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**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

January 1985

Vol. 3, No. 10

Next Meeting	February 11, 1985
Guest Speaker	Dr. Richard Bray, CSULB: The role of excreted ammonium to the nitrogen budget of reef communities.
Specimen Exchange Group	Arenicolidae, Maldanidae
Topic Taxonomic Group	Capitellidae

MINUTES FROM JANUARY 14, 1985

Workshop on Amphipod Taxonomy: On March 7th and 8th, Dr. J.L. Barnard (Smithsonian Institution) will conduct a workshop on gammarid amphipods. We will be submitting a list of problem areas that we plan to cover during the meetings to Dr. Barnard by February 10th. If you plan to attend and have ideas, please contact John Shisko or Ann Martin at Hyperion 213/322-3131 x 269 before February 10th.

Dr. Pat Hutchings on the Systematics of Mediomastus: Pat Hutchings and Linda Warren are currently in the process of revising the genus Mediomastus. Mediomastus has 11 thoracic segments. The first segment is achaetous. Segments 2-5 (setiger 1-4) with capillary setae. Segments 6-11 (setiger 5-10) with hooded hooks. Mediomastus californiensis Hartman, 1944 is the type species. They have expanded the description by Hartman of M. Californiensis to include the denticulation of the uncini.

In looking at capitellids, the description of thoracic setigers should be precise, not flexible. For species determinations the dental formula of the uncini should be used. In using the dental formula of uncini, she notes the main fang and additional rows of dentition from the same setiger for all individuals.

The accepted species of Mediomastus are:

<u>M. californiensis</u>	Hartman, 1944
<u>M. ambiseta</u>	(Hartman, 1947)
<u>M. capensis</u>	Day, 1961
<u>M. caudata</u>	Hartman, 1974
<u>M. cirripes</u>	Ben-Eliahu, 1976
<u>M. acutus</u>	Hartman, 1969
<u>M. fragilis</u>	Rasmussen, 1973

Two species, M. setosus Hartman-Schroder and M. branchiferous Hartman-Schroder, are indeterminable. The specimens of M. capensis Day, 1961, described by Thomassin, 1970 and Hartman-Schroder, 1974, are actually a new species. She would like to look at the type of Parheteromastus tenuis Monro, 1937, this may be a Mediomastus.

Pat would like anyone who has "entire" specimens to send them to her. Leslie Harris has been asked by Pat to coordinate sending southern California Mediomastus material to her. People interested in supplying Pat with material should contact or send material to Leslie at:

Leslie Harris
MBC
947 Newhall Street
Costa Mesa, CA 92627
714/646-1601

Officer Nominations: Nominations are open for the offices of president, vice president, secretary and treasurer. Make nominations at the next meeting or mail them to secretary Cathy Crouch.

Guidelines for Preparation and Deposition of Voucher Collections Available: Dr. F.G. Hochberg & Paul H. Scott have prepared a comprehensive set of guidelines for use at the Santa Barbara Museum of Natural History. These guidelines would be useful to anyone maintaining a voucher collection. For copies, write to or call:

Paul H. Scott
Department of Invertebrate Zoology
Santa Barbara Museum of Natural History
2559 Puesta del Sol Road
Santa Barbara, CA 93105
805/682-4711

Helpful Hints: Couplet 31 from "An Artificial Key to the Lysianassid Genera of the West Coast of North America" by Bruce R. Benedict (1976) should read: 31.(30) Mandibular palp proximal to molar; Gnathopod 1 article 6 longer than 5. Mandibular palp at level of molar (Figure 26a) Gnathopod 1 articles 5 and 6 subequal (Figure 26b) Tryphosella.

List of Specimens from January 14, 1985:

HYP 41A	<u>Orchomene decipiens</u>	(Hurley, 1963)
HYP 42A	<u>Orchomene anaquela</u>	Barnard, 1964
LACO 43A, SCCWRP 50A	<u>Orchomene pinguis</u>	(Boeck, 1861)
LACO 44A	<u>Lepidepcreum</u> sp. A	
OC 52A	<u>Acidostoma hancocki</u>	Hurley, 1963
OC 53A	<u>Lysianassa oculata</u>	(Holmes, 1908)
MBC 24A	<u>Valettropsis dentatus</u>	Holmes, 1908
MBC 25A	<u>Aristias</u> sp. A	

Travels with Olga:
24 Queensberry Place S.W.7
London England
13 August 1939

Dear Albert: Your good letter, also one from Mother, came several days ago, but I have been very busy, or I should say, "arm-weary" from too much writing after the day's work. It is rather interesting that a letter from Frieda, mailed 24th July, one from you, mailed 28 July, and one from Mother, mailed 31 July, all arrived on 8 August. Perhaps they all came on the same boat.

I am almost regretful that my time in London is nearing a close. From Tuesday to Friday of this week I shall be in Plymouth, the following week I shall be largely in the libraries of the Br. Mus., polishing up on my research notes, and doing some, much-needed reading, and then I must go to Stockholm. There are some interesting meetings at Dundee, the annual meetings of the Brit. Assoc. for the Advancement of Sciences. If they were at Cambridge I might go, but Dundee! I must go to Cambridge for at least a day, but it is only an hour's run from London. (I can go there and return on the same day. Cambridge (and Oxford) are now in the midst of a summer session (probably largely teachers) but I should look in on the campuses.

I wish I had the time to tell you of life here in London. I know it is not typical of England, for London is unique. It is European, of course, but London is a city which never grows wearisome for lack of something to do. I can only urge you to go as soon as you have an opportunity. And let me assure you that the first trip is really the most difficult. Subsequent ones will probably be quite commonplace. One soon falls in with the customs of strange monies, different foods, new habits of living. I can now manipulate knife and fork as a European for most things, (but not yet for peas!)

