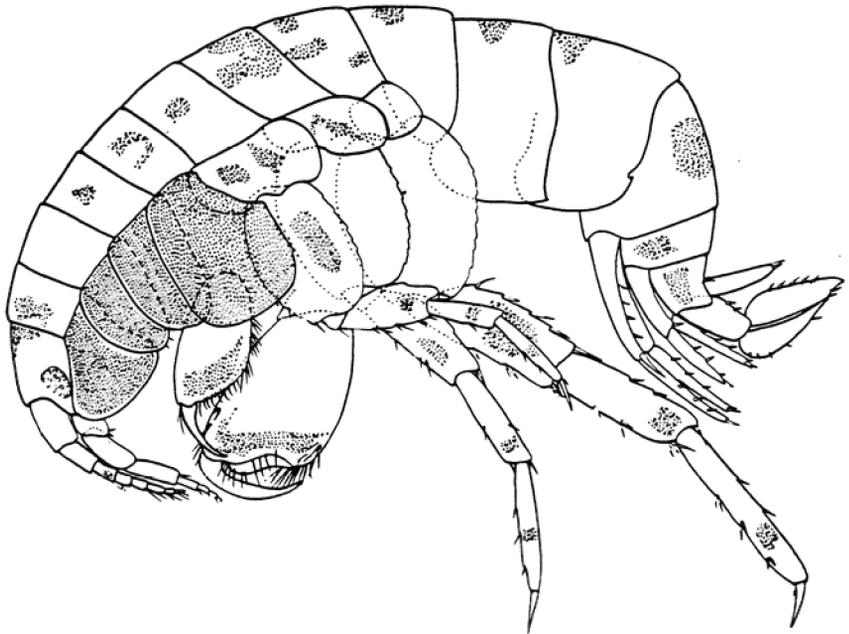
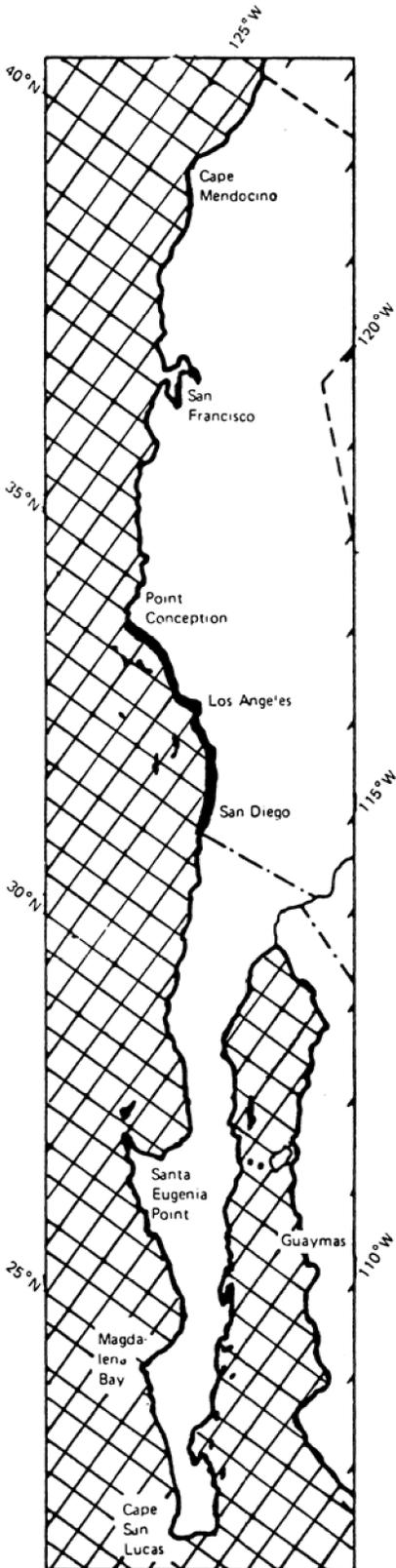


Fig. 2. Male L. diffusa (From Barnard, 1959).



Fig. 3. Male uropod 3 (From Barnard, 1959).

SCAMIT Code: SCCWRP44

Date examined: October 15, 1984  
Voucher By: Ann Martin

Literature:

Barnard, J.L. 1959. Lijeborgiid amphipods of southern California coastal bottoms, with a revision of the family. Pac. Nat. 1:12-28.

Diagnostic characters:

1. Pigment pattern in bands (Fig. 1).
2. Rami elongated in uropod 3 (greater than two times the peduncle length).
3. Antennae long, sweep past gnathopods.
4. Each lobe of telson terminates with three or four spines (Fig. 2).

Variability:

The pigment pattern exhibits varying degrees of intensity from very prominent to almost non-existent.

Related species and character differences:

Listriella goleta most closely resembles L. albina, but it has pigment and eyes that are lacking in L. albina.

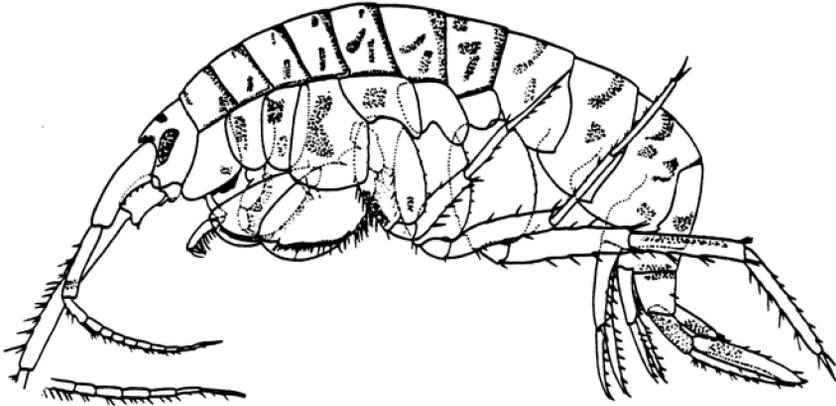


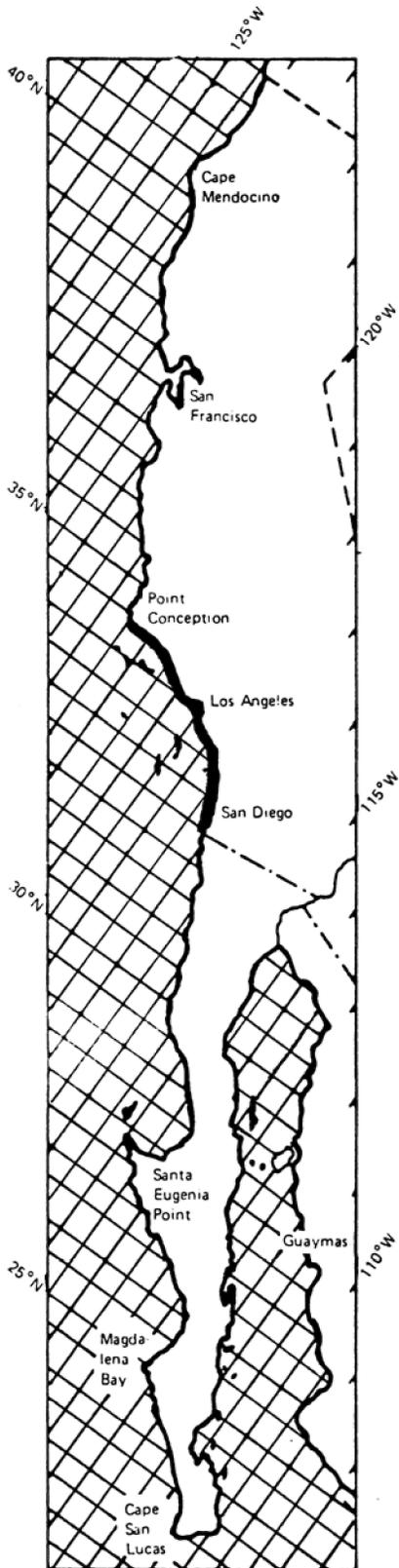
Fig. 1. Female L. goleta (From Barnard, 1959).



Fig. 2. Telson (From Barnard, 1959).

Depth range: 30 to 100m but most common at 60m.

Distribution:  
Pt. Conception to the Mexican Border



SCAMIT Code: LAC037

Date examined: October 15, 1984  
Voucher By: Ann Martin

Literature:

Barnard, J.L. 1959. Liljeborgiid amphipods of southern California coastal bottoms, with a revision of the family. Pac. Nat. 1:12-28.

Diagnostic characters:

1. Alcohol bleached specimens with band of pigment on article 2 of antenna 1 (Fig. 1).
2. Male gnathopod palm very oblique, excavated (Fig. 2).
3. Rami on uropod 3 subequal in length, slender, slightly longer than peduncle.
4. Segments 4-6 of pereopod 7 slender.

Related species and character differences:

Listriella melanica is best distinguished from L. diffusa by having an antennal pigment band and slender pereopod 7 and uropodal rami.

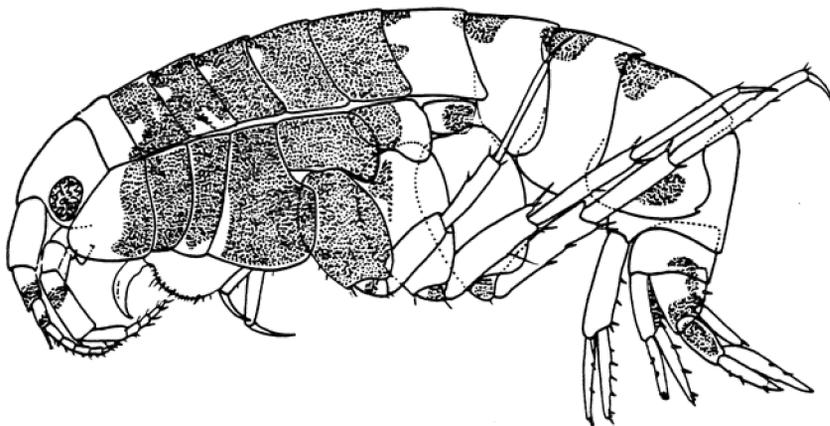


Fig. 1. Female L. melanica (From Barnard, 1959).

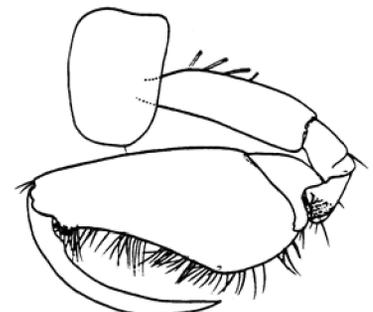


Fig. 2. Male gnathopod 2 (From Barnard, 1959).

Depth range: 10m, 30m.

Distribution:  
Pt. Conception to the Mexican Border.

