

12-6-84



**Southern California Association of  
Marine Invertebrate Taxonomists**

3720 Stephen White Drive  
San Pedro, California 90731

November 1984

Vol. 3, No. 8

Next Meeting:

December 10, 1984

Guest Speakers:

Dr. John Dorsey and Tony Phillips -  
Ehlersia Quatrefages 1865  
(Polychaeta : Syllidae) from  
southern California.

Sue Williams - Taxonomic Notes on some  
Ampharetidae (polychaeta) from  
southern California.

Karen Green - A revision of the genus  
Sonatsa (Maldanidae : Polychaeta)  
Lysianassidae

Specimen Exchange Group:

Topic Taxonomic Group:

Anomalodesmata (Pandoridae, Lyonsiidae,  
Periplomatidae, Thraciidae,  
Poromyidae, Cuspidariidae,  
Venticordiidae).

Special Discussion Topic:

Bivalve nomenclature

MINUTES FROM NOVEMBER 19, 1984

Chevron Donation Received: The \$2,500 donation pledged by Chevron U.S.A., Inc. has been received! This funding will go toward newsletter and operating expenses not covered by dues. Any left over will be earmarked for purchase of a computer.

Proposed Changes in Vice President's Duties: Expanded duties for the Vice President have been proposed by John Dorsey (current Vice President). The current duties include coordination of the afternoon workshop, editing of resultant voucher sheets and editing of the newsletter. Specifically, the vice president will arrange for a person to work-up voucher sheets for a topic group in advance of the meeting for that group; that person also would run the workshop for the meeting. Further, the vice president will assist the author to produce a standardized voucher sheet, and

act as an intermediary between the author and typist. As a final proposed duty, the vice president will edit all newsletters produced by the secretary. John now is doing this work to see if these proposals are practical. The membership will vote on these recommendations at the next general election in April 1985.

Christmas Party: All members of SCAMIT and their families are invited to the SCAMIT Christmas party on December 15th at 6:00 PM. The party will be held at John Shisko's house (see map). Bring finger food for six, beer and mixers will be provided. Please RSVP if you plan to attend or to help the Shisko's prepare for the party. ←

List of Specimens from November 19, 1984:

Pt. Loma 53	<u>Crangon alaskensis</u>	Lockington 1877
OCSD 44	<u>Crangon resima</u>	Rathbun 1902
OCSD 45	<u>Crangon zacaе</u>	Chance 1937
OCSD 46	<u>Sicyonia ingentis</u>	(Burkenroad 1938)
SCCWRP 46	<u>Pandalus platyceros</u>	Brandt 1851
SCCWRP 47	<u>Crangon communis</u>	Rathbun 1899
LACO 39	<u>Pseudocoutierea elegans</u>	Holthuis 1951
LACO 40	<u>Metacrangon spinosissima</u>	Rathbun 1902
HYP 36	<u>Betaeus ensenadensus</u>	Glassel 1938
HYP 37	<u>Betaeus longidactylus</u>	Lockington 1877
HYP 38	<u>Lysmata californica</u>	(Stimpson 1866)

Travels with Olga:  
London  
6 July 1939

Dear Albert: I have been enjoying your interesting letters very much, and wish that I might answer them in personal discussion. Even typing is forbidden, since my typewriter remains in Los Angeles. I have had to do so very much longhand writing (and no secretary) that sometimes my right arm has been quite numb. Hence I hope you will overlook my failing in letters.

London becomes more interesting as I stay here. I have had to secure maps, charts, a Baedeker's guide, etc. to know what all this is about and to realize the significance of some of the things I see. One cannot just go up to these places, look on them, and claim to have seen them. There is too much hidden and obscure, until the historical data are known. And now I have developed a very inquisitive interest in English history, something that had never held the slightest interest on my part. The English have a heritage of such greatness that it is colossal. I wondered one evening into the Westminster Abbey, (you may know that it is really a kind of church) and also the famous burial place of many famous people, including the kings of England). The ground on which it stands has been church ground since 600 A.D. The main structure is in the form of a cross (Roman cross), the choir and nave in one end, and the other ends Transepts and chapels of different kinds. It is really the national Walhalla of England, and burial, or recognition in it is really one of the greatest honors. The poets have a corner, also the musicians, the scientists, great naval and military heroes, the kings have a whole wing. One enters and is immediately impressed with the

beautiful stained glass, and the great crowding of statues, busts, memorials of all kinds. At one end of the nave is the niches of the unknown soldier, kept bright with wreaths and flowers and burning candles. It is now a place for endless Intercession for international peace. England really does want peace. One can form no ideas of European cathedrals and churches without seeing them. They are totally unlike any I have ever seen in America. They should not be compared.

Westminster Abbey is near Westminster Hall and the Houses of Parliament (at one end of which is Big Ben, the famous clock). And it is immediately on the Thames (pronounced Temz) River. I really hope you will see this some day. The House of Parliament is really a wonderful pile, - really one building, but it covers 8 acres. Big Ben weighs 13 tons, and on clear days can be heard over most of London, (or when traffic noises are dimmed). Just across the river are the beautiful buildings housing the administrative bodies of the London County. The City of London (the name has now only historical significance) is only a very small part of London, about 1 mile long on the north side of the Thames. As we use London now, it really means the county. And that is city in the American sense.

Waterloo Bridge is one of the large bridges over the Thames, - between Westminster Bridge and Blackfriars Br. Further down the river is London Bridge, then Tower Bridge. The Waterloo Bridge leads almost immediately to Waterloo Station, from which local and insular trains leave.

The Smorgasbord (a Scandinavian custom) is a particular way in which foods are served. In a dining room there will be a big center table, or a galaxy of tables, loaded with dainty morsels of tempting foods, - all cold. Thus there will be fancy little salads, meats, biscuits, egg and cream dishes, etc., etc. A Scandinavian can take any raw food and make hundreds of dishes out of it, none of them resembling the original product. It is an art unique to the Scandinavian. In principle, the Smorgasbord works about like this: You take your plate and pass around the Smorgasbord, taking such things as appeal to you. (All of them always do to me.) At the end of this you may end with 50 different articles of food on your plate; (the well-trained person selects only 5 or 6). Then you sit at a table to eat it. After this, the meal is brought on, hot meats, vegetables, rolls, butter, etc. Then desserts, coffee, etc. I believe St. Louis may have this kind of restaurant. I would advise you to go with one who has been before, or you will be very confused.

