

**BATHYPALAEEMONELLA DELSOLARI, A NEW SPECIES OF SHRIMP
FROM PERU (DECAPODA, CARIDEA, CAMPYLONOTIDAE)**

BY

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In 1971, the Instituto del Mar del Perú collected crustaceans by trawling on the continental shelf and slope off northern Perú (Cruises 7101 and 7105, R. V. "SNP-1"). The collections resulted in the discovery of several new species and range extensions of described species of shrimp. This paper describes a new species of *Bathypalaemonella*, previously mentioned by Del Solar (1972) and Méndez (1979). This species is the first of its genus known from the region off western South America and the first campylonotid shrimp to be reported from Perú.

***Bathypalaemonella delsolari* n. sp. (figs. 1-4)**

Material examined. — Holotype, female 52.5 mm, SW of Lobos de Tierra, Perú (6°31'S 81°01'W), 712-714 m, 17 May 1971, "SNP-1" station 12, cruise 7105, Enrique del Solar, M. Viacava and J. Velez, collectors; Allan Hancock Foundation type number 7117. Paratypes: three females, one male, same location, Instituto del Mar del Perú; 2 females, one of them ovigerous, same location, U.S. National Museum.

Diagnosis. — Rostrum armed dorsally with 21 to 28 teeth, 5 to 7 of these on carapace behind orbit. Posterior margin of telson armed with four pairs of spinules. Major second chela smooth along posterior margin, cutting edge of its fingers with three teeth on propodus, tips of its fingers curved and ending in sharp points.

Description. — Rostrum long and slender, curved, longer than scaphocerite. Upper margin of rostrum bearing 21 to 28 teeth, five to seven of these on carapace posterior to orbit and one subapical tooth separated from other teeth by an unarmed area. Lower margin of rostrum with four to six large teeth.

Eyes round, corneas not reaching end of first segment of antennular peduncle.

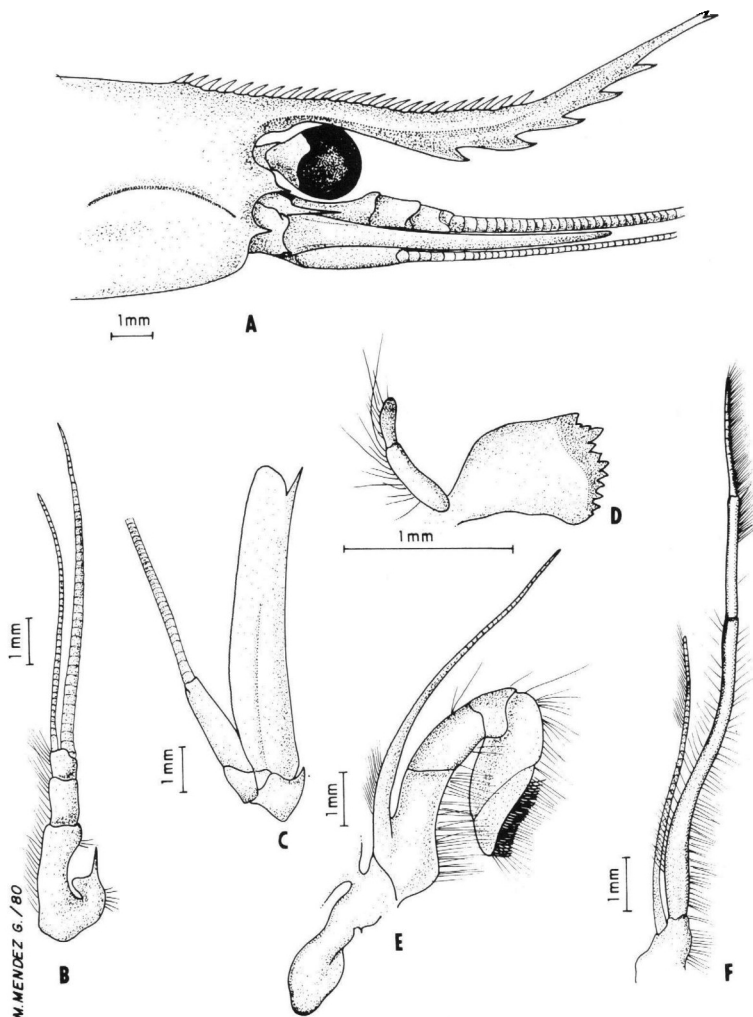


Fig. 1. *Bathypalaemonella delsolari* sp. nov. Female paratype, 47.9 mm total length, off Lobos de Tierra, Perú. A, anterior part of body in lateral view; B, first antenna; C, second antenna and scaphocerite; D, mandible; E, second maxilliped; F, third maxilliped.

