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A New Cumacean Crustacean, *Cumella hystrix* (Nannastacidae) from the Bathyal Depth in Suruga Bay

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Abstract A new cumacean crustacean of the genus *Cumella* (Nannastacidae), taken from the bathyal depth of Suruga Bay, is described and illustrated. *Cumella hystrix* sp. nov. is well characterized by having a narrow long eyelobe and upturned pseudorostrum on the carapace. It resembles 13 species of the genus described from the deep Atlantic, but differs from them in having the carapace covered with short spines.

Key words: Cumacean crustacean, *Cumella hystrix*, new species, bathyal depth, Suruga Bay.

During the cruise of R/V *Tansei Maru* (KT 73–15) of the Ocean Research Institute, University of Tokyo (25 October to 1 November, 1973), a new characteristic cumacean, *Cumella hystrix*, bearing a very narrow long eyeless eyelobe and upturned pseudorostrum on the carapace, was collected by means of Beam Trawl of 2 m span at St. D (KT 73–15), east off Matsuzaki in Suruga Bay, 314–320 m deep, on 29 October, 1973. Eight specimens including the holo- and allotypes are available for study. The new species superficially resembles 13 species of the genus described from the Atlantic, 364 to 5,000 m deep (Calman, 1905; Hansen, 1920; Bacescu & Muradian, 1974; Jones, 1984). Type specimens are reserved in the National Science Museum, Tokyo (NSMT).

Family **Nannastacidae**

Cumella hystrix sp. nov.

(Figs. 1–5)

Type specimens. Holotype (NSMT-Cr 12116), adult male, length 5.7 mm; allotype (NSMT-Cr 12117), ovigerous female, length 4.9 mm, bearing 28 embryos (diameter 0.18–0.23 mm) in marsupium; paratypes (NSMT-Cr 12118), 4 adult males, 4.1–4.6? mm (2 of them partly damaged), 1 ovigerous female and 1 female with rudimentary oostegites, 3.6 mm, 1 damaged female with empty marsupium, 4.6 mm.

Description. Holotype adult male (Fig. 1 A–C), length 5.7 mm: Carapace thin, rigid and spinulose, its dorsal and lateral aspects somewhat rectangular in shape.

