



SOUTHERN CALIFORNIA ASSOCIATION
OF
MARINE INVERTEBRATE TAXONOMISTS

September 1983

Vol. 2, No. 6

Next Meeting: October 10, 1983

Place: Marine Biological Consultants
947 Newhall Street
Costa Mesa, CA 92627

Guest Speaker (for sure): Jack Engle, Catalina Marine Science
Center on the Channel Islands Project

Specimen Exchange Group: Tellinidae

West Coast Shell Show 1983: Saturday and Sunday, October 22 & 23 at
Fleischmann Auditorium, Santa Barbara Museum
of Natural History, 2559 Puesta Del Sol Road.

Topic Taxonomic Group: "Polydora-Boccardia" complex

MINUTES FROM SEPTEMBER 19, 1983

A Token of Thanks: Chuck Mitchell was presented a set of SCAMIT mugs and T-shirts for him and his wife for a small way of saying thanks for use of the MBC lab for our meetings. Chuck's generosity has been a big factor in SCAMIT's success. Thanks. Chuck!

Neophyte SCAMIT Member: Tony Phillips missed performing his duties of distributing the exchange specimens because he was tending his new daughter, Kara Marie. She was born September 15 and weighed in at 2.78 kg (6 lb. 2 oz.) and 48.6 cm (20") long. Congratulations!

Good News from the IRS: SCAMIT has received recognition of tax exempt status from the IRS. Now we are ready to work on obtaining some major funding. The fund raising committee will be meeting before October to develop plans for raising money.

Anenome Workshop: John Ljubenkov will be conducting a workshop on anenomes which will be on November 21, at 10:00 AM at Cabrillo Beach Marine Museum.

Statistical Seminar: We have tentatively planned to sponsor a seminar on the Practical Application of Biological statistics. This will be held in the coming for a series of days. We will be discussing this idea in detail at the next meeting. We need suggestions for format and subjects and

recommendation of people who teach such seminars. We want to offer a course that will stress how to use statistics and are looking for people that have both biological and statistical backgrounds to teach it. Bring your ideas to the next meeting. Correspondent members please call John Shisko, (213) 322-3131, or Ann Martin, (714) 540-2910 x268.

Interagency Calibration: Members of SCAMIT want to encourage local agencies to communicate with each other and work toward using standardized equipment and sampling techniques. Consequently we are planning a one day workshop to discuss equipment and sampling standardization. This will be discussed further at the next meeting. We need your suggestions for this project too!

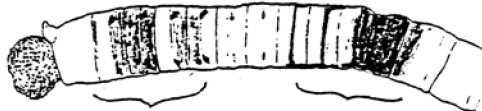
Orbiniid Key: Leslie Harris is working on a new key for Orbiniids. She would like interested persons to critique it for her. Please call her at SCCWRP, (213) 435-7071, for a copy.

Helpful Hints: Leslie Harris learned of Michael Ewing's technique of using methyl green on Capitellids at the Australian Polychaete Conference. She tried it on some of her worms and liked the results. Below are illustrations of her results. Note that the darker target stain (or Mediomastus ambiseta) will be consistent for the species but that the secondary stain will show intraspecific variability.

Mediomastus californiensis



Mediomastus ambiseta



secondary stain target stain

Notomastus hemipodus



Sue Williams mentioned that a 1-2% solution of alcian blue shows up antennal scars for Hesionidae.

New Voucher Sheet Format: This month the voucher sheets have a new format. It is the format we are considering for the Amphipod Atlas.

List of September 19, 1983 Topic Specimens:

OC29, SCCWRP27 Acesta catherinae
PL27 Acesta simplex
PL28 Leitoscoloplos elongatus
HYP27 Allia ramosa
OC30 Tauberia gracilis

Problems with Leitoscoloplos: While looking at the PL28 specimens, it became apparent there may be confusion over separating Leitoscoloplos elongatus and L. mexicanus. To resolve this we need large specimens of Leitoscoloplos. Participating members--bring them in at the October meeting. Also participants call Tony about your exchange species.



Travels with Olga: This is a new feature of the newsletter. Sue Williams has made arrangements for SCAMIT to run a series featuring Dr. Olga Hartman's letters written on her European tour. The first installment begins with a description of her research fellowship and her preparations for the trip.

Sarah Berliner Research Fellowship, \$1,500.--Olga Hartman, research zoologist, Allan Hancock Foundation, University of Southern California, Los Angeles. Birthplace, Waterloo, Illinois. A.B. 1926, University of Illinois; M.A. 1933, Ph.D. 1936, University of California; special study at Harris Teachers College, St. Louis, Missouri, and Columbia University.

Zoological laboratories throughout this country have a direct interest in the problem which Dr. Hartman will pursue as Sarah Berliner Fellow. Dr. Hartman's subject, on which she has been specializing since she began her graduate work, is the polychaetous annelids, especially those of the Pacific waters.

For various reasons, the annelids have proved particularly useful in all kinds of experimental work, and almost every zoological laboratory has occasion to use them. However, biological research based on annelids has been handicapped, because the American forms have never been properly classified and described.

Dr. Hartman has already surveyed all the available material in this country, and is regarded as the authority on these forms in the western hemisphere. On the fellowship she proposes to study the collections and literature on annelids in Europe, and complete the writing of her monograph, which will be welcomed by zoological laboratories everywhere. Dr. Hartman has already published more than a dozen studies.

In 1937 Dr. Hartman was research zoologist at the Scripps Institution of Oceanography, where Dr. Stina Gripenberg carried on research as International Fellow last year.

LETTERS
by Olga Hartman

Los Angeles, 5 Feb. 1939

Dear Folks: There has been such a rapid succession of events during the past few weeks, that all thoughts of correspondence have been rather difficult. Foremost of all, a fellowship has been granted to me which will permit a year of travel through Europe, and again eastern U.S. That takes effect in June, and many things remain to be done before then. I am thoroughly delighted, of course, to have been the fortunate recipient of the grant, but realize that there are many responsibilities and obligations accruing thereto.

Plans now indicate that I will sail from San Pedro, (have booked passage on the Amerika, (East Asiatic), sailing May 31), through the canal, and thence to England, where I expect to be in London for two months, 1½ months in Hamburg, Germany, 1½ months in Paris, and a brief stay in Naples. With such plan, I would return to America from the Mediterranean, on to Yale (New Haven, Conn.) for 2½ months, and to Washington for 1½ months, returning to Los Angeles overland. The program does sound like a lot of traveling, and there are, in addition, a number of side trips that should be included, thus Plymouth, England for the marine station, Helsingfors, Finland if possible, to look in on the activity of the biological station there, etc. So many people have interesting suggestions to make, and friends whom I must look up, etc. Right now I have most to be concerned about steamship companies, passports, methods of transport of important baggage, etc.-----
----- Our mountains are snow covered, and are beautiful and contrasting sight to the palms and tropical vegetation all about us. The snow covered hills are as close as Pasadena-----

Our little Malayan lemurs are a source of much interest to many people. They exist mainly on bananas and raw eggs, but relish persimmons and raw liver. They have a few minor personal arguments, but are never quarrelsome or pugnacious.

-The Allen Hancock Foundation
University of Southern Cal.

To be continued next month.



Tabular Guide To
Southern California
Female Cylinoroleberididae
By Brad Myers

	<u>Californica</u>	<u>Garthi</u>	<u>Hancocki</u>	<u>Barnesi</u>	<u>Hulingsi</u>	<u>Sp. K.</u>	<u>Pilosa</u>
Carapace Length (mm)	2.66-2.69	1.80-1.85	2.17-2.59	1.43-1.59	1.34-1.60	1.12-1.20	1.3-1.9
Bristles proximal to a-bristle, mandible	2	2	3	1	2	1	1
Bristles between a-and b bristles, mandible	1	1	2	0	0	0	1
Bristles lateral to b-bristle, mandible	0	3	6	0	0	0	4
Lateral bristles 7th limb	6	6	11	6	4	6	6
Ant 1 d-bristle	P	P	P	A	A	A	A
Sensory bristle of Ant 1 with proximal bristle	P	P	P	A	A	A	P
Length of exopodite in relation to 1st endopodite podomere, mandible	1/10	1/2	2/3	2/3	1/2	2/3	2/3

Rutiderma lomae
Rutidermatida

Juday 1970

Voucher #HYP 26

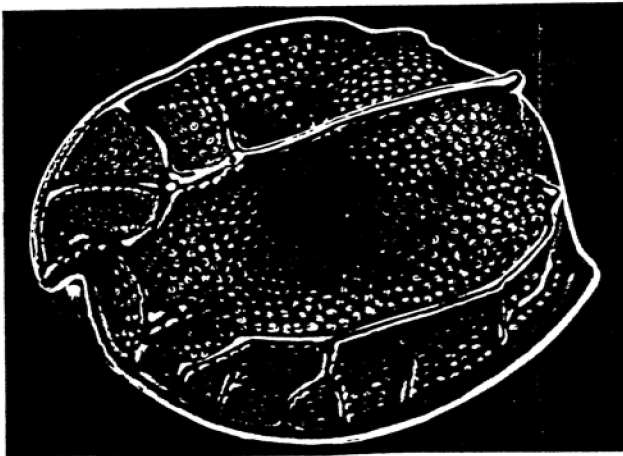
August 15, 1983

Literature Citation: Juday 1907. Ostracoda of the San Diego Region, II Littoral Forms, Univ. of Calif. in Zool. 3(9):135-156.

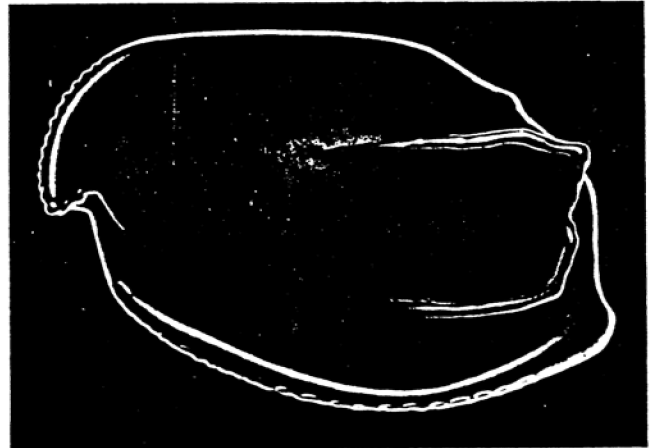
Synonymy: Philomedes lomae Juday 1907
Not Philomedes lomae of Kornicker 1958

Primary Diagnostic Characters: ♀ Distinct rostral notch; valves with 2 well developed horizontal ribs with faint riblets radiating outward originating at major ribs; caudal process fairly distinct.