Carapace smooth. Antennal spine below orbital margin, branchiostegal spine on anterior margin of carapace. Anterolateral margin of carapace rounded. Carapace bearing branched groove running diagonally posterior from orbit, with branch forward toward branchiostegal spine.

Abdomen smooth. Pleura of first five segments rounded. Sixth segment 1.8 times length of fifth, $3/5$ of telson. Telson elongate, with four pairs of spinules on posterior margin. Telson with two pairs of dorsal spines, one pair at middle and one pair at $3/4$ of length. Posterior margin of telson rounded.

Antennular peduncle with stylocerite large, sharply pointed. Stylocerite not reaching end of first segment of antennular peduncle. No anterolateral spine present on first segment. Second segment longer than third. Upper antennular flagellum consisting of single ramus.

Scaphocerite about six times as long as broad. Outer margin concave, with strong final tooth reaching about as far forward as lamella. Scaphocerite overreaching antennular peduncle by $1/2$ of its length. Distinct spine present near external side of base of scaphocerite.

Mandible with incisor and molar process fused. Edge of incisor process bearing two groups of teeth, four-five and three-five respectively, and three or four isolated teeth. Two-jointed palp extending to cutting edge of incisor process. Distal segment of palp equalling $2/3$ length of proximal segment.

First maxilla with tapered proximal endite. Distal end rounded. Palp long and slender.

Second maxilla with proximal endite separated from distal by small intermediate lobe. Distal endite deeply cleft into larger, rounded upper lobe and smaller lower lobe. Palp long, tapering. Posterior lobe of scaphognathite rounded.

First maxilliped with short proximal endite and larger distal endite. Clear suture line between proximal and intermediate segments of endopod, but no distinct suture between intermediate and terminal portions. Tip of endopod extending beyond caridean lobe of exopod. Well-developed bilobed epipodite present.

Second maxilliped with stout tooth on disto-median angle of carpus. Merus simple, ischium and basis united. Well-developed exopod present. Coxa bearing rounded epipodite with podobranch.

Third maxilliped extending beyond midlength of scaphocerite. Distal segment shorter than penultimate or same size, more slender and more densely setose. Ischium 2.5 times as long as penultimate segment. Basis bearing exopod which is nearly as long as ischium. Lateral aspect of coxa with strong tooth-like process. Arthrobranch and epipodite present.

Branchial formula:

	Maxilliped			Pereiopod				
	1	2	3	1	2	3	4	5
Pleurobranch	—	—	—	+	+	+	+	+
Arthrobranch	—	—	+	+	+	+	+	—
Podobranch	—	+	—	—	—	—	—	—
Epipodite	+	+	+	—	—	—	—	—
Exopod	+	+	+	—	—	—	—	—

First pereiopod chelate. Dactyl less than $1/2$ length of propodus. Fingers of chela setose. Carpus twice length of propodus. Merus about $2/3$ length of carpus, 1.5 times ischium. Tufts of setae on inferior margins of propodus and carpus at articulation.

