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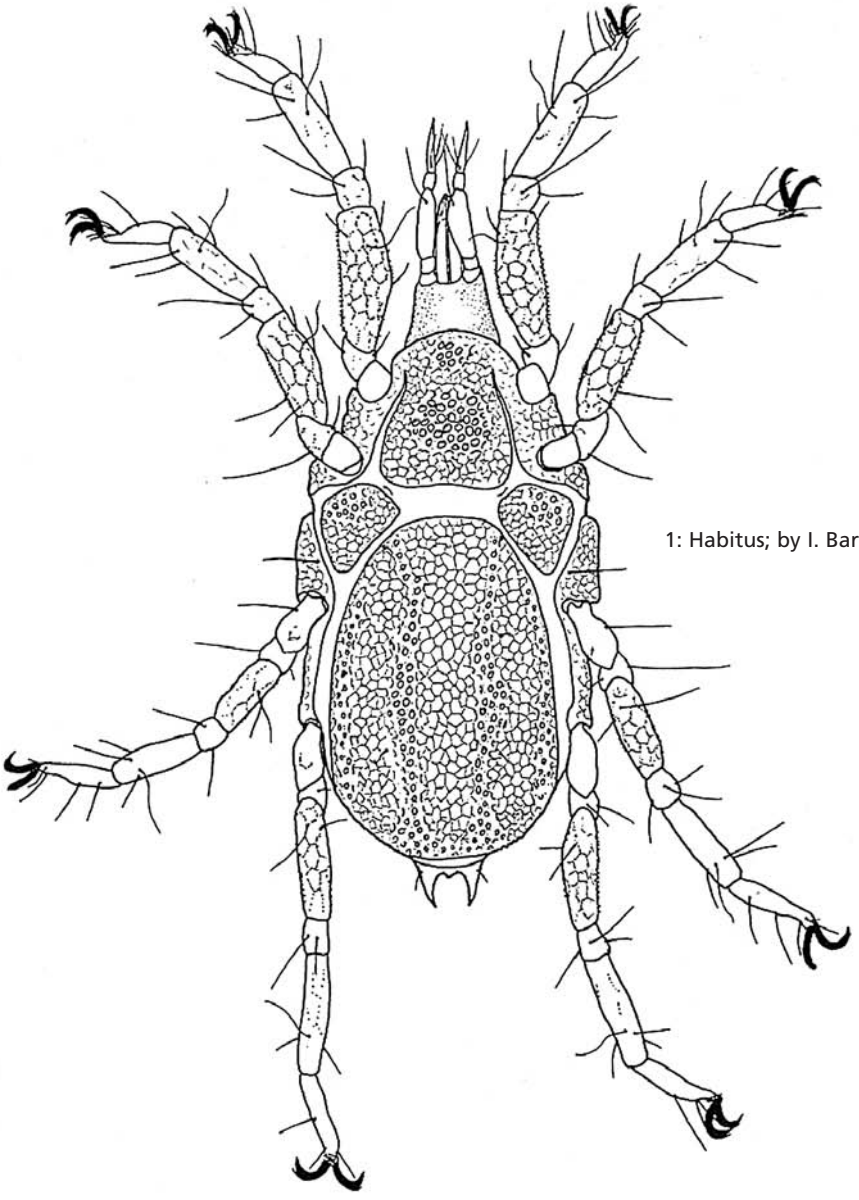
Copidognathus papillatus KRANTZ, 1982

Size: 500-570 µm (from tip of rostrum to end of anal papillae).

Morphology: Marine mite with ovate idiosoma, slender gnathosoma with almost parallel-sided rostrum, two pairs of legs directed forward and two pairs backward. Dorsal plates of idiosoma with areolate-reticulate sculpturing. Anal papillae enlarged, extending beyond anal aperture. Legs with aciculate reticulation; they lack long spine-like setae.

Biology: Present within detritus among colonies of vestimentiferan tubeworms, barnacles, and mussels.

Distribution: Galapagos Spreading Center, East Pacific Rise: 13°N, Juan de Fuca Ridge: Main Endeavour; North Fiji and Lau Back-Arc Basins.



1: Habitus; by I. Bartsch.

References:

BARTSCH I. (1991) Zool. Sci. **8**: 789-792.
KRANTZ G.W. (1982) Can. J. Zool. **6**: 1728-1731.

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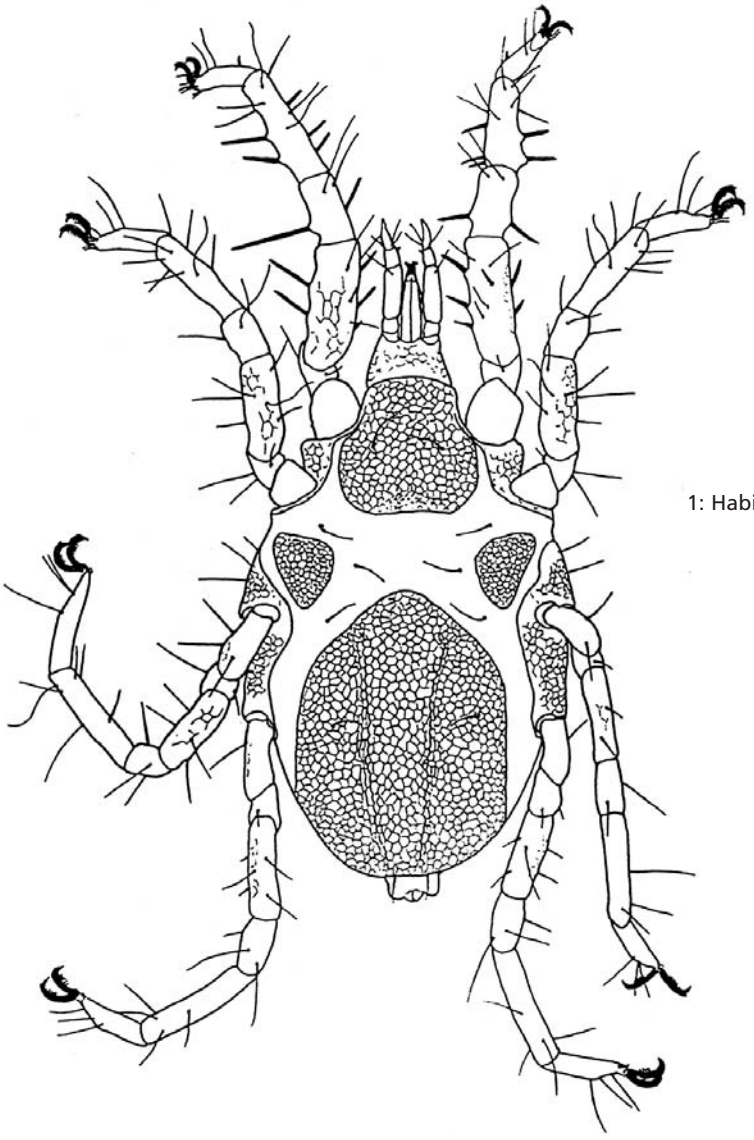
Halacarellus auzendei (Bartsch, 1990)

Size: 650-700 µm (from tip to rostrum to end of anal papilla).

Morphology: Marine mite with ovate idiosoma and two pairs of legs directed forward and two pairs backward. Gnathosoma about 1/3 as long as the idiosoma; rostrum slender. Dorsal idiosomatic plates reticulate, membranous integument between plates with minute denticles. First pair of legs with long, bluntly ending ventral spines; in adults, third, fourth and fifth segment with five, two, and five spines respectively.

Biology: Several mites have suctorians (Ciliophora) fixed on the idiosoma, gnathosoma or legs.

Distribution: Mid-Atlantic Ridge: Snake Pit and Broken Spur.



1: Habitus; by I. Bartsch.

References:

Bartsch I. (1990) Bull. Mus. Natl. Hist. Nat., Paris, 4è sér., A **12**: 69-73.
Bartsch I. (1994) Cah. Biol. Mar. **35**: 479-490.
Segonzac M. (1992) C. R. Acad. Sci. Paris, Sér. III **314**: 593-600.

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Ammothea verenae CHILD, 1987

Synonym: *Scipiolus thermophilus* TURPAEVA, 1988.

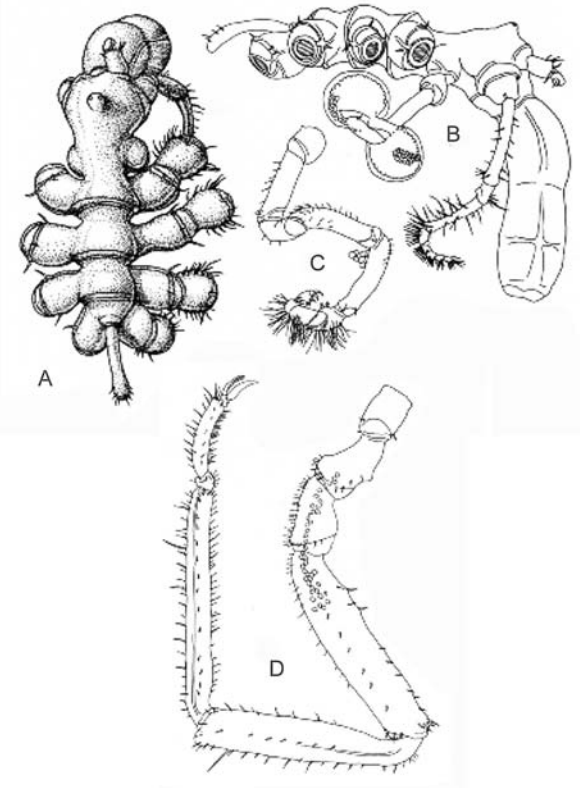
Size: Male leg span about 43 mm. Female slightly larger.