Variability: ♀ 1.42-1.46 Adult

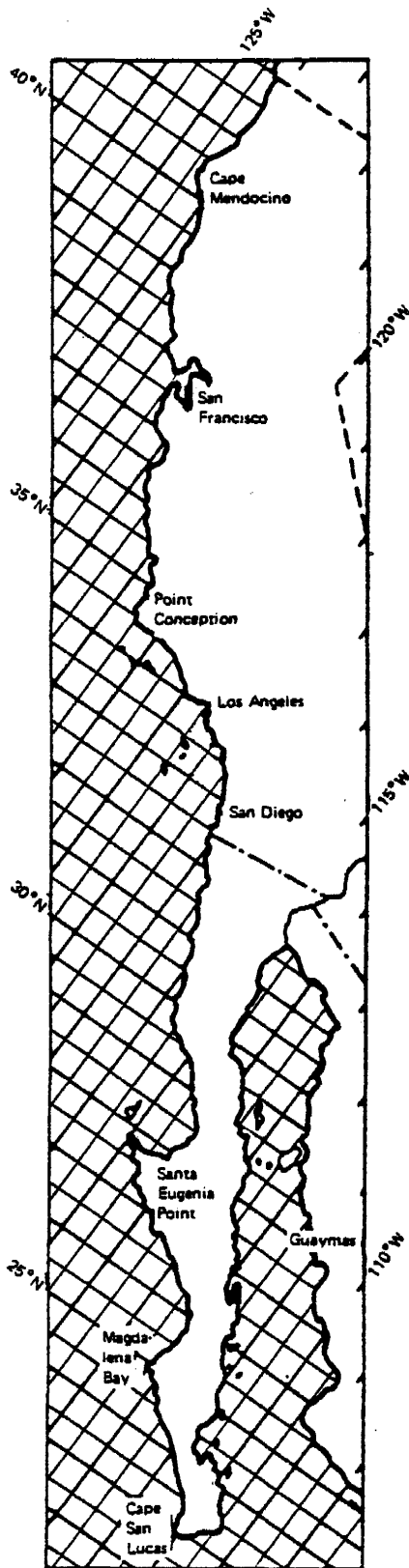


Rutiderma lomae, adult female



Rutiderma lomae, adult male

Rutiderma lomae (Juday 1907)



Pertinant Literature:

Kornicker and Myers 1981,
pp. 10-18, figs. 5-10.
Baker 1975 (use data with caution)

Depth Range: 31.4-100m

Distribution:

From Kornicker and Myers 1981,
Catalina, Oxnard, Velero Sta. #5092
OCSD Sta. B3.
From Juday 1907, off San Diego.
From Baker 1975, off Mexican Border.
From Myers (personal notes) off
Zuma Beach.

Rutiderma rostratum Juday 1907
Rutidermatidae

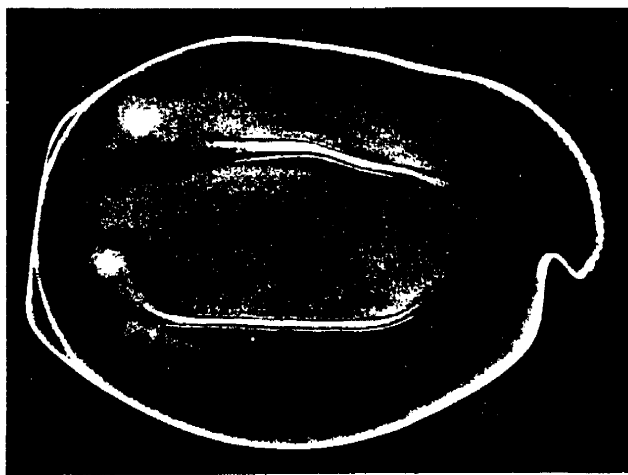
Voucher #HYP 25 August 15, 1983

Literature Citation: Juday 1907. Ostracoda of the San Diego Region, II Littoral Forms, Univ. of Calif. Publ. in Zool. 3(9):135-156.

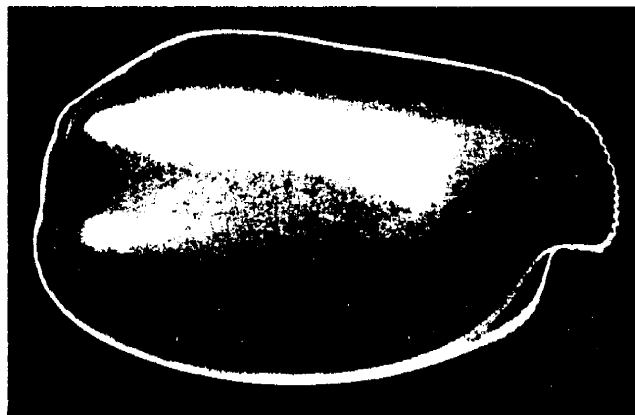
Synonymy: Rutiderma rostrata Juday 1907
Rutiderma rostrata in part of authors (Ref. Kornicker & Myers 1981)
Rutiderma rostratum Juday 1907, emendation of Kornicker & Myers 1981

Primary Diagnostic Characters: Distinct Rostral Notch; valves weakly ornamented with two horizontal ribs (may be faint and difficult to see; posteroventral region only slightly produced). (Appears slightly rounder than figures indicate.)

Variability: Size ♀ .95-1.40mm



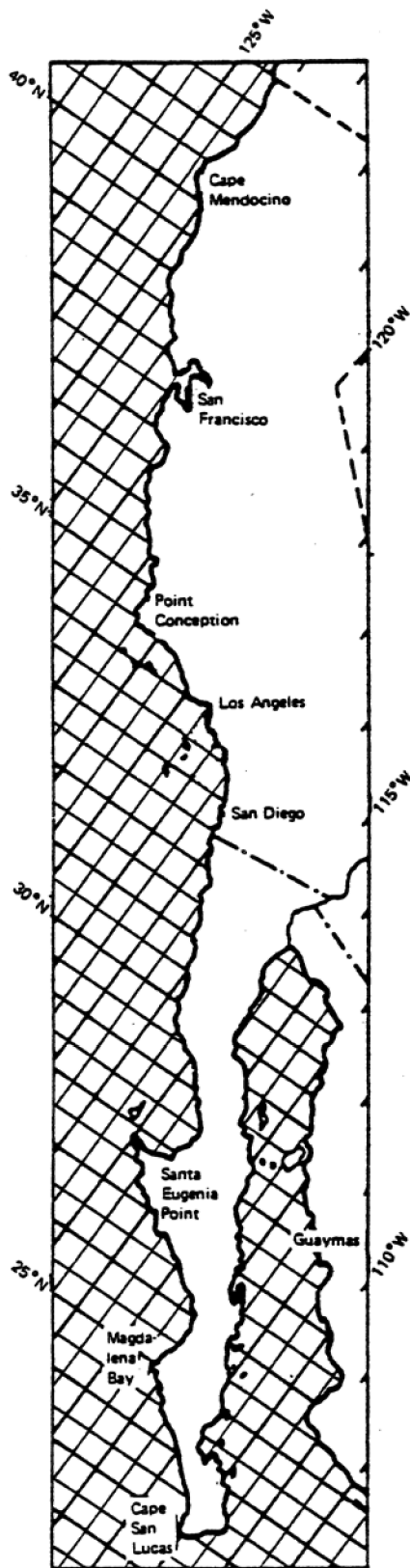
Rutiderma rostratum, adult female



Rutiderma rostratum, adult male

Rutiderma rostratum

Juday 1907



Pertinant Literature:

Kornicker and Myers 1981, pp. 4-10,
figs. 1-4.

Baker 1975 (use data with caustion)

Depth Range: 60-300'

Distribution:

From Kornicker and Myers 1981,
Oxnard, Monticeito.

From Baker 1975, Pt. Conception
to San Diego.

From Myers (personal notes)
Ensenada Mexico, Estero Bay 40'

Scleroconcha trituberculata Lucas 1931
Philomedidae

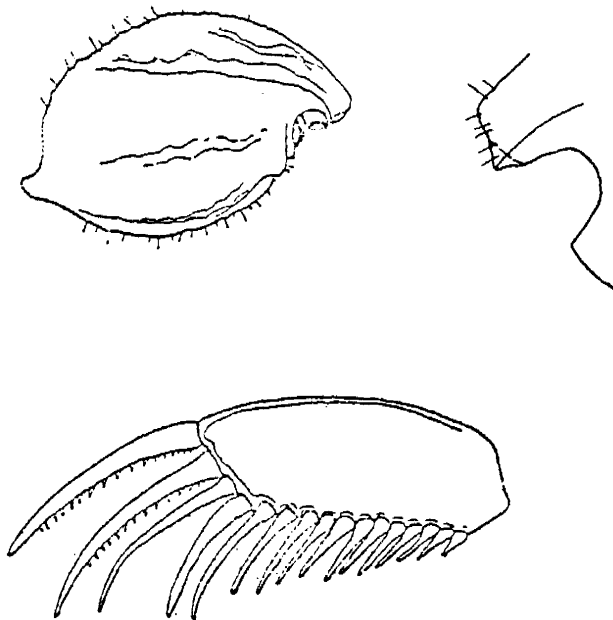
Voucher #SCCWRP 25 August 15, 1983

Literature Citation: Lucas 1931. Some ostracoda of the Vancouver Island Region. Contr. Can. Biol. Fish. 6(17n.s.):397-416.

Synonymy: Philomedes trituberculatus Lucas 1931
Scleroconcha trituberculata (Lucas) of Poulsen 1962,
of Baker 1975.

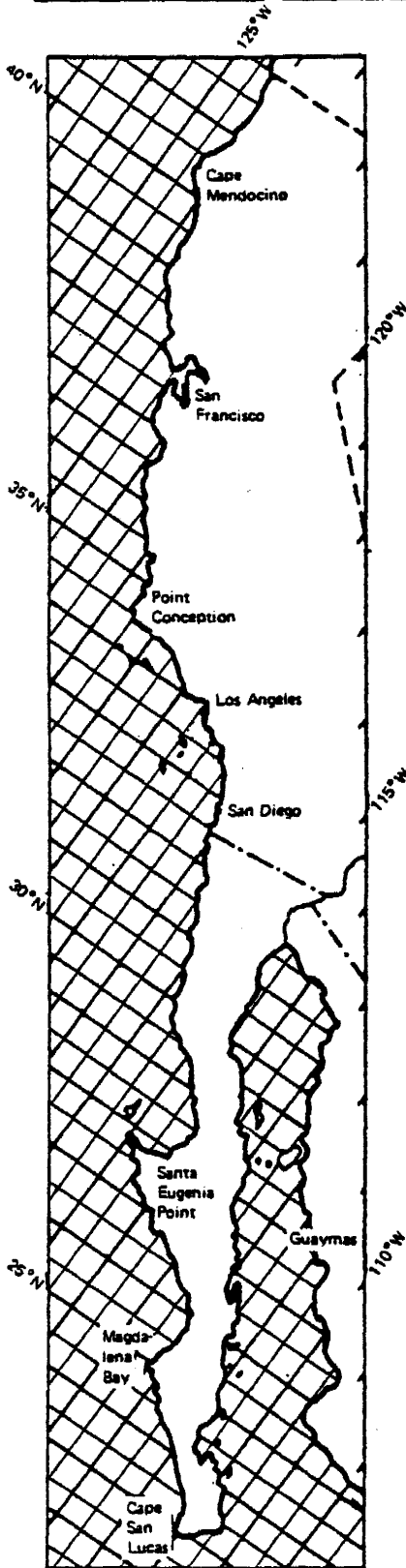
Primary Diagnostic Characters: Highly sculptured with three primary ribs longitudinally on valves, well defined caudal process and rostrum. (Do not confuse with the smaller genus Harbansus which has only 5-6 furcal claws).