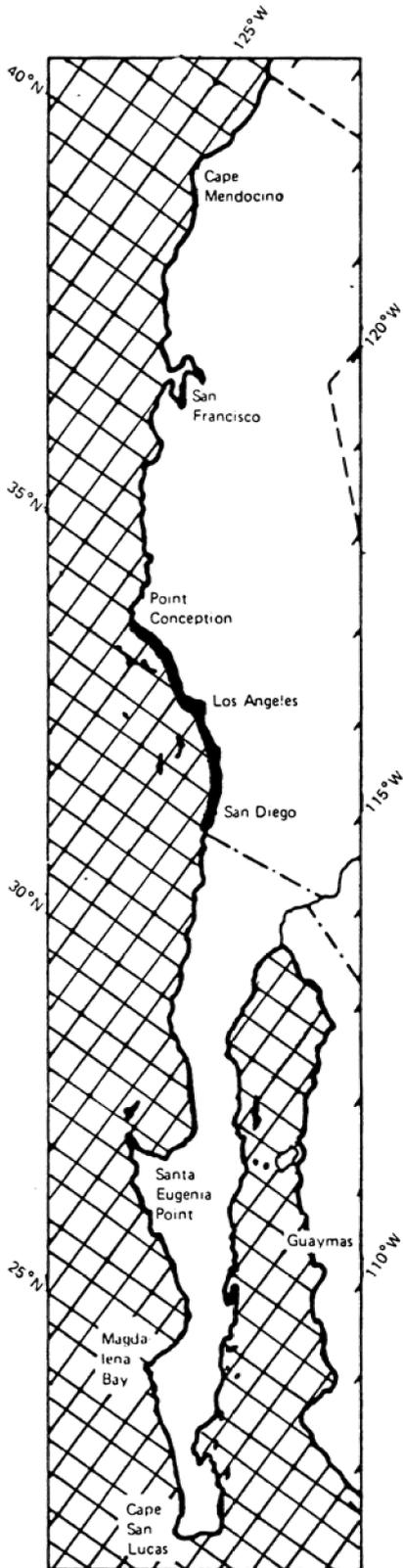
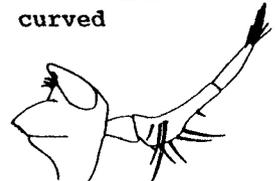


CHART FOR GENERA OF COMMON SOUTHERN CALIFORNIA OEDICEROTIDAE

BY

ANN MARTIN  
 HYPERION TREATMENT PLANT  
 12000 Vista del Mar  
 Playa del Rey, Ca. 90291

CHARACTER	MONOCULODES	WESTWOODILLA	BATHYMEDON (1)	SYNCHELIDIUM (2)
Gnathopod 1, art. 5	long or short but not always guarding art. 6 	scarcely lobed 	moderately lobed 	well developed lobe guarding art. 6 
Gnathopod 2, art. 5	long and guarding art. 6 	scarcely lobed 	lobe becoming obsolescent 	not lobed, but gn distinctly chelated 
Mandibular palp, art. 2	not curved 	curved 	not as curved as <u>Westwoodilla</u> 	not curved 
Mandible: cutting edge; molar	projecting and toothed; large and ridged 	poorly projecting, poorly toothed; large and ridged 	not projecting; large and ridged 	Projecting and toothed; small and not ridged 

(1) From Barnard, J.L. 1967. Bathyal and abyssal Gammaridean Amphipoda of Cedros Trench. U.S. Nat. Mus. Bull. No. 260:205p.

(2) From Mills, E.L. 1962. Amphipod crustaceans of the Pacific coast of Canada, II. Family Oediceratidae. Nat. Hist. Papers, Nat. Mus. Canada. 15:1-21.

SCAMIT Code: HYP36      Date examined: October 15, 1984  
Voucher By: Ann Martin

Literature:

Barnard, J.L. 1962. Benthic marine amphipoda of southern California: Family Oedicerotidae. Pac. Nat. 3:251-371.

Diagnostic characters:

1. Body small, no pigment pattern.
2. Stout deflexed rostrum with eye filling much of it (Fig. 1).
3. Gnathopod 2 with lobe on article 5 reaching to palm of article 6.
4. Gnathopod 2 with slender lobe on article 5 reaching to palm of article 6; article 5 slender on both gnathopods (Fig. 2).

Variability:

The head varies in shape (Fig. 3).

Related species and character differences:

Barnard (1959) noted that M. hartmanae is closely related to M. nyei, but the latter has a more elongate hand on gnathopod 2 and has originally described from Florida and Brazil.

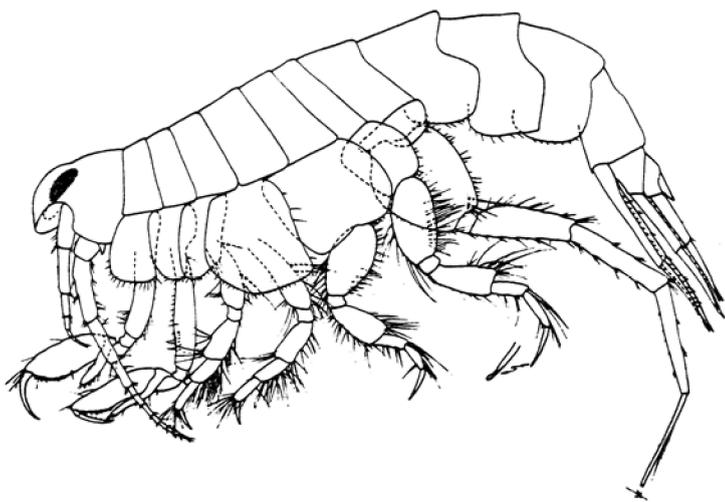


Fig. 1. Female M. hartmanae  
(From Barnard, 1962).



Fig. 2. Gnathopods 1 and 2  
(From Barnard, 1962).

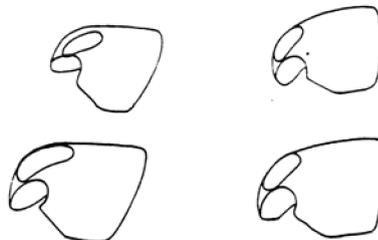
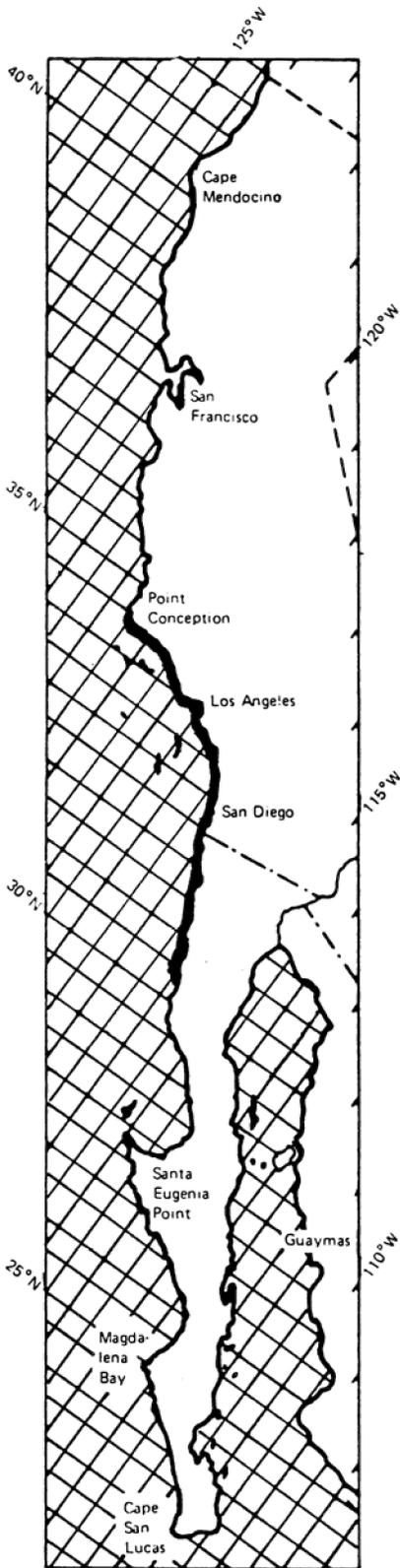


Fig. 3. Variation in head  
shape (From Barnard, 1962).

Depth range: 2-100m

Distribution:

Pt. Conception, California, to Bahia de San Quintin, Baja California



SCAMIT Code: MBC22

Date examined: October 15, 1984

Voucher By: Ann Martin

Synonymy: Monoculodes sp. A (sensu Martin)

Literature:

Sars, G.O. 1895. Amphipoda. IN: An account of the crustacea of Norway with short descriptions and figures of all the species. Christiania and Copenhagen. 1:i-viii, 1-711.

Diagnostic characters:

1. Rostrum acutely pointed, as long as rest of head (Fig. 1).
2. Pigment frequently present, pattern similar to Westwoodilla caecula.
3. Lobe on article 5 of gnathopod is as broad as article 6 is wide (Fig. 2.).
4. Telson convex, but may be slightly emarginate.

Related species and character differences:

Monoculodes norvegicus is similar in appearance to Westwoodilla caecula because of the pigmentation, size, and head shape; M. norvegicus is distinguished by the characteristic gnathopods (Fig. 2 and 3).

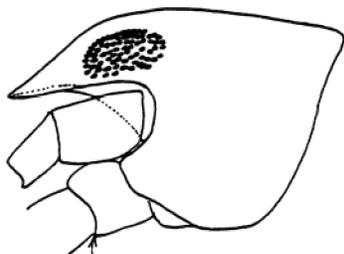


Fig. 1. Head of M. norvegicus.

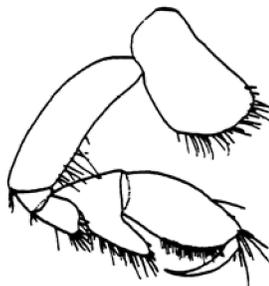


Fig. 2. Gnathopod 1.