Yes, I know Foyle's quite well by now. Theirs is almost a village of shops, but I can vouch for their being not nearly as good as they profess to be, -at least not in the fields I have searched for. They are on Charing X, along with a lot of other book shops. I think what I should do is to have your name put on the mailing list of these places that issue catalogs. I will do so without your command. I must caution you however, on these catalogs. They never attempt to be anything more than samples, and they cannot really give an accurate picture. Some dealers will give a big catalog listing nearly everything they have, -other, much larger houses give a small sample. The best way to do these book shops is to rummage about in them. I have spent (wasted) many hours in them, and seen surprisingly little. I believe the continent will be much better.



Next week I shall go to Plymouth for a few days, -and probably go out on the Sound in the station boat. I consider this marine station the most outstanding in the world today, though some may say its reputation is too highly publicized.

This month-end the Br. Assoc. for the Advancement of Sciences holds its annual meetings in Dundee. If they were at Cambridge I might be tempted to go, -but at Dundee! I may go on to Stockholm instead, for the second lap of my polychaete work.

I went Friday to the Royal Society building (Burlington House) and saw one of the finest (perhaps the finest) libraries on chemistry and physics in existence, (also biology). This society was the home of Faraday, Newton, Davy, Bunsen, and a lot of other very famous men of science. Here is the famous MS of Newton's Principia, the first safety lamp, the first telescope, water and vacuum pumps with which some of the most daring experiments (of those days) were performed. There are hundreds of fine portrait paintings of these people, and beautiful council rooms. What an inspiration all these things must be to the people privileged to work in these environments. If London should be bombed, the whole world would suffer inestimable loss.

Yesterday was the Queen's birthday. There was great celebrating. Tomorrow is Bank Holiday. Everything will be closed.

I should have straightened you out on So. Kensington. It is a section of London, just as Westminster, Limehouse, and hundreds of others, and I might say, just as Hollywood and Pasadena are part of Los Angeles, So. Kensington is in a better part of London, Limehouse, one of the poorest (I mention the two in antithesis). I could write on and on, yet know that you will not comprehend London unless you live in it.

I should add that temperatures are very comfortable. The climate is much like that of Berkeley, California except that it rains much more frequently.



# S.C.A.M.I.T. CHRISTMAS PARTY

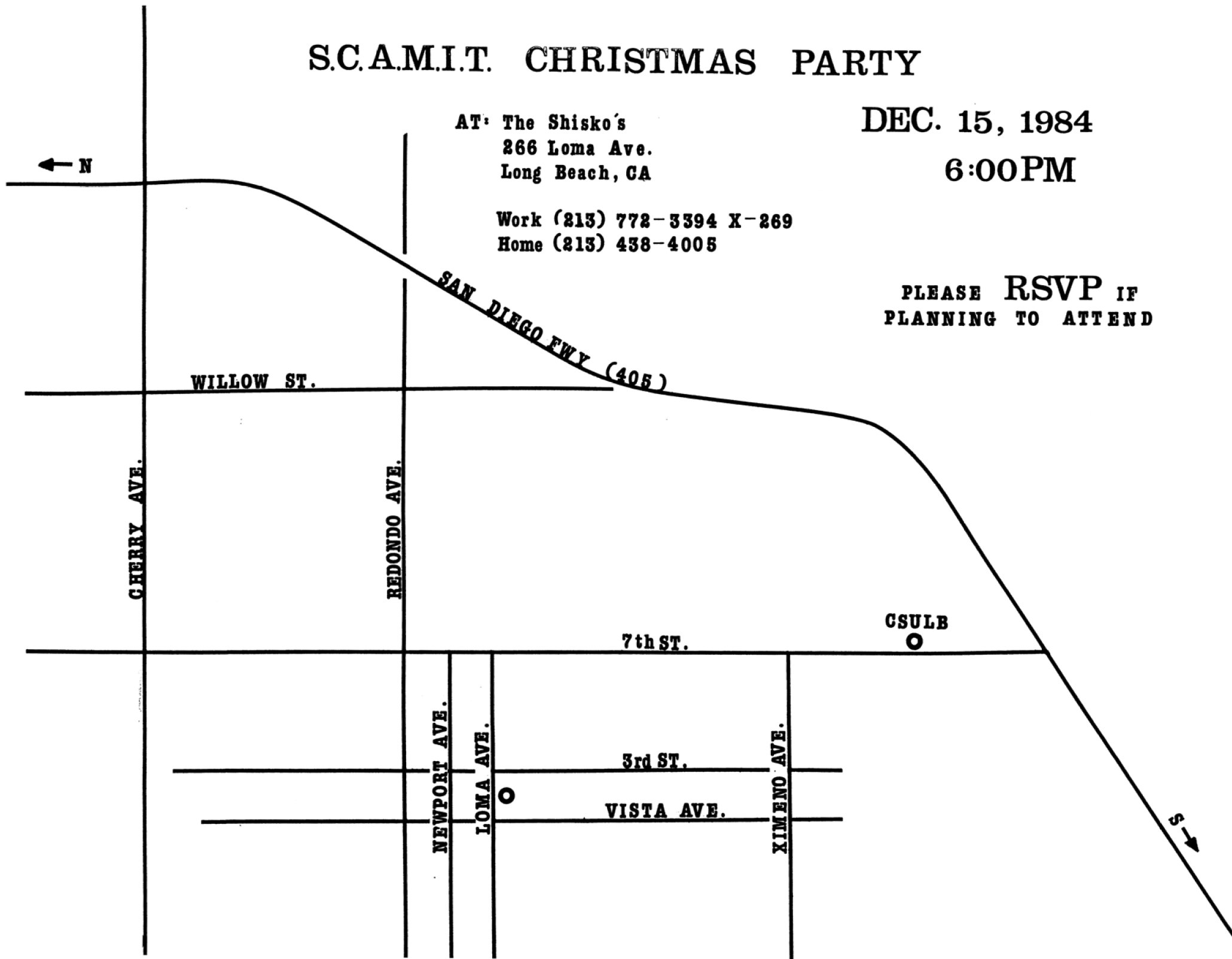
DEC. 15, 1984

6:00PM

AT: The Shisko's  
266 Loma Ave.  
Long Beach, CA

Work (213) 772-3394 X-269  
Home (213) 438-4005

PLEASE RSVP IF  
PLANNING TO ATTEND



SCAMIT Code: HYP 37

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Betaeus longidactylus Lockington 1877; Rathbun 1904; Baker 1912; Hilton 1916; Schmitt 1921; 1924; Hart 1964; Word and Charwat 1976.