Morphology: Trunk slender with segment posteriors flared into cowling. Ocular tubercle a low, blind, truncate cone at neck mid length. Lateral processes separated by less than half their diameters. Proboscis long, with median and distal constrictions. Abdomen long, down curved. Chelifores tiny, short, chelae atrophied bumps. Palps nine-segmented, 5 distal segments very short, heavily setose ventrally. Oviger segment 4 and 5 sub equal in length, proximally setose, strigilis segments 6, 7 and 8 with many long lateral setae, segments 8, 9 and 10 with 1-2 small endal denticulate spines. Eggs tiny, about 0.25 diameter of main oviger segments, carried in large round clusters. Legs long, slender, extremely setose. Third coxae with many long ventral setae. Distal leg segments alike, tarsus very short, propodus slender, well curved, sole spines alike. Main claws with long auxiliary claws. Male cement gland opening a tiny dorsodistal pore. Female oviger strigilis with segments lacking dense setae, with 1-2 denticulate spines on distal segments. Female legs with far fewer setae, without large fields of setae.

Remarks: This species differs in basic morphology from any other known member of the genus. It is blind, lacks the conspicuous dorsomedian tubercles common on the trunk cowls of most species, lacks differentiated heel spines, and does not have differences in propodi shape between the anterior and posterior legs.

Biology: Found commonly in close proximity to hydrothermal vents and sometimes encrusted with polymetallic sulfides.

Distribution: Juan de Fuca Ridge: Axial Seamount, Endeavour Segment; Explorer Ridge.



1: Male holotype. A: Trunk, dorsal view; B: Trunk, lateral view; C: Oviger; female paratype: D: Third leg with ova; from CHILD (1987).

2: In situ view showing numerous specimens and a scale worm (*Branchinotogluma*?) © NOAA Ocean Exploration.

References:

CHILD C.A. (1987) Proc. Biol. Soc. Wash. **100**(4): 892-896.
TURPAEVA E.P. (1988) Zool. Zh. **67**(6): 950-953.

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Sericosura cochleifovea CHILD, 1989

Synonym: *Sericosura bifurcata* STOCK, 1991.

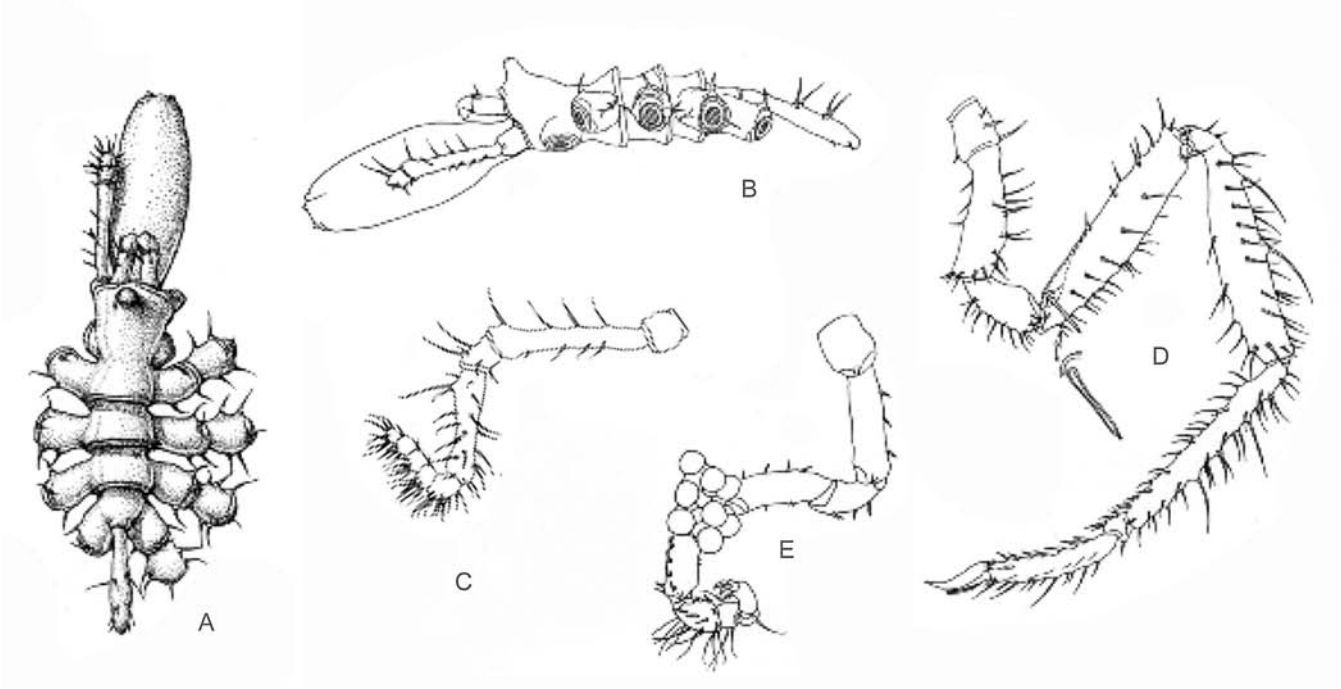
Size: Small for the genus, male leg span about 13 mm.

Morphology: Trunk slightly ovoid, lateral processes separated by about half their diameters, armed with one or more dorsodistal and laterodistal spines. Trunk segments with swollen posterior cowls. Ocular tubercle only as tall as its base, blind. Proboscis ovoid, originating on slender stalk, greatly constricted distally. Abdomen long, downcurved, with two pairs of long dorsal spines, pair of short distal spines. Chelifores typical; short, with atrophied chelae. Palps nine-segmented, second segment longest, five distal segments little longer than wide, heavily setose. Oviger fourth segment longest, fifth slightly shorter. Strigilis sixth segment with field of long lateral setae, with 1-2 tiny denticulate spines on distal three segments. Legs moderately slender, very setose. Male leg major segments with rows of many setae, some longer than segment diameter. Female leg major segments with few very long femoral setae, lateral rows of extremely long setae and few long dorsal setae on tibiae and propodus. No thick fields of setae. Tarsus short, propodus slender, almost straight, claws moderately long. Eggs large, almost as wide as oviger segment diameters around which they are wound. Cement gland at extreme proximal end of femur with laterally pointing tube slightly longer than segment diameter.

Remarks: One of the major differences between this species and the others in this genus is the sexual dimorphism displayed in leg setae. The very long lateral leg setae of females differentiate them conspicuously from males. The shorter leg setae and very long cement gland tube of the males sets them off from females of this species and males of other known species which have much shorter tubes.

Biology: Taken in the proximity of a vent site with other fauna: snails, crabs, shrimps and anemones.

Distribution: Only known from the Mariana Islands Back-Arc Basin hydrothermal vent fields.



1: Holotype male. A: Trunk, dorsal view; B: Trunk, lateral view; C: Palp; D: Third leg, with cement gland tube enlarged; E: Oviger with several eggs attached; from CHILD (1989).

References:

CHILD C.A. (1989) Proc. Biol. Soc. Wash. **102**(3): 732-737.
STOCK J.H. (1991) Résultats Campagnes Musorstom, 8. Mém. Mus. Natl. Hist. Nat., Paris (A) **151**: 158-160.

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Sericosura cyrtoma Child & Segonzac, 1996

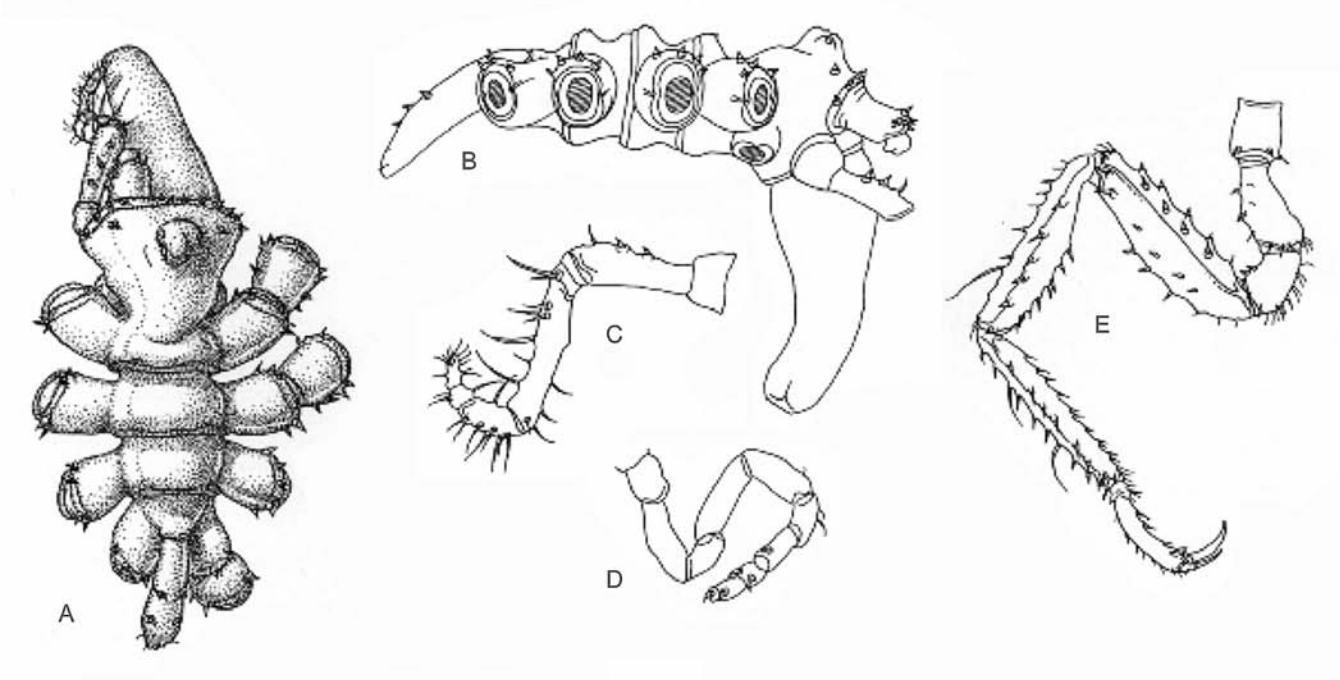
Size: Leg span 17 mm.