Perhaps you know, the London Zoo also has a Panda bear. And there is a little comic feature in one of London's papers each day about Pindar, the Panda. Enclosed, a weather note of London for Dad, a sheet about London that may interest you.



From September 1st to about October 31st, my address will be:
Naturhistoriska Riksmuseum
c/o Professor Sixten Bock
Stockholm 50, Sweden

Please excuse this short note. The next will be longer.

Key to California Orchomene Species
by Donald B. Cadien - MBC Applied Environmental Sciences

- 1a Urosome bearing a projecting process or inflated low hump - 4
- b Urosome smooth and uninflated - 2

- 2a Third pleonal epimeron posteriorly produced - Orchomene decipiens
- b Third pleonal epimeron unproduced - 3

- 3a Eyelobe projecting - Orchomene anaquela
- b Eyelobe obtuse - Orchomene holmesi

- 4a Urosome bearing a smooth inflated hump - Orchomene pinguis
- b Urosome bearing a projecting process - 5

- 5a Third pleonal epimeron unproduced - 6
- b Third pleonal epimeron posteriorly produced - 7

- 6a Third pleonal epimeron rounded - Orchomene obtusa
- b Third pleonal epimeron quadrate - Orchomene magdalenensis*

- 7a Telson with two dorsal spines per lobe; urosomal process acutely conical - Orchomene index*
- b Telson with two dorsal spines per lobe; urosomal process rounded and overhanging urosomal segment 5 - Orchomene pacifica*

*Species which will probably be included within a revised concept of Lepidepcreum

Tabular Key to California Orchomene Species
 by
 Southern California Association of Marine Invertebrate Taxonomists
 January 14, 1985

		Hooked accessory spine at base of dactyl of periods 1 and 2 Y=Yes N=no
anaquela	N	RQ
pinguis	N	QS
decipiens	N	P
magdalenensis*	Y	Q
obtusa	N	R
pacific*	Y	P
holmesi	N	Q
index*	Y	P
		Length of dactyl on last three periods S=short L=long N=medium V=very
anaquela	MS	P
pinguis	VS	P
decipiens	L	P
magdalenensis*	L	P
obtusa	S	O
pacific*	L	SP
holmesi	MS	O
index*	L	SP
		Length of article 6 of first gnathopod S=short L=long M=medium V=very
anaquela	S	S
pinguis	S	S
decipiens	S	S
magdalenensis*	VL	VL
obtusa	L	L
pacific*	VL	VL
holmesi	L	L
index*	VL	VL
		Tooth present on dactyl of first gnathopod Y=yes N=no
anaquela	Y	Y
pinguis	Y	Y
decipiens	Y	Y
magdalenensis*	Y	Y
obtusa	N	N
pacific*	Y	Y
holmesi	N	N
index*	Y	Y
		Number of dorsal telsonic spines (per lobe)
anaquela	1	A
pinguis	2	L
decipiens	2	A
magdalenensis*	1	SP
obtusa	3	P
pacific*	0	P
holmesi	3	A?
index*	2	SP
		Shape of urosomal crest L=low P=produced SP=strongly produced A=absent
anaquela	A	
pinguis	L	
decipiens	A	
magdalenensis*	SP	
obtusa	P	
pacific*	P	
holmesi	A?	
index*	SP	

* = will fit into revised generic limits of Lepidepecreum

SCAMIT Code: OC 53

Date examined: January 14, 1985
Voucher by: Ann Martin

Synonymy:

Lysianopsis oculata (Holmes, 1908)
Aruga oculata Holmes, 1908

Literature:

Barnard, J.L. 1969. Gammaridean Amphipoda of the rocky intertidal of California: Monterey Bay to La Jolla. U.S. Nat. Mus. Bull. 258:230 p.

Gurjanova, E. 1962. Bokoplavy severnoi chasti: Eixogo okeana (Amphipoda-Gammaridea). Chasti 1.(Amphipoda of the northern part of the Pacific Ocean. Part 1.) Zool. Inst., Akad. Nauk SSSR, Opred. Po Faune SSSR 74:440 p.

Holmes, S.J. 1908. The amphipoda collected by the U.S. Bureau of Fisheries steamer "Albatross" off the West Coast of North America, in 1903 and 1904, with descriptions of a new family and several new genera and species. Proc. U.S. Nat. Mus. 35:489-543.

Diagnostic characters:

1. Eye large and darkly pigmented, lateral angles of head produced into an acute triangular lobe.
2. Gnathopod 2 simple (Fig. 1).
3. Gnathopod 2 nearly chelate (Fig. 2).
4. 3rd pleon epimeron produced posteriorly into a quadrate plate (Fig. 3).

Related species and character differences:

Refer to Barnard (1969) which thoroughly discusses the genus in the synonymy of Lysianopsis to Lysianassa and gives a key to southern California species of Lysianassa.

Depth range:
30-110 m.

Distribution:
Southern California.