Variability: Size 2.3mm ♀ (largest seen)



Scleroconcha trituberculata

Lucas 1931



Pertinant Literature:

Lucas, 1931
Poulsen, 1962
Baker, 1975

Depth Range: 600-1698'

Distribution:

From Lucas 1931, Puget Sound.
From Baker 1975, (Myers noted discrepancies may exist in Baker's data on this species).
From Myers (personal notes)
Santa Monica Bay 600'
Off Orange County 600'
Coronado Island 566m
Newport Beach 140m

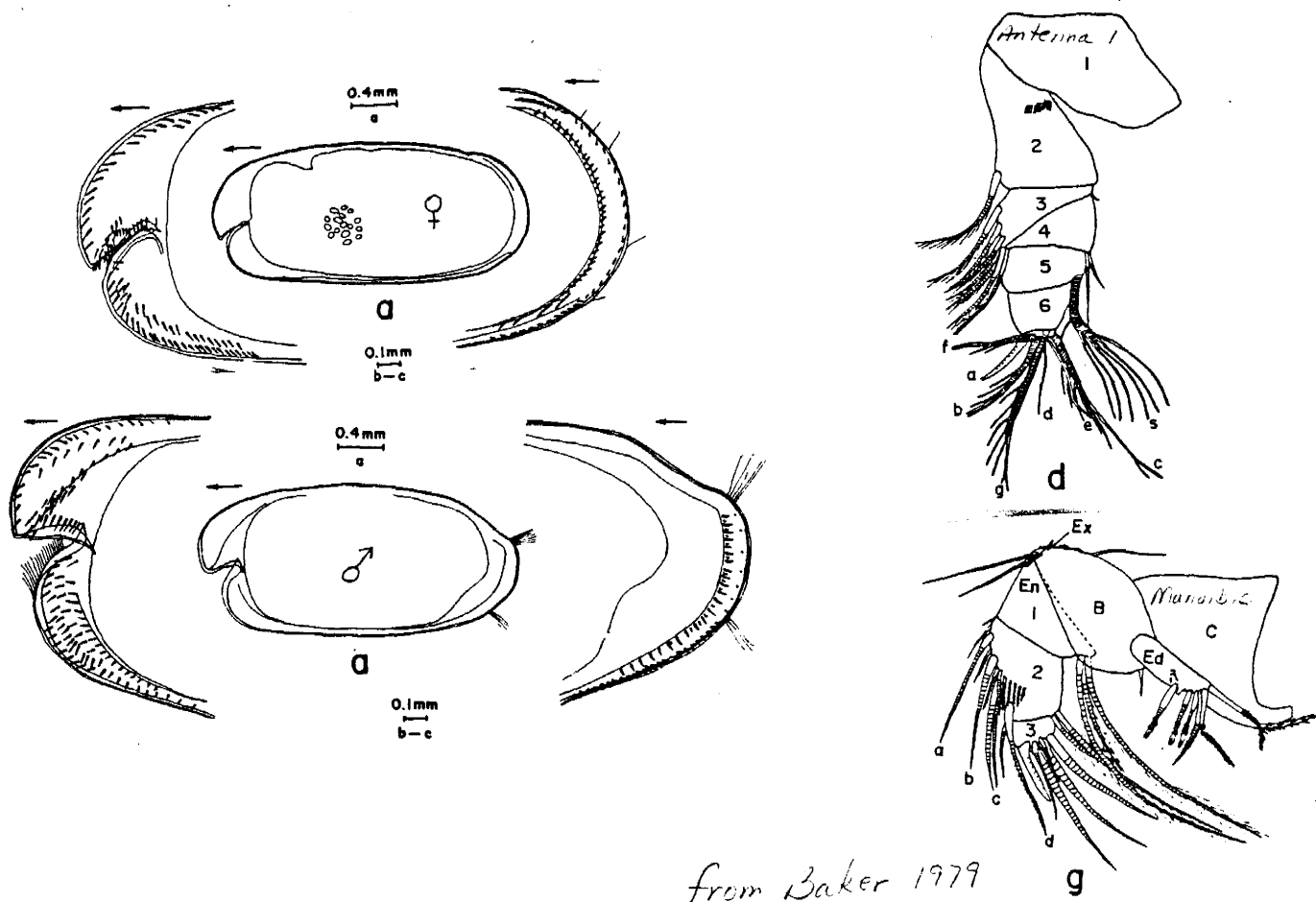
Bathyleberis californica Baker 1979
Cylindroleberididae

Voucher #OC 28 August 15, 1983

Literature Citation: Baker J.H. 1979. Three species of Bathyleberis (Ostracoda Myodocopina) from southern California, U.S.A.). *Crustaceana* 36(3):287-301.

Synonymy: Bathyleberis sp. C - General usage for SCCWRP and SCAMIT associated organizations 1975-1979, to Avoid Nomen Nudem usage based on Ph.D. dissertation by Baker 1975.

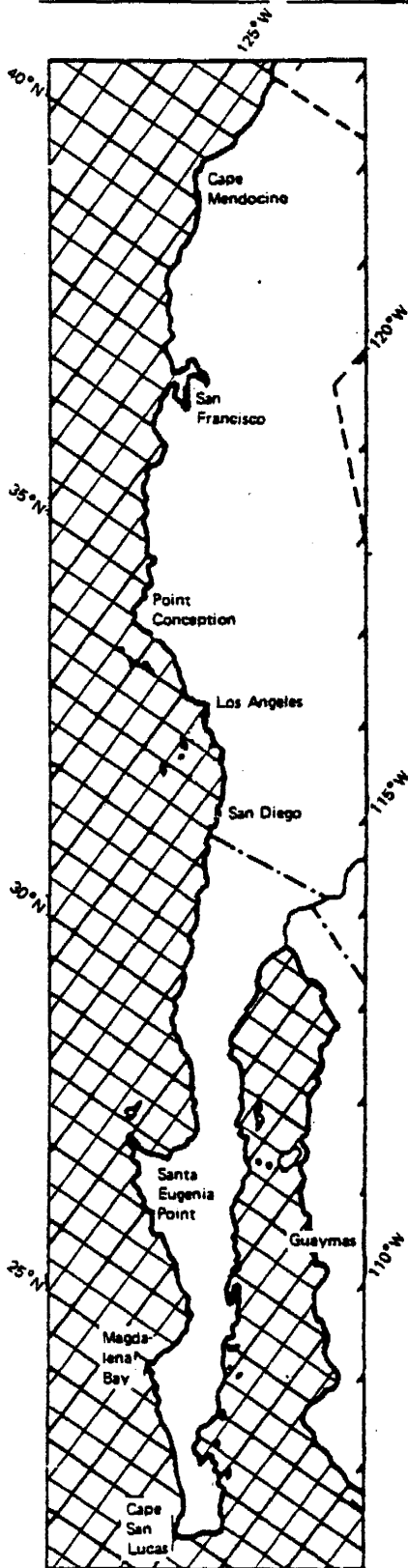
Primary Diagnostic Characters: Basic Cylindroleberidiae for southern California. Must count bristles on Ant. 1. (d. Bristle must be present for Bathyleberis see noted characters on figs. and refer to included tabular guide comparisons (also use Baker 1979).



from Baker 1979

Bathyleberis californica

Baker 1979



Pertinant Literature:

Sexual Dimorphism: Male more elongate than female, dorsoposterior angle indented, tufts of posterior hairs.

Depth Range: 9.1-401.4m

Distribution:

From Baker 1979, Pt. Conception to San Diego

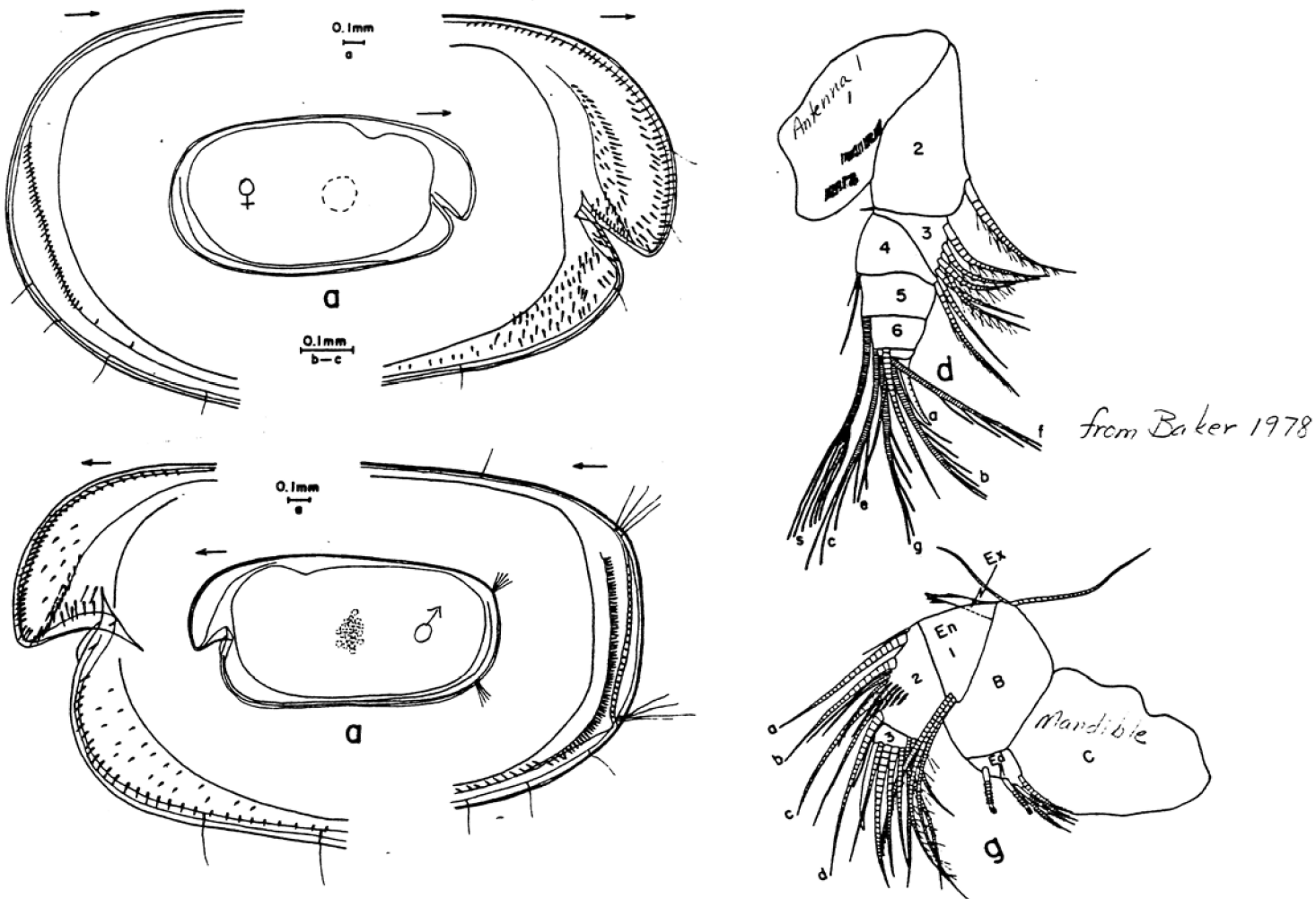
Parasterope barnesi Baker 1978
Cylindroleberidia

Voucher #PL 26 August 15, 1983

Literature Citation: Baker, J.H. 1978. Two new species of Parasterope (Myodocopina, Ostracoda) from southern California. Crustraceana 35(2):139-151.

Synonymy: Parasterope sp. B - General usage for SCCWRP and SCAMIT associated organizations 1975-1978*.

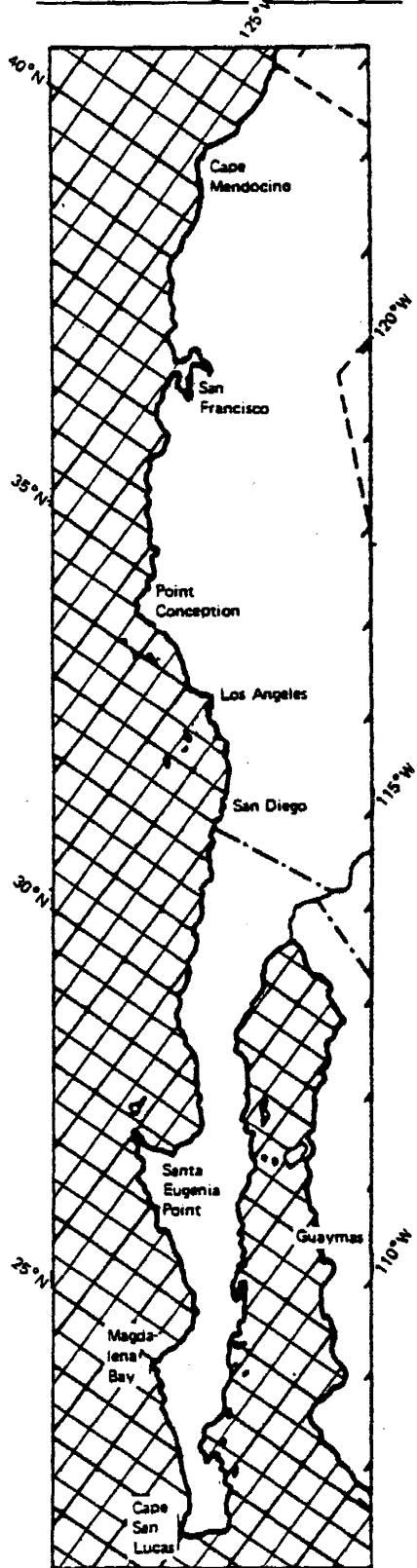
Primary Diagnostic Characters: For females: seven bristles on 7th - 8th podomere of antennal, bristle absent at base of basal endite on the mandible, and no bristles between the a and b bristles on the mandible. (See tabular key and Baker 1979.)