Morphology: Trunk robust, very broad anteriorly, armed with many short spines on sockets on trunk anterior, distally on lateral processes and chelifores, and on palp second segment. Ocular tubercle broad, not as tall as basal width, blind. Proboscis tapering from broad base, downcurved distally, lips flat. Abdomen broad, long, with dorsal spines. Chelifore scapes twice as long as wide, chelae atrophied to rounded nubs. Palp seven-segmented, fourth segment slightly longer than second, fifth longer than sixth and seventh combined, few setae. Oviger (female) small, plain, strigilis with 1-2 tiny denticulate spines per segment. Legs with dorsal, ventral and lateral rows of short spines in sockets, tibiae with 1-2 longer dorsal setae. Tarsus very short, propodus typical, with few sole spines. Claw long, auxiliaries half main claw length. Male features unknown.

Remark: The tapered and bent proboscis is a unique character among the known species of *Sericosura*.

Biology: Found associated with siboglinid worms in a hydrothermal vent area.

Distribution: East Pacific Rise: 13°N.



1: Holotype female. A: Trunk, dorsal view; B: Trunk, lateral view; C: Palp; D: Oviger; E: Third leg; from Child & Segonzac (1989).

Reference:

Child C.A. & M. Segonzac (1996) Proc. Biol. Soc. Wash. **109**(4): 664-676.

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Sericosura heteroscela Child & Segonzac, 1996

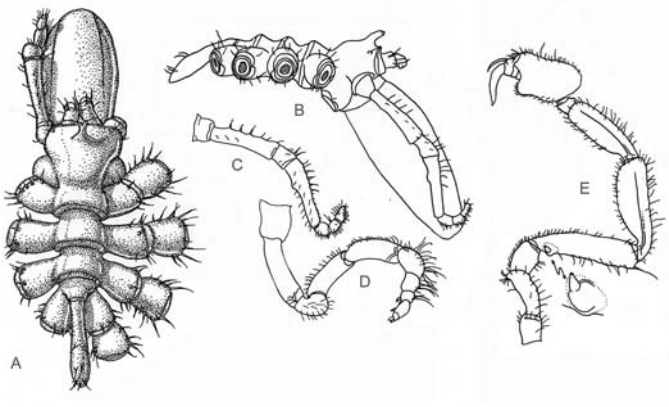
Size: Leg span 26.7 mm.

Morphology: Trunk and lateral processes typical. Lateral processes with many short dorso- and latero-distal spines. Ocular tubercle slender, twice as long as diameter, blind, bifurcate at tip. Proboscis and abdomen typical. Chelifore scapes hardly longer than wide, chelae rounded atrophied nubs. Palps seven-segmented, only slightly longer than proboscis, moderately setose. Oviger typical, field of long lateral setae on sixth and seventh segments, distal three segments with tiny denticulate spines. Male legs of two kinds. Anterior two pairs with normally proportioned distal segments, posterior two pairs with grossly enlarged and inflated propodi twice diameter and slightly longer than anterior propodi. Claw of inflated propodi larger and longer than normal propodi and auxiliary claws shorter in relation to main claw. Cement gland of all male legs a small bulbous dorsolateral inflation on proximal femur with a truncate conical tube directed anterolaterally. All female legs with normal sized propodi and fewer short setae than those of male. Neither sex with fields of leg setae.

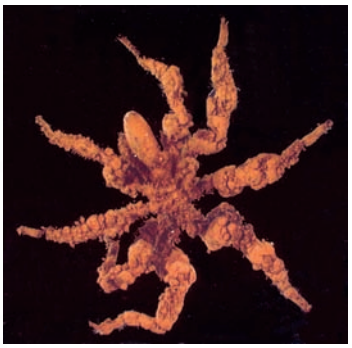
Remarks: The grossly inflated posterior four propodi of males serve to set this species off from any other known in the genus. Turpaeva (1998) allocates this species to a new genus *Anisopes*: *A. heterocella* (sic). Nevertheless, we suggest that we need more material to check the probable morphological variations.

Biology: Specimens of this species were found in association with hydrothermal vents in several different collecting localities.

Distribution: Mid-Atlantic Ridge: Snake Pit, Logatchev, Rainbow, Lucky Strike, and Menez Gwen.

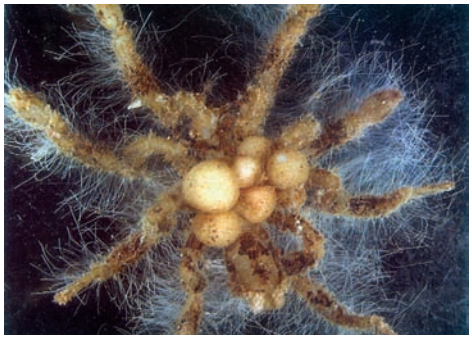


1: Holotype male. A: Trunk, dorsal view; B: Trunk, lateral view; C: Palp; D: Oviger; E: Third leg; from Child & Segonzac (1996).



3: Specimen collected at Rainbow site; cruise Atos; note the strong sulphide deposit on the entire body; by P. Briand © Ifremer.

2: Specimen collected at Lucky Strike site (cruise Atos); by P. Briand © Ifremer.



4: Specimen with eggs, and colonized by filamentous bacteria; by P. Briand © Ifremer.

References:

Child C.A. & M. Segonzac (1996) Proc. Biol. Soc. Wash. **109**(4): 664-676.
Turpaeva E.P. (1998) in Kuznetsov A.P. & O.N. Zezina (Eds.) Benthos of the High Latitude Regions. Collected Proc.: 1-138 [in Russian].

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Sericosura mitrata (GORDON, 1944)

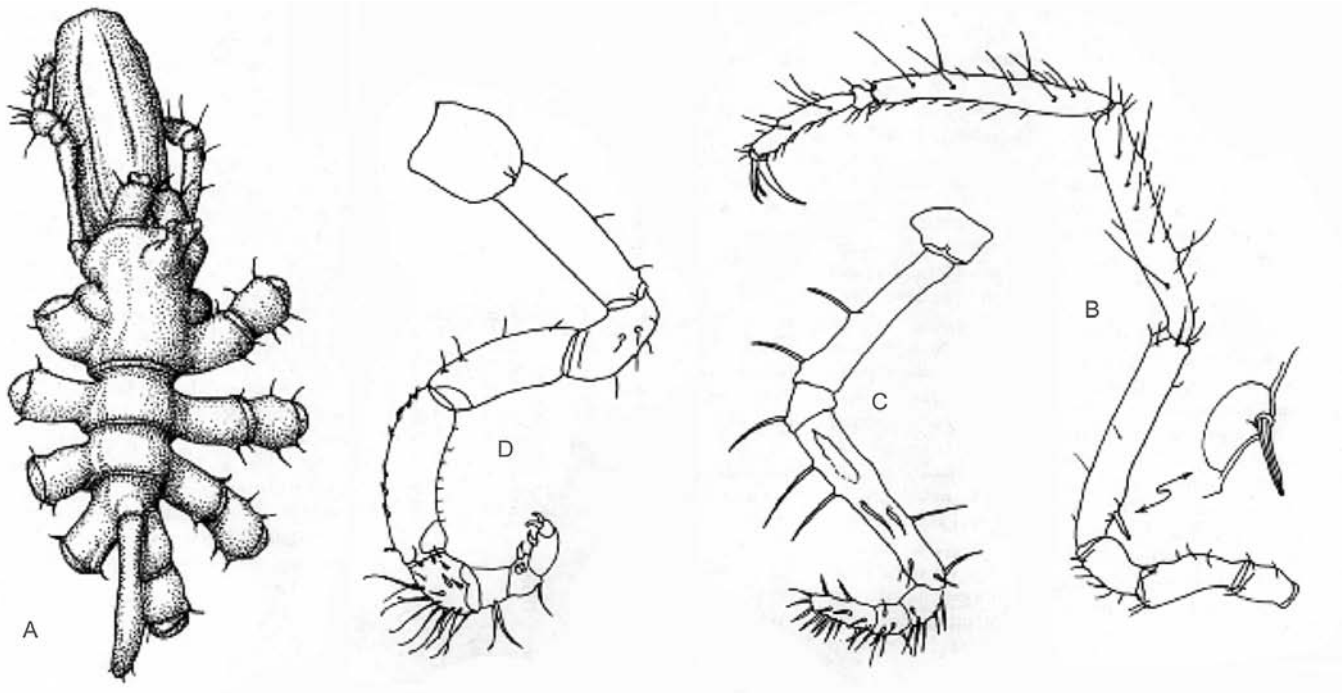
Synonym: *Achelia mitrata* GORDON, 1944.