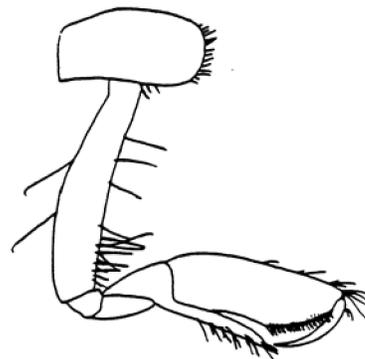
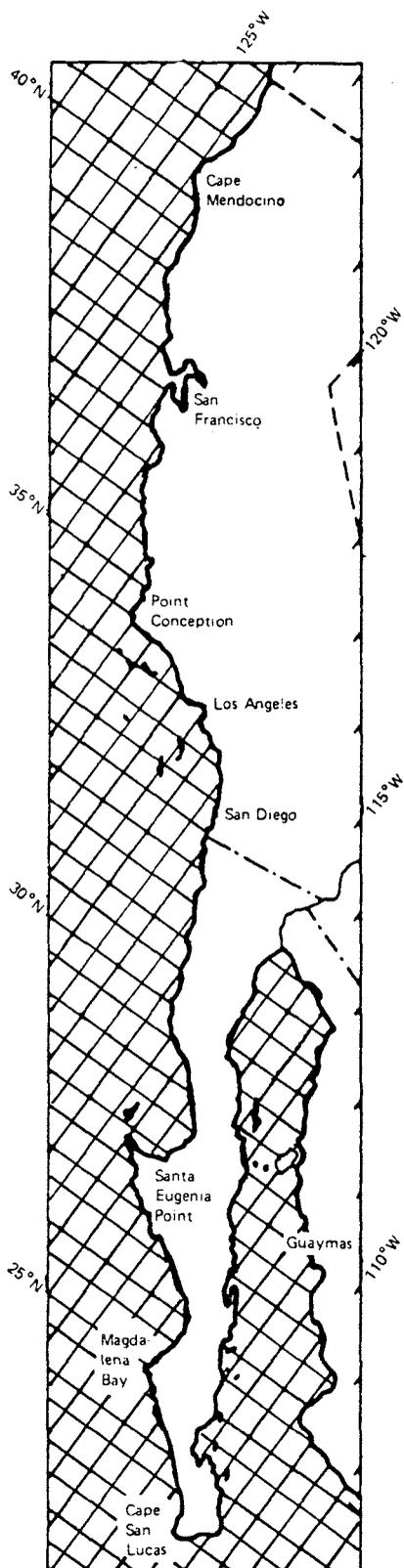


Fig. 3. Gnathopod 2.

Depth range: 45m - 600m.

Distribution:  
Cosmopolitan.



SCAMIT Code: MBC23

Date examined: October 15, 1984

Voucher By: Ann Martin

Literature:

Barnard, J.L. 1975. Identification of Gammaridean amphipods. p. 313-366. IN: R.I. Smith and J.T. Carlton, Eds. Light's Manual: Intertidal Invertebrates of the Central California Coast. Third Edition. University of California Press, Los Angeles, CA.

Mills, E.L. 1962. Amphipod crustaceans of the Pacific coast of Canada, II. Family Oedicerotidae. Nat. Hist. Papers, Nat. Mus. Canada. 15:1-21.

Diagnostic characters:

1. Gnathopod 1 palm transverse (Fig. 1).
2. Dactyl of gnathopod 2 long, at least 0.3 times length of article 6 (Fig. 2).
3. Posterior margin of article 2 of pereopod 7 with long setae (Fig. 3).

Related species and character differences:

Synchelidium rectipalmum resembles S. shoemakeri but differs in the transverse palm of gnathopod 2, long dactyl of gnathopod 2, and long setae on pereopod 7.

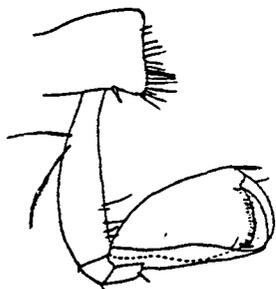


Fig. 1. Gnathopod 1  
(From Mills, 1962).



Fig. 2. Gnathopod 2  
(From Barnard, 1975).

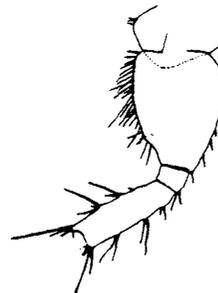
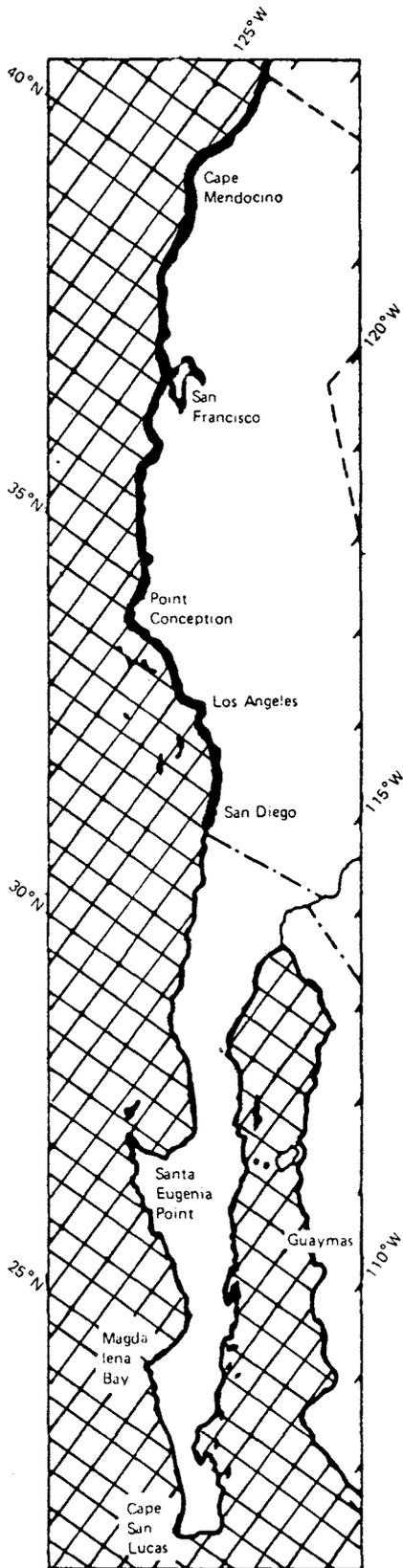


Fig. 3. Articles 2,  
3, and 4 of pereopod 7.

Distribution:  
Puget Sound to San Diego



SCAMIT Code: SCCWRP45 Date examined: October 15, 1984  
Voucher By: Ann Martin

Literature:

Barnard, J.L. 1975. Identification of Gammarid Amphipods. p. 316-366. IN: R.I. Smith and J.T. Carlton, eds. Light's Manual: Intertidal Invertebrates of the Central California Coast. Third Edition. University of California Press, Los Angeles, CA.

Mills, E.L. 1962. Amphipod crustaceans of the Pacific coast of Canada, II. Family Oedicerotidae. Nat. Hist. Papers, Nat. Mus. Canada. 15:1-21.

Diagnostic characters:

1. Gnathopod 1 palm oblique (Fig. 1).
2. Gnathopod 2 dactyl short, about 0.2 times the length of article 6 (Fig. 2).
3. Posterior margin of article 2 of pereopod 7 with very short setae (Fig. 3).

Related species and character differences:

Synchelidium shoemakeri resembles S. rectipalmmum but differs in the oblique palm of gnathopod 2, short dactyl of gnathopod 2, and short setae on pereopod 7.

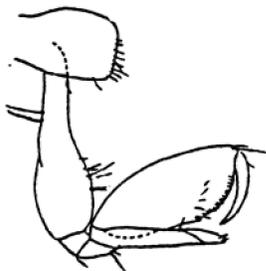


Fig. 1. Gnathopod 1  
(From Mills, 1962).



Fig. 2. Gnathopod 2  
(From Barnard, 1975).

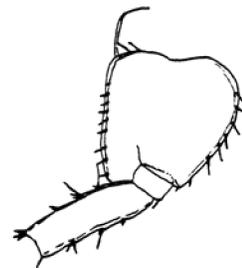
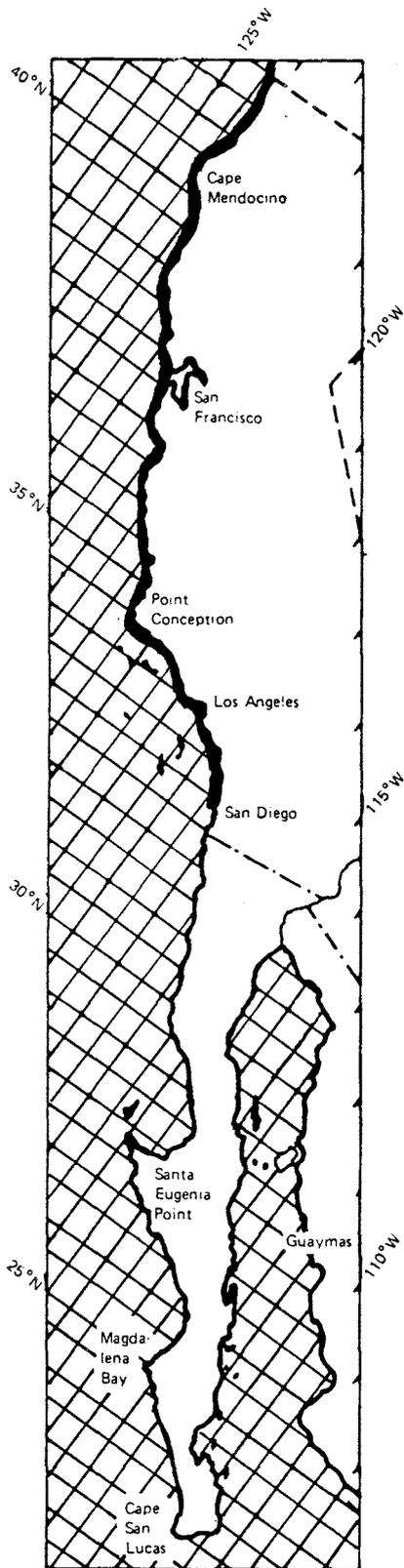


Fig. 3. Article 2, 3  
and 4 of pereopod 7.

Distribution:  
Puget Sound to San Diego



SCAMIT Code: PL52, MBC21 Date examined: October 15, 1984  
Voucher By: Ann Martin

Synonymy: Westwoodea caeculus Bate 1856  
Westwoodilla acutifrons (Sars, 1895)  
Westwoodilla megalops (Sars, 1882)  
Halimedon mulleri (Sars, 1895)  
Halimedon acutifrons (Sars, 1895)

Literature:

Dunbar, M.J. 1954. The Amphipod crustacean of Ungava Bay, Canadian Eastern Arctic. J. Fish. Res. Bd. Canada II: 709-798.

Enequist, P. 1950. Studies on the soft-bottom amphipods of the Skagerrak. Zool. Bidr. Uppsala. 28:297-492.

Mills, E.L. 1962. Amphipod crustaceans of the Pacific coast of Canada, II. Oedicerotidae. Nat. Hist. Papers, Nat. Mus. Canada 15:1-21.

Diagnostic characters:

1. Gnathopods 1 and 2 similar in shape with produced article 5 that does not expand over article 6 (Fig. 2).
2. Shape of head characteristic with pigment concentrated in antennal sinus, usually persisting in preservation (Fig. 2).