*See Bathyleberis californica

Parasterope barnesi

Baker 1978



Pertinant Literature:

Depth Range: 6.1-401.4m

Distribution:

From Baker 1978, Pt. Conception to San Diego.

From Myers (personal notes)

Catalina Island 20-40'

San Clemente Island

Leuroleberis sharpei Kornicker 1981
Cylindroleberididae

Voucher #MBC 16 August 15, 1983

Literature and Code: Kornicker, L.S. 1981. Revision, Distribution, Ecology, and Ontogeny of the Ostracode Subfamily Cyclasteropinae (Myodocopina: Cylindroleberididae). Smiths. Contr. to Zool. #319.

Synonymy: Cylindroleberis lobiancoi - Sharp 1908
Cycloleberis lobiancoi - of Hobson & Chess 1976
Cycloleberis americana - of Baker 1975
Cycloleberis sp.D - In use by SCCWRP & SCAMIT 1979-1983.
(=C. dentata manuscript name only)

Primary Diagnostic Characters: Distinguished easily from other southern California Ostracods by its ovoid general outline, lack of sculpturing, generally translucent whitish valves and large size (often 4-6mm).

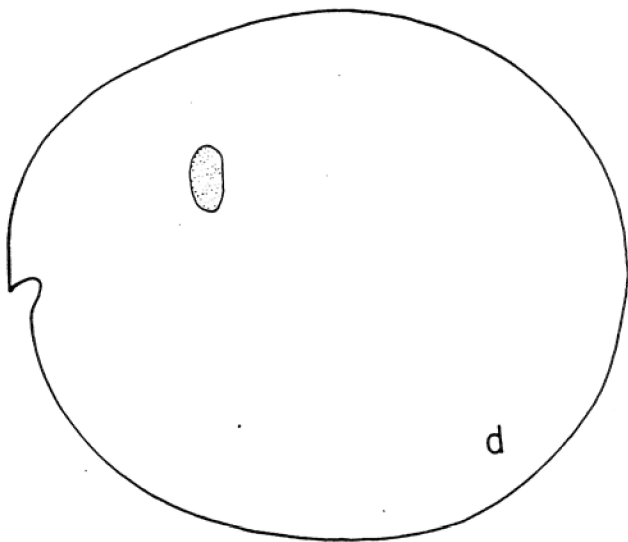


FIGURE 27

Fig. 27 from
Kornicker 1981

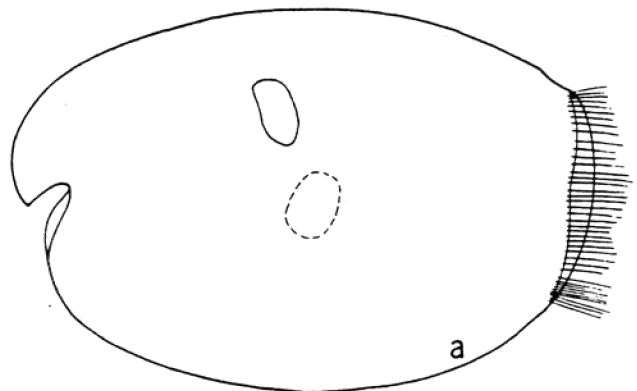
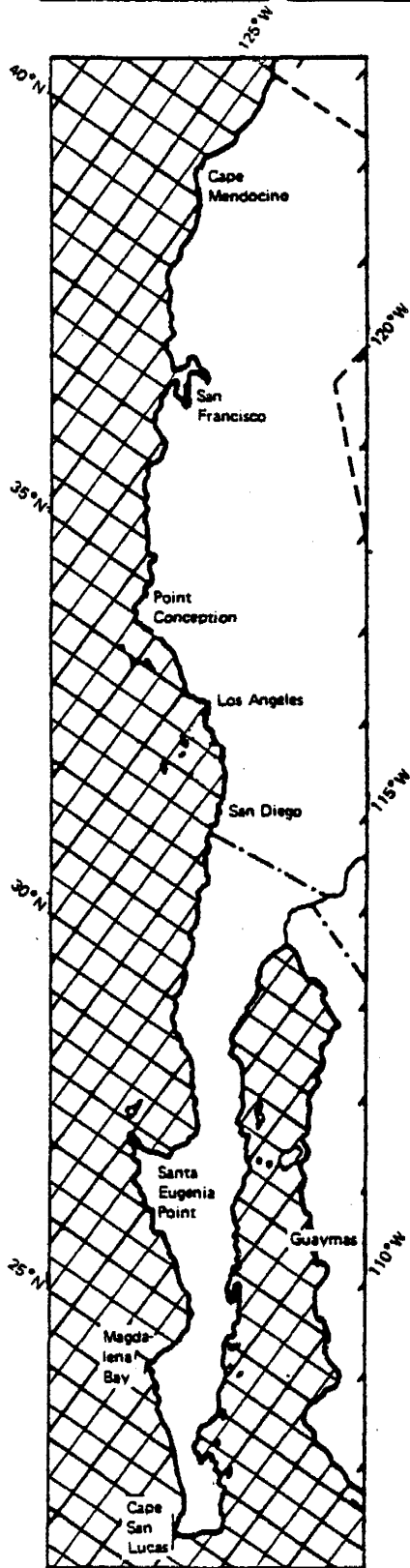


FIGURE 28

Fig. 28 from
Kornicker 1981

Leuroleberis sharpei

Kornicker 1981



Pertinant Literature:

Sexual Dimorphism: Male slightly more elongate with vertical row of setae on posterior of valves.

Depth Range: 5-35lm

Distribution:

From Kornicker 1981, Monterey Bay to Baja California and Gulf of California.

From Baker 1975, Point Conception to San Diego.

Ecology: Sandy bottom not uncommon in high surf areas such as Huntington Beach and San Onofre (Myers personal data).

WEST COAST LEITOSCOLOPLOS

species	subpodial lobe	number of thoracic setigers	branchiae begin in/ on setiger	shape thoracic neuropodial lobe	furcate setae	pigmentation (preserved)
ELONGATA	absent	15 to 21; 1-3 usually transition	thorax/ 13 to 18	low transverse ridge with small papillar lobe at midlength	present	reticulated brown on dorsum between branchial bases; branchial tips & foliaceous flanges on ventrolateral sides of abdomen often dark
KERGUELENSIS	absent	9 to 10	abdomen/ 11 to 16	short, triangular lobe	only in immatures, not adults	none
MEXICANUS	absent	13 to 14	thorax/ 11 to 13	cirriform to digitate, ventral to acicular lobe in thorax	absent	either all white or evenly brown
PANAMENSIS	present	16 to 18; transition abrupt	thorax/ 11 to 12	simple lobe at midlength in anterior; posterior lobes divided, lower one resembles a ventral cirrus*	present	none
sp. A	absent	13 to 15	thorax/ 12 to 13		?present	transverse band on peristomium; pro-stomium w/ 2 eye-like patches & 1 large median spot

* "A second lobe is present at segments 13 or 14 below the subpodial lobe and in the 15th or last thoracic segment a third lobe is present which is continued back through the first 8 to 10 abdominal segments." Hartman, 1957

KEY TO WEST COAST ORBINIIDAE

Adapted from Hartman, 1969; Fauchald, 1972, 1977

- 1a. Two asetigerous anterior segments 2
- 1b. A single asetigerous anterior segment 5
- 2a. Branchiae present on all but a few anterior and posterior segments PROTOARICIELLA 3
- 2b. Branchiae absent 4
- 3a. 1-5 furcate setae in all notopodia (may be absent in a few posteriormost notopodia); notopodial postsetal lobe begins as short digitate lobe, elongates thru setigers 4-16, then gradually shortens to become a short conical papilla PROTOARICIELLA OLIGOBANCHIA
- 3b. Furcate setae absent in first 9 notopodia, then 2 in tenth and succeeding notopodia; notopodial postsetal lobe elongate throughout body, does not change size or shape PROTOARICIELLA sp. A Williams
- 4a. Thoracic setae all capillaries . . . ORBINIELLA NUDA
- 4b. Thoracic setae include capillaries and acicular spines GENUS A SPECIES A Williams
- 5a. Prostomium rounded or truncate . . . NAINERIS 6
- 5b. Prostomium more or less pointed 9
- 6a. Branchiae present from setigers 20-23, small and inconspicuous NAINERIS NANNOBRANCHIA
- 6b. Branchiae present from a more anterior thoracic setiger, large and conspicuous 7
- 7a. Thoracic neuropodia with subuluncini in addition to regular uncini; branchiae present from setiger 7-15; postsetal lobe of thoracic neuropodia changes from a simple low fold to a short and fleshy lobe bearing a small superior papilla NAINERIS DENDRITICA
- 7b. Thoracic neuropodia with uncini only; branchiae present from a more anterior setiger 8
- 8a. Postsetal lobe of thoracic neuropodia simple; branchiae present from setiger 4-5. NAINERIS QUADRICUSPIDA*
- 8b. Postsetal lobe of thoracic neuropodia bifid after setiger 7; branchiae present from setiger 5-6 . NAINERIS UNCINATA**

* There are two forms of quadricuspida found in southern California. The first has notopodial postsetal lobes that are long and cirriform instead of short and triangular, and its branchiae are long, slender and cirriform instead of simple flat lobes (Hartman, 1969). The other has posterior neuropodia with 2 postsetal lobes (Sue Williams, per. com.).

** Large specimens in southern California have been found with 3 postsetal lobes beginning at setigers 12-15 (SW).

- 9a. All thoracic neuropodia with only slender, pointed setae LEITOSCOLOPLOS 10
- 9b. Some thoracic neuropodia with setae of another kind . . . 13
- 0a. Subpodial lobe present on posterior thoracic neuropodia; thorax with 16-18 setigers; branchiae present from setiger 11-12 LEITOSCOLOPLOS PANAMENSIS
- 0b. No subpodial lobe 11
- 1a. Thorax with 15-21 setigers; branchiae present from setiger 13-18 LEITOSCOLOPLOS ELONGATUS
- 1b. Thorax with up to 15 setigers; branchiae present on setiger 13 or before 12
- 2a. Thorax with 13-15 setigers; branchiae present on at least one of the last thoracic setigers (setiger 12-13) LEITOSCOLOPLOS sp. A Williams*
- 2b. Thorax with nine or eleven segments; branchiae first present on the 2nd or 3rd abdominal segment LEITOSCOLOPLOS KERGUENSIS
- 3a. Thoracic neurosetae of two abruptly different kinds . . 14
- 3b. Thoracic neurosetae not abruptly different 18
- 4a. Anterior three thoracic neuropodia with bristle-tipped setae CALIFIA 15
- 4b. Posterior thoracic neuropodia with thick, modified spines associated with a glandular pouch . . PHYLO . . 16
- 5a. Branchiae from setiger 8 or 9 through remaining setigers CALIFIA CALIDA
- 5b. Branchiae from setiger 8 or 9 through setigers 18-20 only CALIFIA MEXICANA
- 5a. Ventral fringe absent; 4 posterior thoracic segments with modified spines; spines weakly hastate, dark brown PHYLO NUDUS
- 5b. Ventral fringe present; posterior thoracic segments number 6 or more 17

* This species is similar to L. MEXICANUS (Fauchald, 1972), which has 13-14 thoracic segments and branchiae present from segment 11-13. It differs in having a definite color pattern on the pro- and peristomium, and the anterior third of the prostomium is abruptly tapered. L. MEXICANUS is evenly whit or dark brown and has an acutely pointed prostomium. They also differ in the position of the neuropodial postsetal lobe Found at Coal Oil Point (SW), and off Orange County and Point Dume in 300-600 meters (LH).

