

New Genus and Species of Axiid Shrimp (Crustacea, Decapoda, Thalassinidea) from Japan

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Abstract A new genus and new species of the thalassinidean shrimp family Axiidae are described and illustrated on the basis of specimens collected from shallow waters of the Boso Peninsula and Sagami Bay, central Japan. Structure of the modified first and second pleopods in male suggests a close relationship of the new monotypic genus, *Litoraxius*, to *Bouvieraxius* Sakai and de Saint Laurent, 1989, but several characters, including the lack of pleurobranches on the thoracic somites, unique structure of the antennal flagellum and the greatly unequal chelipeds immediately distinguish the new genus from the latter. The new species, *Litoraxius boshu*, seems to be a burrower inhabiting silt stone substrates, although its ecology remains poorly known.

Key words: Crustacea, Decapoda, Thalassinidea, Axiidae, new genus, new species, Japan.

Although the axioid shrimp fauna of Japan has been relatively well studied compared with other regions in East Asia, the documentation of the fauna is still far from satisfactory. Their habitats are cryptic, burrowing in soft substrates, hiding in crevices on coral reefs, or having symbiotic associations with sponges (Dworschak, 2000). Therefore it is not easy to collect specimens. Komai (2000) presented a check list of East Asian taxa, enumerating 12 genera and 24 species, including two species of uncertain status, and since then four new species (two axiids and two calocaridids) have been described from Taiwan (Kensley *et al.*, 2000; Lin and Komai, 2006). Familial arrangement has been revised in recent years. Poore (1994) classified the Axioidea into four families, viz., Axiidae, Calocarididae, Micheleidae and Strahlaxiidae. Recently, Sakai and Ohta (2005) established Eiconaxiidae for *Eiconaxius* formerly referred to Axiidae, and recognized four families, Axiidae, Calocarididae, Strahlaxiidae and Eiconaxiidae, in Axioidea. Twenty-one genera are currently represented in the family Axiidae (Sakai and de Saint Laurent, 1989; Kensley, 1989; 1996a, 1996b; 2003; Poore,

1994; Sakai, 1994; Clark *et al.*, 2007) (Table 1).

Among the decapod crustacean material accumulated in the collections of the Natural History Museum and Institute, Chiba, chiefly collected during an ongoing marine faunal survey in the Boso Peninsula by staff of the museum, several

Table 1. Genera of Axiidae.

<i>Acanthaxius</i> Sakai and de Saint Laurent, 1989
<i>Allaxius</i> Sakai and de Saint Laurent, 1989
<i>Anophthalmaxius</i> de Man, 1905
<i>Axiopsis</i> Borradaile, 1903
<i>Axiorygma</i> Kensley and Simons, 1989
<i>Axius</i> Leach, 1815
<i>Bouvieraxius</i> Sakai and de Saint Laurent, 1989
<i>Calaxius</i> Sakai and de Saint Laurent, 1989
<i>Calocarides</i> Wollebaek, 1908
<i>Coralaxius</i> Kensley and Gore, 1981
<i>Dorphinaxius</i> Sakai and de Saint Laurent, 1989
<i>Eutrichocheles</i> Wood-Mason, 1876
<i>Levantocaris</i> Galil and Clark, 1993
<i>Marianaxius</i> Kensley, 1996
<i>Oxyrhynchaxius</i> Parisi, 1917
<i>Parascytoleptus</i> Sakai and de Saint Laurent, 1989
<i>Paraxiopsis</i> de Man, 1905
<i>Paraxius</i> Bate, 1888
<i>Platyaxius</i> Sakai, 1994
<i>Scytoleptus</i> Gerstaecker, 1856
<i>Spongiaxius</i> Sakai and de Saint Laurent, 1989

specimens of an unusual, large axiid shrimp have been found. Detailed examination has revealed that they represent an undescribed species that cannot be assigned to any known genus. Here, we propose a new genus *Litoraxius* for a new species *L. boshu*. The new species is fully described and illustrated.