Variability:

This species varies in the shape of the head, telson, pereopod 7 (article 2), antenna length, and intensity of pigmentation on the head. Discoveries of intergrades of characters for W. megalops, W. acutifrons, and W. caecula resulted in the synonymy of these three species. Enequist (1950), Dunbar (1954), and Mills (1962) all discussed the variations and reasons for synonymy.

Depth range: 0-200m

Distribution:  
Cosmopolitan

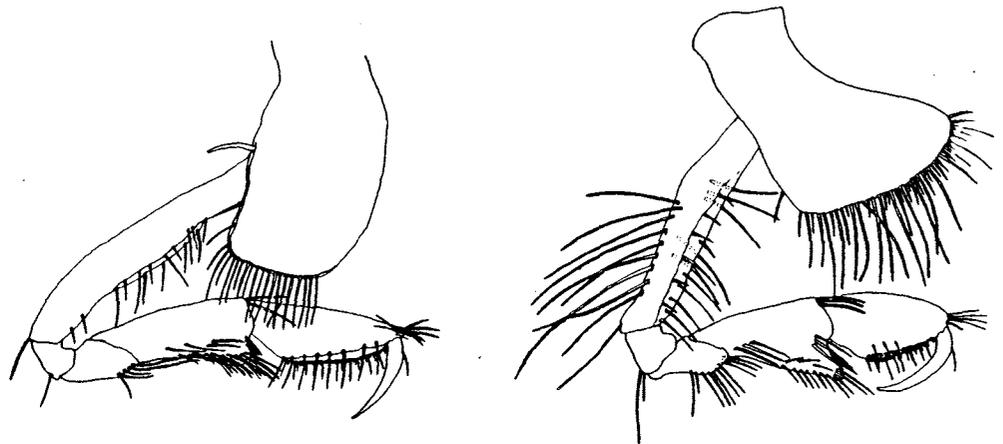
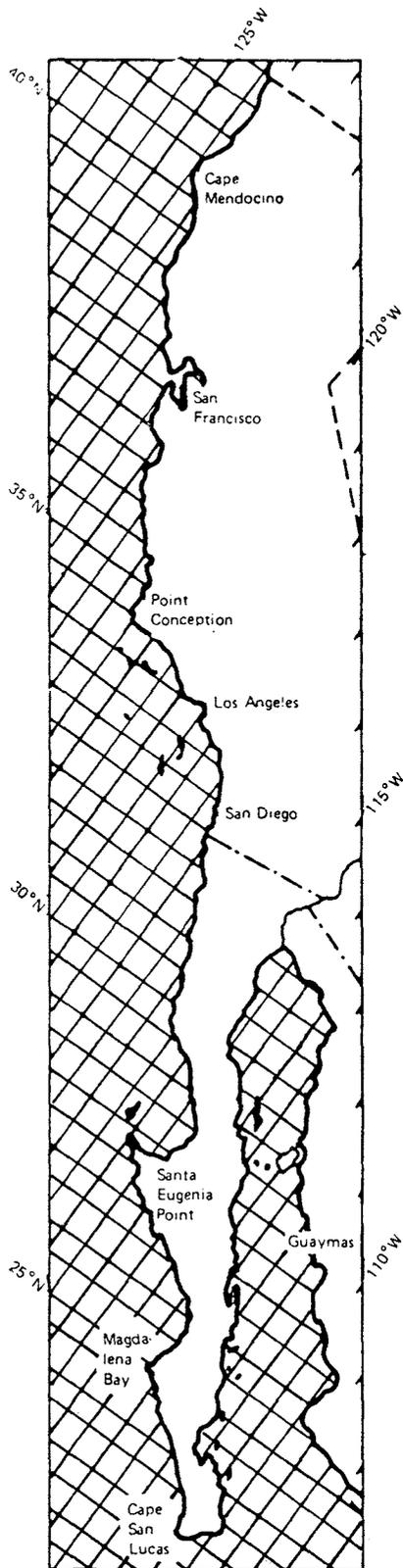


Fig. 1. Gnathopods 1 and 2.



Fig. 2. Head.



**Southern California Association of  
Marine Invertebrate Taxonomists**

3720 Stephen White Drive  
San Pedro, California 90731

September 1984

Vol. 3, No. 6

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Next Meeting:	October 15, 1984
Specimen Exchange Group:	Natantian decapods
Topic Taxonomic Group:	Oedicerotidae and Liljeborgiidae

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*any  
obj  
7*  
MINUTES FROM SEPTEMBER 10, 1984

Additional Financial Support: We have submitted a proposal to ARCO requesting funding support. ARCO became aware of us through Chevron (who has pledged \$2500 to SCAMIT) and appears interested in helping us. Perhaps in the next months we'll have good news from ARCO?

This Newsletter Has Been Brought to You By...: Dale Straughan has generously offered to produce this newsletter for us. We have money to spend on professional services for the newsletter from the increase dues, and may have more if the Chevron pledge and ARCO proposal come through. Therefore things are looking good for forthcoming newsletters.

New Afternoon Format: We discussed ways of improving the cohesiveness of the afternoon sessions at the meetings. Basically we decided that one person would chair the session and a second person would help by preparing specimens for viewing. The format was tried with great success. We had the best meeting to date thanks to Leslie Harris' excellent preparation and well led discussion combined with the new format which utilized Scott Johnson who prepared the specimens and the Cabrillo video set-up with two large color monitors.

Access to SCAMIT Collections: The SCAMIT literature and voucher collections are still in their infancy, but what there is (and will be) are available for members to use. If you want to use either the literature or voucher collection, call Cathy Crouch at Cabrillo Marine Museum, 548-7562.

What's Happening: A new feature of the newsletter which will announce any talks or publications by SCAMIT members. The first announcement includes four participating members who will be presenting papers at the WSN meeting at Denver in December. These people will also give sneak previews of their papers at SCAMIT meetings between now and December.

Dr. John Dorsey and Tony Phillips - A New Species of *Ehlersia* Quatrefages 1865 (Polychaeta: Syllidae) from Southern California with Comments on Spinigerous Setae in this Group.

Sue Williams - Taxonomic Notes on some Ampharetidae (Polychaeta) from Southern California.

Karen Green - A Revision of the Genus *Sonatsa* (Maldanidae: Polychaeta).

Nikon Presentation - Barbara Berham and Nicco from A.G. Heinz Co gave a nice presentation on the different types of scopes (stereo and compound), how to adjust them and how to take photographs. They distributed fliers with basic set-up and maintenance guidelines which are reprinted in this newsletter.

List of August 13, 1984 Voucher specimens:

AHF23 *Dodecaceria fewkesi*  
PL48, SCCWRP42 *Caulleriella gracilis*  
AHF21 *Cirriiformia luxuriosa*  
LACO33 *Dodecaceria concharum*  
HYP33 *Chaetozone corona*

List of September 10, 1984 Voucher Specimens:

PL50 *Brada villosa*  
AHF24 *Brada pluribranchiata*  
AHF25, LACO36 *Flabelliderma commensalis*  
PL49, HYP34 *Pherusa neopapillata*

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Travels with Olga:  
24 Queensberry Place SW 7  
21 July 1939

Dear Frieda and Chauncey: After five days in London I am still dazzled and confused at its size, and usually unable to find what I am after. I have spent hours over maps and transportation routes, and London is still an enigma. It is seemingly a city built into a fourth dimension; the fourth, I would say, is its history. There are not only streets (including Place, Road, Avenue) and Mews (a glorified alley), and courts (dead end blind streets that turn in at unexpected places), but also "closes", in which a small section is shut off from view by a narrow, roofed arch, and once you enter it and pass through a long, dark way, you may encounter dozens of little



shops, with several streets, or at least, named places. Or a court will consist of a whole series of blind ways leading in from one passage each called by a different name. The streets themselves are very crooked and crisscrossed. Consequently a street is never, or seldom, more than a few blocks long. Piccadilly is one of the longer, but it is short. Pall Mall, the Strand, Fleet Street, and a lot of other famous streets are all very short running into other named streets. Thus, street numbers are never high. If you see one going into the one-hundreds, it is most unusual. I often think of Los Angeles in this respect, where the numbers go up to ten thousands!

I have been working all week at the Br. Mus. Nat. Hist. Working conditions are ideal. I am given many priveleges and Mr. Monro is very helpful. We have talked many hours on Chaetopods,- the first intelligent conversations I have ever BEEN ABLE TO HAVE with anyone on this group. But as I have told you, there is no American authority on this group, and not more than a dozen in the world. I am fortunate to start at the Br. Mus., for undoubtedly this is the best equipped institution in the whole world. I have been surprised all day today while working in the stacks of the zoology libraries how complete they are, and how easily books are found. I wish I had a year here in the libraries. But from another standpoint, I could not stand a year of it.

30/mo  
 London is the most expensive city I have ever lived in. The cost of living is exorbitantly high,- prices are "war prices". I am paying 1 pound ten a week for a room and breakfast. In terms of American money, that is \$7.50 a week. Lunches and dinners I must get out, and they are not readily obtained. The common American restaurant system is totally lacking. There are seemingly two kinds of places here,- the expensive, ornate restaurant, and the deucedly poor "snack bar". The latter serves only cold things (do not even prepare hot toast), and drinks are still an enigma to me. The big English drink is tea (it is what I get for breakfast). Then there is a pale tan hot drink, served in a glass, called coffee-milk, a small dash of coffee in a glass of hot milk. Coffee is almost prohibitive, that is, good coffee. Chicory is commonly served, with or for coffee. The reasons for these high prices are obvious when one visits food stores. Thus, for example, a peach- 16¢ to 18¢ each, a muskmellon, 41¢, a pound of coffee, 65¢- 75¢; meats are very high. The most reasonable articles are little pastries. A dish of ice cream, by the way, is a shilling (25¢), or over. (I never eat it). From all of this you will think I am displeased. On the contrary, I find London one of the most interesting places I have ever encountered. And the people are charming, almost disarmingly so. The average Londoner, whether he be rich or poor, enjoys his city with its many beautiful parks, and the environs. One does not need much money if a bicycile is at hand. And these are everywhere. London has many automobiles, and taxi-cabs, but London walks. Consequently, one sees healthy, vital people, little excess fat, and



bright eyes. I have not seen the rosy, apple-like cheeks that were common in Glasgow, but there the air was more brisky. London has had much rain since I have been here. They are not always gentle showers. Often there are heavy peals of thunder. If the sky gets dusky, it is but a few minutes before it pours down in sheets. Just as quickly everyone is under his raincoat or umbrella.

It is cool, even though past the middle of July. I would say as cool as, or colder than, Berkely. The long ocean voyage gave us on board a good opportunity to get hardened. Except for a week in the tropics, the air was always quite chilly and windy. By virtue of that long voyage, I seem to be much farther from the States than if had taken a fast passenger liner from New York. But the smaller boat was much to be preferred.