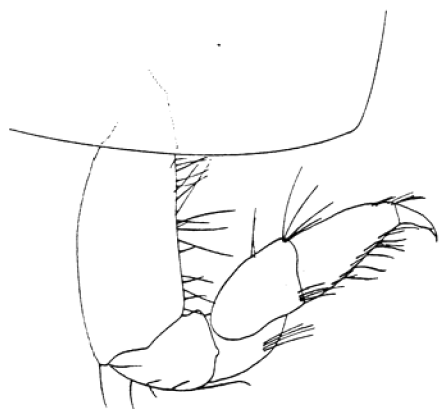


Figure 1.
Gnathopod 1

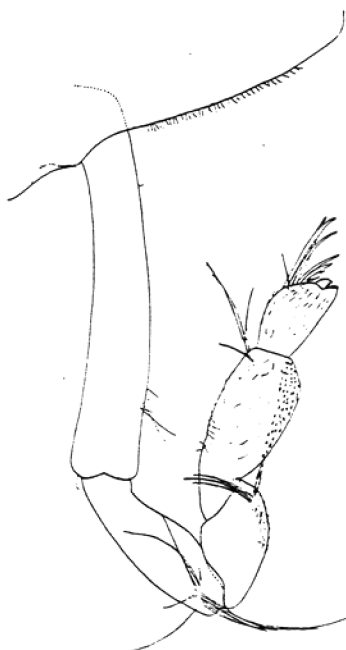


Figure 2. Gnathopod 2



Figure 3. 3rd pleon
epimeron

SCAMIT Code: LACO 44

Date examined: January 14, 1985

Voucher by: Ann Martin

Synonymy:

Lepidepcreum ? gurijanovae Hurley 1963 (from Barnard, 1969)

Lepidepcreum sp. A. of Martin

Literature:

Barnard, J.L. 1969. Gammaridean Amphipoda of the rocky intertidal of California: Monterey Bay to La Jolla. U.S. Nat. Mus. Bull. 258:230 p.

Diagnostic characters:

1. Dorsal carination on pleonite 4 very pronounced (Fig. 1).
2. Dorsal carination of pleonites 1-3 clearly visible, not as pronounced as an pleonite 4 (Fig. 1).
3. Gnathopod 2, article 6 oval, produced anterio-ventrally forming a chela with article 7 (Fig. 2).

Variability:

1. Carination on pleonite 4 varies in shape but not in size (Fig.).
2. Larger specimens have coxae, pereopods, and antennae peduncle covered with "fur" visible at higher magnifications.

Related species and character differences:

This species is similar to L. gurjanovae but differs in many, mostly subtle characters. The most obvious difference is the shape of gnathopod 2; sp. A. is chelate and gurjanovae is subchelate. Also, species A has fewer spines on pereopods 5-7, uropods, telson, and mandible palp than L. gurjanovae, and occurs in more shallow waters.

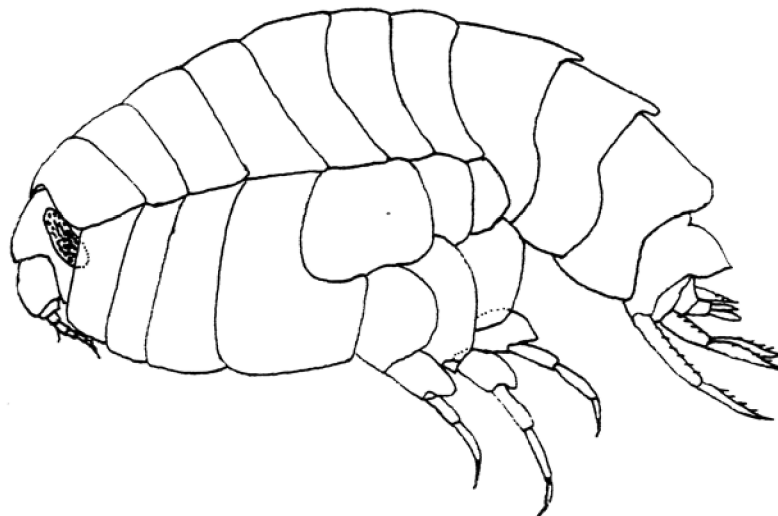


Figure 1. Lateral view of Lepidepcreum sp. A.

Depth range:
Intertidal - 153 m.

Distribution:
Pt. Loma to British Columbia.

Ecology:
In southern California - silty sediments in King Harbor; in British Columbia, intertidal. Because it is consistently found around the Orange County sewage outfall and is present in Los Angeles Harbor, this species may be attracted to organically enriched habitats.

Comments:
Barnard (1969) first assigned this species to L. gurjanovae provisionally until more specimens could be studied. Many specimens have been studied from southern California (by Ann Martin) and from British Columbia by Norma Jarrett. Both Ms. Jarrett and I have concluded that this is a separate and distinct species from L. gurjanovae.

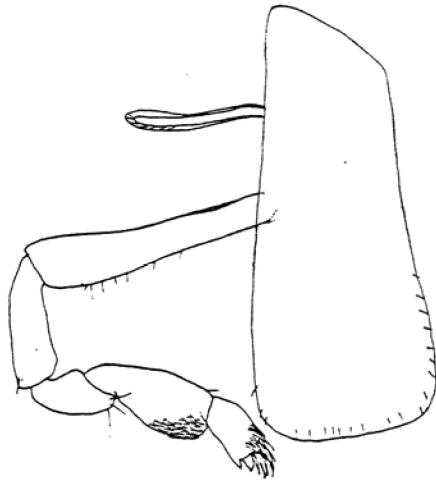


Figure 2. Gnathopod 2



Figure 3. Variation of carination

SCAMIT Code: MBC 24

Date examined: January 14, 1985
Voucher by: Ann Martin

Literature:

Barnard, J.L. 1967. Bathy 1 and abyssal gammaridean amphipoda of Cedros Trench, Baja California. U.S. Nat. Mus. Bull. 260:205 p.

Holmes, S.J. 1908. The Amphipoda collected by the U.S. Bureau of Fisheries Steamer, "Albatross", off the west coast of North America, in 1903 and 1904, with descriptions of a new family and several new genera and species. Proc. U.S. Nat. Mus. 35:489-543.

Diagnostic characters:

1. Long antennae; small head; mouthparts projecting below, not hidden by coxal plates (Fig. 1).
2. 3rd pleon epimeron produced; 4th pleonite carinate (Fig. 1).
3. Gnathopod 1 subchelate, article 6 subrectangular and shorter than article 5 (Fig. 2).
4. Gnathopod 2 subchelate, article 6 narrowed distally (Fig. 3).