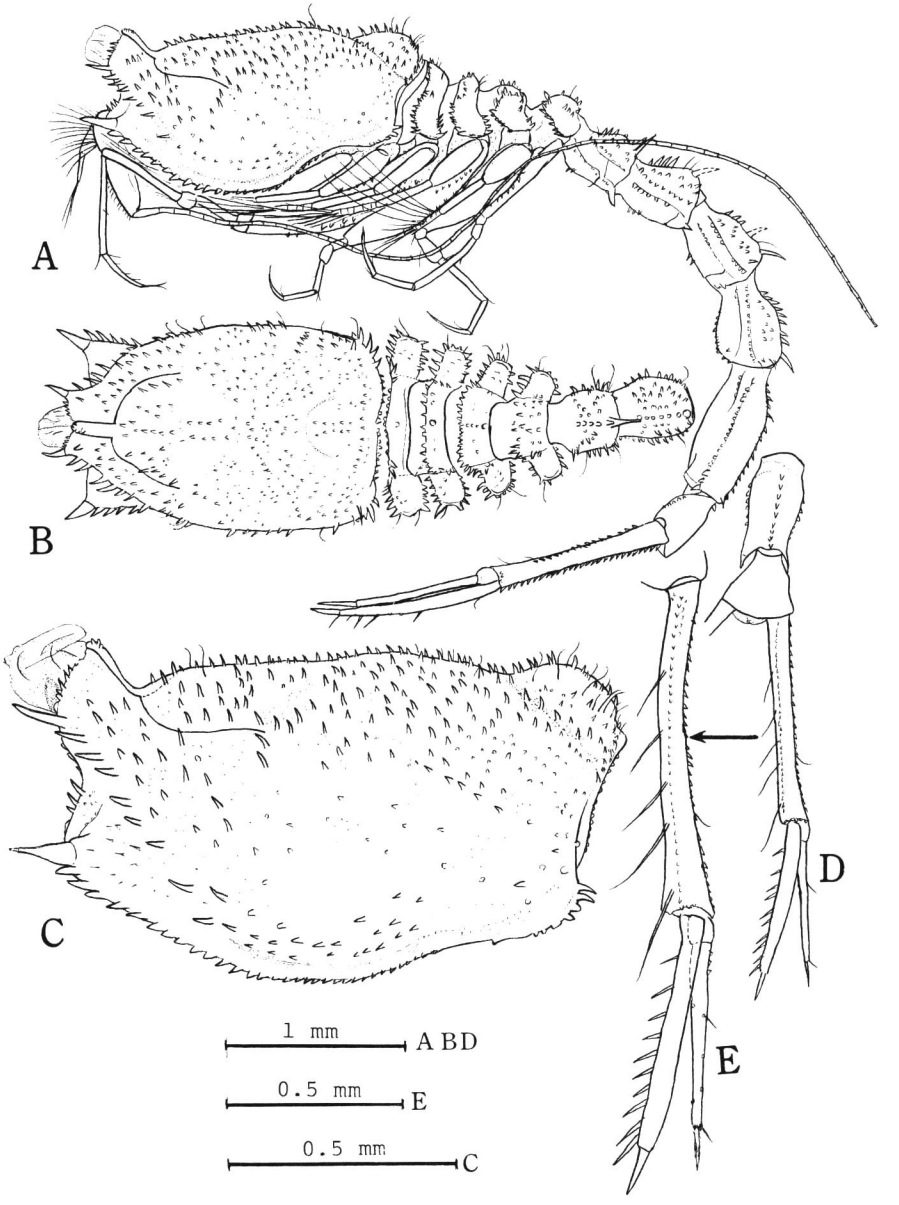

Fig. 1. *Cumella hystrix* sp. nov., holotype, adult male, length 5.7 mm. A, Lateral view; B, anterior portion of body, dorsal; C, carapace, lateral; D, pleonite 5 and pleotelson with right uropod, dorsal; E, right uropod, enlarged, dorsal.