The type specimens are deposited in the Natural History Museum and Institute, Chiba (CBM), Coastal Branch of Natural History Museum and Institute, Chiba, Katsuura (CMNH), and the National Museum of Nature and Science, Tokyo (NSMT). The carapace length, abbreviated as cl, is measured from the tip of the rostrum to the midpoint of the posterior margin of the carapace. For counts and proportions mentioned in the following description, ranges of variation are primarily given, and values of the holotype are shown in parentheses.

Systematics

Litoraxius gen. nov.

[New Japanese name: Boshu-ana-ebi-zoku]

Type species. *Litoraxius boshu* sp. nov., present designation by monotypy. Gender: masculine.

Composition. Monotypic.

Diagnosis. Axiidae (cf. Poore, 1994). Gonochoristic. Carapace with supraocular spine; postcervical median carina and spines lacking; rostrum lower than anterior carapace; rostral margins with pairs of rounded tubercles; anterior carapace with median carina, submedian carinae and lateral carinae, each carina bearing tubercles. First pleonal pleuron subacute; second to fifth pleura rounded. Cornea darkly pigmented, functional; ocular peduncle cylindrical, longer than cornea. Antennal acicle small, acuminate, curved. Proximal half of antennal flagellum consisting of inflated articles interspersed by 2–4 small articles. First pereopod strongly asymmetrical, size relatively smaller in females than in males; dorsal margin of each dactylus and palm devoid of conspicuous spines; several prominent tufts of

thickly plumose setae on chelae, particularly numerous on fingers. Pleurobranchs absent; 2 arthrobranchs on each third to seventh thoracic somites; epipods present on first to fourth pereopods, anterior 3 with well-developed, lamellate podobranchs, last one rudimentary. First pleopod of male consisting of 2 partially fused segments, distal segment spatulate, with narrow terminal lobe and proximomesial clump of adhesive hooks. Second pleopod of male with distal portion of endopod somewhat reduced, appendix masculina and appendix interna articulating at 0.4 length of endopod, appendix masculina elongate, flattened, with numerous stiff setae, reaching beyond apex of endopod.

Etymology. The generic name is derived from a combination of the Latin words, *litoral* (= shallow) and the generic name *Axius* first proposed by Leach (1815), in reference to the shallow water habitat of the new species.

Remarks. The modified first and second pleopods in male of the new taxon are similar to those of *Bouvieraxius* in the structure (e.g., Bouvier, 1925; Sakai and de Saint Laurent, 1989; Kensley, 1989, as its junior synonym *Posthonicaris*, 1996a; Sakai, 1992), and would seem to suggest a phylogenetic relationship between the two genera. In both genera, the distal segment of the male first pleopod is spatulate with a distinct proximomesial lobe; the appendix masculina and appendix interna of the second pleopod articulate at about the midlength of the endopod, and the former is markedly elongate. Furthermore, the two genera show similarities in the general pattern of the carination on the gastric region, the simple antennal scaphocerite, and the darkly pigmented cornea. However, the new genus is immediately distinguished from *Bouvieraxius* by the absence of pleurobranchs and the strongly unequal chelipeds (Sakai and de Saint Laurent, 1989; Poore, 1994; Sakai, 1992; Kensley, 1996a). In *Bouvieraxius*, the chelipeds are subequal and similar in structure from the right to the left. The armament of the carinae on the anterior carapace is quite different between the two. For example, the median carina is tuberculate in *Litoraxius*,

rather than smooth in *Bouvieraxius*; the submedian carina bears also several tubercles in the new genus, whereas it consists of three or four spines in *Bouvieraxius*. Furthermore, the structure of the antennal flagellum of *Litoraxius* is quite unique among axioids. The proximal part of the flagellum consists of four or five inflated articles interspersed by two to four narrow articles; distal margin of each article is fringed with short, stiff setae.