Variability:

Barnard (1967) noted the type specimen had a multispinose dactyl on the left pereopod 3 which is not a typical character.

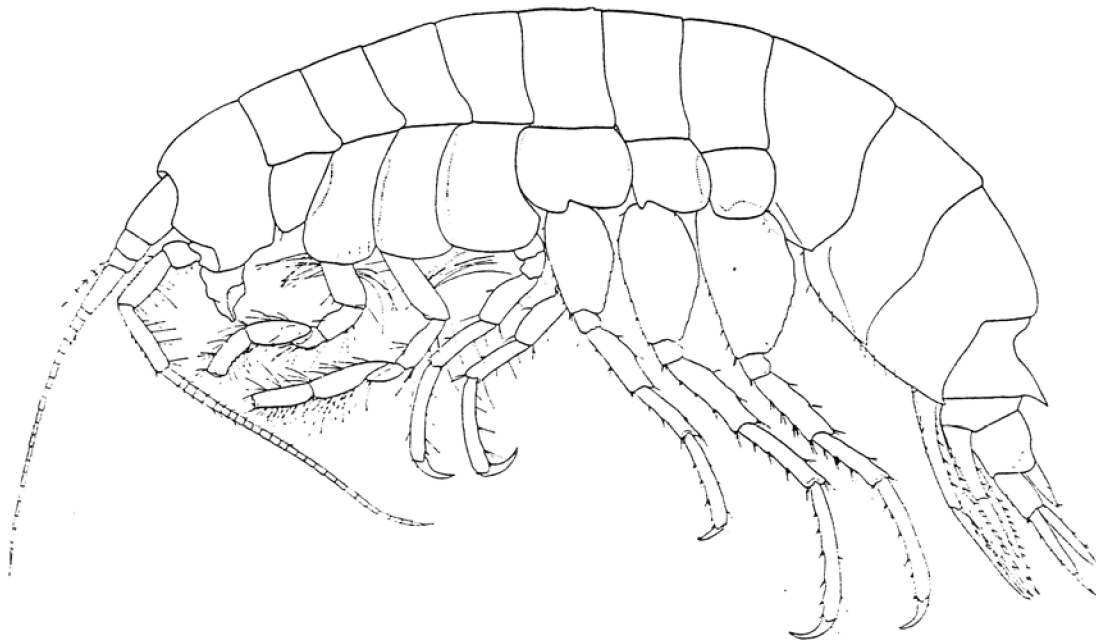


Figure 1. Lateral view (From Barnard, 1967)

Depth range:
183-521 m.

Distribution:
Southern California, Monterey Canyon.

Additional comments:

Holmes (1908) commented that this genus is a primitive lysianassid. It shows more "typical gammarid" features with the long antennal peduncle and subchelate gnathopod 2. The elongate article 3 of the gnathopods are lysianassid features.

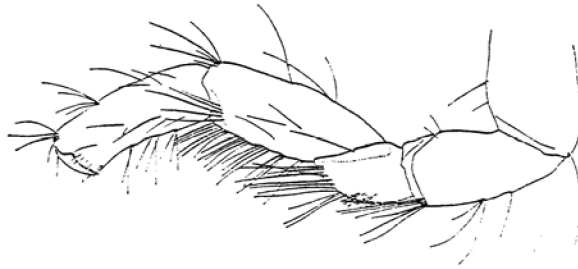


Figure 2. Gnathopod 1 (from Barnard, 1967)

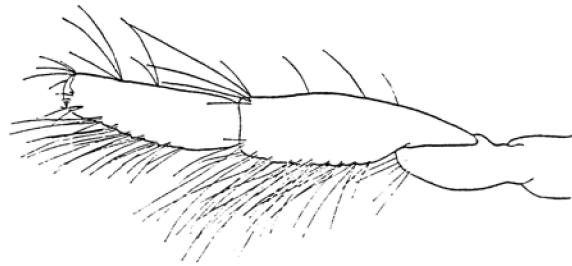


Figure 3. Gnathopod 2 (from Barnard, 1967)

SCAMIT Code: OC 52

Date examined: January 14, 1985
Voucher by: Ann Martin

Literature:

Hurley, D.E. 1963. Amphipoda of the family Lysianassidae from the west coast of North and Central America. Allan Hancock Foundation, Occ. Pap. 25:160 p.

Diagnostic characters:

1. Very robust, thick integument; antennae 1 large and dominating head (Fig. 1).
2. Gnathopod 1 simple (Fig. 2).
3. Gnathopod 2 with minute article 7 (Fig. 3).
4. 3rd pleon epimeron with small hook (Fig. 4).

Related species and character differences:

This is the common species of Acidostoma in southern California. Refer to Hurley (1963) for a comparison of A. hancocki to other species.

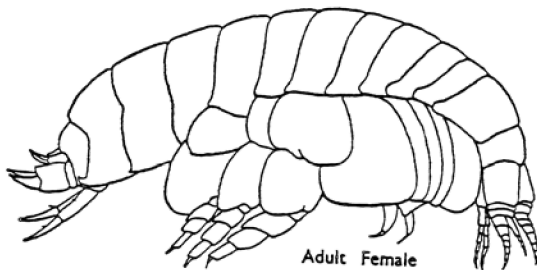


Figure 1.



Figure 2.

Depth range:
30-75 m.

Distribution:
Southern California.

Ecology:
Females have been collected in sediment samples while males are usually found in epibenthic samples.

Additional comments:
Hurley (1963) described this species as eyeless; in preserved specimens, an eye is present but very difficult to see (see Vol. 2, No. 10 of SCAMIT Newsletter).