Alpheus longidactylus (Lockington 1877); Kingsley 1878; Holmes 1900.

Literature:

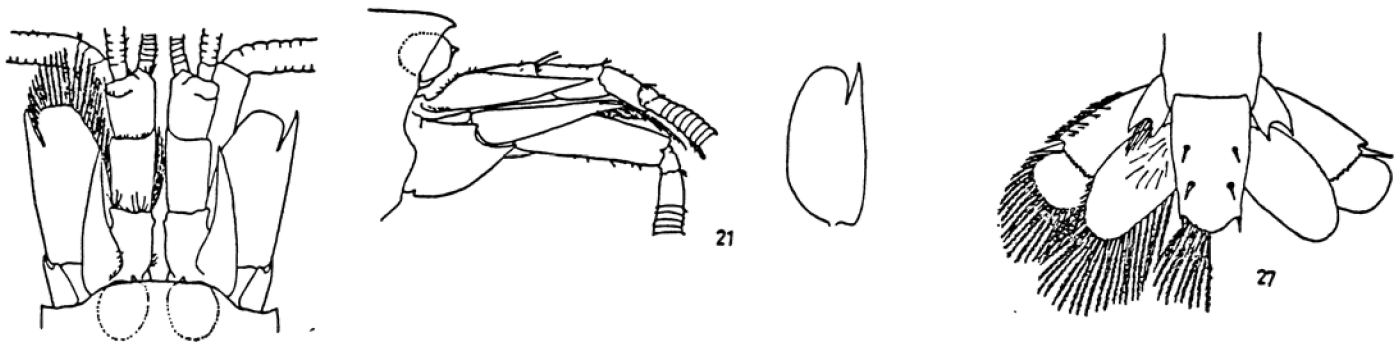
Hart, 1964; Word and Charwat, 1976.

Diagnostic characters:

1. Chelipeds large, in male as large as carapace.
2. Dactyls of chelipeds longer than palm.
3. Carapace smooth, frontal margin straight.
4. Antennal scale produced.
5. Sharp median tooth ascending between eyes (attached to basal joint of joined eyestalks).
6. Telson with two pair of moveable spines, two spines each at posterolateral corner, outer spine small.

Depth range: Intertidal

Distribution: Monterey, California to Tepoca Bay, Gulf of California, Mexico (Hart)



Figures from Hart, 1964.

SCAMIT Code: HYP 36

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Betaeus (new species) MacGinitie 1934, 1937.

Betaeus engenadensis Glassel 1938; Hart 1964; Word and Charwat 1976.

Literature:

Hart, 1964; Word and Charwat, 1976.

Diagnostic characters:

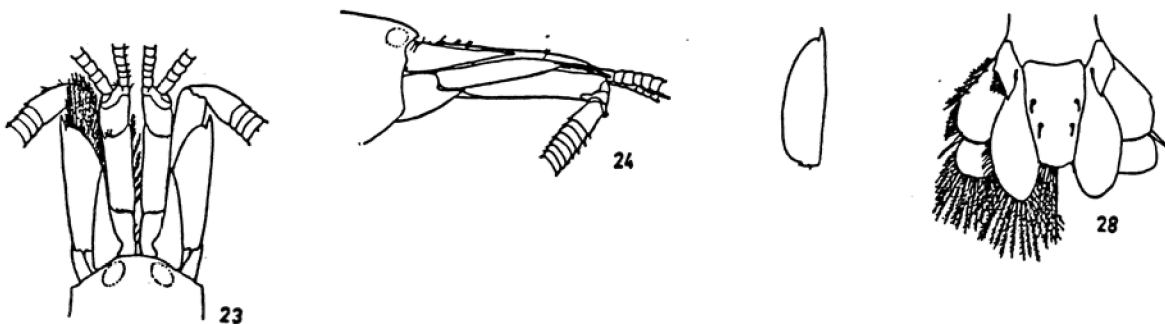
1. Carapace smooth, dorsal anterior margin depressed.
2. Abdominal segments smooth.
3. Telson with two pair of moveable spines on dorsal surface.
4. Telson with two pair of spines at posterolateral corners, outer spines small.
5. Antennal scale unproduced.
6. Tip of fixed finger truncated.
7. Moveable spine on ischium of 3rd and 4th walking legs.

Related species and character differences:

B. harrimani is closely related but lacks a spine on the ischium of the walking legs; fixed finger of cheliped is not truncated and the antennal scale is produced anteriorly.

Depth range: Unknown

Distribution: L.A. Harbor (7 m) to El Estero delta, Pinta Banda, Ensenada, Baja California



Figures from Hart, 1964.

SCAMIT Code: SCCWRP 47

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Crangon communis Rathbun 1899, of Rathbun 1904.

Crago communis Schmitt 1921.

Crangon communis Word and Charwat 1976; Butler 1980.

Literature:

Word and Charwat, 1976.

Diagnostic characters:

1. Gastric region not depressed.
2. Carapace with two median gastric spines positioned on anterior half of carapace, the posterior spine the largest.
3. Rostrum slightly ascending, rounded at the tip, not exceeding the eyes.
4. 3rd to 5th abdominal segments with a blunt median carina.
5. 1st and 2nd abdominal segments with a transverse sulcus.
6. 6th abdominal segment with two prominent longitudinal carina and a median sulcus.
7. Telson with a deep median sulcus.