Morphology: Trunk typical with lateral processes spaced at distances of half their diameters, armed with 2-3 short dorsodistal and laterodistal setae. Ocular tubercle more than twice as long than its basal diameter, blind, bifurcate at tip with prominent sensory papillae. Proboscis ovoid with basal and distal constrictions. Abdomen long with 2-3 short distal setae. Chelifores very short, scapes broad, chelae tiny, atrophied. Palps seven-segmented, segments 2 and 4 subequal in length, seventh segment as long as fifth and sixth coined lengths, moderately setose. Oviger second segment longest, fifth slightly longer than fourth. Sixth segment with field of lateral setae longer than segment diameter. Strigilis segments 8, 9, 10 with pairs of tiny denticulate spines. Male legs dimorphic in setae lengths and arrangement. Tibiae with sparse setae longer than segment diameters, with 1-2 ventral spines. Propodus slender, slightly curved, with few long and short setae, few short sole spines. Claws moderately long. Cement gland forming a small proximal bulge on femur, tube slender, about as long as femur diameter. Female legs with dorsal, lateral and ventral rows of short sharp spines pointing distally, lateral spines slightly longer. Some specimens with very long lateral setae. Propodus with row of many short sole spines.

Remarks: The very long leg setae of Gordon's female specimen may be an infestation of something growing on the integument and not setae. One of the easily identified characters in this genus is the number of palp segments. The genus has species with either seven or nine segments with two of the above having seven and two having nine.

Biology: This species was described before the discovery of hydrothermal vent areas. It is an opportunistic species in the Atlantic vent communities where it has been collected since.

Distribution: Eastern margin of Antarctica at 219 m, in the Ross Sea at 106 m, on the Walvis Ridge off South Africa at 2100 m; Mid-Atlantic Ridge: Snake Pit.



1: Male. A: Trunk, dorsal view; B: Third leg, with enlargement of cement gland; C: Palp; D: Oviger; from GORDON (1944).

References:

CHILD C.A. (1982) Smithon. Contrib. Zool. **349**: 19-21, Fig. 6.
FRY W.G. & J.W. HEDGPETH (1969) Mem. New. Zeal. Oceano. Inst. **49**: 112-113.
GORDON I. (1944) Brit., Austr., New Zeal. Ant. Res. Exped. ser. B **5**(1): 54-57.
SEGONZAC M. (1992) C. R. Acad. Sci., Paris **314**(III): 593-600.

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Sericosura venticola CHILD, 1987

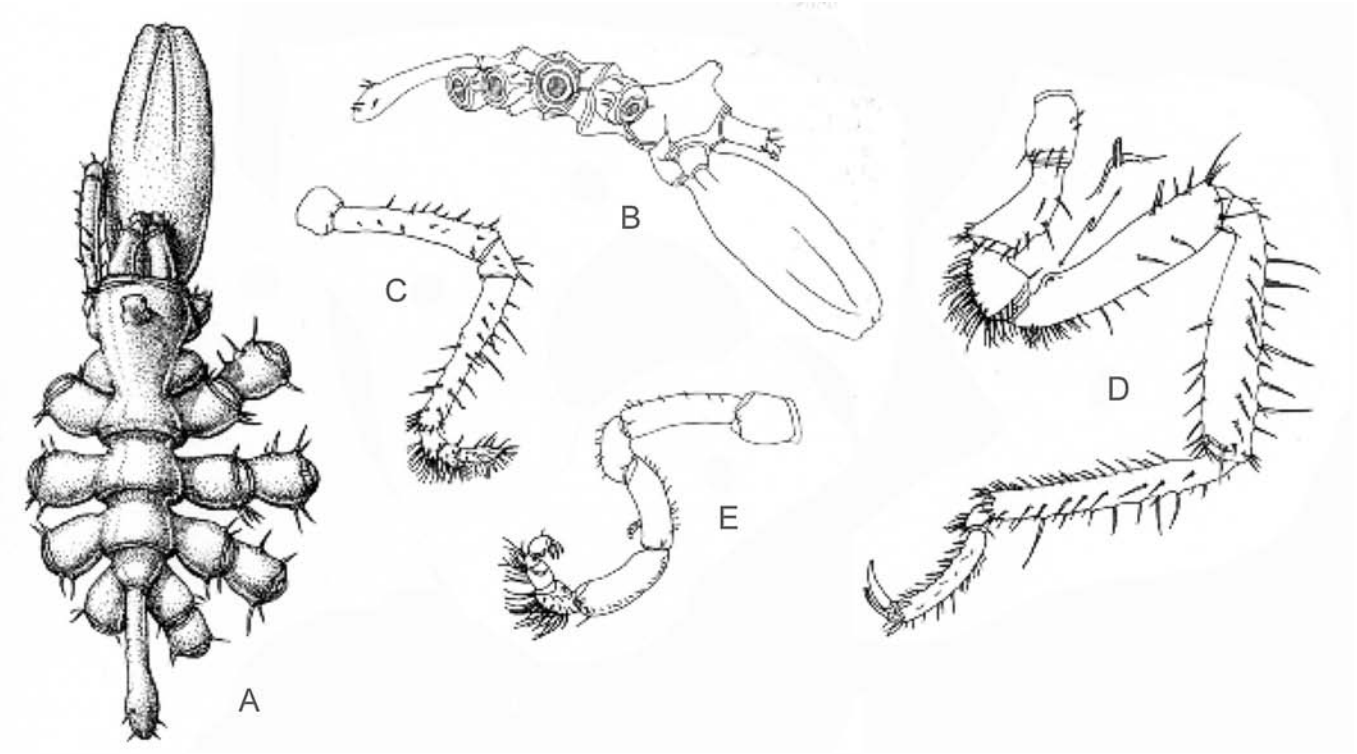
Size: Male leg span about 28 mm. Female size unknown.

Morphology: Trunk moderately slender, first three segments with flaring posterior cowls. Lateral processes separated by less than half their diameters, armed with 3-6 lateral spines. Ocular tubercle taller than basal diameter, blind. Proboscis massive, with proximal and distal constrictions. Abdomen long, downcurved. Chelifores small, short, chelae atrophied to nubs. Palps seven-segmented, segments 2 and 4 subequal in length, distal three short segments heavily setose. Oviger second segment longest, fourth and fifth subequal in length. Strigilis segments 6, 7 and 8 with many long lateral setae, segments 8, 9, 10 with 1-2 small denticulate spines. Eggs very tiny, about one fifth as wide as the diameter of segment they are on. Legs slender, heavily setose with many ventral setae on coxa 3 and proximal femur. Distal leg segments of uniform size, tarsus short, propodus slender, well curved, claws of moderate length. Male cement gland a swelling at proximal end of femur, with a short tube pointing laterally. Female characters unknown.

Remarks: The main difference between specimens of this genus and those in the genus *Ammothea* is the placement of the male cement gland and its orifice. They are otherwise difficult to separate.

Biology: The only known specimens were found associated with siboglinids at a hydrothermal vent on the Endeavour Segment.

Distribution: NE-Pacific: Endeavour Segment, Juan de Fuca Ridge; a juvenile belonging probably to the same species was collected at Southern East Pacific Rise: 17°S, Rehu-Marka site.



1: Male holotype. A: Trunk, dorsal view; B: Trunk, lateral view; C: Palp; D: Third leg, with enlargement of cement gland; E: Oviger; from CHILD (1987).

Reference:

CHILD C.A. (1987) Proc. Biol. Soc. Wash. **100**(4): 896-899.

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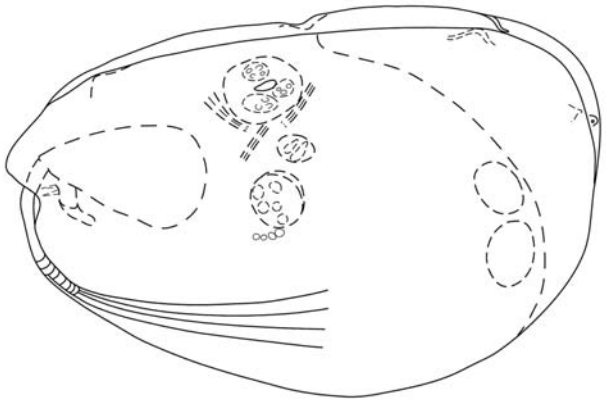
Archiconchoecia (*Archiconchoecia*) *chavturi* Kornicker & Harrison-Nelson, 2005

Size: Adult female carapace length 0.60 mm, height 0.40 mm.