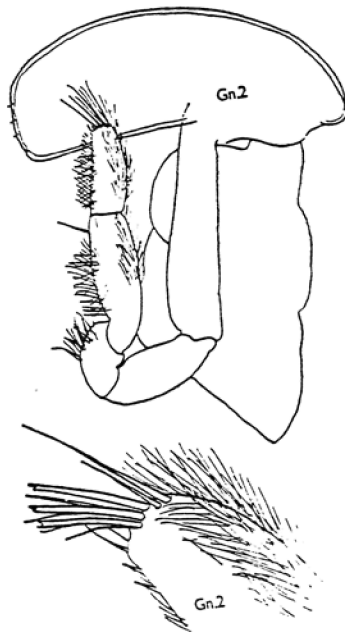


Figure 3.



Figure 4.

SCAMIT Code: HYP 42

Date examined: January 14, 1985
Voucher by: Ann Martin

Literature:

Barnard, J.L. 1964. Marine amphipoda of Bahia de San Quintin, Baja California. Pac. Nat. 4(3): 55-139.

Diagnostic characters:

1. 3rd pleon epimeron subquadrate (Fig. 1).
2. Pereiopod dactyls short; length of article 7 less than 30% of article 6 (Fig. 1).
3. Gnathopod 1 subchelate; article 6 slightly elongate and tapering distally; article 7 with tooth on inner margin (Fig. 2).
4. Gnathopod 2 chelate (Fig. 3).

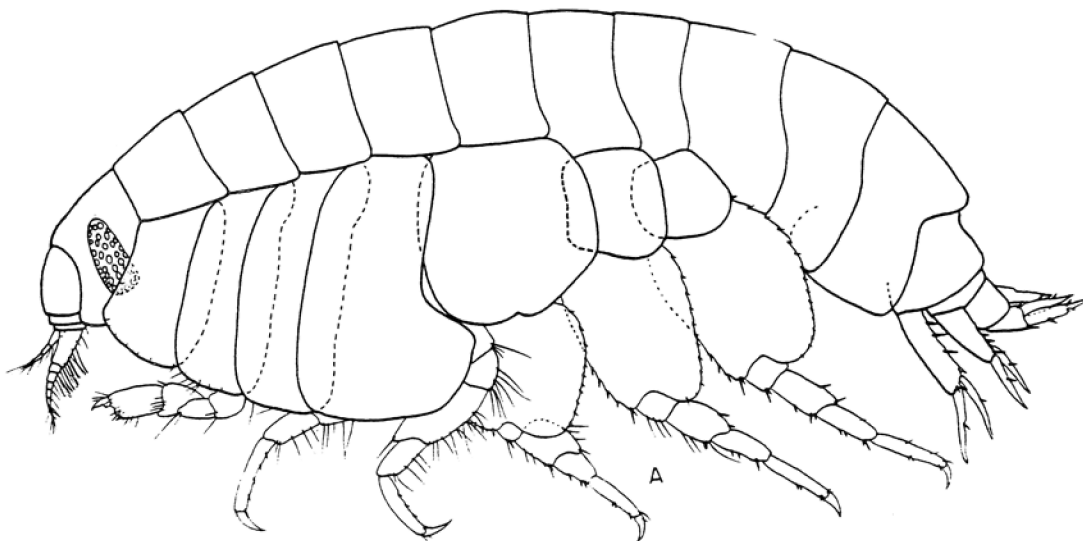


Figure 1. Orchomene anaquila (from Barnard, 1964)

Depth range:
30-100 m.

Distribution:
Southern California.

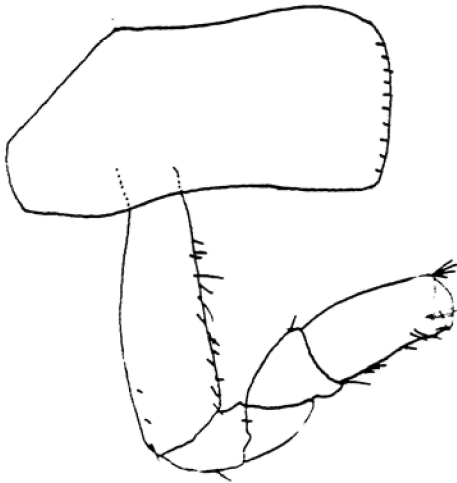


Figure 2. Gnathopod 1

Figure 3. Gnathopod 2

SCAMIT Code: HYP41

Date examined: January 14, 1984
Voucher by: Ann Martin

Synonymy:

Orchomenella decipiens Hurley, 1963

Literature:

Hurley, D.F. 1963. Amphipoda of the family Lysianassidae from the west coast of North and Central America. Allan Hancock Foundation, Occ. Pap. 25; 160 p.

Diagnostic characters:

1. Smaller species of Orchomene (in southern California): 3rd pleon epimeron produced (Fig. 1).
2. Pereiopod dactyls long; length of article 7 30% more than article 6 (Fig. 1).
3. Gnathopod 1 subchelate, stout, article 6 not tapering distally and slightly longer than article 5, dactyl lacking inner tooth (Fig. 2).
4. Gnathopod 2 chelate (Fig. 3).