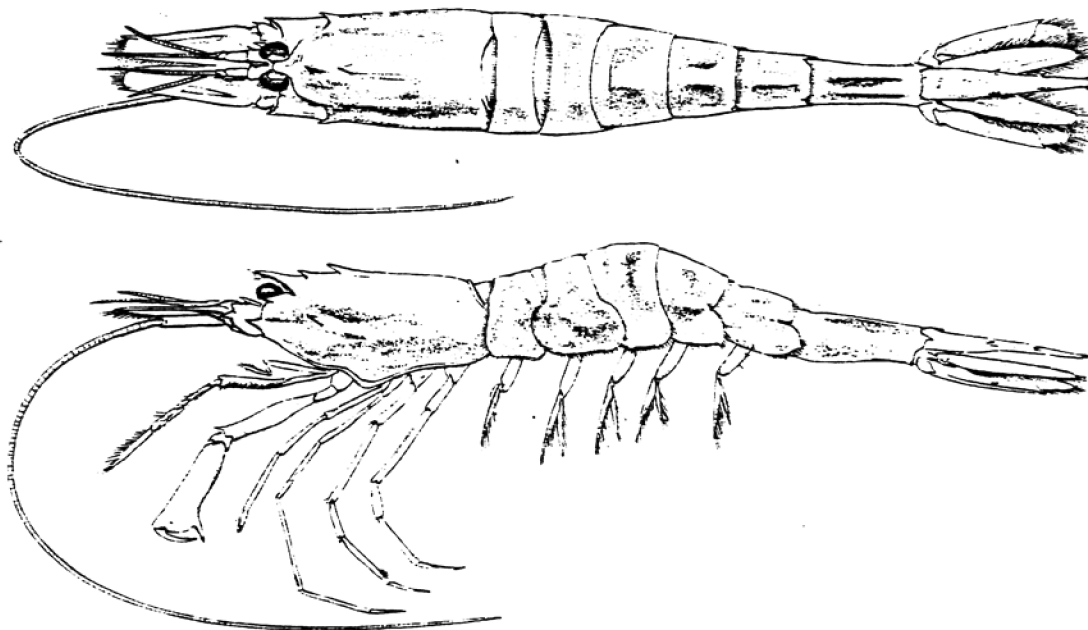
Related species and character differences:

Crangon zacaе is the closest related species, but is easily distinguishable by the lack of carination on the 3rd to 5th abdominal segments.



Depth range: 10-600 m

Distribution: Pribilof Islands to San Diego (Schmitt)



Figures from Butler, 1980.

SCAMIT Code: SCCWRP 46

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Pandalus pubescentulus Dana 1852; Stimpson 1857; Kingsley 1878; Smith 1879; Holmes 1900.

Pandalus platyceros Brant 1851; Rathbun 1904; Schmitt 1921; Butler 1980; Word 1976.

Literature:

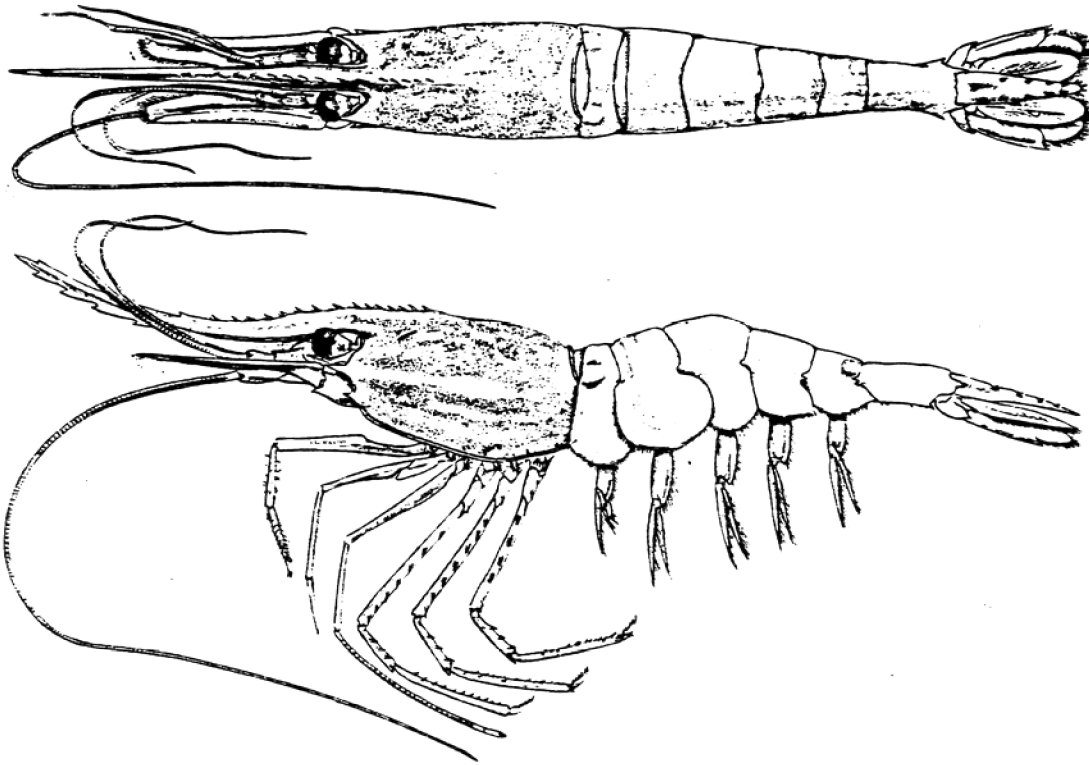
Brandt 1851; Butler 1970; Butler 1980; Dana 1852; Holmes 1900; Kingsley 1878; Schmitt 1921; Smith 1879; Stimpson 1857; Word and Charwat 1976.

Diagnostic characters:

1. Dorsal spines are limited to the anterior half of carapace.
2. 1st - 6th abdominal segments smooth.
3. Dorsal spines extending to the middle of rostrum, a solitary dorsal spine at the tip.
4. Ventral spines vary from six to eight, basal spine large, spines diminishing in size anteriorly.
5. Rostrum with lateral laminar crest.

Depth range: Intertidal to 480 m

Distribution: Unalaska, A.K. to San Diego, California



Figures from Butler, 1980.