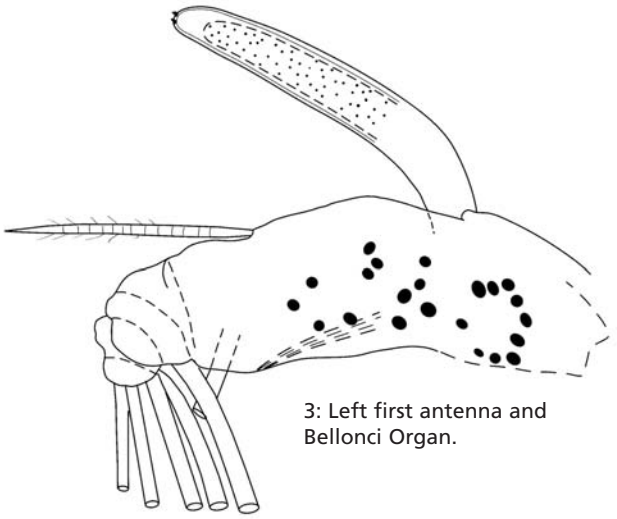
Morphology of adult female (male unknown): Carapace: oval in lateral view with greatest height just posterior to midlength; anterior rostrum and incisure small; posterior edge of each valve with small glandular process dorsal to midheight; without posterodorsal spines. First antenna with proximal black spots. Second antenna: exopod with short medial setae on article 1; endopod article 1 without processus mamillaris; ventral margin with minute digitations and spines. Basal endite of mandible with row of triangular teeth. Bellonci Organ elongate, reaching bend at tip of first antenna, with rounded tip bearing two minute spines.

Biology: Unique female with 15 eggs in marsupium. Gut with appendage fragments, bristles, and bristle-like claws indicating that the species is a scavenger or predator on small invertebrates. The collecting site suggests that the species, which is an active swimmer, dwells in deep-water close to the substrate; collected within *Riftia pachyptila* aggregations.

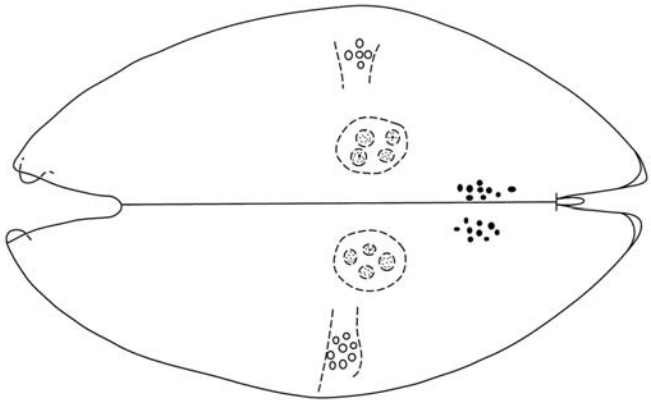
Distribution: East Pacific Rise: 9°N, site Tica.



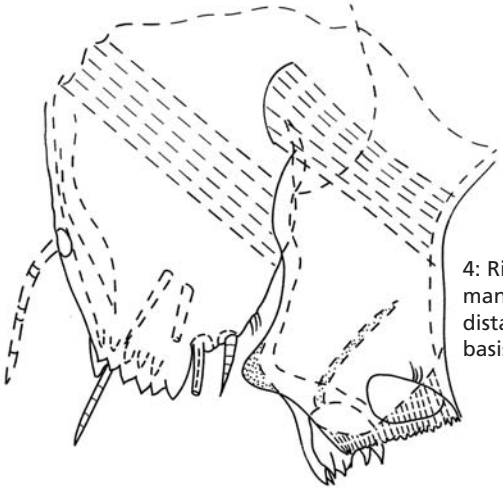
1: Complete specimen from left side.



3: Left first antenna and Bellonci Organ.



2: Complete specimen, dorsal view, anterior to right (black spots are on first antenna; BO – tip of Bellonci Organ).



4: Right mandible, distal coxa and basis.

Reference:

Kornicker L.S. & E. Harrison-Nelson (2005) Zootaxa **1071**: 19-38.

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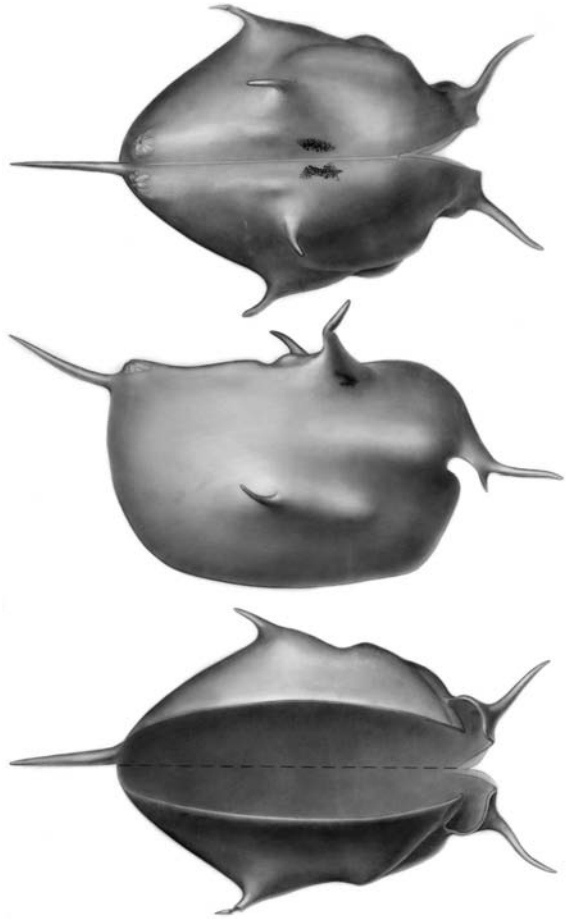
Bathyconchoecia deeveyae KORNICKER, 1969

Size (length and height excluding spines): Adult or A-1 female collected off Surinam: length 1.49 mm, height 1.10 mm. Juvenile collected off Peru: length 1.12 mm, height 0.89 mm. A-4 instar collected in Guaymas Basin: length 0.66 mm, height 0.46 mm.

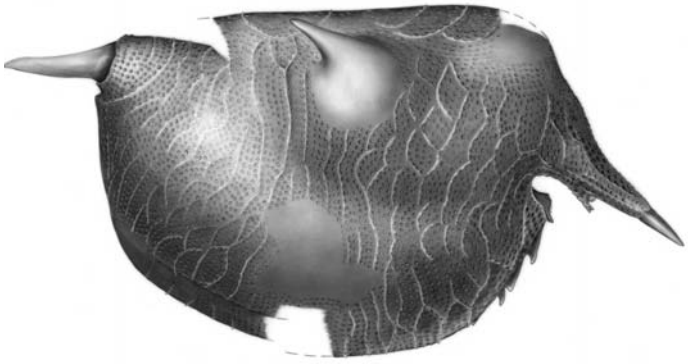
Morphology: Carapace with seven spines (each valve with anterior spine, dorsal spine near midlength, and lateral spine below middle; right valve with posterior spine). Surface with or without punctae and arcuate ridges between punctae. Posterodorsal corner of each valve with glandular process.

Biology: Collections indicate that the species, a swimmer, lives close to the bottom at bathyal and abyssal depths.

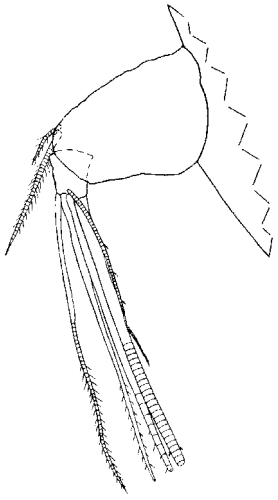
Distribution: Guaymas Basin, Southern Trough (2000 m), collected in plankton net 3-4 m above bottom. Also collected off Peru in the Peru-Chile Trench system (520 m), and in western Atlantic off Surinam (508–523 m).



1: Juvenile carapace, dorsal, lateral, and ventral views (length 0.87 mm); by Kornicker.



2: Juvenile carapace, lateral view (length 0.87 mm); by Kornicker.



3: Endopod of second antenna (adult or A-1 instar); by Kornicker.

References:

KORNICKER L.S. (1969) Proc. Biol. Soc. Wash. **82**: 403–408.
KORNICKER L.S. (1981) Proc. Biol. Soc. Wash. **89**(4): 1237–1243.
KORNICKER L.S. (1991) Smithson. Contr. Sci. **516**: 1–46.

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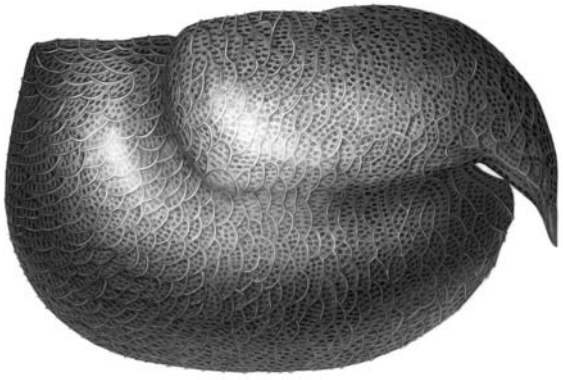
Bathyconchoecia paulula Deevey, 1968

Size: Adult male length 0.95 mm, height 0.60–0.61 mm (Guaymas Basin); length 0.95 mm, height 0.70 mm (Gulf of Mexico).