- 17a. Modified spines sagittate, dark brown, on 6-9 posterior thoracic segments; interramal cirri present in some abdominal parapodiaPHYLO FELIX
- 17b. Modified spines acicular, yellow, on 13 or more posterior thoracic segments; interramal cirri lacking
.PHYLO ORNATUS
- 18a. Some thoracic segments with rows of papillae along the ventrumORBINIA JOHNSONI
- 18b. Without rows of papillae on the ventrum 19
- 19a. Abdominal neuropodia with thick, projecting acicula; 10-15 large uncini in each thoracic neuropodia; branchiae from setiger 12SCOLOPLOS (LEODAMAS) MAZATLANENSIS
- 19b. Thick projecting acicula absent in abdominal neuropodia, only pointed setae present . SCOLOPLOS (SCOLOPLOS) . . . 20
- 20a. Subpodial lobe present in neuropodia from setigers 14-17 to about setiger 32SCOLOPLOS (S.) ARMIGER
- 20b. Without subpodial lobes 21
- 21a. Transition from thorax to abdomen at setigers 19-26 (in adult worms; smaller worms change at 17/18-23); branchiae usually present from transitional setigers (from 14th at earliest)SCOLOPLOS (S.) ACMECEPS
- 21b. Transition from thorax to abdomen at setiger 14-15; branchiae present at setiger 11-13
.SCOLOPLOS (S.) ACMECEPS PROFUNDUS

Special thanks to Sue Williams (Allan Hancock Foundation) for sharing her notes on new taxa and variations.

Leslie H. Harris
Southern California Coastal Water Research Project
646 West Pacific Coast Highway
Long Beach, California 90806
(213) 439-9615

REFERENCES FOR WEST COAST PARAONIDAE AND ORBINIIDAE
(including original descriptions)

- Annenkova, N. 1934. Meeres-Paraoniden im Fernen Osten der USSR. Akad. Nauk SSSR, Doklady, (n.s.) 3 (i.e. 4): 656-661. (In Russian with German summary).
- Banse, K. & K.D. Hobson. 1968. Benthic polychaeta from Puget Sound, Washington, with remarks on four other species. Proc. USNM, 125: 1-
- Berkeley, E. & C. Berkeley. 1941. On a collection of Polychaeta from southern California. Bull. So. Ca. Acad. Sci., 40: 16-60.
- Berkeley, E. & C. Berkeley. 1956. Notes on Polychaeta from the east coast of Vancouver Island and from adjacent waters, with a description of a new species of Aricidea. J. Fish. Res. Bd. Canada, 13(4): 541-546.
- Blainville, H. de. 1828. Dictionnaire des Sciences naturelles. vol. 57: 368-501.
- Brown, B. 1976. A new species of Aricidea (Polychaeta: Paraonidae) from Florida. Proc. Biol. Soc. Wash., 89: 433-438.
- Cerruti, A. 1909. Contributo all'anatomia, biologia e sistematica delle Paraonidae (Levinseniidae) con particolare riguardo alle specie del golfo di Napoli. Mitt. Zool. Stat. Neapel, 19: 459-512.
- Chamberlin, R.V. 1919a. New polychaetous annelids from Laguna Beach, California. J. Entom. Zool. Pomona, 11: 1-23.
- Chamberlin, R.V. 1919b. Pacific coast Polychaeta collected by Alexander Agassiz. Bull. Mus. Comp. Zool., 63: 251-276.
- Day, J.H. 1961. The polychaete fauna of South Africa. Part 6: sedentary species dredged off Cape coasts with a few new records from the shore. J. Linn. Soc. London (Zool.), 44: 463-560.
- Day, J.H. 1963a. The polychaete fauna of South Africa. Part 7: species from depths between 1000 and 3300 meters west of Cape Town. Ann. So. Afr. Mus., 46(14): 364-365.
- Day, J.H. 1963b. The polychaete fauna of South Africa. Part 8: new species and records from grab samples and dredgings. Bull. Brit. Mus. (Nat. Hist.) Zool., 10: 384-445.
- Day, J.H. 1977. A review of the Australian and New Zealand Orbiniidae (Annelida: Polychaeta). IN: Reish, D.J. & K. Fauchald (eds), Essays on polychaetous annelids in memory of Dr. Olga Hartman. Allan Hancock Found., Univ. So. Calif. Press, Los Angeles, CA, 217-246.
- Ehlers, E. 1908. Die bodensassighe Anneliden aus den Sammlungen d deutschen Tiefsee-Expedition. Wissenschaftliche Ergebnisse der deutschen Tiefsee-Expedition auf dem Dampfer "Valdivia" 1898 - 1899, Jena. 16(1): 168 pp.
- Fauchald, K. 1972. Benthic polychaetous annelids from deep water off western Mexico and adjacent areas in the eastern Pacific Ocean. Allan Hancock Monogr. Mar. Biol., 7: 575 pp.
- Fauchald, K. 1977. The Polychaete Worms. Definitions and keys to the orders, families and genera. Nat. Hist. Mus. Los Angeles Co., Sci. Ser., 28: 188 pp.
- Fauchald, K. & D. Hancock. 1981. Deep-water polychaetes from a transect off Central Oregon. Monogr. Allan Hancock Found., no. 11: 73 pp.
- Fabricius, O. 1780. Fauna Groenlandica, systematice sistens, Animalia Groenlandica occidentalis hactenus indagata, quod nomen specificum, triviale, vernaculumque; synonyma auctorum plurium, descriptionem, locum, victum, generationem, mores, usum, capturamque singuli, prout detegendi occasio fuit, maximeque parti secundum proprias observationes, Hafniae, 452 pp.
- Guille, A., & L. Laubier. 1966. Additions a faune des Annelides Polychetes de Banyuls-sur-Mer. Vie et Milieu, 17(1B): 259-83.
- Hartman, O. 1942. A review of the types of polychaetous annelids at the Peabody Museum of Natural History, Yale University. Bull. Bingham Oceanogr. Coll., 8: 1-98.
- Hartman, O. 1944. Polychaetous annelids. Part 6. Paraonidae, Magelonidae, Longosomidae, Ctenodrilidae, and Sabellariidae. Allan Hancock Pac. Exped. Repts., 10: 311-390.
- Hartman, O. 1948. The polychaetous annelids of Alaska. Pac. Sci., 8(1): 1-58.
- Hartman, O. 1951. The littoral marine annelids of the Gulf of Mexico. Pub. Inst. Mar. Sci., Univ. Texas, 2(1): 7-124.
- Hartman, O. 1957. Orbiniidae, Apistobranchidae, Paraonidae and Longosomidae. Allan Hancock Pac. Exped. Repts., 15: 211-393.
- Hartman, O. 1960. Systematic account of some marine invertebrate animals from the deep basins off southern California. Allan Hancock Pac. Exped. Repts., 22: 69-215.
- Hartman, O. 1961. Polychaetous annelids from California. Allan Hancock Pac. Exped. Repts., 25: 1-226.

- Hartman, O. 1963. Submarine canyons of southern California. Part 3. Systematics: Polychaetes. Allan Hancock Pac. Exped. Repts., 27: 1-93.
- Hartman, O. 1965. Deep-water benthic polychaetous annelids off New England to Bermuda and other north Atlantic areas. Allan Hancock Found. Publs. Occas. Pap., 28: 131-143.
- Hartman, O. 1969. Atlas of sedentariate polychaetous annelids from California. Allan Hancock Foundation, USC, Los Angeles, 812 pp.
- Hartman, O. & K. Fauchald. 1971. Deep-water benthic polychaetous annelids off New England to Bermuda and other north Atlantic areas. Part 2. Allan Hancock Monogr. Mar. Biol., 6: 94-104.
- Hartmann-Schroder, G. 1965. Die Polychaeten des Sublitorals. Zur Kenntnis des Sublitorals der chilenischen Kuste unter besonderer Berucksichtigung der Polychaeten und Ostracoden. (Mit Bemerkungen uber den Einfluss sauerstoffarmer Stromungen auf die Besiedlung von marinen Sedimenten). Mitt. Hamburg Mus. Inst., 62(suppl.): 59-305.
- Hasan, S.A. 1960. Some polychaetes from the Karachi coast. Ann. Mag. Nat. Hist., 13(3): 107-110 (pages on paraonids only)
- Hobson, K.D. 1972. Two new species and two new records of the family Paraonidae (Annelida: Polychaeta) from the northeast Pacific Ocean. Proc. Biol. Soc. Wash., 85: 549-556.
- Hobson, K.D. 1974. *Orbiniella nuda* new species (Orbiniidae) and nine new records of other sedentariate polychaetous annelids from Washington and British Columbia. Can. J. Zool., 52: 69-75.
- Hobson, K.D. 1976. *Protoariciella oligobranhia* new species (Orbiniidae) and six new records of Orbiniidae, Questidae, and Paraonidae (Annelida, Polychaeta) from British Columbia. Can. J. Zool., 54: 591-596.
- Hobson, K.D. 1981. Sedentariate and archiannelid polychaetes of British Columbia and Washington. Can. Bull. Fish. Aquat. Sci., 209: 144 pp.
- Imajima, M. 1973. Paraonidae (Polychaeta) from Japan. Bull. Nat. Sci. Mus. Tokyo, 16: 253-292.
- Johnson, H.P. 1901. The Polychaeta of the Puget Sound region. Proc. Boston Soc. Nat. Hist., 29: 381-437.
- Jones, M.L. 1968. *Paraonis pygoenigmatica* new species, a new annelid from Massachusetts (Polychaeta: Paraonidae). Proc. Biol. Soc. Wash., 81: 323-334.
- Kinberg, J.G.H. 1866. Annulata nova. Ofv. Svenska Vetensk. Akad. Forh., 22: 239-258.
- Kinberg, J.G.H. 1867. Annulata nova. Ofv. Svenska Vetensk. Akad. Forh., 23: 337-357.
- Laubier, L. 1967. Sur quelques Aricidea (Polychetes, Paraonidae de Banyuls-sur-Mer. Vie et Milieu, Ser. A, 18: 99-132.
- Laubier, L. & J. Ramos. 1973. Paraonidae (Polychetes sedentaire de Mediterranee. Bull. Mus. Nat. Hist. Naturelle, 3rd ser., #168: 1097-1148.
- McIntosh, W.C. 1885. Report on the Annelida Polychaeta collected by H.M.S. Challenger during the years 1873-76. Challenger Reports, vol. 12: 1-554.
- McIntosh, W.C. 1901. Chaetopoda, IN Whiteaves. Catalogue of the marine invertebrata of eastern Canada. Ottawa, S.W. Dawson, pp. 68-88.
- Monro, C.C.A. 1933. The Polychaeta Sedentaria collected by Dr. Crossland at Colon, in the Panama region and the Galapagos Islands during the expedition of the S.Y. St. George. Zool. Soc. Long., Proc., pt. 2: 1039-1092.
- Moore, J.P. 1909. Polychaetous annelids from Monterey Bay and San Diego, California. Proc. Acad. Nat. Sci. Phil., 61: 235-295.
- Moore, J.P. 1911. The polychaetous annelids dredged by the U.S. Albatross off the coast of southern California in 1904. Euprosynidae to Goniadidae. Proc. Acad. Nat. Sci. Phil., 63: 234-318.
- Muller, O.F. 1776. Zoologica Danicae Prodromus seu Animalium Daniae et Norvegiae indigenarum characters, nomine et synonymis imprimis popularium. Copenhagen, Havniae, 274 pp.
- Pettibone, M.H. 1957. North American genera of the family Orbiniidae (Annelida: Polychaeta), with descriptions of new species. J. Wash. Acad. Sci., 47: 159-167.
- Pettibone, M.H. 1957. A new polychaetous annelid of the family Paraonidae from the north Atlantic. J. Wash. Acad. Sci., 47: 354-356.
- Pettibone, M.H. 1963. Marine polychaete worms of the New England region. I. Aphroditidae through Trochochaetidae. Bull. U.S. Nat. Mus., 227: 1-356 pp.