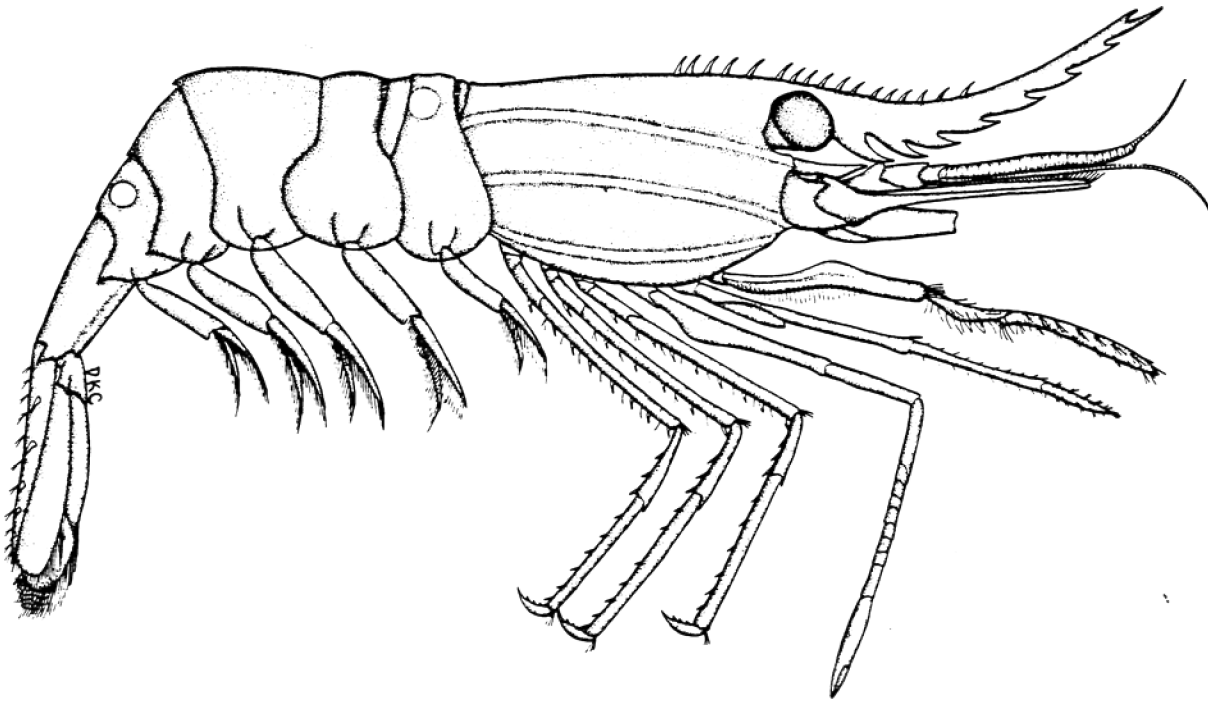


Figure from Word and Charwat, 1976.

SCAMIT Code: LACO 40

Date examined: October 23, 1984

Voucher by: Jim Roney

Synonymy:

Crago spinosissima Scmitt 1921; Goodwin 1952

Crangon spinosissima de Man 1920; Rathbun 1902; Wicksten 1977; Word and Charwat 1976

Metacrangon spinosissima Zarenkov 1965; Bulter 1980

Literature:

Butler 1980; Schmitt 1921; Word and Charwat 1976.

Diagnostic characteristics:

1. Rostrum acute ascending.
2. Carapace with median carina, 2 median gastric spines, anterior spine larger than posterior spine the later positioned on the posterior half of carapace.
3. One submedian spine with carina in the center of carapace, hepatic spine with carina, antennal spine ascending with a carina (2nd carina).
4. No spine on second carina or carapace.
5. 1st - 4th abdominal segments more or less carinate.
6. 4th - 6th abdominal segments with lateral carina in line with articular knobs.
7. 5th abdominal segment with a transverse sulcus through anterior end of dorsal carina.
8. 6th abdominal segment with two dorsal carina plus posteroventral region expanded lateraly (seen in dosal view).
9. 1st - 3rd abdominal pleurae armed with two lateral spines.

Related species and character differences:

Only species with abdominal pleurae armed with two lateral spines.

Depth range: 28-220 m

Distribution: From Butler Nootka Sound to Isla San Martin, Baja California

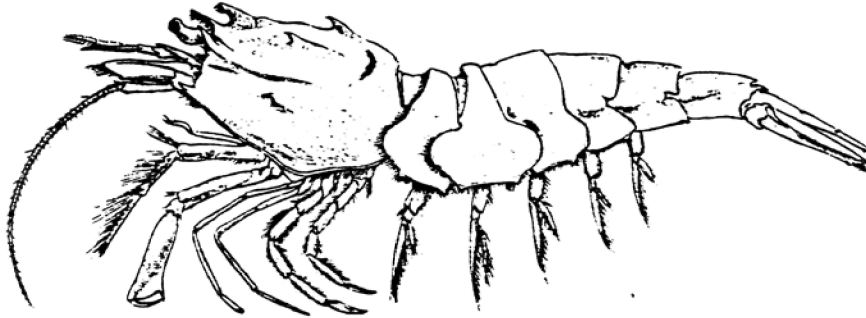


Figure from Butler, 1980.

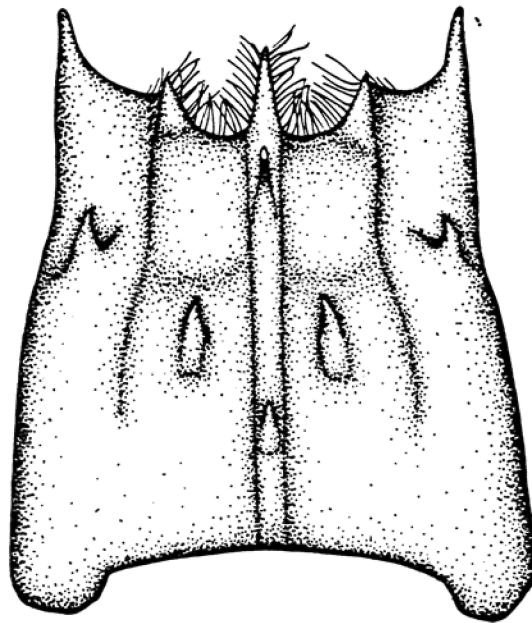


Figure from Word and Charwat, 1976.

SCAMIT Code: LACO 39

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Pseudocoutierea elegans Holthuis 1951; Word and Charwat 1976

Literature:

Word and Charwat 1976.

Diagnostic characteristics:

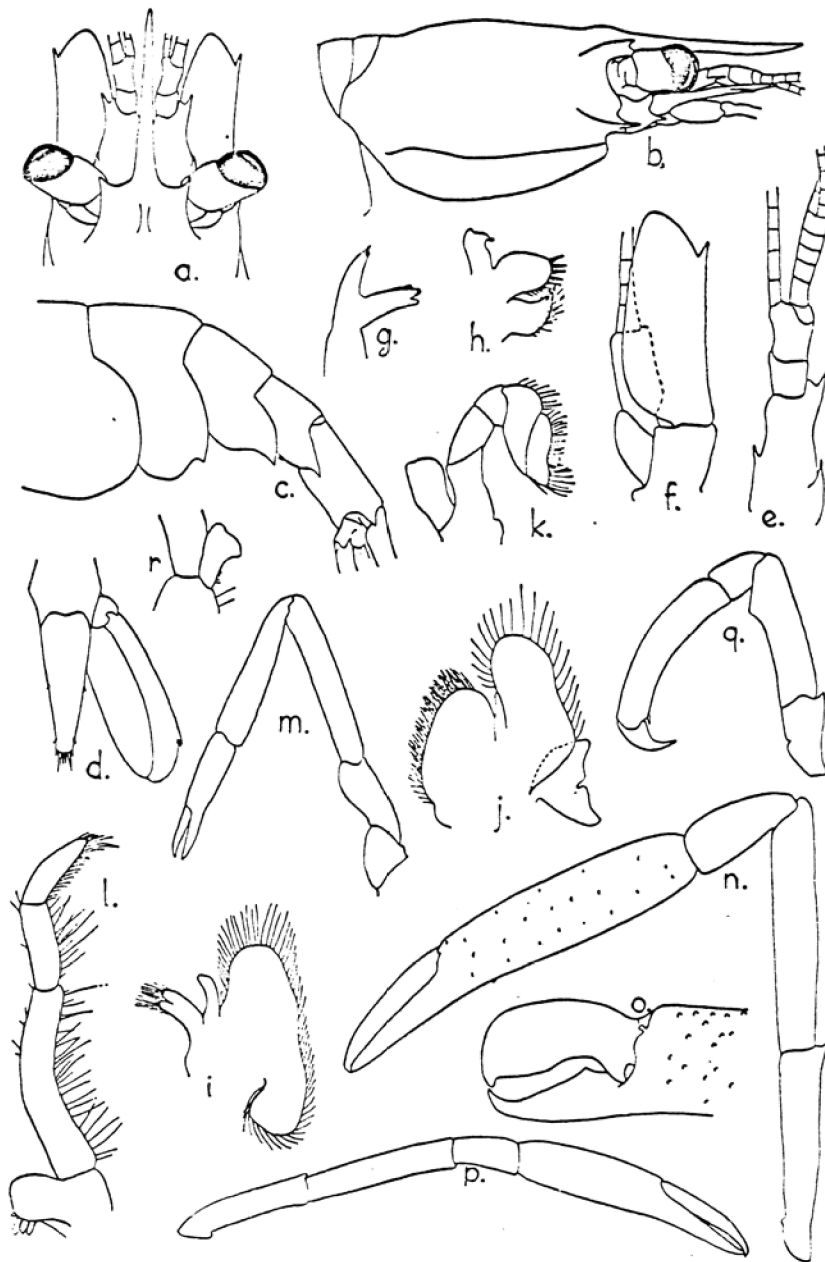
1. Rostrum long, slender, unarmed.
2. Rostrum with a basal obcompressed expansion terminating anteriorly with the supraorbital spine.
3. Carapace smooth with antennal spines on anterior margin.
4. Abdominal segments dorsally smooth.
5. 3rd, 4th, 5th perieopods are not biunguiculate.
6. 3rd, 4th, 5th abdominal segments with pleurae ending in a sharp tooth.
7. Rostrum extends beyond scaphocerite and antennular peduncle.

Related species and character differences:

Only species of this genus.

Depth range: 23-91 m (previous 82-91 m)

Distribution: Santa Catalina Island, California to Ildefonso Island, Baja California



a, anterior part of body in lateral view; b, telson in dorsal view; c, antennula; d, antenna; e, mandible; f, maxillula; g, maxilla; h, first maxilliped; i, second maxilliped; j, third maxilliped; k, first pereopod; l, second pereopod; m, third pereopod; n, dactylus of third pereopod; o, endopod of first pleopod of male; p, endopod of first pleopod of female. a-c, k, m, x10; d, x8; e-h, x25; i, j, x17.5; l, x7.5; n, x50; o, p, x24; c, d, o, p, after Gordon, 1935a.

Figures from Holthuis, 1951.

SCAMIT Code: OCSD 46

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Eusicyonia ingentis Burkenroad 1938; of Frey 1971; Word and Charwat 1976

Literature:

Burkenroad 1938; Frey 1971; Word and Charwat 1976.

Diagnostic characters:

1. Rostral spination (excluding tip): 3 dorsal, 1 ventral.
2. Rostrum exceeds eyes.
3. Two spines present on median carina of carapace.
4. Single spine present on dorsal carina of carapace, posterior to hepatic spine.
5. Abdomen entirely carinate dorsally.
6. 1st abdominal segment carina forms anteriorly directed spine.

Related species and character differences:

Sicyonia penicillata has two spines on dorsal carina of carapace posterior to the hepatic spine.



Depth range: 10-183 m

Distribution: Point Conception to Cedros Island, Baja California.

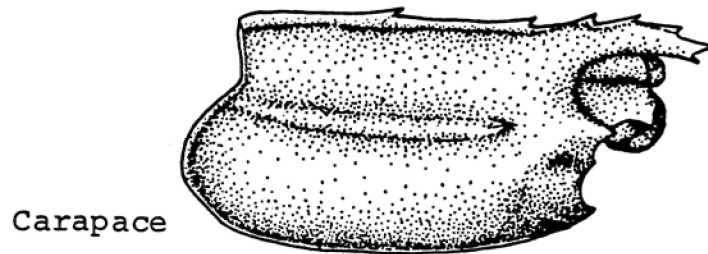


Figure from Word and Charwat, 1976.

SCAMIT Code: OCSD 45

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Crango zaca Chace 1937

Crangon communis of Rathbun 1904, in part, Word and Charwat 1976

Literature:

Chace 1937; Rathbun 1904; Word and Charwat 1976.

Diagnostic characters:

1. Rostrum slightly ascending, tip round, not exceeding eyes, tip of rostrum slightly deflexed.
2. Two median gastric spines on anterior half of carapace, posterior spine larger than anterior.
3. 1st - 5th abdominal segments dorsally smooth.
4. 6th abdominal segment with two carina separated by a median sulcus.
5. Gastric region not depressed.

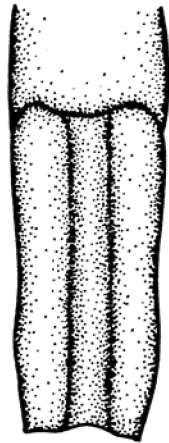
Related species and character differences:

Crangon communis is similar in having a slightly upward tilted rostrum (not at 45 degrees) and both have two carina on the 6th abdominal segment. However, C. communis has a single carina on the 3rd, 4th and 5th abdominal segments whereas C. zaca is smooth.