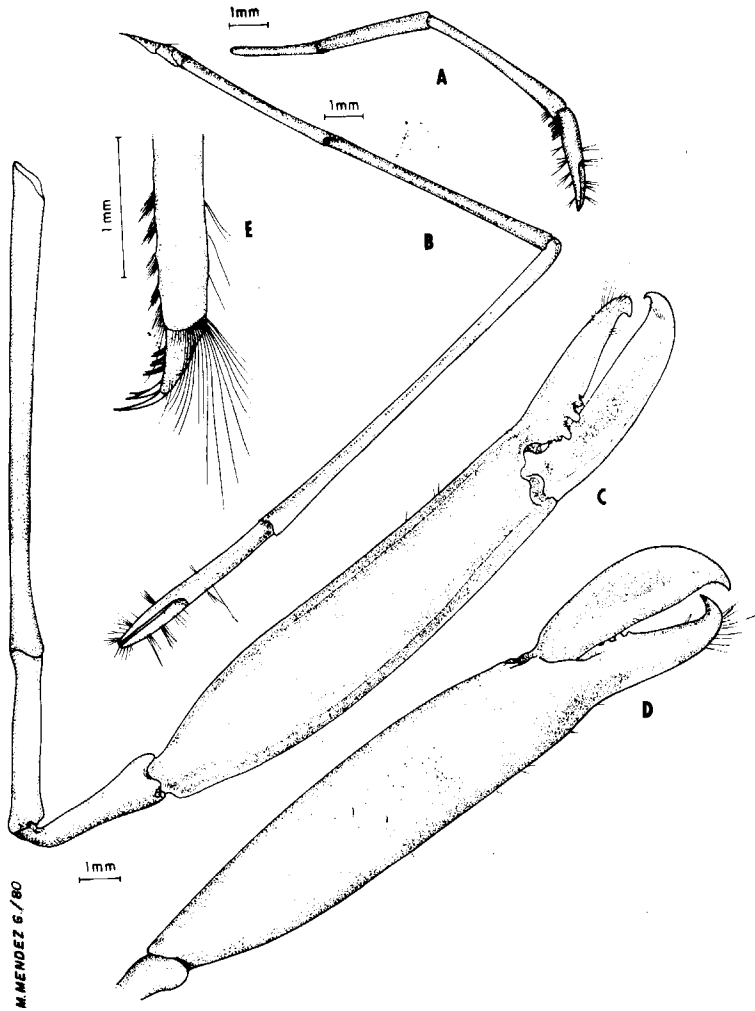


Fig. 2. *Bathypalaemonella detsolari* sp. nov. A, first pereiopod; B, smaller second pereiopod (right); C, larger second pereiopod (left); D, larger second pereiopod (left); E, dactyl of third pereiopod.

Right second pereiopod usually the larger of the two second pereiopods. Dactyl $1/3$ length of propodus. Finger of propodus with three teeth on cutting edge. Tips of both fingers of chela curved, pointed. Margins of chela smooth. Carpus $1/4$ length of propodus. Merus longer than carpus. Ischium three times length of carpus.

Smaller second pereiopod chelate. Dactyl less than $1/2$ length of propodus. Fingers of chelae setose. Carpus twice length of propodus.

Third pereiopod with dactyl $1/5$ length of propodus. Dactyl with one long terminal spine and four pairs of spinules along internal side. Propodus 10 times as long as wide. Carpus same length as propodus. Merus 1.8 times as long as

carpus, with sharp spine at distal end near margin. Ischium 1/2 length of merus. Pereiopods 4 and 5 similar to pereiopod 3. Pereiopods 3-5 reaching distal end of scaphocerite.

First pleopod with slender endopod and exopod. Second pleopod with broader endopod and exopod, with appendix interna. Male with appendix masculina longer than appendix interna.

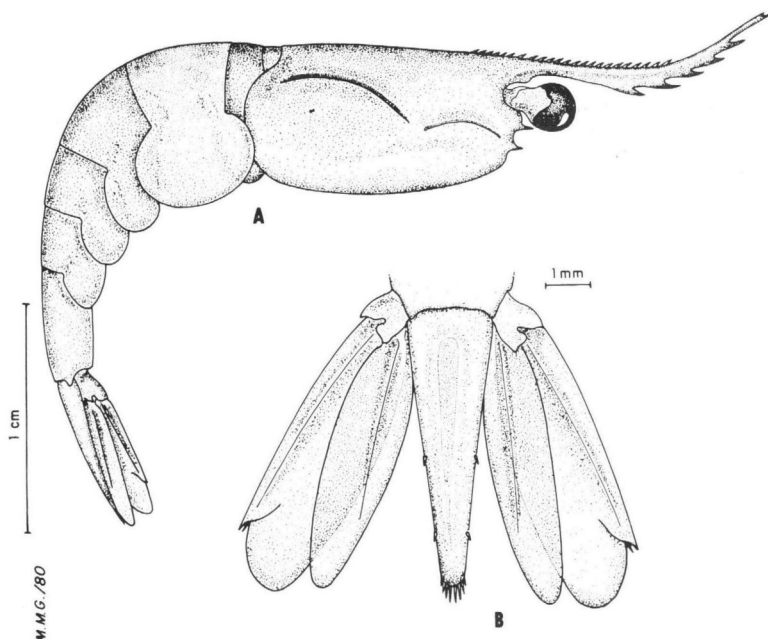


Fig. 3. *Bathypalaemonella delsolari* sp. nov. A, body in lateral view; B, telson and uropod.

Uropods longer than telson. Mesial branch nearly ovate, ending in strong tooth. Movable spine at inner side of this tooth.

Measurements in millimeters. — Total length: 52.5, 55.4, 40.2, 51.9, 47.9, 47.7, 41.8. Carapace: 12.6, 15.3, 9.7, 11.1, 11.0, 12.4, 10.6. Abdomen and telson: 29.4, 31.6, 24.0, 27.2, 25.6, 26.1, 23.4. Telson: 8.4, 8.7, 5.8, 7.8, 7.3, 5.4 (broken), 7.0. Scaphocerite: 8.7, 9.2, 6.5, 8.0, 7.8, 7.9, 7.8. Third maxilliped: 10.9, 12.4, 9.2, 11.2, 11.3, 12.8, 7.8. First pereiopod: 14.2, 18.1, 12.3, 14.6, 14.4, 15.0, 14.2. Larger second pereiopod: 30.8, 42.0, missing, missing, 40.0 (on left side), 37.4, 33.0.