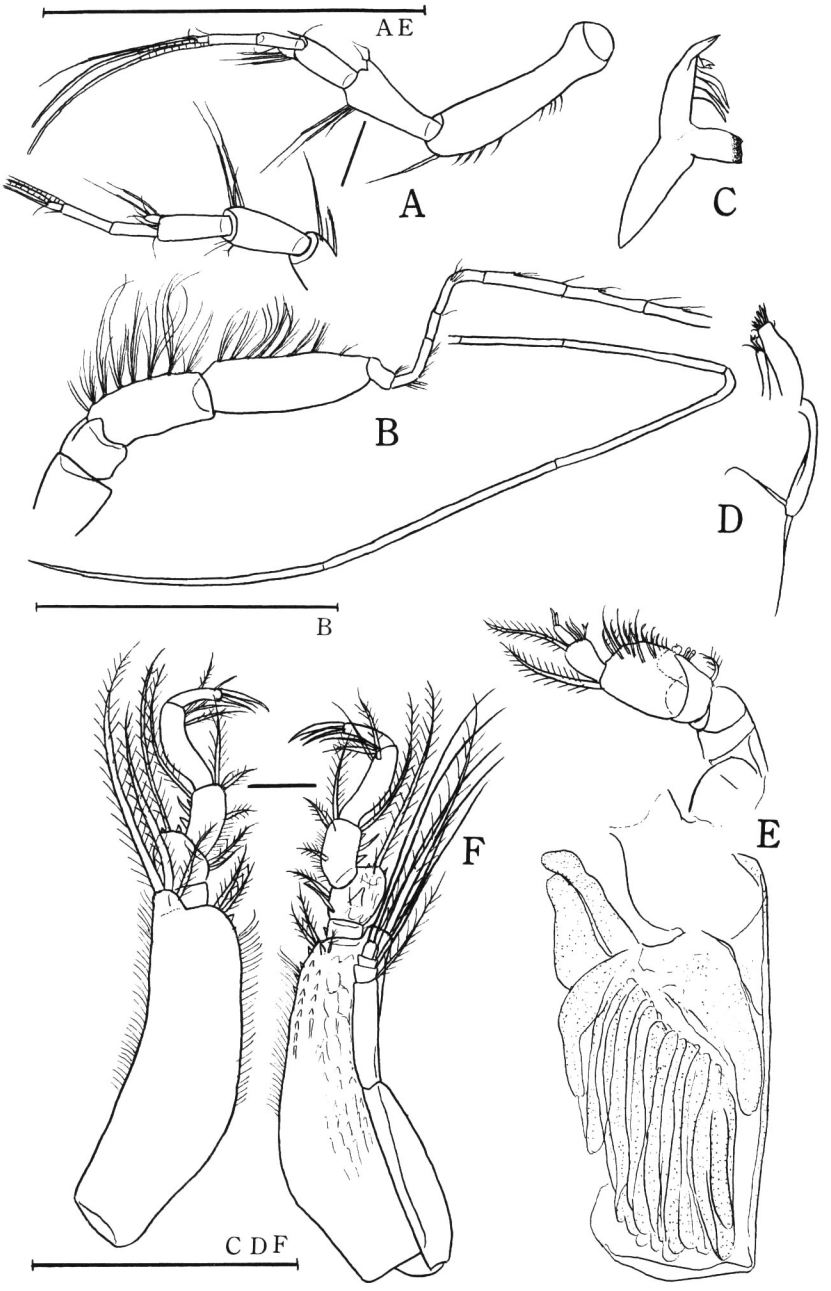

Fig. 2. *Cumella hystrix* sp. nov., holotype, adult male. A, Antennule; B, antenna; C, mandible; D, maxilla 1; E, maxilliped 1; F, maxilliped 3. Scales: 0.5 mm.

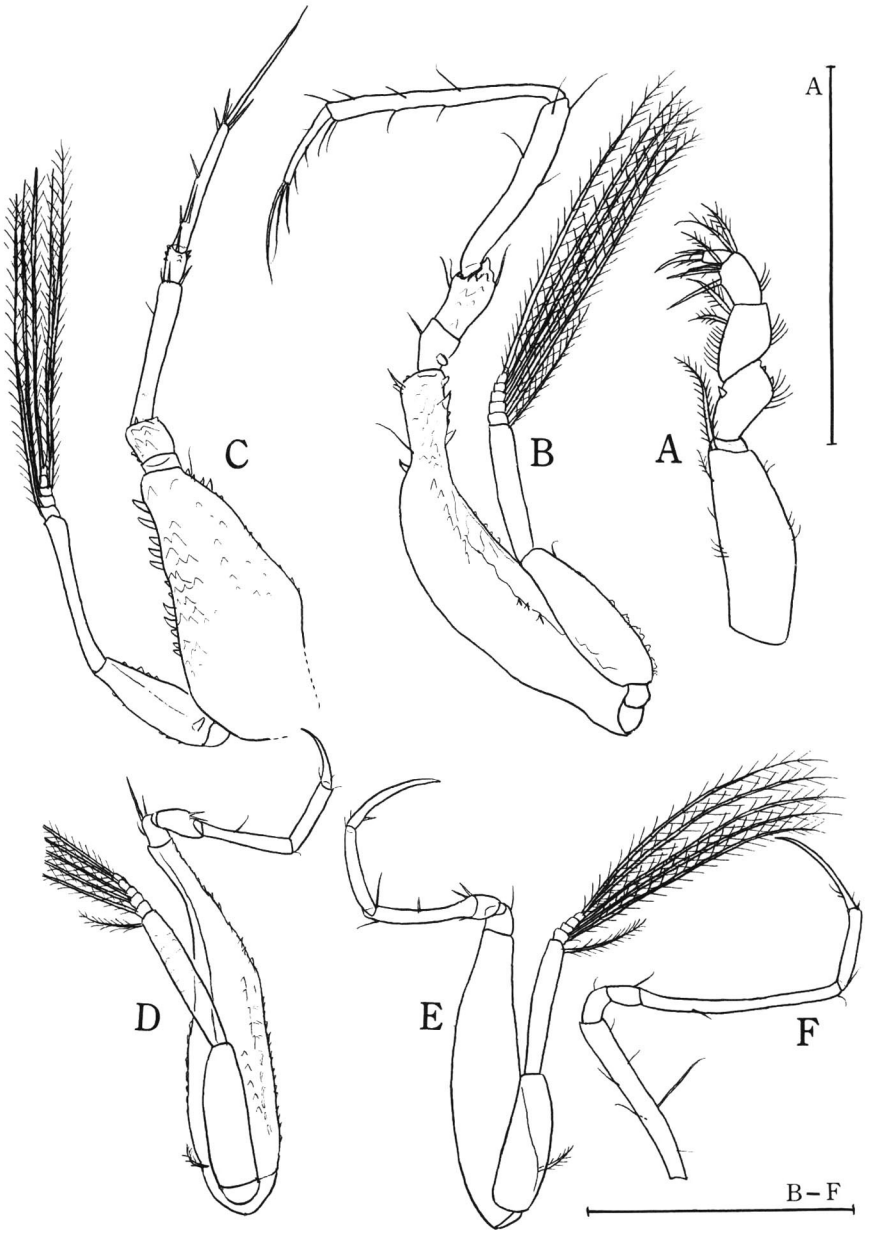

Fig. 3. *Cumella hystrix* sp. nov., holotype, adult male. A, Maxilliped 2; B, peraeopod 1; C, peraeopod 2; D, peraeopod 3; E, peraeopod 4; F, peraeopod 5. Scales: 0.5 mm.