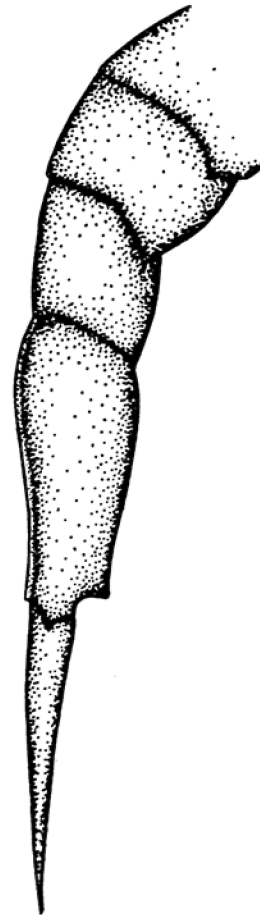
Depth range: 73-183 m

Distribution: Monterey Bay, California to Gordo Banks, Baja California.

Dorsal carina on sixth  
abdominal segment



Abdominal Segments 3, 4, 5,  
and 6 and telson



Figures from Word and Charwat, 1976.

SCAMIT Code: OCSD 44

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Crango resima Schmitt 1921

Crango resima Goodwin 1952

Literature:

Butler 1980; Goodwin 1952; Kozloff 1974; Rathbun 1902; Schmitt 1921; Zarenkov 1965;  
Word and Charwat 1976.

Diagnostic characters:

1. Rostrum ascending at an angle of approximately 45 degrees
2. Rostrum tip pointed, exceeding the eyes; eyes of moderate size.
3. Rostrum with thin, ventrally directed, spatulate compressed plate (not evident in specimens less than 20 mm in length).
4. Two median gastric spines positioned on anterior half of carapace.
5. Posterior median gastric spine larger than anterior.
6. 1st four abdominal segments smooth.
7. 5th abdominal segment has an obscure median carina.
8. 6th abdominal segment with two median carina.
9. Telson with a median sulcus.
10. Maxillipeds reach beyond antennal scale.
11. Gastric region not depressed.

Related species and character differences:

Crangon abyssorum is similar in having an ascending rostrum, though it lacks ventral plate. This species also differ from C. resima by having two median spines on anterior half of carapace and large eyes that reach the tip of the rostrum.

Depth range: 30-70 m

Distribution: Washington coast to San Domingo Point, Baja California

Ecology: Marine

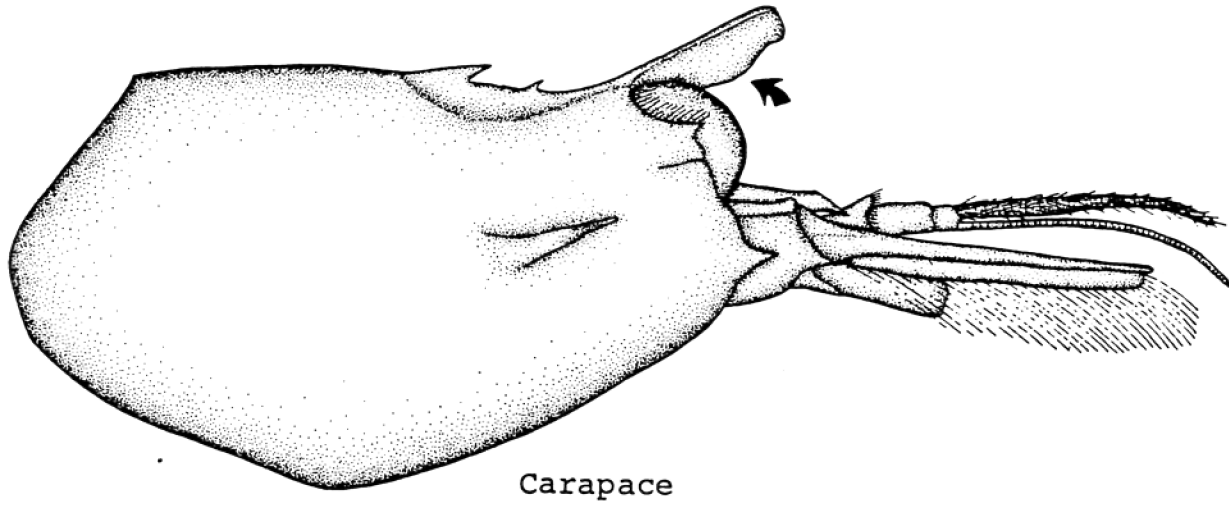
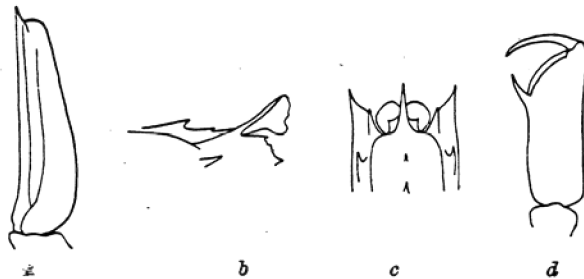


Figure from Word and Charwat, 1976.



Figures from Schmitt, 1921.

SCAMIT Code: Pt. Loma 53

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Crangon alaskensis Lockington 1878, in part; de Man 1920.

Crangon nigricauda Holmes 1900.

Crangon crangon affinis Ortmann 1895; in part.

Crangon vulgaris Kingsley 1899, in part.

Crago alaskensis elongata Schmitt 1921.

Crago alaskensis Carlisle 1969.

Crangon alaskensis Butler 1980, in part.

Crangon alaskensis elongata Word and Charwat 1976.

Literature:

Schmitt 1921; Word and Charwat 1976.

Diagnostic characters:

1. Gastric region not depressed.
2. Carapace with one median gastric spine.
3. 6th abdominal segment not carinated, has ventral sulcus.
4. 5th abdominal segment carinated, 4th slightly carinated.
5. Antero-internal margin of antennal scale not produced.
6. Antennal scale as long as carapace exclusive of rostrum.
7. Rostrum longer and narrower than in C. alaskensis.
8. Outer flagellum of antennules falls considerably short of the antennal scale.
9. 4th Telson flattened above, scarcely grooved, tip more acute.

Related species and character differences:

Differs from C. alaskensis in that the antennal scale is much longer, equal to the length of carapace exclusive of rostrum. The outer flagellum of antennules falls considerably short of the antennal scale.