- Pettibone, M.H. 1965. Two new species of Aricidea (Polychaeta, Paraonidae) from Virginia and Florida, and redescription of Aricidea fragilis Webster. Proc. Biol. Soc. Wash., 78: 127-140.
- Quatrefages, A., de. 1865. Histoire naturelle des Anneles marina et d'eau douce. Annelides et Gephyriens. Paris, Libr. Encycl. de Roret, vol. 1: 588 pp.
- Reish, D.J. 1968. A biological survey of Bahia de Los Angeles, Gulf of California, Mexico. II. Benthic polychaetous annelids. Trans. San Diego Soc. Nat. Hist., 15: 67-106.
- Southern, R. 1914. Archiannelida and Polychaeta. Clare Island Survey, part 47. Proc. Roy. Irish Acad., Dublin, 31: 1-160.
- Southward, E.C. 1956. On some polychaeta of the Isle of Man. Ann. Mag. Nat. Hist., ser. 12, 9: 257-279.
- Strelzov, V. 1968. Polychaete worms of the family Paraonidae (Polychaeta, Sedentaria) of the Barents Sea. (In Russian). Trudy Murmansk Mar. Biol. Inst. Akad. Nauk SSSR, 17: 74-95.
- Strelzov, V. 1972. On the morphology of the setae of the polychaete family Paraonidae Cerruti, 1909 (Polychaeta, Sedentaria). (In Russian). Doklady Akad. Nauk SSSR, 202: 1219-1222.
- Strelzov, V. 1973. Polychaetous annelids of the family Paraonidae Cerruti, 1909 (Polychaeta, Sedentaria). Doklady Akad. Nauk SSSR, 170 pp. (English translation)
- Tauber, P. 1879. Annulata Danica. En kritisk revision af de i Danmark fundne Annulata Chaetognatha, Gephyrea, Balanoglossi, Discophoreae, Oligochaeta, Gymnocopa og Polychaeta. Kjobenhavn, Reitzel, 144 pp.
- Tebble, N. 1959. On a collection of polychaetes from the Mediterranean coast of Israel. Bull. Res. Council Israel, 8: 9-30.
- Verrill, A.E. 1873. Report upon the invertebrate animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region. U.S. Com. Fish., Wash., Rep. 1871-1872, pp. 295-778.
- Webster, H.E. 1879. Annelida Chaetopoda of the Virginia coast. Trans. Albany Inst., 9: 202-269.
- Webster, H.E. & J.E. Benedict. 1887. The Annelida Chaetopoda from Eastport, Maine. Rep. U.S. Fish. Comm. for 1885: 707-755.

CHECKLIST OF WEST COAST ORBINIIDAE

Leslie H. Harris

CALIFIA Hartman, 1957

CALIFIA CALIDA Hartman, 1957
Southern California to near Cedros Island, Baja; with glass sponges in silty bottoms.

CALIFIA MEXICANA Fauchald, 1972
Slope & abyssal depths, Gulf of California, Baja; central Oregon, 1400-2000m.

LEITOSCOLOPLOS Day, 1977
= HAPLOSCOLOPLOS Monro, 1933, in part

LEITOSCOLOPLOS ELONGATUS (Johnson, 1901)
= SCOLOPLOS ELONGATA Johnson, 1901 (not S. ELONGATUS Quatrefages)
= S. (S.) PUGETTENSIS Pettibone, 1957
= HAPLOSCOLOPLOS ELONGATUS (Johnson, 1901) Hartman, 1944
= ARICIA sp. Treadwell, 1914 (in part)
= LEITOSCOLOPLOS PUGETTENSIS of Hobson & Banse, 1981
Alaska to Baja, intertidal to 293 m; central Oregon, 2800m.

LEITOSCOLOPLOS KERGUELENSIS (McIntosh, 1885)
= SCOLOPLOS KERGUELENSIS McIntosh, 1885
?= SCOLOPLOS MAWSONI Benham, 1921, fide Monro, 1936
= HAPLOSCOLOPLOS KERGUELENSIS (McIntosh, 1885) Fauchald, 1972
Antarctic and sub-antarctic; deep water Baja; central Oregon, 1600 & 1800 m.

LEITOSCOLOPLOS MEXICANUS (Fauchald, 1972)
= HAPLOSCOLOPLOS MEXICANUS Fauchald, 1972
Gulf of California; ?San Diego, Palos Verdes.

LEITOSCOLOPLOS PANAMENSIS (Monro, 1933)
= HAPLOSCOLOPLOS ELONGATUS of Monro, 1933
= HAPLOSCOLOPLOS PANAMENSIS Monro, 1933
= HAPLOSCOLOPLOS ALASKENSIS Hartman, 1948
Alaska to Pacific Panama, intertidal to 46 m, sandy mud or mud.

LEITOSCOLOPLOS SP. A Williams
Coal Oil Point, slope; Orange County and Point Dume, 300-600m.

NAINERIS Blainville, 1828
= ANTHOSTOMA Schmarda, 1861
= NAIS Fabricius, 1780
= THEODISCA F. Muller, 1858
= NAIDONERIS Webster & Benedict, 1887

NAINERIS BICORNIS Hartman, 1957
?southern California; Gulf of Mexico

NAINERIS DENDRITICA (Kinberg, 1867)
= ANTHOSTOMA DENDRITICUM Kinberg, 1867
?= NAINERIS HESPERA Chamberlin, 1919
= NAINERIS LONGA Moore, 1909
= NAINERIS ROBUSTA Moore, 1909
= NAINERIS LAEVIGATA of Berkeley & Berkeley, 1941, 1942;
Hartman, 1944
Alaska to southern California, intertidal, in sandy mud.

NAINERIS NANNOBRANCHIA (Chamberlin, 1919)
= NAINEREIS NANNOBRANCHIA Chamberlin, 1919
Northern California, intertidal.

NAINERIS QUADRICUSPIDA (Fabricius, 1780)
= NAIS QUADRICUSPIDA Fabricius, 1780
= ARICIA (SCOLOPLOS) QUADRICUSPIDATA Leuckart, 1849
= SCOLOPLOS MINOR Oersted, 1842
= THEODISCA MAMILLATA Cunningham & Ramage, 1888
San Pedro Channel, 370 fm; King Harbor, southern California;
Washington, intertidal; boreal North Pacific; northwestern
Europe; intertidal to 2500 m.

NAINERIS UNCINATA Hartman, 1957
= NAINERIS (NAINERIS) BERKELEYORUM Pettibone, 1957
Alaska to southern California; intertidal in north, slope
depths in south; sand and mixed sediments.

ORBINIA Quatrefages, 1865
= ARICIA Savigny, 1820

ORBINIA JOHNSONI (Moore, 1909)
= ARICIA JOHNSONI Moore, 1909
Central and southern California; Pacific Costa Rica and Panama;
intertidal to 8 fm; sandy silt.

ORBINIELLA Day, 1954

ORBINIELLA NUDA Hobson, 1974
British Columbia to Washington, intertidal.

PHYLO Kinberg, 1866
= ARICIA in part
= ARCHIARICIA Czerniavsky, 1881

PHYLO FELIX Kinberg, 1866
= ARICIA MICHAELSENI Ehlers, 1897
= ORBINIA (PHYLO) FELIX of Pettibone, 1957
British Columbia through western Mexico, southern South America;
intertidal to 55 fm.

PHYLO NUDUS (Moore, 1911)
= ARICIA NUDA Moore, 1911
Southern California, slope and basin depths; central Oregon,
1000 & 2600 m.

PHYLO ORNATUS (Verrill, 1873)
= ARICIA ORNATA Verrill, 1873
= ARICIA MACGINITEI Berkeley & Berkeley, 1941
?= ORBINIA (ORBINIA) SWANI Pettibone, 1957
= ORBINIA ORNATA of Hartman, 1944
Southern California; Baja; New England to Gulf of Mexico;
littoral.

PROTOARICIELLA Hartmann-Schroder, 1962

PROTOARICIELLA OLIGOBANCHIA Hobson, 1976
British Columbia; intertidal.

PROTOARICIELLA SP. A Williams
Channel Islands, off Santa Rosa Island; 100-250 m.

SCOLOPLOS Blainville, 1828
SCOLOPLOS (SCOLOPLOS)

SCOLOPLOS ACMECEPS Chamberlin, 1919
= SCOLOPLOS ELONGATUS of Hilton, 1918
Alaska to western Mexico; littoral

SCOLOPLOS ACMECEPS PROFUNDUS Hartman, 1960
Offshore basins of southern California.

SCOLOPLOS ARMIGER (Muller, 1776)
= LUMBRICUS ARMIGER Muller, 1776
= SCOLOPLOS sp. Hartman, 1955
= ANTHOSTOMA ACUTUM Verrill, 1873
= ARICIA ARCTICA Hansen, 1878
= ARICIA MULLERI Rathke, 1843
= SCOLOPLOS CANADENSIS McIntosh, 1901
= SCOLOPLOS ELONGATUS Quatrefages, 1865
= SCOLOPLOS JEFFREYSI McIntosh, 1905
= SCOLOPLOS RISERI Pettibone, 1957
Southern California; western Europe; littoral, sand and mixed
sediments.

SCOLOPLOS (LEODAMAS) Kinberg, 1866

SCOLOPLOS MAZATLANENSIS Fauchald, 1972
Western Mexico, deep; central Oregon, 1800 m.

CHECKLIST OF WEST COAST PARAONIDAE

Leslie H. Harris

ACESTA Strelzov, 1973

= ARICIDEA (ACESTA) Strelzov, 1973

ACESTA ASSIMILIS (Tebble, 1959)

= ARICIDEA ASSIMILIS Tebble, 1959

= ARICIDEA (ACESTA) ASSIMILIS of Strelzov, 1973

British Columbia; southern California; off Cape Blanco, Ca; Mediterranean coast of Israel, Red Sea, South Georgia and Caroline Islands; 53-1155m, silt or clay.

ACESTA CATHERINAE (Laubier, 1967)

= ARICIDEA CATHERINAE Laubier, 1967

= ARICIDEA (ACESTA) CATHERINAE of Strelzov, 1973

= ARICIDEA JEFFREYSII of Pettibone, 1963, 1965

= ARICIDEA LOPEZI of Hartman, 1963

= ARICIDEA ZELENZOVI Strelzov, 1968

Submarine canyons of southern California, 16m to 1272m, on mud, sand, clay and rock; Atlantic coast North America, Uruguay, Mediterranean, Barents Sea, Kuril Islands.

ACESTA CERRUTI (Laubier, 1966)

= ARICIDEA CERRUTI of Guille & Laubier, 1966

= ARICIDEA (ACESTA) CERRUTI of Strelzov, 1973

= ARICIDEA JEFFREYSI (McIntosh, 1879) of auctt.

= ARICIDEA JEFFREYSI (McIntosh, 1879) sensu Cerruti, 1909; auctt.

= PARAONIS (PARAONIS) PAUCIBRANCHIATA Cerruti, 1909

= PARAONIS sp. Augener, 1931

Southern California; ?British Columbia, 36-419m; Gulf of Florida, Ireland, North Sea, Mediterranean, Red Sea, South Africa, Adriatic Sea, Scandinavian areas.

ACESTA FINITIMA Strelzov, 1973

= ARICIDEA (ACESTA) FINITIMA Strelzov, 1973

= ARICIDEA NR. SUECICA Hartman, 1957 (in part); 1963

= ARICIDEA LONGBRANCHIATA Day, 1961 (in part)

= ARICIDEA JEFFREYSI of Hartman, 1955

= ARICIDEA NEOSUECICA Hartman, 1965 (in part: California record)

San Pedro, CA, 436m; South Africa, Uruguay, Scotia Sea, Japan; mud to sand.