According to the key to axiid genera presented by Poore (1994), the new taxon is placed near to *Paraxius*, *Oxyrhynchaxius*, *Calocarides*, *Acanthaxius*, *Axiorygma*, *Allaxius* and *Axiopsis*. In these genera, pleurobranchs are absent on the thoracic somites. However, those latter genera do not show modification of the anterior two pleopods as seen in *Litoraxius*. Furthermore, the well developed antennal scaphocerite and the darkly pigmented cornea immediately separates *Litoraxius* from *Paraxius* (Sakai and de Saint Laurent, 1989; Poore, 1994). The modified first pleopod in male distinguishes the new genus from *Oxyrhynchaxius*, *Calocarides*, *Acanthaxius*, *Axiorygma*, *Allaxius* and *Axiopsis* (Poore, 1994; personal observation). Furthermore, the short rostrum bearing lateral tubercles, the presence of supraocular tubercles, the unique structure of the antennal flagellum, the prominent tufts on the chelae, and the characteristic armature of the third to fifth pereopods provides foundation for easy recognition of the present new taxon, although some of them may be of only species level significance.

***Litoraxius boshu* sp. nov.**

[New Japanese name: Boshu-ana-ebi]

(Figs. 1–6)

Material examined. Holotype: CBM-ZC 9225, female (cl 18.4 mm), Ubara, Katsuura, Boso Peninsula, about 10 m, silt stone, 26 September 1998, SCUBA diving, coll. E. Nishi.

Paratypes: CBM-ZC 9226, male (cl 15.5 mm), Ubara, Katsuura, Boso Peninsula, depth not

recorded, June 1994, SCUBA diving, coll. M. Aizawa; CBM-ZC 9227, 1 male (cl 10.8 mm), 1 ovigerous female (cl 24.0 mm), beach in front of the Marine Biosystems Research Center, Chiba University, Kominato, Boso Peninsula, intertidal, under rock, 24 June 1994, coll. K. Nomura; NSMT-Cr 17774, 1 male (cl 14.7 mm), same data; CMNH-ZC, 1 male (cl 13.8 mm), 1 female (cl 21.7 mm), Ubara Islet, Katsuura, 15 m, silt stone, 17 March 1998, coll. H. Tachikawa; CBM-ZC 9228, 1 male (cl 13.0 mm), Banda, Tateyama, Boso Peninsula, 5 m, silt stone, 17 May 1996, SCUBA diving, coll. K. Nomura; CBM-ZC 9229, 1 male (cl 15.5 mm), 1 female (cl 24.0 mm), beach in front of the Marine Biosystems Research Center, Chiba University, Kominato, Boso Peninsula, intertidal crevice of silt stone, 19 May 1997, coll. K. Nomura; NSMT-Cr S 8, 1 female (cl 22.5 mm), Misaki, Sagami Bay, other data unknown.

Diagnosis. See generic diagnosis given above.

Description. Body moderately robust (Figs. 1, 2A, C). Integument hard. Rostrum (Fig. 3A) short, 0.10–0.15 (0.12) times as long as carapace, lower than level of gastric region of carapace, triangular in dorsal view, apically subacute; dorsal surface slightly concave; distal part slightly upturned; lateral margins with 2 or 3 (3) blunt tubercles on each side; ventral surface rounded. Carapace (Figs. 2, A, B, 3A) with blunt, weak supraocular spines; surface generally smooth, but with tufts of setae particularly numerous on branchial region; gastric region with 5 carinae; median carina extending beyond rostral base, divided in 2 sections, anterior section with 1 prominent tubercle and tuft of setae posterior to level of supraocular spines, posterior section low, broad, tuberculate, terminating anteriorly in tubercle; submedian carinae consisting of row of 6–9 (8) tubercles decreasing in size posteriorly; lateral carina confluent with rostral lateral margin, with 1–3 (2 or 3) small, widely separated tubercles; 2 low, setal tuft-bearing tubercles between median and submedian carinae; anterolateral part of carapace nearly smooth, with few