Depth range: 16-137 m

Distribution: British Columbia to Mexican Border

---

SCAMIT Code: HYP 38

Date examined: October 23, 1984  
Voucher by: Jim Roney

Synonymy:

Hippolysmata californica Stimpson 1866; Holmes 1900; Rathbun 1902; Scmitt 1921\*;  
Holthius 1947

Hippolyte lineata Lockington 1877

Lysmata californica Chace 1973; Word and Charwat 1976

Literature:

Chace 1973; Word and Charwat 1976

Diagnostic characters:

1. Antennular and antennal flagellae extremely long.
2. Antennal scale produced.
3. Rostrum with lateral ridges, two ventral spines, seven dorsal spines.
4. No supraorbital spine.
5. Abdominal segments smooth.
6. Telson with four terminal spines, two pair of dorsal spines and plumulose setae.
7. Carpus and merus of second pereopod has 30+ segments.

Depth range: Intertidal - 61 m

Distribution: San Simeon, California to La Paz, Baja California

- Baker, C.F. 1912. Notes on the crustacea of Laguna Beach. In 1st annual report, Laguna Marine Laboratory, pp. 100-117.
- Brandt, J.F. 1851. Krebse. In Reise in den aussersten norden und osten Siberiens wahrend der Jaher 1843 und 1844, auf Veranstaltung der Kaiserlichen Akademie der Wissenschaften zu St. Petersburg, A.T. von Middendorf, ed., St. Petersburg: A.T. von Middendorf.
- Burkenroad, M.D. 1938. The Templeton Crocker Expedition, part 13: Penaeidae from the region of Lower California and Clarion Island, with descriptions of four new species. Zool. 23:55-91.
- Butler, T.H. 1980. Shrimps of the Pacific Coast of Canada. Can. Bull. Fish. Aquat. Sci. 202: 280p.
- Carlisle, J.G., Jr. 1969. Invertebrates taken in a six year trawl study in Santa Monica Bay. Veliger 11(2):237-42
- Chace, F.A., Jr. 1937. The Templeton Crocker Expedition, part 7: Caridean decapod crustacea from the Gulf of California and the west coast of Lower California. Zool. 22:109-38.
- Dana, J.D. 1852. Crustacea, part 1. U.S. Exploring Exped., no. 13.
- de Man, J.G. 1920. Decapod of Siboga Expedition, part 4: Families Pasiphaeidae, Styrodactylidae, Hoplophoiidae, Nematocarcinidae, Thalassocaridae, Pandalidae, Psalidopodidae, Gnathophyllidae, Processidae, Glyphocrangonidae, and Crangonidae. Siboga Expeditie, Vol. 20, part 4.
- Frey, H. 1971. California's living marine resources and their utilization. California Fish and Game, Resources Agency.
- Glassel, S.A. 1938. New and obscure decapod crustacea from the west American coasts. Trans. San Diego Soc. Nat. Hist. 8:411-54.
- Goodwin, D.G. 1952. Some decapod crustacea dredged off the coast of central California. Proc. Calif. Acad. Sci. 27:393-97.
- Hart, J.F.L. 1964. Shrimps of the genus Betaeus on the Pacific coast of North America with descriptions of three new species. Proc. U.S. Nat. Mus. 115:431-61.
- Hilton, 1918. A list of some additional shrimp-like crustacea (and hermit crabs) from Laguna Beach. Pomona College J. Ent. Zool. 8:25-34.
- Holmes, S.J. 1900. California stalk-eyed crustacea. Calif. Acad. Sci., paper 7.
- Holthuis, L.B. 1947. The Decapod of the Siboga Expedition, part 9: The Hippolytidae and Rhynchocinetidae collections by the Siboga and Snellius Expeditions with remarks on other species. Siboga Expeditie, vol. 23, part 9.
- Holthuis, L.B. 1951. A general revision of the Palaemonidae (Crustacea Decapoda Natantia) of the Americas, part 1: The subfamilies Euryrhynchinae and Pontoniinae. Paper 11, Allan Hancock Foundation, Univ. So. Calif.



- Kingsley, J.S. 1878. List of the North American crustacea belonging to the suborder Caridea. Bull. Essex Inst. 10(5):53-71.
- Kingsley, J.S. 1899. Synopsis of North American invertebrates, part 3: The Caridea of North America. Amer. Nat. 33:709-20.
- Kozloff, E.N. 1974. Keys to the marine invertebrates of Puget Sound, the San Juan archipelago, and adjacent regions. Univ. Wash. Press., Seattle, 226p.
- Lockington, W.N. 1877. Remarks on the crustacea of the Pacific, with descriptions of some new species. Proc. Calif. Acad. Sci. 7:28-36, 41-48.
- Lockington, W.N. 1878. Remarks on some new Alpehi, with a synopsis of the north American species. Ann. Mag. Nat. Hist., ser. 5, 1:229, 465-80.
- MacGinitie, G.E. 1934. The natural history of *Callinasa californiensis* Dana. Amer. Midl. Nat. 15:166-77.
- MacGinitie, G.E. 1937. Notes on the natural history of several marine crustacea. Amer. Midl. Nat. 18:1031-37.
- Ortmann, A.E. 1895. A study of the systematic and geographic distribution of the decapod family Crangonidae Bate. Proc. Acad. Nat. Sci. Phila. 47:173-97.
- Rathbun, M.J. 1902. Description of new decapod crustaceans from the west coast of North America. Proc. U.S. Nat. Mus. 24: 885-905.
- Rathbun, M.J. 1904. Decapod crustaceans of the northwest coast of North America. Avril Harriman Alaska Expeditions, ser. 10.
- Schmitt, W.L. 1921. The marine decapod crustacea of California. Univ. Calif. Berkeley Publ. Zool. 23.
- Smith, S.I. 1879. The stalk-eyed crustaceans of the Atlantic coast of North America north of Cape Cod. Trans. Conn. Acad. Arts Sci. 5:27-138.
- Stimpson, W. 1857. On the Crustacea and Echinodermata of the Pacific shores of North America. J. Bost. Soc. Nat. Hist. 4:444p.
- Stimpson, W. 1866. Descriptions of new genera and species of macrurous crustacea from the coasts of North America. Proc. Chicago Acad. Sci. 1:46.
- Wicksten, M.K. 1977. Range extensions of four species of crangonid shrimps from California and Baja, California, with a key to the genera (Natantia: Crangonidae). Proc. Bio. Soc. Wash. 90(4):963-967.
- Word, J.Q. and Charwat, D.K. 1976. Invertebrates of Southern California coastal waters. II. Natantia. S.C.C.W.R.P. 238p.
- Zarenkov, N.A. 1965. Revision of the genera *Crangon* Fabricus and *Sclerocrangon* G.O. Sars (Decapoda, Crustacea). Zool. Zh. 44(12): 1761-1775.