Length of carapace slightly less than 1/3 as long as total body, nearly 1 2/3 as long as greatest width across about middle portion, and much less than twice as long as depth; posterior mid-dorsal region raised dorsally. Pseudorostrum upturned at about 30°, very short, only 1/7 as long as carapace, its apex widely truncated and distal margin spinulose. Siphons very short. Eyeless eyelobe elongate, as long as pseudorostrum, and furnished with a few spiniform granules near distal end. Antennal notch widely and shallowly concave and bears several spines. Antero-lateral angle large, much produced antero-laterally and emphasized by a strong spine at apex. Lower margin of carapace with a row of spines. Pereon armed with short spines and epimera with prominent teeth or spines. Pleon more than 1/2 as long as total body, and first 4 pleonites successively larger posteriorly, furnished with a longitudinal row of long spines mid-dorsally. Pleonite 6 about 1 1/2 as long as pleonite 5, and provided with a longitudinal row of short spines mid-dorsally. Pleotelson widely produced between bases of uropods and rounded posteriorly.

Antennule (Fig. 2 A) long and slender; basal segment of peduncle much longer than distal 2 segments combined and twice as long as 2nd segment, which is provided with a minute projection on its external distal margin. Main lash 2-segmented; distal segment slightly longer than basal one and bears segment-like protuberance and 2 long aesthetascs. Accessory lash consists of only one minute segment. Antennal flagellum (Fig. 2 B) reaches beyond hind end of pleon. Mandible and maxilla 1 as shown in Fig. 2 C–D. Maxilliped 1 (Fig. 2 E) with many branchial lobules. Maxilliped 1 (Fig. 2 E) with many branchial lobules. Maxilliped 2 as shown in Fig. 3 A. Maxilliped 3 (Fig. 2 F) with basis long and stout, slightly more than 1 1/5 as long as remaining segments together and its external angle produced distally, reaching end of narrow ischium; merus broad; carpus shorter than propodus and bears 3 spines on external margin; dactylus 1/2 as long as propodus. Peraeopod 1 (Fig. 3 B) with basis widened proximally, armed with several spines, slightly more than 2/3 as long as remaining segments combined; propodus a little longer than carpus and about 3 times as long as dactylus. Peraeopod 2 (Fig. 3 C) with basis broad, bears a row of spines on both sides, and slightly longer than remaining segments together; carpus about as long as dactylus; propodus very short, about 1/4 as long as carpus. Peraeopods 3 and 4 as shown in Fig. 3 D and E. Peraeopod 5 (Fig. 3 F) with dactylus very long, slender and curved, needle-like in shape. Peduncle of uropod (Fig. 1 E–F) slightly more than thrice as long as pleotelson, serrate on lateral margins; endopod about 3/4 as long as peduncle, and a little longer than exopod, and has 5 spines on inner margin.

Allotype ovigerous female (Fig. 4 A–B), length 4.9 mm, bearing 28 embryos (diameter 0.18–23 mm) in marsupium; carapace spinulose, dorsal outline much raised posteriorly and its dorsal aspect almost triangular in shape. Length of carapace more than 1/3 as long as total body, about 1 1/3 as long as greatest width across near its hind margin, and twice as long as depth. Pseudorostrum long, nearly 1/4 as long as carapace, upturned at about 30°. Siphons fairly long. Eyelobe (Fig. 4 A–C) narrow, as