It is difficult to plan my time here to make the most of it. These numerous, heavy rains dampen both one's ardor and one's speed of propulsion. Clothes are quickly ruined and shoes fall to pieces. London prices are far higher than those in Los Angeles. Insofar as I have seen them, that statement applies to everything.

Customs are less bewildering now, but I dare say that by the time I am at ease, it will be time to move on. Left-hand traffic still confuses me, also the money system; 12 pence in a shilling 20 shillings in a pound, and the florin and half crown pieces (2 and 2½ shillings respectively), (or 50 and 62¢) are likewise so. Paper money comes fortunately in only two kinds,- the ten-shilling note (brown, \$2.50), and the pound note (green, \$5.00). The common currency is coins. When one of these huge pennies drops, it really can be heard.

Preparations for war are everywhere obvious. The letters commonly seen, ARP (Air Raid Precaution), enlist for your country, and other patriotic slogans. Many shops show military uniforms, or other regalia. The newspapers, however, do not carry the lurid and blasting headlines of the American papers. On the whole, they are pacifying or silent on the issue. A match of cricket is of much greater interest.

Expect to be in London at least through August, undoubtedly at this Queensberry address.

Best wishes to you both.



SCAMIT Code: AHF23

Date examined: August 13, 1984

Literature:

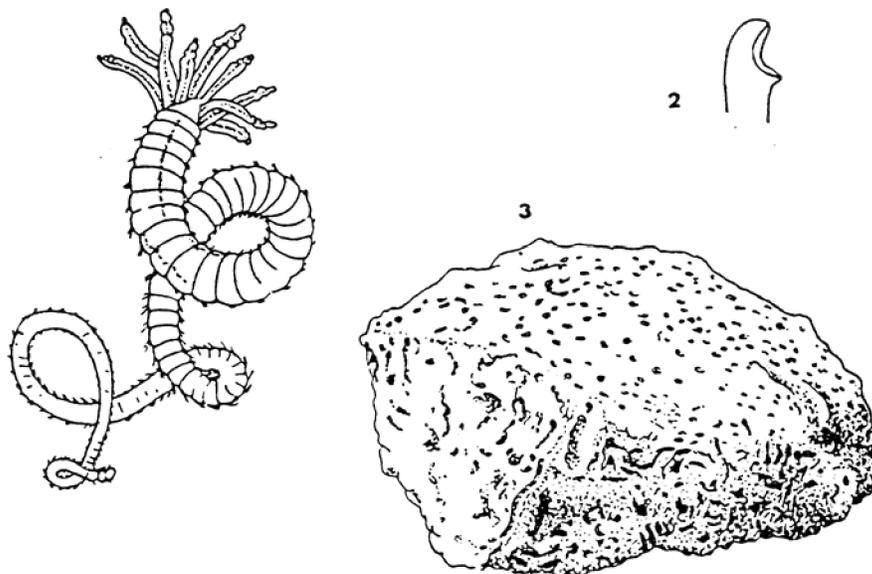
Hartman, O. 1969. Atlas of Sedentariate Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press, Los Angeles, CA: 1-812.

Diagnostic Characters:

Excavate acicular setae present in both rami in median and posterior segments. Body generally dark. Constructs calcareous matrices of tubes. Color dark green to brownish black, releases bright green color in aqueous and alcohol solutions. Length of body 25 to 40 mm; width about 1 mm, segments number to 130; body tumid, tapers posteriorly (fig. 1). Prostomium bluntly conical, without eyes. A pair of long, thick palpi and first pair of lateral branchiae on first setiger, the palpi thicker and grooved. Branchiae present on 3 to 11 segments, decrease in length posteriorly. Capillary setae in notopodia and neuropodia of anterior and middle segments, each minutely dentate at cutting edge. Thick acicular neurosetae first from setiger 9-12, each distally spoon-shaped (fig. 2) continued to end of body. Similar but smaller notosetae first present farther back, and continued to end; capillary setae absent posteriorly. Constructing calcareous tubes in compact masses (fig. 3) in littoral rocky zones. Mature individuals in one colony of one sex; sexual reproduction followed by autotomy and regeneration to form entire colony. Adults mature gradually, with larval development proceeding throughout the year. Fertilized ovum hatches as ciliated trochophore.

Related species and character differences:

Separable from *D. concharum* Oersted, 1843 primarily by habitat. *D. concharum* bores in calcareous shells.

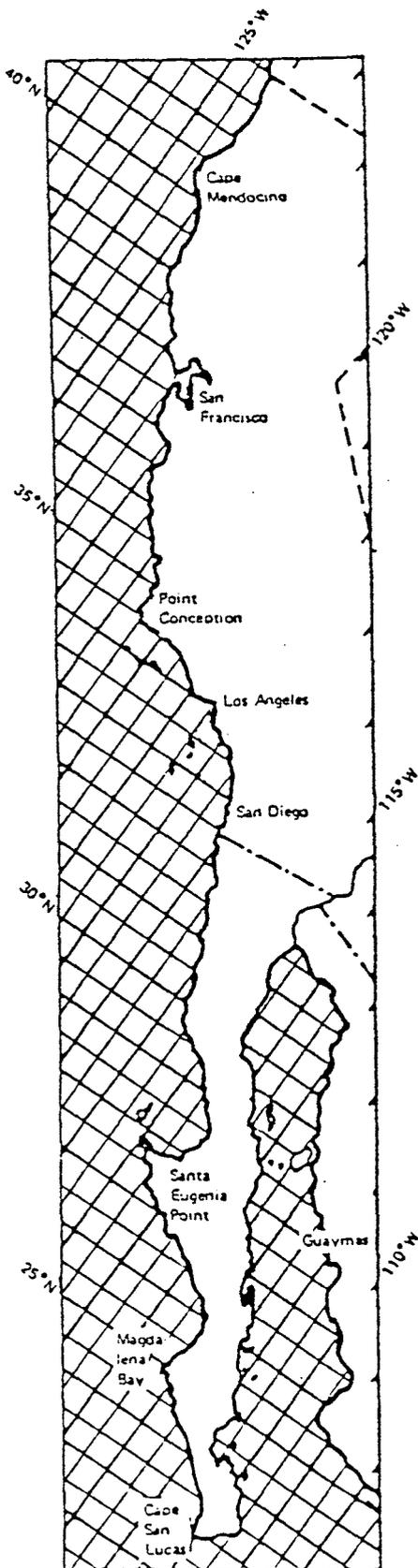


Species: *Dodecaceria fewkesi* Berkeley and Berkeley, 1954 Vol. 3, No. 6

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Distribution:

Western Canada south to southern California, intertidal to 10 fms in rock habitats.



SCAMIT Code: PL48, SCCWRP42

Date examined: August 13, 1984

Literature:

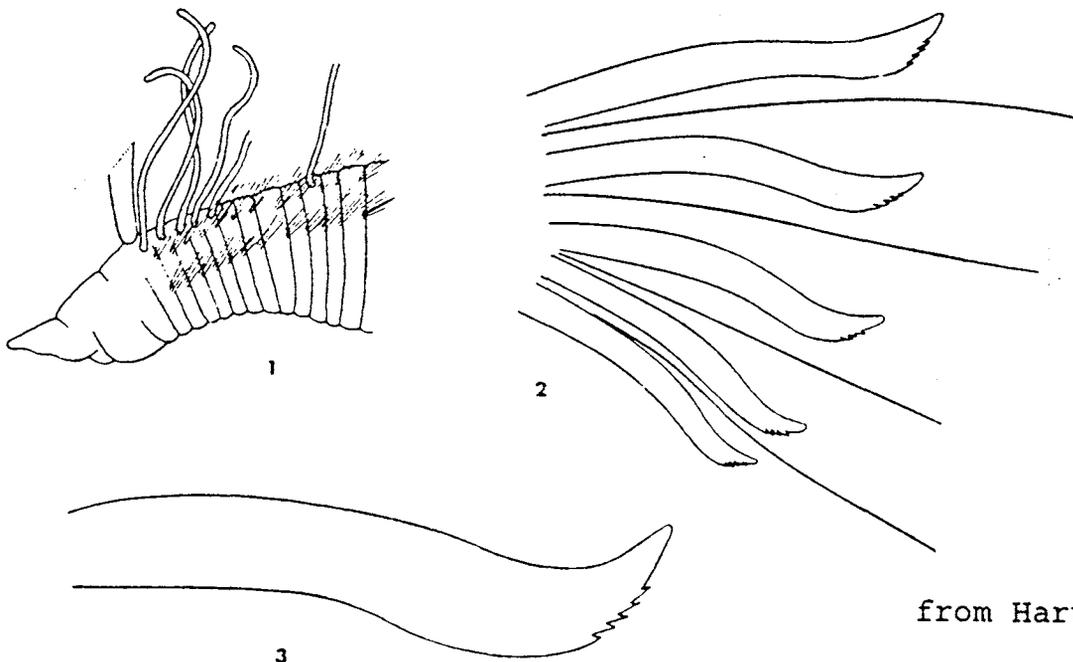
Hartman, O. 1969. Atlas of Sedentariate Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press, Los Angeles, CA: 1-812.

Diagnostic characters:

Setae capillary through about 35 segments. Neuropodial spines alternating with capillaries occur in groups of no less than 4, number 5 over a great many segments, and are characteristically arranged in a fan. Spines are vaguely sigmoidal, finely dentate distally. Notopodial spines begin fan posteriorly, are as thick as neuropodial, but are smooth and straight, and generally longer. Length 10-12 mm; width to 2 mm; setigers number more than 100. Body long, inflated through first 34 segments, then slender, cylindrical, becoming depressed far back and ending in a dorsal anal pore and small midventral lobe. Prostomium triangular, pointed, lacks eyes (fig. 1), merging into smooth buccal region. Paired first palpi thicker than first branchiae, both inserted on setiger. Branchiae inserted immediately above notopodia throughout, but absent from most posterior segments. Parapodia lateral in first few segments, then dorsolateral through inflated region, and again lateral farther back. All setae in 30-35 segments long, slender capillary, the notosetae the longer; then acicular hooks in neuropodia, come to number 4-8 in a row (fig. 2) alternating with slender capillaries; hooks diminish in size ventrally. Distal end hook falcate with dentations (fig. 3). Notosetae straight throughout, far posterior ones are thicker, shorter, spine-like.