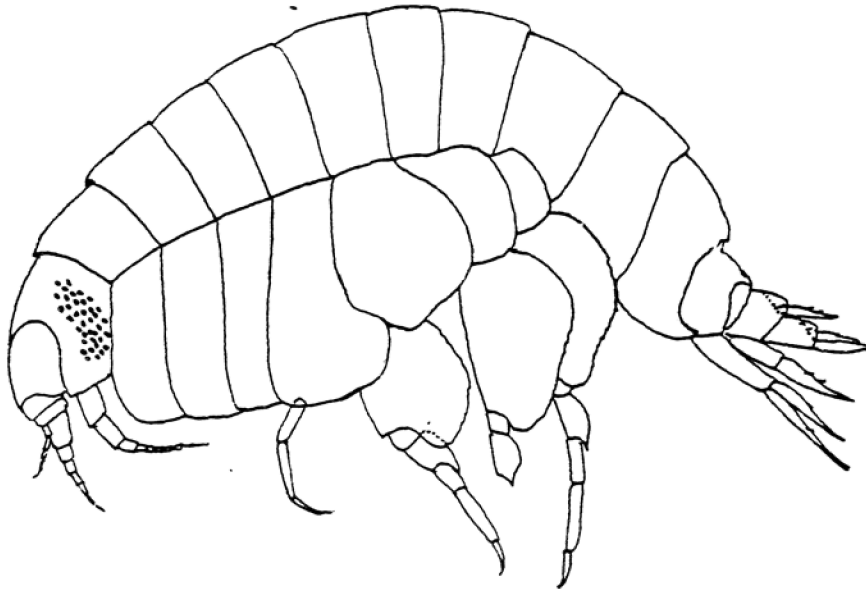


Figure 1. Orchomene decipiens

Depth range:
30-350 m.

Distribution:
Southern California.

Ecology:
This is the most common Orchomene in southern California soft bottom grab samples. This species has been commonly collected in samples of soft sediments from the southern California Bight.

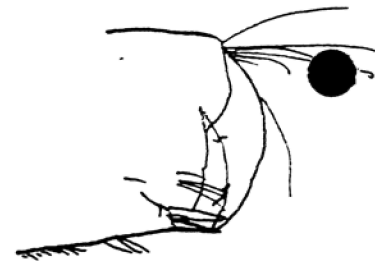
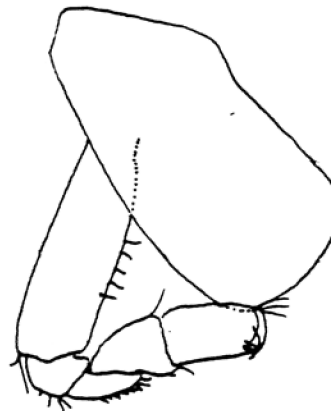
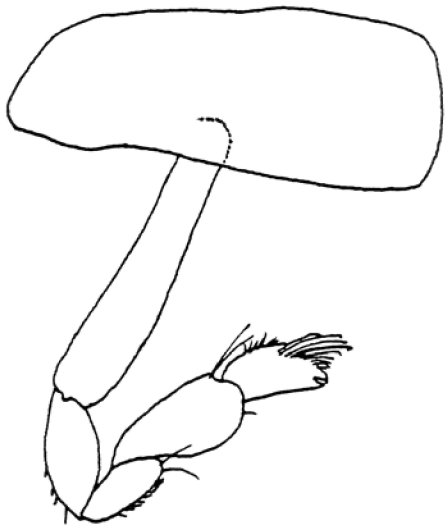


Figure 2. Gnathopod 1



Figure 3. Gnathopod 2

SCAMIT Code: LACO 43, SCCWRP 50

Date examined: January 14, 1985
Voucher by: Ann Martin

Synonymy:

Anonyx pinguis Boeck, 1861
Orchomenella pinguis (Boeck, 1861)

Literature:

Barnard, J.L. 1967. Bathyal and abyssal gammaridean amphipoda of Cedros Trench, Baja California. U.S. Nat. Mus. Bull. 260:205 p.

Diagnostic characters:

1. 3rd pleon epimeron subquadrate, hind edge with minute serrations (Fig. 1).
2. Gnathopod 1 subchelate, article 6 tapering distally; article 7 lacking inner tooth (Fig. 2).
3. Gnathopod 2 chelate (Fig. 3).
4. Pereiopod dactyls stout and falcate (Fig. 1).
5. Posterior excavation of coxa 4 very deep.

Variability:

Orchomene pinguis exhibits geographic variability. Individuals from southern California are characterized by narrower lateral cephalic lobes, large eyes, broader lobes of article 5 of gnathopod 1 and article 6 of gnathopod 2, longer and more slender pereiopods 5-7, and the lack of lateral ridge on article 2 of pereiopod 3 (Barnard, 1967).

Related species:

Orchomene pinguis is very similar to O. obtusa but differs in having an acutely rounded eyelobe rather than obtusely rounded, a chelate gnathopod instead of subchelate, and minute serrations on the 3rd a pleon epimeron instead of a smooth edge. The latter two characters are only visible under high magnification.