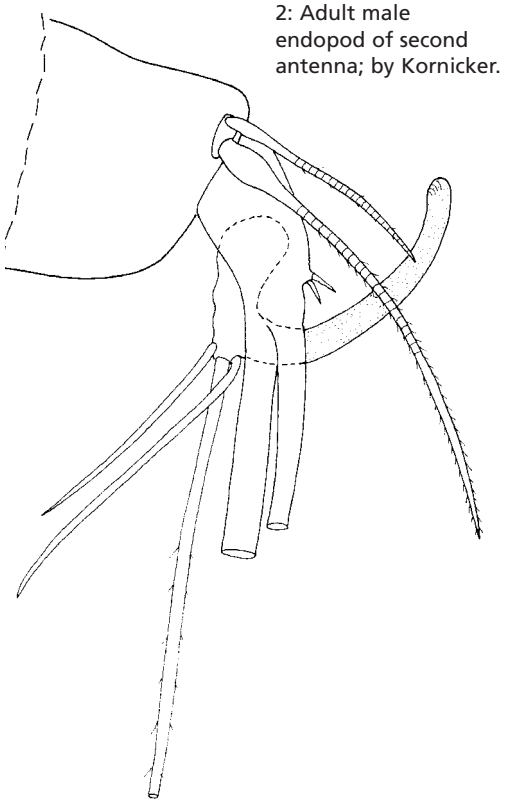
Morphology: Adult male carapace rostrum with prolonged downward pointed tip; surface with crescent-like reticulations containing minute pits; height at least 70% length; posterodorsal corner of each valve with glandular opening; list along posterior infold with four transparent lamella with four triangular flagella-like cusps. First antenna terminal segments with more than 200 sensory filaments. Second antenna exopod with unusually long first article (71–72% length of protopod); endopod first article with two bristles (distal bristle about twice length of proximal bristle). Fifth limb terminal article of endopod with two claws and one shorter ringed bristle. Sixth limb terminal article of endopod with three bristles (one very long, two short). Seventh limb with two bristles. Furca with eight claws on each lamella and long unpaired bristle; small oval area proximal to claw 2. Copulatory organ inner rod with pointed recurved tip. Adult female carapace and appendages, except endopod of second antenna, fairly similar to those of adult male.

Biology: Collections indicate that the species, a swimmer, lives close to the bottom at bathyal and abyssal depths. Specimens from the Gulf of Mexico were collected in the intestines of bottom fish.

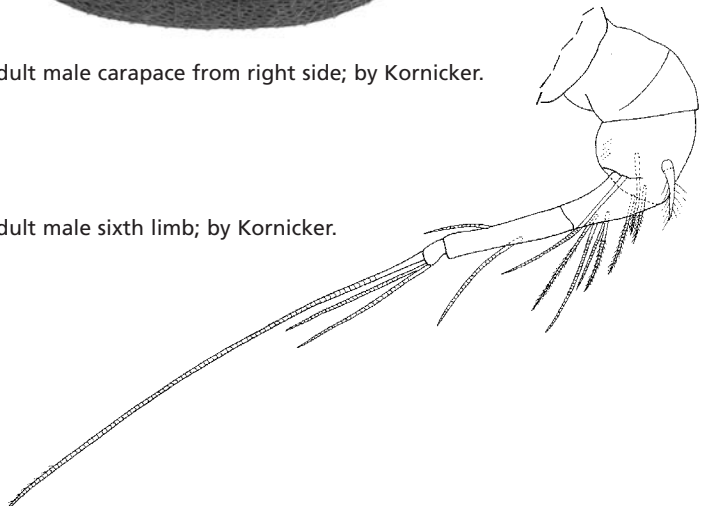
Distribution: Guaymas Basin, Southern Trough (collected in plankton net 3-4 m above bottom). Also collected in Gulf of Mexico (from intestines of bottom fish), 1000 m and southwest of Sao Miquel, Azores (620–800 m) in plankton net open between 680 and 780 m.



1: Adult male carapace from right side; by Kornicker.



2: Adult male endopod of second antenna; by Kornicker.



3: Adult male sixth limb; by Kornicker.

References:

Deevey G.B. (1968) Proc. Biol. Soc. Wash. **81**: 539–570.
Kornicker L.S. (1991) Smithson. Contr. Sci. **516**: 1–46.
Poulsen E.M. (1972) Tethys **4**(2): 445–456.

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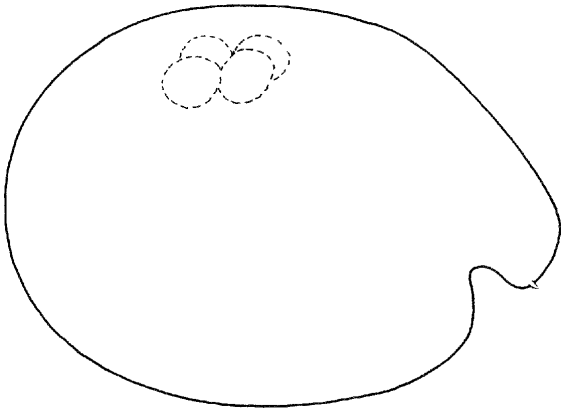
Euphilomedes climax Kornicker, 1991

Size: Adult female carapace length 2.84 mm, height 2.02 mm.

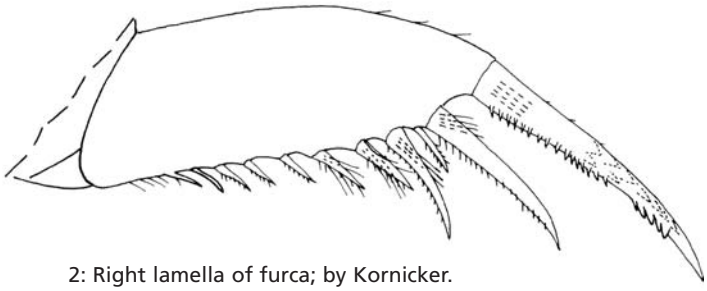
Morphology of adult female (adult male unknown): Carapace oval in lateral view with broad rostrum and deep incisure; surface with many short pointed bristles, and long widely separated bristles more numerous along valve edge. Mandible exopod about half length of dorsal margin of article 1 of endopod. Seventh limb with 17–19 bristles; comb with 13 alate teeth with two small teeth on each side of base, side opposite comb with two or three pegs. Furca with 11–14 claws on each lamella; claw 3 small, secondary, remaining claws decreasing in length along lamella. Bellonci Organ elongate with suture at midlength and pointed or narrowly rounded tip. Lateral eyes absent in females at all stages, present in males at all stages.

Biology: Benthic swimmer and burrower. One female with four eggs in marsupium. Detritus feeder; guts generally with unidentified particles, but one specimen with two copepods in gut. The collecting site suggests that the species may be restricted to deep water.

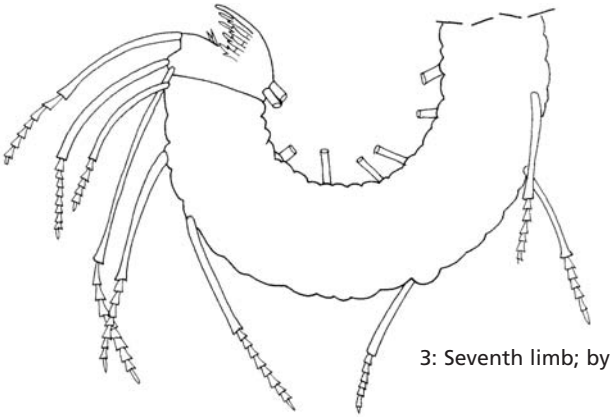
Distribution: Explorer Ridge: Pogo Peaks Vent, Gulati Gusher Vent, Lunch Hour Vent, Crab Vent, Upper Magic Mountain Vent, Busted Thruster Vent; Juan de Fuca Ridge: Long Term Observatory Vent, Axial Seamount, Hamond's Hell Vent.



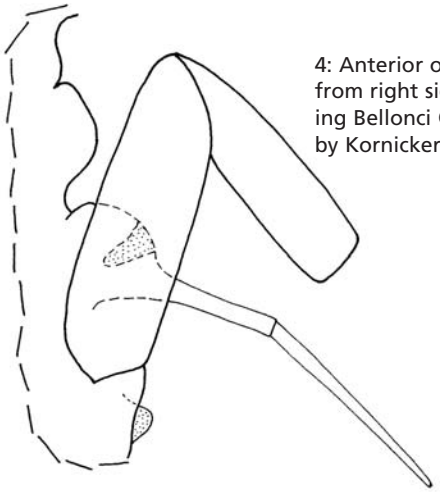
1: Complete carapace showing four eggs; by Kornicker.



2: Right lamella of furca; by Kornicker.



3: Seventh limb; by Kornicker.



4: Anterior of body from right side showing Bellonci Organ; by Kornicker.

References:

Kornicker L.S. (1991) Smithson. Contr. Zool. **516**: 1–46.
Tsurumi M. & V. Tunnicliffe (2003) Deep-Sea Res. I **50**: 611–629.
Tunnicliffe V. (1988) Proc. R. Soc. Lond. B **233**: 347–366.