Related species and character differences:

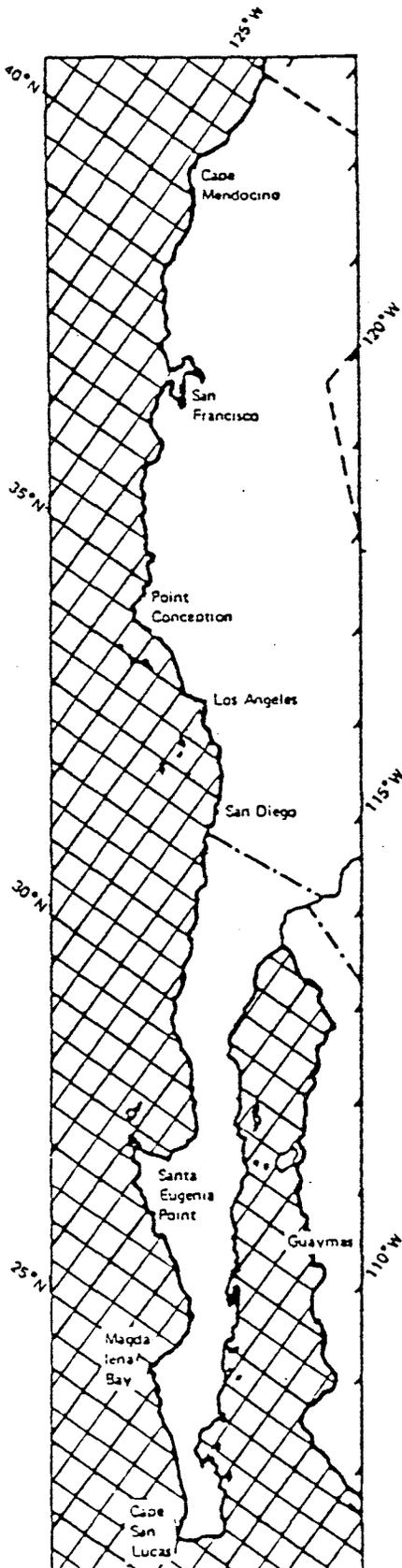
This species should not be confused with other species.



from Hartman, 1969

Distribution:

Southern California, in shelf and slope depths, in fine sand; in offshore canyons, in 542-914 m.



SCAMIT Code: AHF21

Date examined: August 13, 1984

Literature:

Moore, P. 1904, New Polychaeta from California. Proc. Acad. Nat. Sci. Pa. 56 : 484-503.

Hartman, O. 1969, Atlas of Sedentariate Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press, Los Angeles, CA: 1-812

Diagnostic charaters:

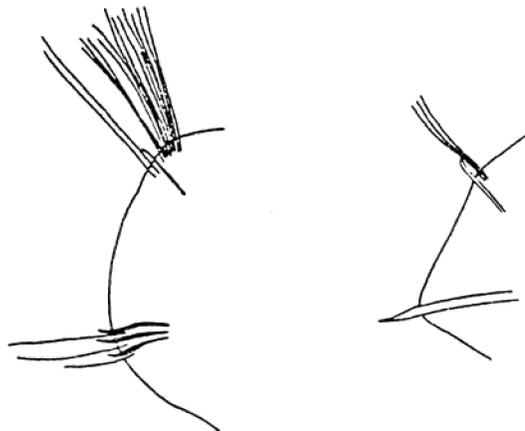
Transverse row of tentacular cirri present on setiger 4 or 5. Color drab yellow to reddish brown, with black spines. Length 60-100 mm; width to 4.5 mm in anterior third of body; setigers 300-400. Body linear with dorsum arched and ventrum concave. Prostomium rounded in front, wider than long, without eyes. Buccal region triannulate, inflated, about twice as long as prostomium. Segments much wider than long, uniannulate. Dorsal tentacles form a dense tuft on setiger 4, number 12-14 pairs. Branchiae present from first setiger, usually a pair to a segment, the first inserted immediately above notopodium, and increasingly higher to be inserted nearer middorsum than to notopodia in posterior segments; branchiae usually not coiled. Parapodia small, papillar, with only capillary setae in first 30 segments. Dark to black spines (fig. 1) in neuropodia from setiger 31, and in notopodia from about setiger 50, number 1-3 in a series, accompanied by capillary setae in all notopodia but not in posterior neuropodia. Dark spines may number only one in a ramus (fig. 2) in posterior neuropodia.

Variability:

Dark spines noted in Moore's and Hartman's descriptions do not develop until worms are older.

Related species and character differences:

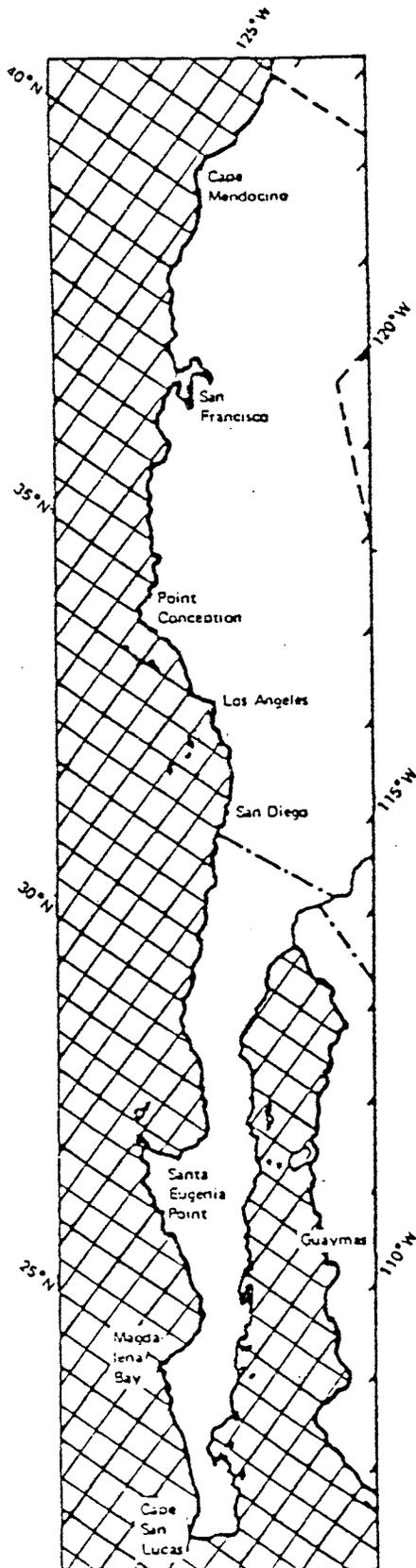
*Cirriiformia spirabanchia* (Moore, 1904)- tentacular cirri are on setiger 6 or 7. *Cirriiformia tentaculata* Montague, 1908 is a European species that does not occur in this area.



from Hartman, 1969

Distribution:

Central and southern California, intertidal to 10 fms, in rocky and mixed sediments.



SCAMIT Code: LAC033

Date examined: August 13, 1984

Literature:

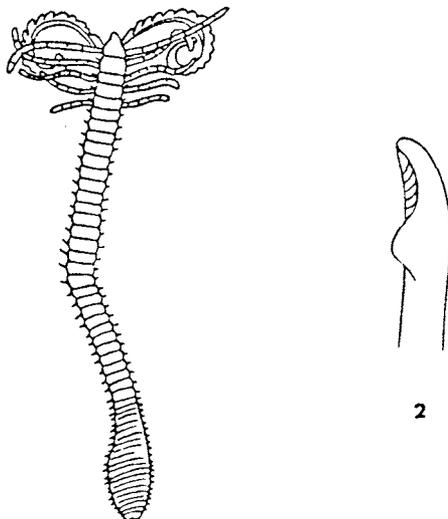
Fauvel, P. 1927. Polychaètes Sedentaires. Addenda au Errantes, Archiannelides, Myzostomaires. Faune de France, 16: 1-494.  
Hartman, O. 1969, Atlas of Sedentary Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press, Los Angeles, CA: 1-812.

Diagnostic characters:

Excavate acicular setae present in both rami in median and posterior segments. Body generally dark. Bores in calcareous shells. Branchiae on set 3-5. Body dark greenish brown to black; subcylindrical, truncate (fig. 1). Length 20-50 mm; width about 2 mm; setigers number 45-80. Prostomium small, triangular, without eyes; with a pair of nuchal organs near posterior end. Buccal segment short, triannulate, with a pair of large, thick, longitudinally grooved palpi surpassing branchiae in length and thickness. Paired branchiae present on first 3-5 setigers, each slender, filamentous, decrease in length posteriorly. First 6-7 setigers with capillary setae, the notosetae the longer. Thick, distally excavate spines present in both rami in median and posterior segments, the tip spoon-shaped (fig. 2); accompanied with capillary setae. Posterior end of body somewhat inflated, tapers to a blunt pygidium without appendages. Penetrating calcareous shells and rocks, in littoral zone.

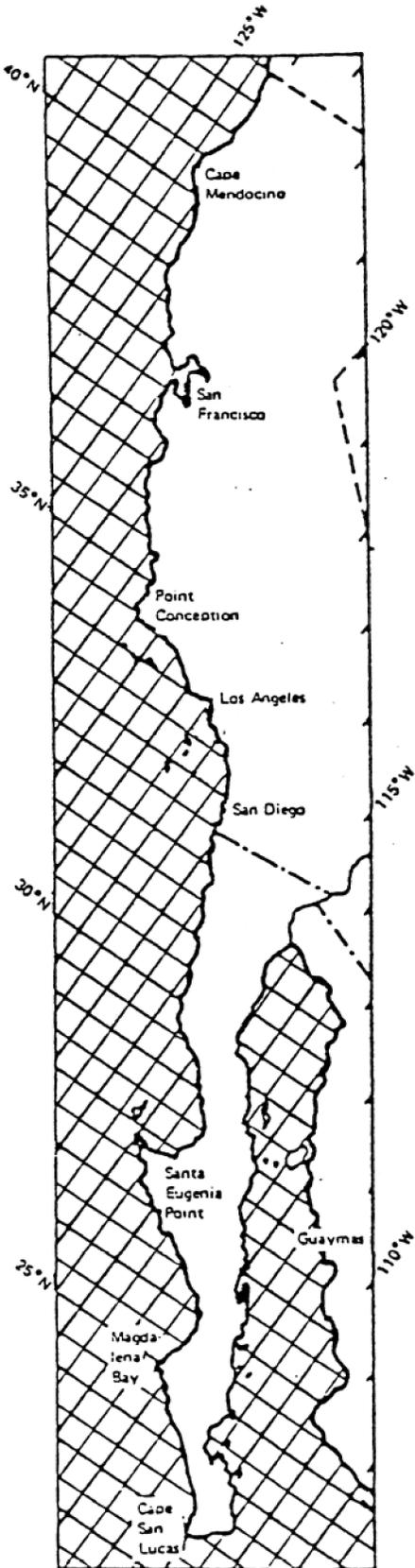
Related species and character differences:

Separable from *Dodecaceria fewkesi* Berkeley and Berkeley, 1954 primarily by habitat. *D. fewkesi* constructs calcareous matrices of tubes. If a large number of branchiae are present (on setigers 3-11) this character may also be used to differentiate the two species.