ACESTA HORIKOSHII (Imajima, 1973) Lovell, in prep.

= ARICIDEA HORIKOSHII Imajima, 1973

Los Angeles Harbor to San Diego; Japan.

ACESTA LOPEZI (Berkeley & Berkeley, 1956)

= ARICIDEA LOPEZI Berkeley & Berkeley, 1956

= ARICIDEA (ACESTA) LOPEZI LOPEZI of Strelzov, 1973

= ARICIDEA FRAGILIS of auctt.

= ARICIDEA FAUVELI Hartman, 1957

= ARICIDEA NR. FAUVELI Hartman, 1963, 1969

= ARICIDEA SUECICA Buzhinskaya, 1967

?= ARICIDEA (AEDICIRA) PUNCTATA Hartmann-Schroder, 1962

?= ARICIDEA (AEDICIRA) BREVICORNIS Hartmann-Schroder, 1962

"May be widespread, but has been confused with similar species. Western Mexico and southern California in bathyal depths and in shelf depths in western Canada", central Oregon, 1600 - 72800 m (Fauchald & Hancock, 1981).

ACESTA RUBRA (Hartman, 1963) Fauchald & Hancock, 1981

= ARICIDEA (ACESTA) LOPEZI RUBRA of Strelzov, 1973

= ARICIDEA LOPEZI RUBRA Hartman, 1963

Newport, Santa Cruz and Tanner Canyons, in 500 to 1300 m, mud (Hartman, 1969).

Larry Lovell has examined the type material and considers this to be synonymous with ACESTA FINITIMA.

ACESTA ROSEA (Reish, 1968) Fauchald & Hancock, 1981

= ARICIDEA (ACESTA) LOPEZI ROSEA of Strelzov, 1973

= ARICIDEA LOPEZI ROSEA Reish, 1968

Bahia de los Angeles, Baja, to 50 m.

Larry considers this to be a distinct species.

ACESTA MIRIFICA Strelzov, 1973

= ARICIDEA (ACESTA) MIRIFICA Strelzov, 1973

= ARICIDEA NR. SUECICA Hartman, 1957 (in part)

Southern California, 80m; Antarctica, New Guinea.

ACESTA NEOSUECICA (Hartman, 1965)

= ARICIDEA NEOSUECICA Hartman, 1965

"The systematic position of A. NEOSUECICA is not clear due to the incompleteness of the original description by Hartman (1965a)" Strelzov, 1973. The confusion about NEOSUECICA is compounded by the fact that Strelzov (1973) refers Hartman's species into his FINITIMA and MIRIFICA at the same time that Hobson (1972) concluded that it was divided into three valid species, ARICIDEA WASSI, ARICIDEA PSEUDOARTICULATA, AND NEOSUECICA. Strelzov and Hobson apparently looked at different specimens but a comparison should be made to resolve the confusion.

"British Columbia, southern California, and off New England. In 16 - 4,749m." Hobson, 1972.

ACESTA SIMPLEX (Day, 1963)

= ARICIDEA SUECICA SIMPLEX Day, 1963

= ARICIDEA (ACESTA) SIMPLEX of Strelzov, 1973

= ARICIDEA USCHAKOWI of Levenstein, 1966

Southern California; Uruguay, Patagonia, Scotia Sea, Antarctica, Scandinavia, Davis Sea, New Zealand, Bering Sea, Sea of Japan, Caroline Islands; muddy to sandy bottoms.

ACESTA SP. A Lovell
Southern California

AEDICIRA Hartman, 1957

= ARICIDEA (AEDICIRA) Hartman, 1957

AEDICIRA LONGICIRRATA Fauchald, 1972

Central Oregon, ?1800m, 2000m; western Mexico.

AEDICIRA OREGONENSIS Fauchald & Hancock, 1981

Central Oregon, 1200-2900m.

AEDICIRA PACIFICA (Hartman, 1944)

= ARICIDEA PACIFICA Hartman, 1944

= ARICIDEA (AEDICIRA) PACIFICA Hartman, 1957

Intertidal southern California; shelf depths northwest Pacific;
central Oregon, 1400-2865m; Japan.

ALLIA Strelzov, 1973

= ARICIDEA (ALLIA) Strelzov, 1973

ALLIA ANTENNATA (Annenkova, 1934) Lovell, in prep.

= AEDICIRA ANTENNATA of Fauchald, 1972, Fauchald & Hancock, 1981

= ARICIDEA ANTENNATA Annenkova, 1934

= ARICIDEA (ALLIA) QUADRILOBATA of Strelzov, 1973, in part

= ARICIDEA USCHAKOWI of Carey, 1972

"Cold-water areas of the northern Pacific as far south as western Mexico in slope depths....Strelzov (1973) combined a series of species that have comparatively long, slender antennae and lack modified setae... Without more precise data, the proposed combinations are unacceptable." Fauchald & Hancock, 1981

ALLIA CRASSICAPITIS (Fauchald, 1972) Fauchald & Hancock, 1981

= ARICIDEA CRASSICAPITIS Fauchald, 1972

Western Mexico, bathyal & abyssal depths; central Oregon, 2000-2900m.

ALLIA HARTMANI (Strelzov, 1968)

= AEDICIRA HARTMANI Strelzov, 1968

= ARICIDEA (ALLIA) HARTMANI of Strelzov, 1973

Barents Sea, 105-195m, muddy bottoms; central Oregon, 2200m.

ALLIA MONICAE (Laubier, 1967)

= ARICIDEA MONICAE Laubier, 1967

= ARICIDEA (ALLIA) MONICAE of Strelzov, 1973

= ARICIDEA USCHAKOWI of Hartman, 1957 (?in part), 1963, ?1967

Southern California, 628m, muddy bottom; Mediterranean Sea.

"The specimens from Hartman's collection (San Pedro, east of Six Mile Bank, 628m) which she identified as A. USCHAKOWI Zachs, is typical of A. (ALLIA) MONICAE. It is suggested that all the other specimens identified by Hartman (1957, 1963, 1967) as A. USCHAKOWI, are to be referred to this species" Strelzov, 1973. Infrequent in southern California, 60 m and deeper.

ALLIA NOLANI (Webster & Benedict, 1887)

= ARICIDEA NOLANI Webster & Benedict, 1887

= ARICIDEA (ALLIA) NOLANI of Strelzov, 1973

= ARICIDEA SUECICA Eliason, 1920; auctt; Hartman, 1969

= ARICIDEA USCHAKOWI Zachs, 1925

= ARICIDEA HETEROSETA Hartman, 1948

?= ARICIDEA LONGICORNUTA Berkeley & Berkeley, 1950, 1952

Southern California; Atlantic North America; circumpolar;

western Canada. Imajima (1973) considers A. USCHAKOWI (sic) as a valid species, with A. LONGICORNUTA its junior synonym; Strelzov (1973) synonymizes Zachs' species under NOLANI, and places LONGICORNUTA under ALLIA QUADRILOBATA.

ALLIA QUADRILOBATA (Webster & Benedict, 1887)

= ARICIDEA QUADRILOBATA Webster & Benedict, 1887

= ARICIDEA (ALLIA) QUADRILOBATA of Strelzov, 1973

= ARICIDEA USCHAKOWI auctt. (including ?Hartman, 1957, 1960,

?1963, ?1967; ?Hartman & Barnard, 1958; Reish, 1968)

= ARICIDEA LONGICORNUTA Berkeley & Berkeley, 1950, 1952

= ARICIDEA SUECICA auctt.

= ARICIDEA ANNAE Laubier, 1967

= ARICIDEA SP. Hartman, 1955

Washington to British Columbia; circumpolar; Mediterranean; Japan. Hobson & Banse (1981) cite Strelzov's synonymy of LONGICORNUTA for this species.

ALLIA RAMOSA (Annenkova, 1934)

= ARICIDEA RAMOSA Annenkova, 1934

= ARICIDEA (ALLIA) RAMOSA Strelzov, 1973

= ARICIDEA ?(AEDICIRA) RAMOSA Hartman, 1957

= AEDICIRA RAMOSA Hartman, 1965

Sea of Japan to southern California; 10 to 2400 m.

ARICIDEA Webster, 1879

ARICIDEA CRASSICAPITIS Fauchald, 1972

Cedros Island, Baja, to Acapulco, along the mainland coast in slope depths.

ARICIDEA LONGBRANCHIATA Day, 1961

South Africa; northern California, Gulf of the Farallones, 10 to 24m, mixed sand-mud sediments (Blake & Walton, 1977).

Strelzov (1973) refers A. LONGBRANCHIATA in part to ACESTA FINITIMA; Larry Lovell feels this record may belong to another species as well.

ARICIDEA MINUTA Southward, 1956

Washington to British Columbia; Northern Europe; intertidal to 60m.

ARICIDEA PSEUDOARTICULATA Hobson, 1972

= ARICIDEA n.r. SUECICA Hartman, 1957 (in part)

Near Catalina Island, southern California, 80m. (See ACESTA NEOSUECICA).

ARICIDEA SIMILIS Fauchald, 1972
Cedros Island, Baja, & off Cabo Falso, Mexico.

ARICIDEA WASSI Pettibone, 1965
= ARICIDEA nr. SUECICA Hartman, 1957 (in part)
Southern California; Gulf of the Farallones, 10.5m;
Massachusetts; Chesapeake Bay; Japan.

Genus B Lovell

Genus B species A Lovell

CIRROPHORUS Ehlers, 1908
= PARAONIDES Cerruti, 1909
= PARADONEIS Hartman, 1965

CIRROPHORUS BRANCHIATUS Ehlers, 1908
= ARICIDEA (CIRROPHORUS) BRANCHIATA of Cerruti, 1909
= PARAONIS (PARAONIDES) LYRIFORMIS Annenkova, 1934
= ARICIDEA (CIRROPHORUS) LYRIFORMIS of Annenkova, 1937
- ARICIDEA SP. Hartman, 1955
= ARICIDEA ? PACIFICA Hartman, 1955
= ARICIDEA (CIRROPHORUS) ACICULATUS Hartman, 1957
= CIRROPHORUS ACICULATUS of Hartman, 1965, 1969
= CIRROPHORUS LYRIFORMIS of Strelzov, 1968
Southern California, 85-976m; Japan to Washington; Cabo
Corrientes, Mexico, deep water; northern Atlantic; Red Sea;
South Africa; Mediterranean.

CIRROPHORUS FORTICIRRATUS Strelzov, 1973
= PARADONEIS LYRA Gallardo, 1967
California, Cape of San Pedro (sic), 3260m; South Vietnam;
Japan; Kuril Islands.

CIRROPHORUS FURCATUS (Hartman, 1957)
= ARICIDEA (CIRROPHORUS) FURCATA Hartman, 1957
= PARAONIS (PARAONIDES) LYRA Hartman, 1957
= ?PARADONEIS LYRA Reish, 1968
San Pedro, 20-420m; ?Gulf of California.

CIRROPHORUS LYRA (Southern, 1914)
= PARAONIS (PARAONIDES) LYRA Southern, 1914
= PARAONIS LYRA auctt; Banse & Hobson, 1968
= PARAONIDES LYRA Hartman, 1969
= PARADONEIS LYRA of Hartman, 1965; Fauchald, 1972
San Pedro Channel, 11-220 fm; Baja California; Washington-
British Columbia; Ireland; South Africa; Japan; Massachusetts;
Denmark.

PARAONELLA Strelzov, 1973
= PARAONIDES Cerruti, 1909, sensu Hartman, 1965

PARAONELLA ABRANCHIATA Fauchald & Hancock, 1981
Yaquina Bay, central Oregon, 1400-1800m.

PARAONELLA CEDROENSIS (Fauchald, 1972)
= PARAONIDES CEDROENSIS Fauchald, 1972
Western Mexico, bathyal depths; Yaquina Bay, central Oregon,
2000m.