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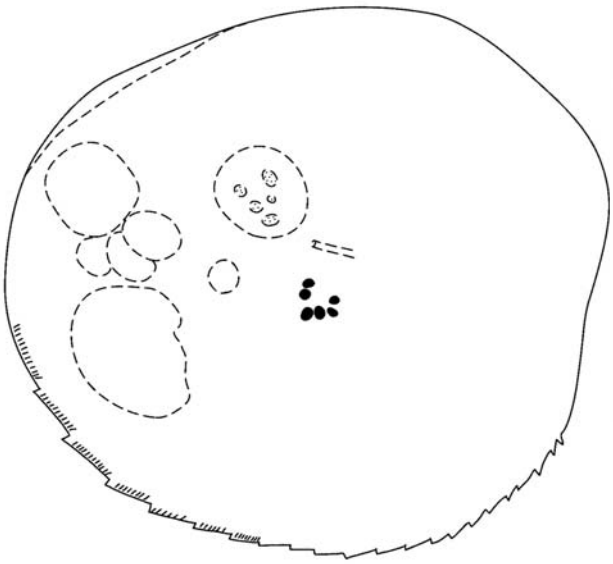
Polycopetta pax Kornicker & Harrison-Nelson, 2005

Size: Adult female carapace length 0.54 mm, height 0.47 mm.

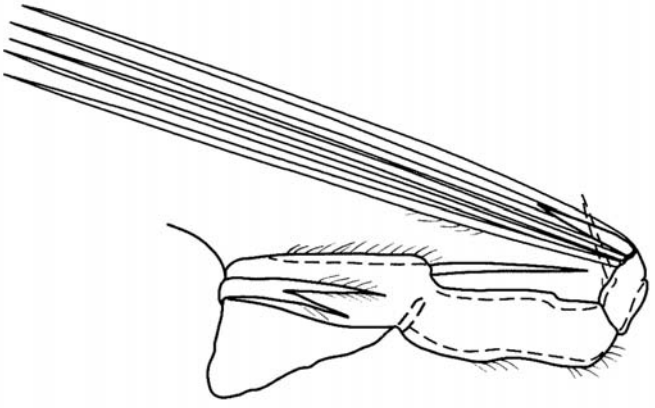
Morphology of female (male unknown): Carapace: anterior margin with concavity, but without rostrum or anterodorsal tooth; ventral margin with about 25 small teeth and minute spines (or serrations) between teeth. First antenna dorsal margin without processes, but with long proximal bristle. Mandible: coxa endite bifurcate distally; exopod interpreted to have two articles, but without suture separating articles: article 1 broad with terminal bare bristle; article 2 with proximal spines and funnel-like tip. Maxilla: proximal dorsal half of basis with long backward projection; distal end of exopod reaching distal end of endopod, and with eight long terminal bristles. Fifth limb exopod well-developed, and with four terminal spinous bristles (three long, one short). Bellonci Organ consists of spinous bristle divided at midlength.

Biology: Unique specimen with several eggs in marsupium, and filled internal sperm sac near base of furca. Gut with brown particles, some round or disc-like, and with few fragments of tubular structures. Species is a bottom dweller; found within *Riftia pachyptila* aggregations, maximal water temperature 23°C.

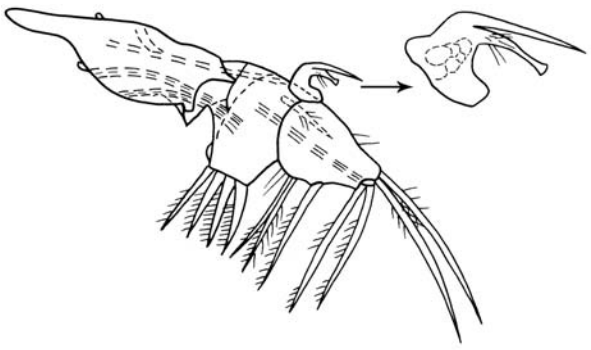
Distribution: East Pacific Rise: 9°N, site Riftia Field.



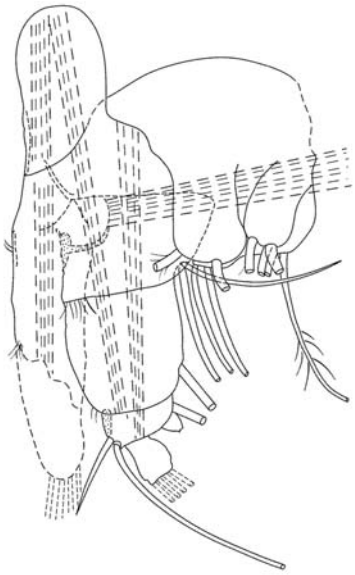
1: Complete specimen from right side.



2: First antennae and Bellonci Organ (not all bristles shown on first antennae).



3: Right mandible.



4: Right maxilla (not all bristles shown; precoxa endite not shown).

Reference:

Kornicker L.S. & E. Harrison-Nelson (2005) Zootaxa **1071**: 19-38.

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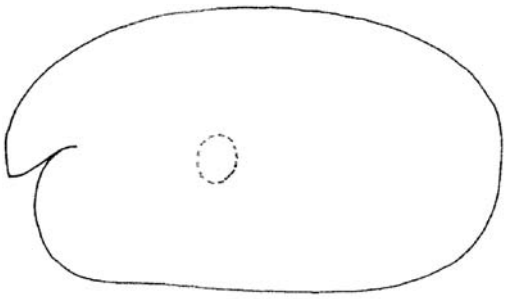
Prionotoleberis styx KORNICKER, 1991

Size: Adult female carapace length 1.89 mm, height 1.09 mm.

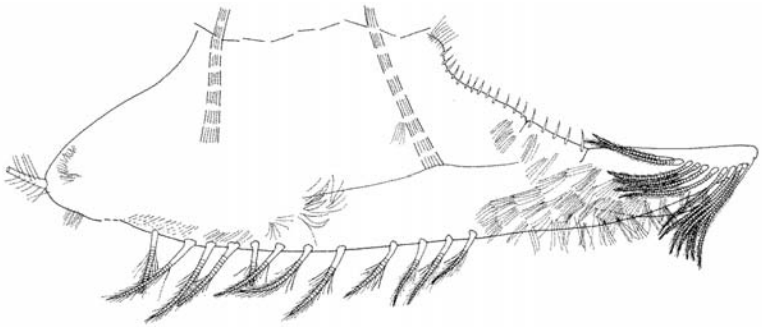
Morphology of adult female (adult male unknown): Carapace elongate with deep incisure. First antenna sensory bristle with fairly long proximal bristle and six long terminal filaments. Sixth limb anterior margin with 18–20 short bristles. Seventh limb with 24 or 25 bristles. Furca with 10 claws on each lamella. Lateral eyes absent.

Biology: Benthic swimmer and burrower. Filter feeder; gut slender, containing fine-grained material. The collecting site suggests that the species may be restricted to deep water.

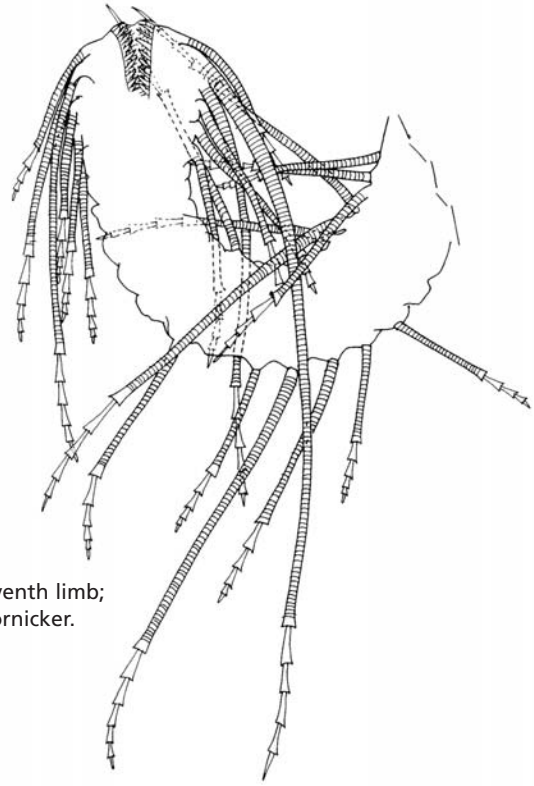
Distribution: East Pacific Rise: National Geographic Site, Clam Acres.



1: Complete carapace showing central adductor muscles; by Kornicker.



2: Sixth limb; by Kornicker.



3: Seventh limb; by Kornicker.

4: Mandible; by Kornicker.

Reference:

KORNICKER L.S. (1991) Smithson. Contr. Zool. **516**: 1–46.

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Thomontocypris brightae MADDOCKS, 2006

Size: Carapace length 0.53-0.57 mm, height 0.30-0.33 mm, no carapace dimorphism.

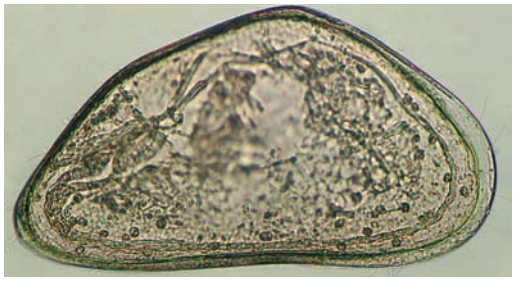
Morphology: Carapace compressed, lateral outline rounded-subtriangular with very broadly rounded anterior margin and three-segmented dorsal margin, distinct ventral indentation; conspicuous anteroventral hornlike process on upper lip; palp of male fifth limb broad, subtriangular, with thumb-like ventrodistal projection; terminal setae of seventh limb smooth; Zenker's organ with three bulbous swellings.