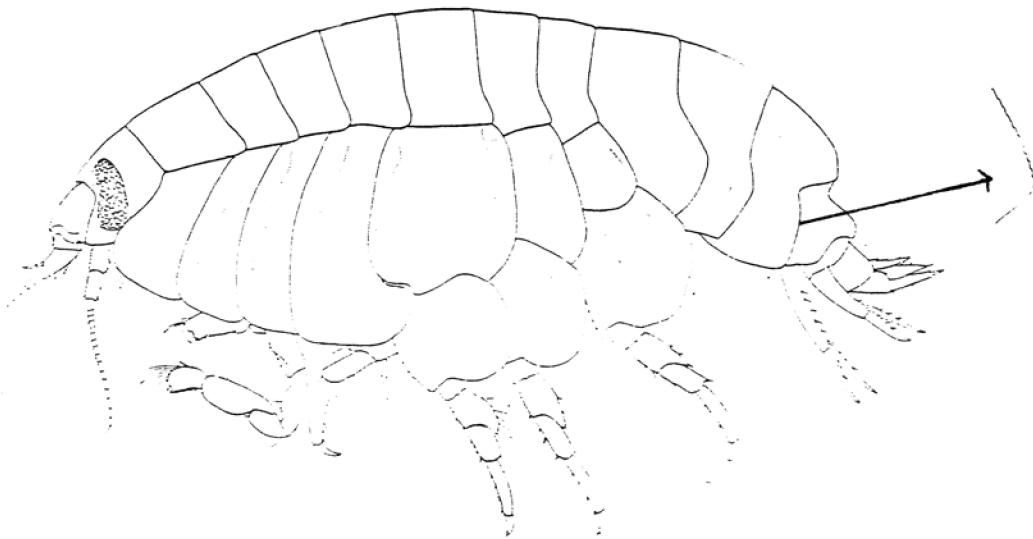


Figure 1. Orchomene pinguis (from Barnard, 1967)

Depth range:
64-183 m.

Distribution:
Pacific and Atlantic oceans in cold temperate and subarctic seas.

Ecology:
Although this species rarely is collected from benthic sediment samples, large aggregations have been attracted to baits in crab traps. For example, the voucher specimen was collected by Los Angeles County Sanitation Districts from a crab trap taken in a 60 m trawl, hundreds of the amphipods were feeding on a shark's skull within in the trap.



Figure 2. Gnathopod 1
(from Barnard, 1967)

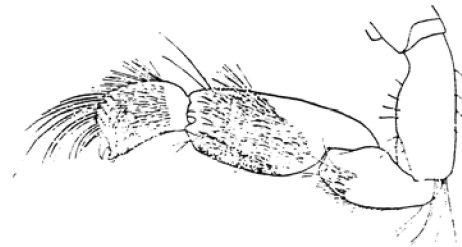


Figure 3. Gnathopod 2
(from Barnard, 1967)

SCAMIT Code: MBC 25A

Date examined: January 14, 1985

Voucher by: Ann Martin

Diagnostic characters:

1. 3rd pleon epimeron not produced posteriorly, quadrate (Fig. 1).
2. Antenna 1 flagella of 7-10 articles, accessory flagella 4-5 articles (Fig. 2).
3. Gnathopod 1, simple, article 6 tapering with four spines along palm margin (Fig. 3).
4. Telson cleft, each lob terminating in a single spine (Fig. 4).

Related species and character differences:

Aristias sp. A is most similar to A. antarctica but differs by having a 3rd pleon epimeron quadrate instead of pointed, by not having a tapered segment 6 of gnathopod 2, having serrated hind margins on article 2 of pereopods 5-7, and having a telson longer than broad.

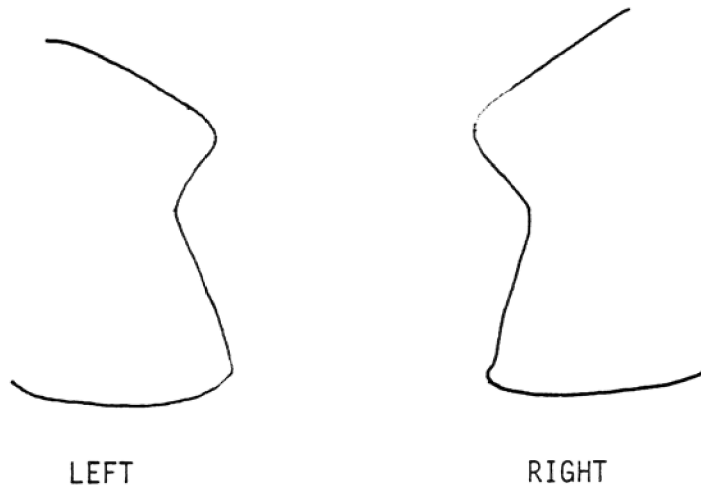


Figure 1. 3rd pleon epimeron

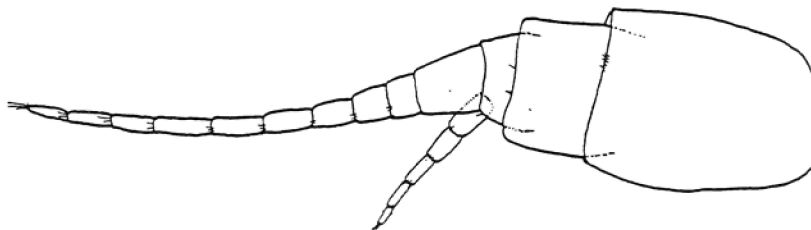


Figure 2. Antenna 1

Depth range:
168 m.

Distribution:
Point Loma (San Diego), collected from Army Corp Engineers dumpsite.

Ecology:
A commensal found inside canals of the sponge Staurocalyptus sp.