PARAONELLA PLATYBRANCHIA (Hartman, 1961)
= PARAONIDES PLATYBRANCHIA of Hartman, 1969
= PARAONIS PLATYBRANCHIA Hartman, 1961
Southern California; Pacific Panama; British Columbia;
intertidal to 5.5m.

PARAONELLA SPINIFERA (Hobson, 1972)
= PARAONIS SPINIFERA Hobson, 1972
San Juan Island, Washington, 27-40m.

TAUBERIA Strelzov, 1973
= LEVENSENIA Mesnil, 1897 (in part)
= PARAONIS Greube, 1873 sensu Cerruti, 1909 (in part)

TAUBERIA GRACILIS (Tauber, 1879)
= AONIDES GRACILIS Gauber, 1879
= LEVINSENIA GRACILIS of Mesnil, 1897
= PARAONIS (PARAONIS) GRACILIS Cerruti, 1909
= PARAONIS GRACILIS Eliason, 1920
= PARAONIS GRACILIS MINUTA Hartman-Schroder, 1962
= PARAONIS (PARAONIDES) GRACILIS Monro, 1930
= PARAONIS FILIFORMIS Hartman, 1953
= PARAONIS IVANOI Annenkova, 1934
= PARAONIS (PARAONIS) IVANOI Banse & Hobson, 1968
Southern California, 16-1298m; western Mexico, 220-3751m;
nearly world-wide in colder waters.

TAUBERIA OCULATA (Hartman, 1957)
= PARAONIS GRACILIS OCULATA Hartman, 1957
= PARAONIS n. sp. Hartman, 1955
Southern California, 12-1272m; Baja and western Mexico;
?South Africa; ?Black Sea; North Sea.

TAUBERIA MULTIBRANCHIATA (Hartman, 1957)
= PARAONIS MULTIBRANCHIATA Hartman, 1957
Santa Monica Basin, 260-305 fm.

TAUBERIA PYCNOBRANCHIATA (Fauchald, 1972)
= PARAONIS PYCNOBRANCHIATA Fauchald, 1972
Gulf of California, 2449m.

PHYLO FELIX Kinberg, 1866

Orbiniidae

SCAMIT voucher: AHF 14

Examined: 19 September 1983

Keys used: Hartman, 1957; Hartman, 1969

Other texts consulted: Hartman, 1948; Hobson & Banse, 1981; Pettibone, 1957, 1963; Kudenov (in Brusca), 1980; Banse, Nichols and Hobson, 1968.

Synonymy: ARICIA MICHAELSENI Ehlers, 1897; ORBINIA (PHYLO) FELIX (Kinberg, 1866). Some authors place PHYLO as a subgenus of ORBINIA (see Pettibone, 1957; Hobson & Banse, 1981) while others consider it a valid genus (Hartman, 1969; Fauchald & Hancock, 1981).

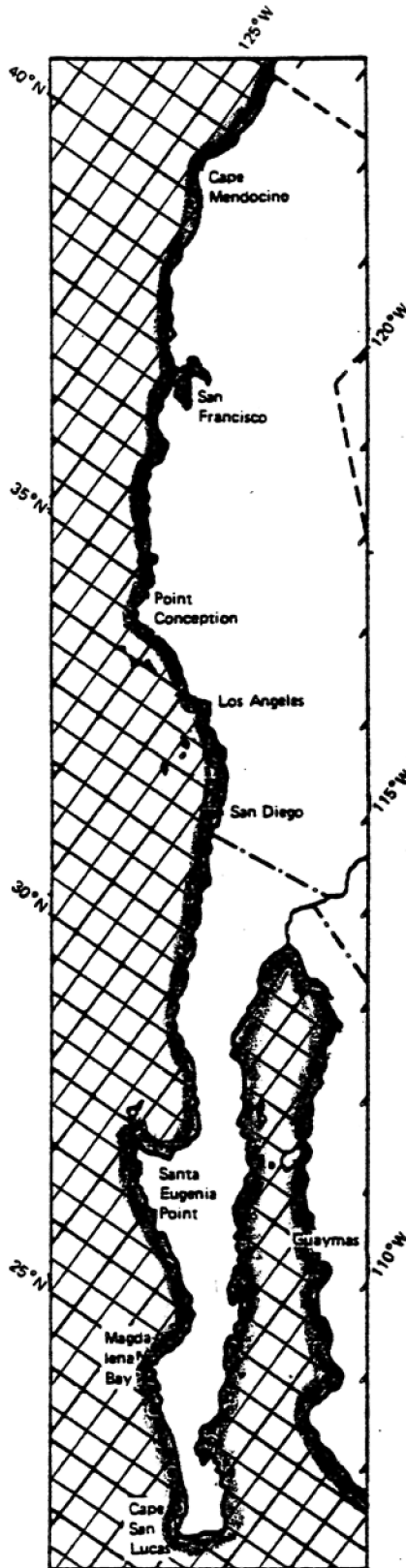
Primary diagnostic characters: Thoracic segments 13 to 20 with conspicuous ventral fringe; an interramal cirrus in last two thoracic and many abdominal parapodia; 16 to 20 thoracic segments; dark sagittate spines in some posterior thoracic neuropodia (from setiger 11 on); branchiae present from 4th or 5th setiger.

Related species and character differences: Southern California PHYLO include P. FELIX (genotype), P. NUDUS (Moore, 1909), and P. ORNATUS (Verrill, 1873). The most apparent differences are: P. NUDUS lacks both the ventral fringe and interramal cirri of FELIX; P. ORNATUS has a ventral fringe, lacks interramal cirri and has conspicuous yellow acicular spines in its posterior thoracic segments, while FELIX has dark brown sagittate spines. Other differences are shown below.

Name of species	Ventral fringe	Shape of modified spine	Color of modified spine	Setigerous segment with first branchiae	Inter-ramal cirrus	Anterior thoracic segments number	Posterior thoracic segments from	Posterior thoracic segments number
<i>P. felix</i>	present	sagittate	dark	4 th -5 th	present	10	11-16 to 19	6 to 9
<i>P. nudus</i>	absent	weakly hastate	dark	4 th	absent	11	12-15	4
<i>P. ornatus</i>	present	acicular	yellow	fifth	absent	14-11	15-27 or 12-29	13 or 17-18

Taken from Hartman, 1957

Variability: The number of posterior thoracic segments, the number of setigers with modified spines, the number of segments with ventral fringe, the first setigerous segment with branchiae, and the number of lobes in the neuropodial fringe are characters that have been observed to vary within populations and also with the size of the specimens.



Kinberg, J.G.H. 1866. *Annulata nova*. (3rd part). *Ofv. Svenska Vetensk. Akad. Forh.*, 22: 239-258.

Hartman, O. 1948. The marine annelids erected by Kinberg with notes on some other types in the Swedish State Museum. *Ark. Zool. Stockholm*, 42A (1): 1-137.

Hartman, O. 1957. *Orbiniidae, Apistobranchidae, Paraonidae and Longosomidae*. *Allan Hancock Pac. Exped.*, 15: 211-393.

Hartman, O. 1969. *Atlas of sedentariate polychaetous annelids from California*. Allan Hancock Foundation, USC, Los Angeles, 812 pp.

Depth range: Intertidal to 55 fm.

Distribution: British Columbia, Washington, central and southern California to western Mexico, southern South America, Atlantic side of the Americas.

LEITOSCOLOPLOS ELONGATUS (Johnson, 1901)

Orbiniidae

SCAMIT voucher: Point Loma 28

Examined: 19 September 1983

Keys used: Hartman, 1957, 1969; Fauchald, 1972

Other texts consulted: Johnson, 1901; Hartman, 1944, 1948

Synonymy: SCOLOPLOS ELONGATA Johnson, 1901; HAPLOSCOLOPLOS ELONGATUS (Johnson, 1901) Hartman, 1944; SCOLOPLOS (SCOLOPLOS) PUGETTENSIS Pettibone, 1957; LEITOSCOLOPLOS PUGETTENSIS Pettibone of Hobson & Banse, 1981.

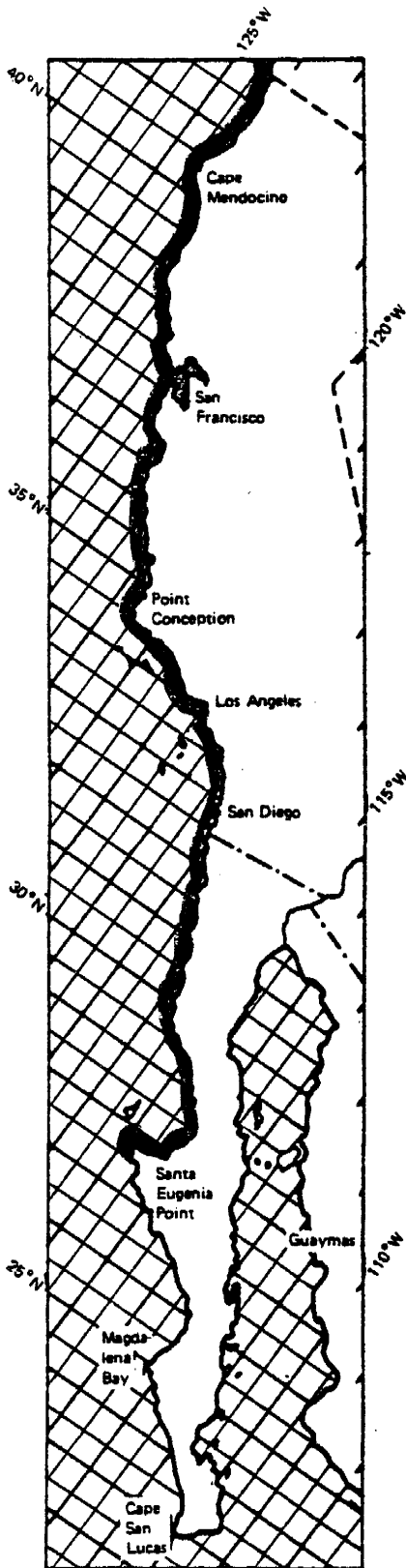
Related species and character differences: see attached table

Variability: The number of thoracic segments, the number of segments transitional from thorax to abdomen, and the first setiger with branchia vary with specimen size and within populations of similar sizes.

Primary diagnostic characters: One asetigerous segment; prostomium pointed; only capillary setae present in thoracic parapodia; no subpodial lobes, ventral cirri or interramal cirri; thorax with 15 to 21 setigers; branchiae present from setigers 13 to 18.

Comments: This is the commonest orbiniid of soft bottom shelf communities.

LEITOSCOLOPLOS ELONGATUS (Johnson, 1901)



Johnson, H.P. 1901. The Polychaeta of the Puget Sound region. Proc. Bost. Soc. Nat. Hist., 29: 381-437.

Fauchald, K. 1972. Benthic polychaetous annelids from deep water off western Mexico and adjacent areas in the eastern Pacific Ocean. Allan Hancock Monofr. Mar. Biol. no. 7: 575 pp.

Hartman, O. 1944. Polychaetous annelids from California, including the description of two new genera and nine new species. Allan Hancock Pac. Exped., 10(2): 239-310.

Hartman, O. The polychaetous annelids of Alaska. Pac. Sci., 8(1): 1-58. 1948.

Hartman, O. Orbiniidae, Apistobranchidae, Paraonidae and Longosomidae. Allan Hancock Pac. Exped., 15: 211-393. 1957.

Hartman, O. 1969. Atlas of sedentariate polychaetous annelids from California. Allan Hancock Foundation, USC, Los Angeles, 812 pp.

Pettibone, M.H. 1957. North American genera of the family Orbiniidae (Annelida Polychaeta) with descriptions of new species. J. Wash. Acad. Sci., 47: 159-167.

Depth range: Intertidal to 293 fm, sand and sandy mud; one record at 2800 m.

Distribution: Alaska to western Mexico.