Remarks: Other species of *Thomontocypris* have been reported living in anchialine pools and caverns (Bermuda), sublittoral and reefal sand and plants (Madagascar, Australia), and experimental wood falls in the deep sea (MADDOCKS & STEINECK 1987; MADDOCKS 1991).

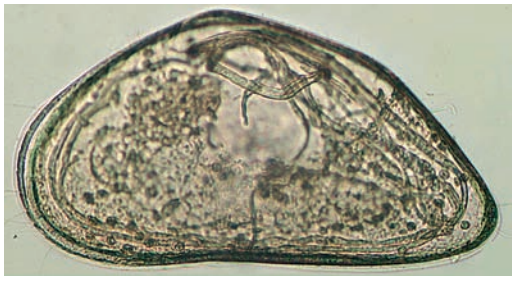
Biology: Living specimens were collected in washings of *Riftia pachyptila*. Appendages and genitalia are normal for the genus, and gut contents include no recognizable objects. Well-developed swimming setae suggest active demersal swimming, while the rather weak mouthparts of this family indicate a soft detritus or bacterial diet. The function of the hornlike process is unknown.

Distribution: East Pacific Rise: 9°N, site Riftia Field and Tica.

1: Left side of entire animal.



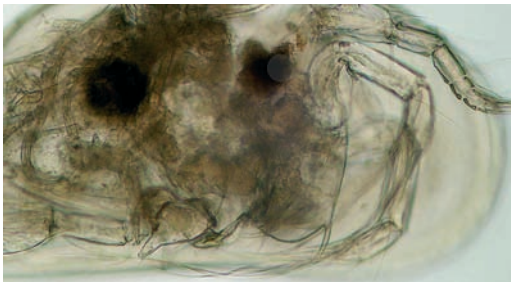
2: Exterior of right valve, male specimen.



3: Exterior of left valve, male specimen.

4: Left side of entire female animal.

5: Dorsal view of entire male animal.



6: Right side of anterior body, showing anterioventral horn on upper lip and palps of male fifth limb. 1-6; from MADDOCKS (2006).

References:

MADDOCKS R.F. (1991) Zool. J. Linn. Soc. **103**: 309-333.
MADDOCKS R.F. (2006) Micropaleontology **51**: 345-372.
MADDOCKS R.F. & P.L. STEINECK (1987) Micropaleontology **33**: 318-355.

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Thomontocypris gollnerae MADDOCKS, 2006

Size: Carapace length 0.65 mm, height 0.32 mm, no carapace dimorphism.

Morphology: Carapace egg-shaped, slightly flexible, swollen ventrolaterally, with rounded-subtrapezoidal lateral outline, weakly convex ventral margin, and slightly produced anterior end; Y-aesthetasc of antenna small, elongate; terminal setae of seventh limb smooth; furcal claws with opposing setules forming terminal thorn.

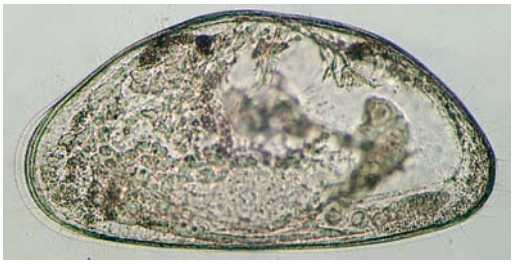
Remarks: Other species of *Thomontocypris* have been reported living in anchialine pools and caverns (Bermuda), sublittoral and reefal sand and plants (Madagascar, Australia), and experimental wood falls in the deep sea (MADDOCKS & STEINECK 1987; MADDOCKS 1991).

Biology: Living specimens were collected in washings of *Riftia pachyptila*. Appendages and genitalia are normal for the genus, and gut contents include no recognizable objects. Well-developed swimming setae suggest active demersal swimming, while the rather weak mouthparts of this family indicate a soft detritus or bacterial diet. The unusually weak calcification of the carapace may be either a response or a preadaptation to low pH.

Distribution: East Pacific Rise: 9°N, site Riftia Field.

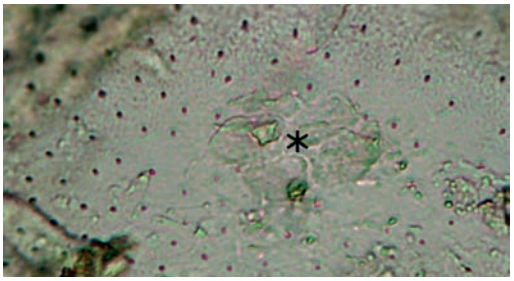
1: Ventral view of entire female.

2: Right valve exterior with ovaries.



3: Left valve exterior with ovaries.

4: Furca.



5: Detail of left valve exterior, showing adductor muscle scars (asterisk) and normal pore canals.
1-6; from MADDOCKS (2006).

References:

MADDOCKS R.F. (1991) Zool. J. Linn. Soc. **103**: 309-333.
MADDOCKS R.F. (2006) Micropaleontology **51**: 345-372.
MADDOCKS R.F. & P.L. STEINECK (1987) Micropaleontology **33**: 318-355.

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Xylocythere vanharteni MADDOCKS, 2006

Syn.: *Xylocythere* sp. A in VAN HARTEN (1993).

Size: Carapace length 0.56-0.66 mm, height 0.27-0.32 mm, males smaller than females.

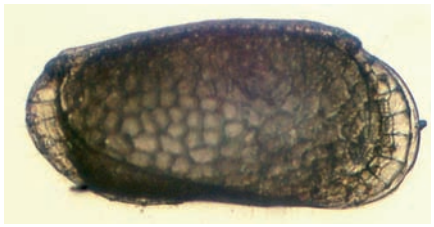
Morphology: Lateral outline elongate-subquadrate to subreniform, with broad ventral indentation; reticular network of low, narrow muri and flat, polygonal sola uniformly developed over entire lateral surface, except for nearly smooth submarginal fields; 20-45 pores in pore clusters; prominent ventrolateral spine and single anterior and posterior marginal spines on each valve.

Remarks: Other living and fossil species of *Xylocythere* are reported from experimental wood falls and deep-sea sediments (Atlantic and Pacific, Upper Oligocene to Holocene; MADDOCKS & STEINECK 1987; STEINECK et al. 1990).

Biology: Living specimens were collected in washings of *Riftia pachyptila*. The mouthparts and legs are normal for the family, and the gut contents contains no recognizable objects. A crawling habit and bacterial or detrital diet are probable. The function of the pore clusters is unknown but might be related to respiration (VAN HARTEN, 1992, 1993).

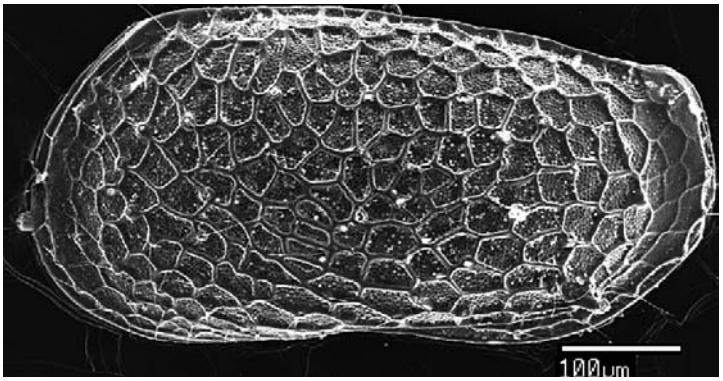
Distribution: East Pacific Rise: 13°N and 9°N, sites Tica and Riftia Field.

1: Entire animal, right side.

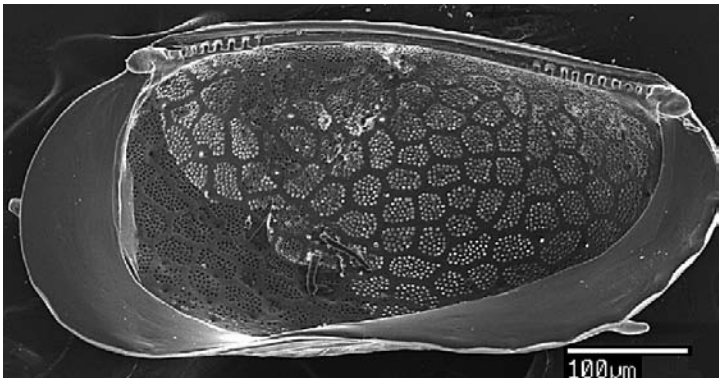


2: Right valve exterior.

3: Left valve exterior.



4: Left valve exterior (SEM).



5: Right valve interior showing hinge and pore clusters (SEM).
1-5: from MADDOCKS (2006).

References:

MADDOCKS R.F. (2006) Micropaleontology **51**: 345-372.
MADDOCKS R.F., & P.L. STEINECK (1987) Micropaleontology **33**: 318-355.
STEINECK P.L., MADDOCKS R.F., COLES G. & R.C. WHATLEY (1990) in WHATLEY R. & C. MAYBURY (Eds.) Ostracoda and Global Events, Chapman & Hall: 307-319.
VAN HARTEN D. (1992) Deep-Sea Res. **39**: 1067-1070.
VAN HARTEN D. (1993) in MCKENZIE K.G. & P.J. JONES (Eds.) Ostracoda in the Earth and Life Sciences. A.A. Balkema: 571-580.

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