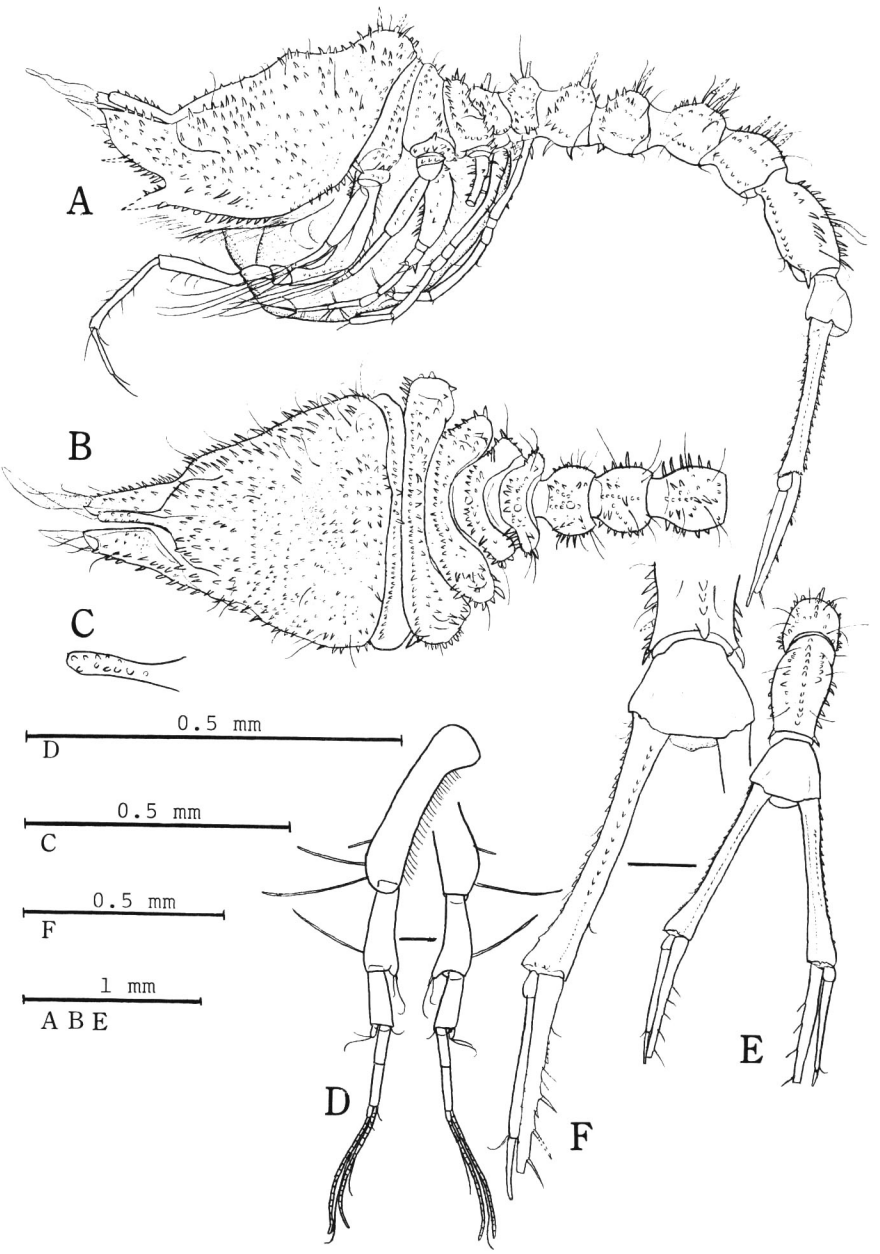

Fig. 4. *Cumella hystrix* sp. nov., allotype, ovigerous female, length 4.9 mm. A, Lateral view; B, anterior portion of body, dorsal; C, eyelobe, dorsal; D, antennule; E, pleonite 5 and pleotelson with uropods; F, pleotelson with left uropod, enlarged, dorsal.