Distribution:

Western Canada to southern California,  
in intertidal rocky areas; cosmopolitan.



SCAMIT Code: HYP33

Date examined: August 13, 1984

Synonymy:

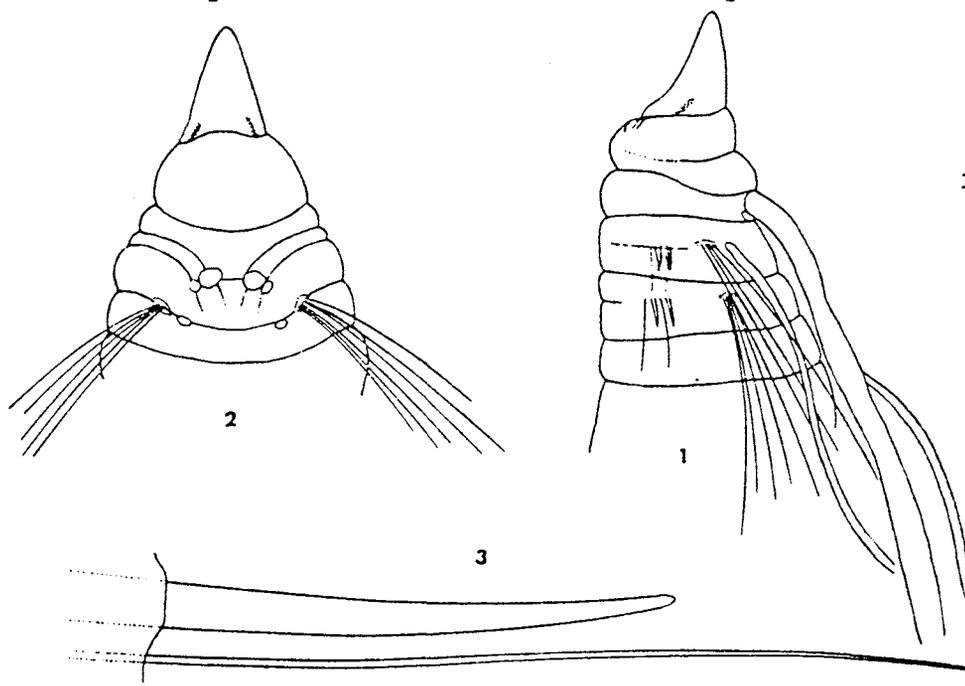
*Chaetozone spinosa corona*

Literature:

Berkeley, E. and C. Berkeley, 1941. On a collection of Polychaeta from southern California. Bull, So. Calif. Acad. Sci. 40: 16-60.  
Hartman, O. 1969. Atlas of Sedentariate Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press Los Angeles, CA: 1-812.

Diagnostic characters:

Neuropodial spines from setiger one, number 6-9 in a fascicle, are straight and entire. Lateral eyes present. Segments number 50-60. Body pale, with black eyes; thickest in anterior third, tapering to slender tail. Length 18-25 mm; segments number 50-60. Prostomium acutely pointed in front, directed forward, with a pair of transversely elongated eyes at sides (fig. 1). Buccal region divided into a longer anterior and a shorter posterior ring. Third visible ring short, with bases of the thick, paired palpi, dorsally (fig. 2) and the first branchiae immediately behind. Next segment longer, with long notosetal fascicles, and second pair of branchiae. Third segment the first with biramous parapodia, the notopodia resemble the first and neuropodia with 1-2 thick spines and slender capillary setae. Acicular, yellow spines continue posteriorly in neuropodia, increasing to 6-9 in a row, and gradually appear in notopodia in middle segments, so that the spines in a segment form a partial cincture of body segments in posterior third of body. Spines are distally straight (fig. 3) and much thicker than the accompanying capillary setae. Lateral branchiae inserted directly above notopodia; branchiae absent in posterior third of body.

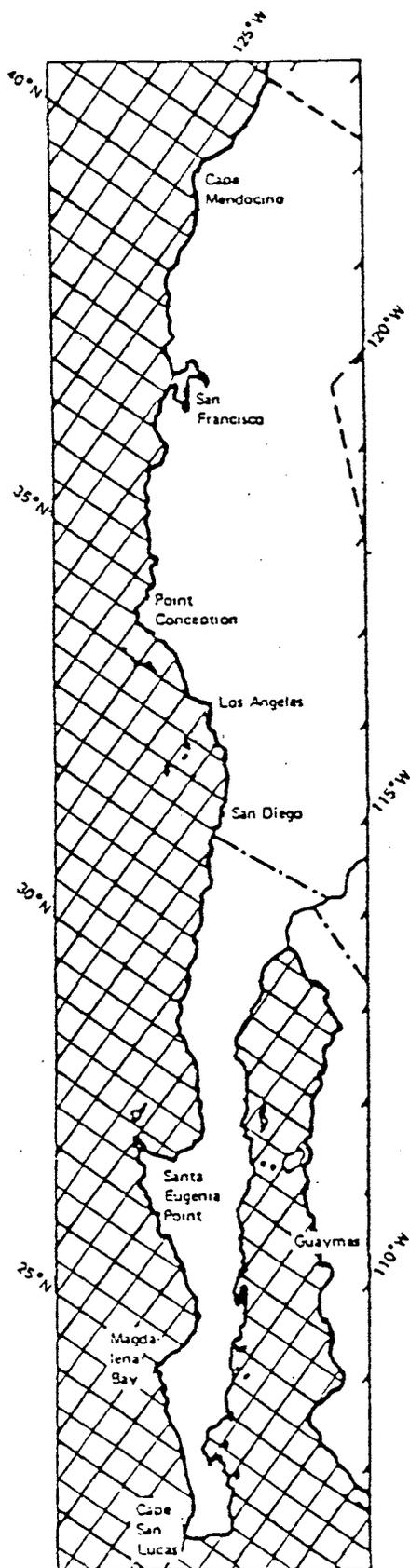


from Hartman, 1969

Species: *Chaetozone corona* Berkeley and Berkeley, 1941, Emended

Related species and character differences:  
This species is clearly differentiated from all other cirratulids by the above diagnostic characters. Hartman's description and figure on page 235 of the Atlas are incorrect in that they have neuropodial spines starting on setiger two. Hartman's key to the species of *Chaetozone*, however, is correct.

Distribution:  
Southern California, in shelf and canyon depths to 119 m, in silt and mud.



SCAMIT Code: LAC035

Date examined: August 13, 1984

Literature:

- Hartman, O. 1961. Polychaetous Annelids from California. Allan Hancock Pacific Exped. 22:115.  
Hartman, O. 1969. Atlas of the Sedentariate Polychaetous Annelids from California. Allan Hancock Foundation, University of Southern California Press, Los Angeles, CA: 259.  
Fauchald, K. 1977. The polychaete Worms. Science Series 28, Natural Hist. Mus. of Los Angeles Co. : 30.

Diagnostic Characters:

A small species (<10mm) with a distinctive body form having a slender anterior region abruptly broadening in the median and posterior regions (fig. 1).

Variability:

Hartman (1961) described *R. maculatus* as having only two kinds of setae; capillary notopodial setae (fig. 2) and falcate neuropodial setae with delicate marginal serrations along one edge (fig. 3). All specimens taken off Palos Verdes during the L.A. Co. Sanitation Districts' monitoring surveys (approx 50 specimens in 15 years) have at least two additional setal types. In the posterior region, the notopodial spinigers are accompanied by 1 or 2 stout spines with strong marginal serrations along one edge (fig. 4). The posterior neuropodial falcigers described by Hartman are accompanied by 2 or 3 stout, marginally dentate, spines similar in size to the neuropodial spines, but slightly broader in the serrated area (fig. 5).

In addition to these four setal types, four of the 50 individuals taken by LACSD bear, on the first setiger of the posterior region, a pair of large hooked spines inserted at the level of the neuropodia and directed forward (fig. 6&7). When these spines are present there are no other setae on the segment. These spines do not appear to be related to the size or number of segments; they may be sexual.

Type material, deposited at AHF, is currently unavailable for examination.

Related Species and Character Differences:

*Raricirrus* is a monotypic genus.

Depth Range:

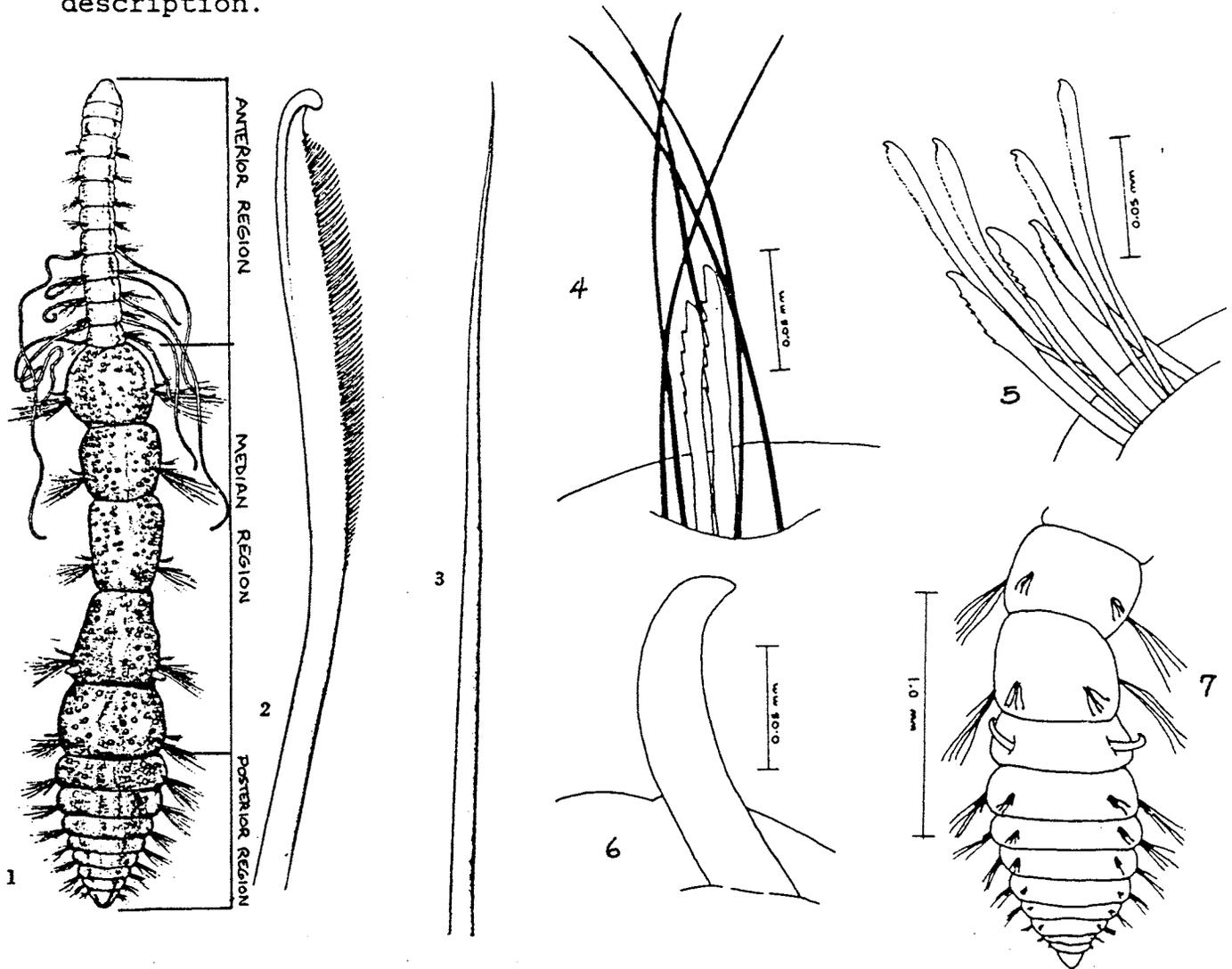
25 to 38 fms (Hartman 1961)  
60 to 150 m (LACSD data)

Distribution:

Appears to occur only along the Palos Verdes Shelf, which includes the type locale of Pt. Fermin.