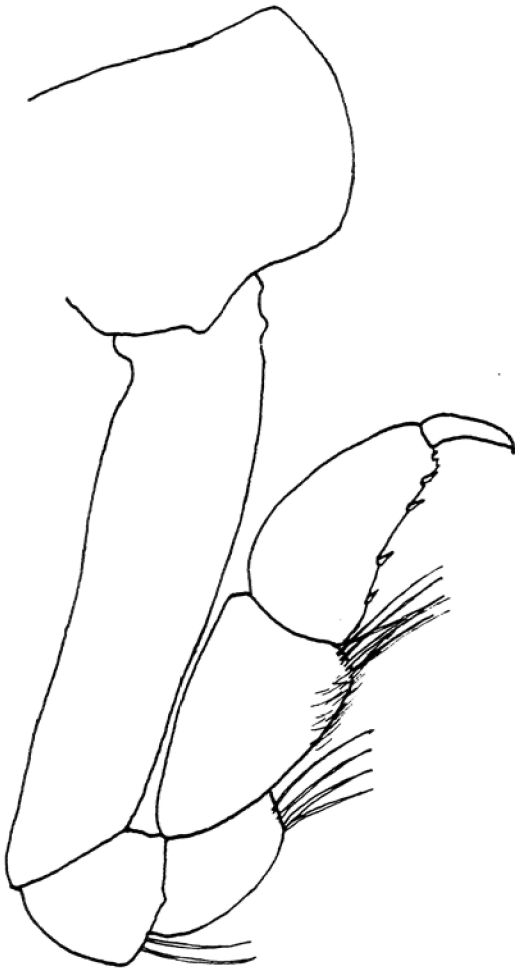


Figure 3. Gnathopod 1

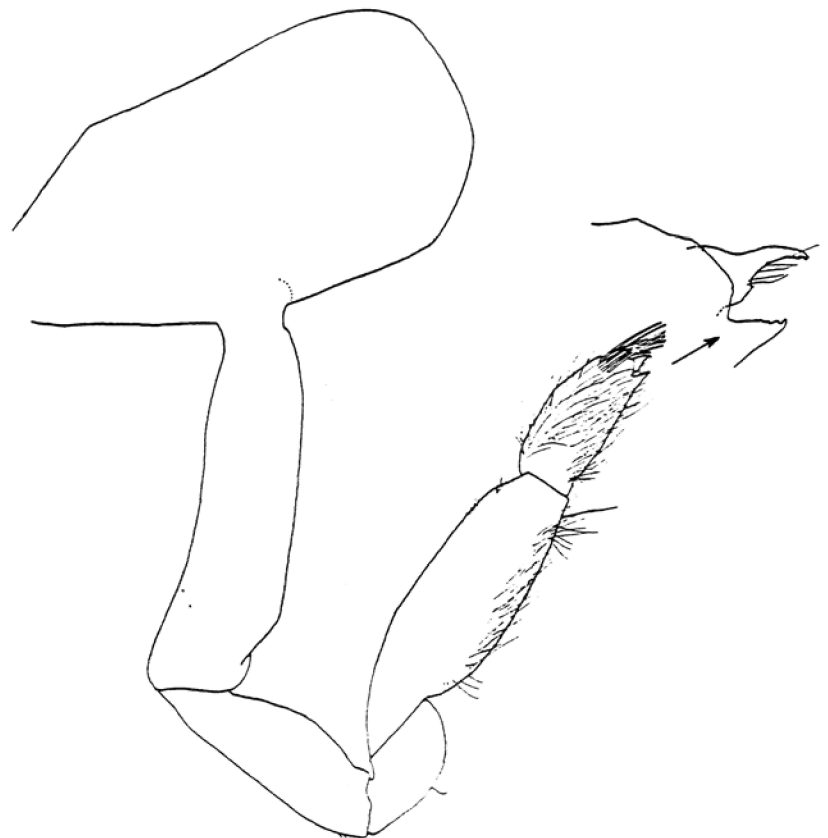


Figure 4. Gnathopod 2

SCAMIT Code: OC 54

Date examined: January 14, 1985
Voucher by: Ann Martin

Synonymy:

Prachynella lodo Barnard, 1964

Literature:

Barnard, J.L. 1964. Los anfipodos bentonicos marinos de la costa occidental de Baja California. Revista de la Sociedad Mexicana de Historia Natural 24:205-271.

Diagnostic characters:

1. Gnathopod 1 chelate with dactyl and fixed finger curved ventrally (Fig. 1).
2. Antenna 1 short, robust (Fig. 2).
3. Uropod 3 peduncle with longitudinal cut where rami are inserted (Fig. 3).
4. Maxilliped palp with 3 articles.

Related species and character differences:

This species is similar in appearance to Pachynus barnardi. The latter is distinguished from Prachynella lodo in having a chelated gnathopod 1 with the dactyl and fixed finger not curved ventrally, slender antenna 1 and maxilliped palp with 4 articles.

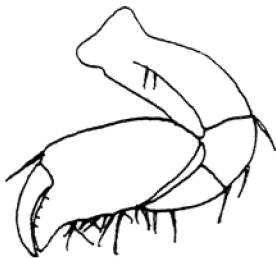


Figure 1.
Gnathopod 1



Figure 3. Uropod 3

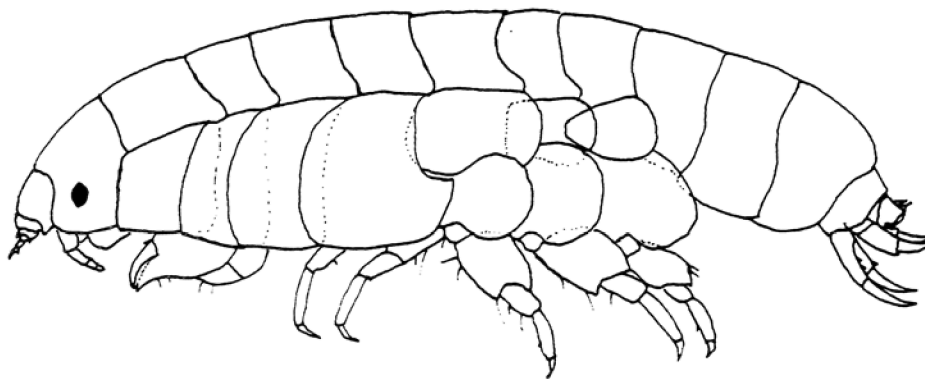


Figure 2. Lateral view showing antenna 1 and gnathopod 1.

Prachynella lodo Barnard, 1964
Lysianassidae

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Depth range:
10-157 m.

Distribution:
Monterey Bay, California to Bahia San Cristobal, Baja California.