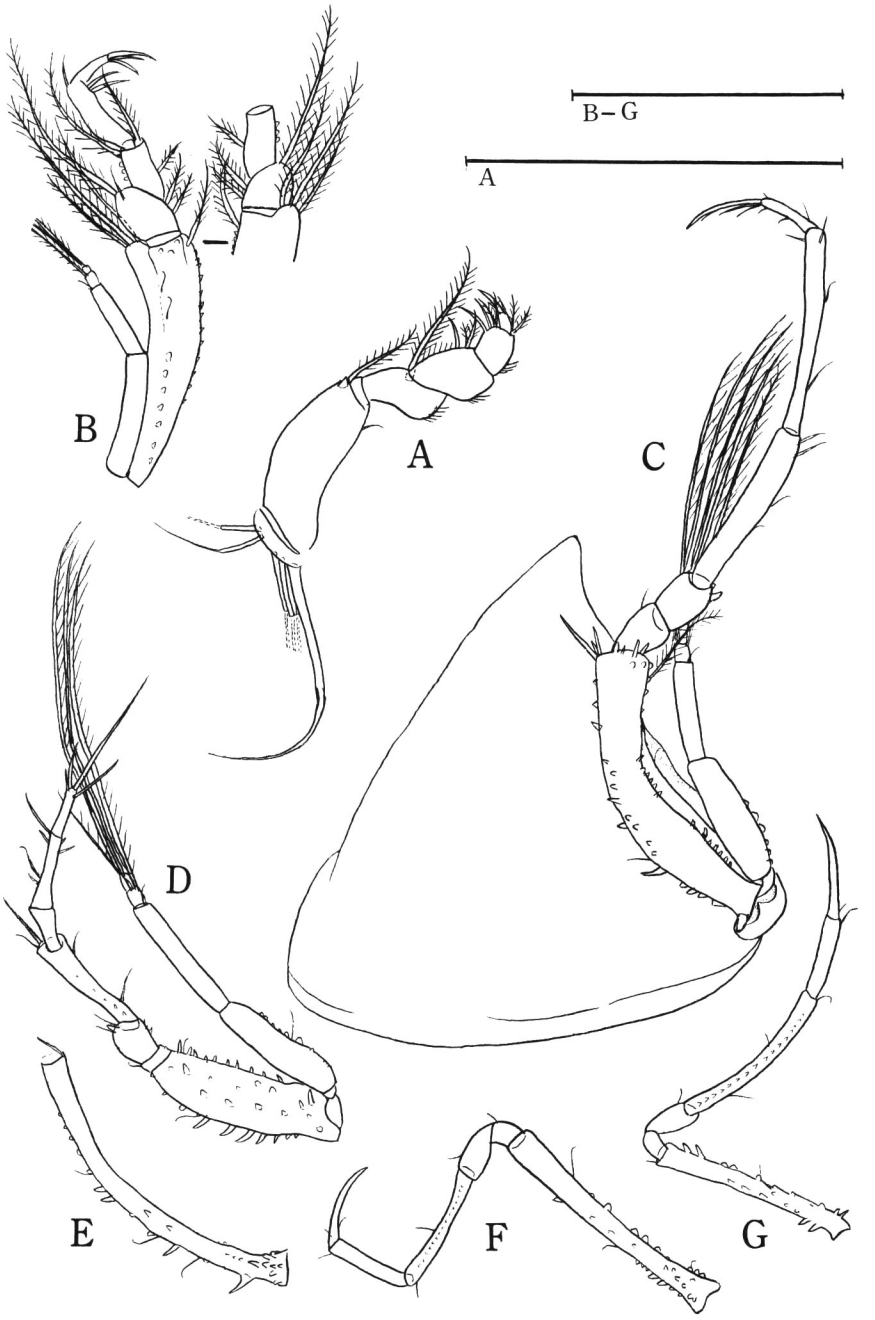

Fig. 5. *Cumella hystrix* sp. nov., allotype, ovigerous female. A, Maxilliped 2; B, maxilliped 3; C, peraeopod 1; D, peraeopod 2; E, peraeopod 3; F, peraeopod 4; F, peraeopod 5. Scales: 0.5 mm.

long as pseudorostrum, and bears some spiniform granules. Antennal notch narrow, angularly concave with an acute antero-lateral angle much produced forwards. Lower margin of carapace spinose.

Antennule (Fig. 4 D) and maxillipeds 2 and 3 (Fig. 5 A–B) similar to male. Peraeopod 1 (Fig. 5 C) with basis slender, much less than ⅓ as long as remaining distal segments together. Peraeopod 2 (Fig. 5 D) with basis rather slender, less than ⅓ as long as remaining segments together. Peraeopods 3–5 as shown in Fig. 5 E–G. Peduncle of uropod (Fig. 4 E–F) has no setae on inner margin.

Etymology. The specific name *hystrix* is derived from the Greek word meaning a porcupine.

Remarks. *Cumella hystrix* is described here from Suruga Bay, 314–320 m deep. The new species is characterized by a long narrow eyelobe, which is as long as the pseudorostrum. At a glance, it resembles 13 species of the genus described from the Atlantic, 364 to 5,000 m deep (Calman, 1905; Hansen, 1920; Bacescu & Muradian, 1974; Jones, 1984). The new species may be closely allied to *C. ergregia* Hansen, 1920, *C. antipai* (Bacescu & Muradian, 1974), *C. concinea* Jones, 1984, and *C. echinata* Jones, 1984, in having a row of longitudinal mid-dorsal spines on the pleonites 1–5, but is distinguished from the latter four and other species of the genus by having the carapace covered with small spines and its antero-lateral angle armed with a stout tooth.

Acknowledgments

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