Comments:

Hartman originally named this worm *Raricirrus maculata*. Fauchald (1977) uses the trivial name *maculatus*, correcting the disagreement in gender between the generic and trivial names in the original description.



*Raricirrus maculatus* 1. Entire animal, dorsal view. Regions defined (modified from Hartman '61). 2. Neuropodial seta. 3. Notopodial capillary seta. 4. Notosetal fascicle, posterior region. 5. Neurosetal fascicle, posterior region. 6. Hooked spine, first setiger posterior region. 7. Posterior end, ventral view, showing placement of hooked spines in posterior region. Fig. 1-3 from Hartman, 1961.

## TO ALL NIKON MICROSCOPE USERS

On several occasions in the past weeks, Service Department personnel of Nikon Inc. have encountered problems caused by the improper cleaning and servicing of Nikon equipment. Nikon Inc. would like to make, in an effort to avoid unnecessary problems caused by such servicing, the following suggestions:

1. To clean the lens surfaces, remove dust using a soft hair brush or gauze. Only for removing finger marks or grease, should soft cotton cloth, lens tissue or gauze lightly moistened with absolute alcohol (methanol or ethanol) be used.

For cleaning the objectives and immersion oil use only xylene. For cleaning the surface of the entrance lens of the eyepiece tube and the prism surface of the Trinocular Eyepiece Tube "T" or the Ultra Wide Eyepiece Tube "UW", use absolute alcohol.

Observe sufficient caution in handling alcohol and xylene.

2. Avoid the use of any organic solvent (for example, thinner, ether, alcohol, xylene, etc.) for cleaning the painted surfaces and plastic parts of the instrument.
3. Never attempt to dismantle the instrument so as to avoid the possibility of impairing the operational efficiency and accuracy.
4. When not in use, cover the instrument with the accessory vinyl cover, and store it in a place free from moisture and fungus.

It is especially recommended in areas of high humidity that the objectives and eyepieces be kept in an air-tight container containing desiccant.

5. NOTE CORK SHOULD NEVER BE USED TO CLEAN NIKON OIL OBJECTIVES.

Please note as per your Nikon warranty, "Any defects or damage directly or indirectly caused by the use of unauthorized replacement parts and/or performed by unauthorized personnel" will void the warranty.

We, therefore, suggest that while a product is under warranty only Nikon personnel or Authorized Nikon Repair Station dealers or personnel repair Nikon microscopes.

Remember, Nikon personnel or Authorized Repair Station personnel are specifically trained in the repair and maintenance of Nikon equipment.

# Five easy steps to set up your microscope.

operation is designed into Nikon Microscope. For proper and best results, simply follow 5-step checklist.

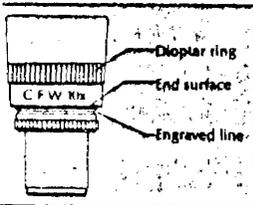
## 1.

### PREPARING THE HEAD.

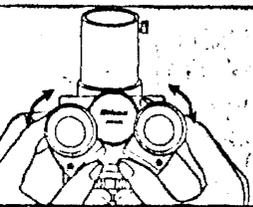
• Putting a specimen on the turn on the illumination and set to a comfortable intensity

• Rotate the 10X objective into position.

• Rotate eyepiece diopter ring to "0" (line on CFDW eyepieces). Turn top while holding bottom.



• Adjust interpupillary distance so right and left images merge into one.



## 2.

### FOCUSING FOR YOUR EYES.

• Place your specimen on the stage. Turn the coarse knob, focus the objective. Adjust with fine knob on smallest detail visible. Then rotate the 40X objective and fine focus.

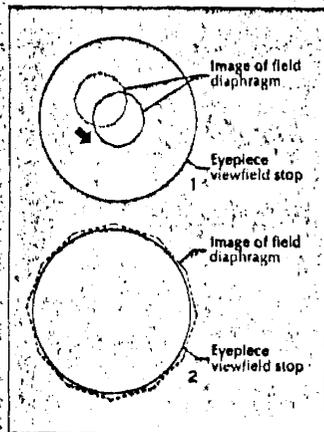
• Switch to 4X objective. Adjust diopter eyepieces to accommodate.

• Lock focus at 40X. Return to 10X objective.

## 3.

### SETTING THE CONDENSER FOCUS.

- Using the field diaphragm control ring, close the field diaphragm to its smallest size.
- Rotate condenser focus knob to move condenser vertically.
- Using the condenser centering screws, bring the field diaphragm image to the center of the field of view.
- Switch to 40X objective. Adjust field diaphragm so its image is about the same as the field of view.
- If not centered, use the condenser centering screws again.
- Diaphragm must be centered before clearing from the field of view.

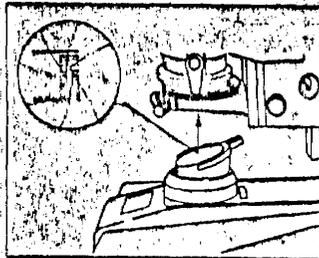


## 4.

### CENTERING THE ILLUMINATION.

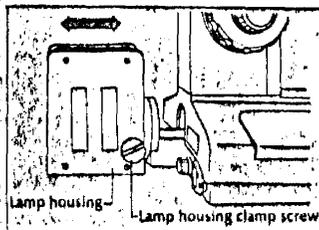
(NOTE: This step is not required on Labophot and other microscopes with pre-centered illumination systems.)

- To focus and center the illumination remove the diffuser.
- Close the aperture diaphragm on the condenser.
- Use a filter (the ND or blue filter) as a mirror to observe the filament image on the underside of the con-



denser. (For reflected light systems remove an eyepiece and look at image at back of objective.)

- Focus the filament image by moving lamp housing in or out until it becomes sharp.
- After illumination is focused and centered, replace the diffuser.

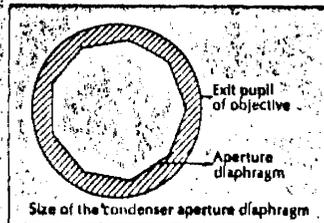


## 5.

### ADJUSTING THE APERTURE DIAPHRAGM.

This last step controls contrast and depth of field.

- Remove one eyepiece. Look down the tube at the back of the objective.
- Adjust the aperture diaphragm so that it is just inside the opening (about 25% less than full aperture).



**Nikon**

# Five easy steps to set up for photomicrography.

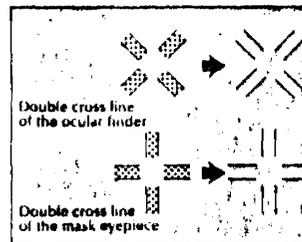
Proper setup for Nikon Photomicrography is a simple procedure. Just use these five easy steps as your personal checklist or as a handy guide for training others.

Complete steps 1 through 5 on the other side of this page before you begin the following photomicrographic process.

## 1.

### SETTING THE OCULAR VIEWFINDER.

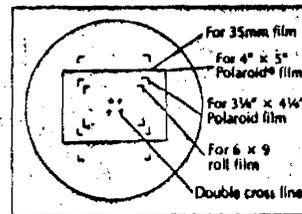
- Without a specimen on stage, focus on photo mask reticle.
- Look away, then recheck.



## 2.

### FOCUSING THE SPECIMEN.

- Place a clean specimen on the stage.
- Focus on specimen and compose the subject.
- Recheck focus against photo mask reticle. (NOTE: Always make the last focus movement up against gravity.)



## 3.

### USING THE PROPER VOLTAGE & FILTER

- For color daylight film, voltage should be set to film specifications and color balance, (NOTE: Tungsten color films require no filter.)
- For 35mm daylight films use NCB 10 filter.
- For Polacolor® range is from an 80 C filter for 1 second exposure to no filter for 4 second exposure.
- For black and white film, use green or another contrasting color.
- Didymium filter can be used for some H & E stains.

### VOLTAGE AND FILTER SETTINGS

	Daylight color film	Tungsten color film
Labophot	5.5 volts with NCB 10 filter	5 volts, no filter
Optiphot M	6 volts with NCB10 filter	5 volts, no filter
Metaphot	9 volts with NCB10 (blue) filter	9 volts, no filter
Optiphot	9 volts with NCB10 (blue) filter	9 volts, no filter
Biophot	9 volts with NCB10 (blue) filter	9 volts, no filter

All Fluorescence microscopes—use daylight film, no filter.  
Fiber Optic Illuminator—use tungsten film with intensity set to maximum.

## 4.

### SETTING THE EXPOSURE.

- On automatic systems, set exposure according to film manufacturer's ASA specifications.
- Bracket your exposures because specimens vary greatly in their ratio of dark area to light.
- Follow these rules of thumb for compensation:

Brightfield—setting is generally within  $\pm 1/3$  of exposure adjustment.

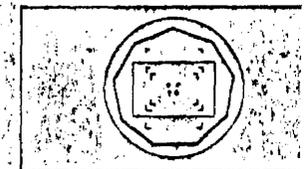
Darkfield and Fluorescence—setting is generally between -1 to -2 of exposure adjustment.

- For manual systems, use a light meter to determine the exposure.

## 5.

### APERTURE & FIELD DIAPHRAGM ADJUSTMENT.

- Readjust aperture diaphragm on condenser for best results with your particular specimen.
- Normal setting approximately 7/8 of full aperture. Closing aperture further will give more contrast a depth of field at the expense of resolution.



- Set field diaphragm just outside film format in photo mask reticle.
- Recheck.
- Expose film.

**Nikon**

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