Remarks. — *Bathypalaemonella delsolari* most closely resembles *B. texana* Pequegnat. The major second pereiopod, spines of the telson, and arrangement of teeth on the rostrum are similar in both species. *Bathypalaemonella texana*, however, has uropods that do not overreach the telson. The dactyl of the third pereiopod bears two pairs of spinules, not four pairs. The dorsal teeth of the rostrum are more widely spaced on the distal end than toward the

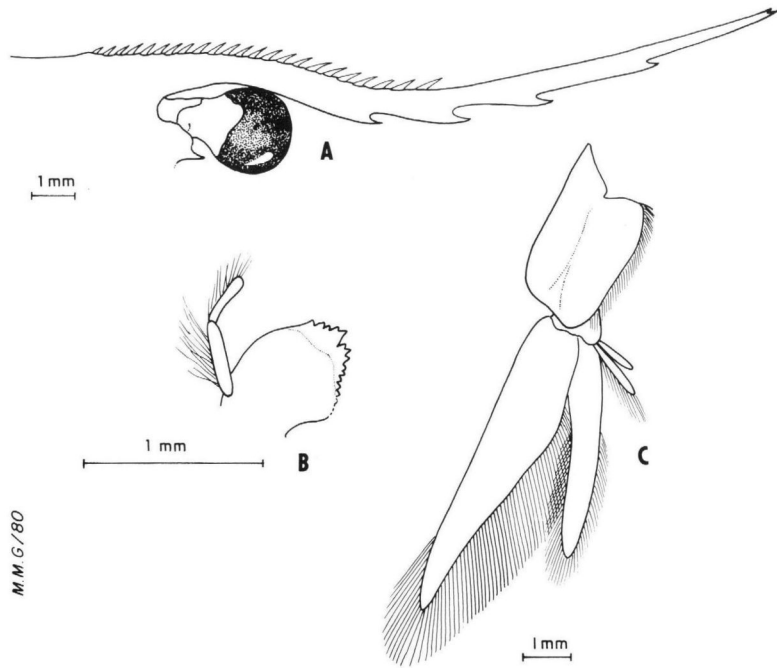


Fig. 4. *Bathypalaemonella delsolari* sp. nov. Male paratype, 51.9 mm total length. Off Lobos de Tierra, Perú. A, anterior part of body in lateral view; B, mandible; C, second pleopod.

TABLE I
Comparison of the six species of *Bathypalaemonella*

	<i>B. delsolari</i>	<i>B. pandaloides</i>	<i>B. zimmeri</i>	<i>B. humilis</i>	<i>B. texana</i>	<i>B. serratipalma</i>
Rostral formula	5-7)14-16+1 4-6	5-6)11-12+1 13	3)12+1 10	4)16+1? 5	5)15+1 5?	3-4)11-16+1 3-7
Major second chela:						
Teeth of cutting edge of propodus	3	?	3	none	3	1
Posterior edge of palm	smooth	?	smooth	smooth	smooth	serrate
Pairs of posterior spines of telson	4	4	5	5	4	6
Range	Perú	Hawaiian Islands	East Africa	South China Sea	Gulf of Mexico	Gulf of Mexico
References		Rathbun, 1906; Holthuis, 1949	Balss, 1914, 1925	Bruce, 1966	Pequegnat, 1970	Pequegnat, 1970

cephalothorax rather than equally spaced. Table 1 compares the six known species of *Bathypalaemonella*.

Taken with *B. peruviana* at Station 12 were the penaeid shrimp *Benthesicymus* sp.; the carideans *Heterocarpus affinis* Faxon, *Heterocarpus hostilis* Faxon, *Pantomus affinis* Chace, *Acanthephyra approxima* Bate, *Nematocarcinus agassizi* Faxon, and an unidentified species of *Lebbeus*; the hermit crab *Pagurus* sp., the lithodid crabs *Lithodes ?panamensis* Faxon and *Glyptolithodes cristatipes* Faxon. The bottom was hard muddy sand (Del Solar & Mistakides, 1971).

ACKNOWLEDGEMENT

We thank Fenner A. Chace, Jr., U.S. National Museum, for his suggestions regarding the manuscript.

RÉSUMÉ

Bathypalaemonella delsolari sp. nov. est décrite du Pérou. Cette crevette vit à la profondeur de 712-744 m. L'espèce la plus proche est *B. texana* Pequegnat, qui diffère cependant par la disposition des dents sur le rostre et par la longueur des uropodes. Les épines de la troisième patte thoracique diffèrent aussi chez les deux espèces. *Bathypalaemonella delsolari* est la première crevette Campylonotidae à être signalée du Pérou.

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