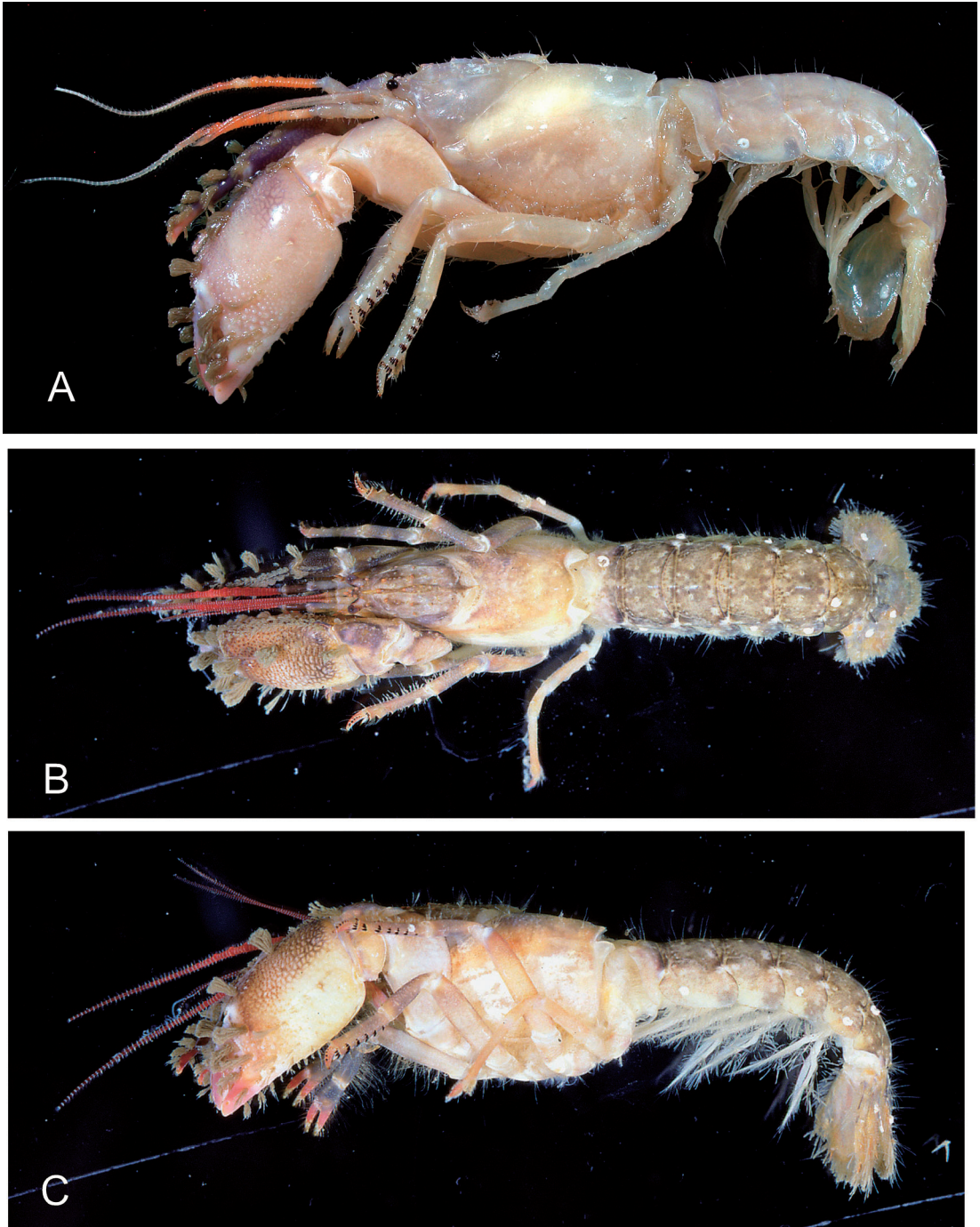


Fig. 1. *Litoraxius boshu* gen. et sp. nov. A, holotype female (cl 18.4 mm), CBM-ZC 9225, in preservative, habitus in lateral view; B, same specimen in fresh, dorsal view; C, same, lateral view.

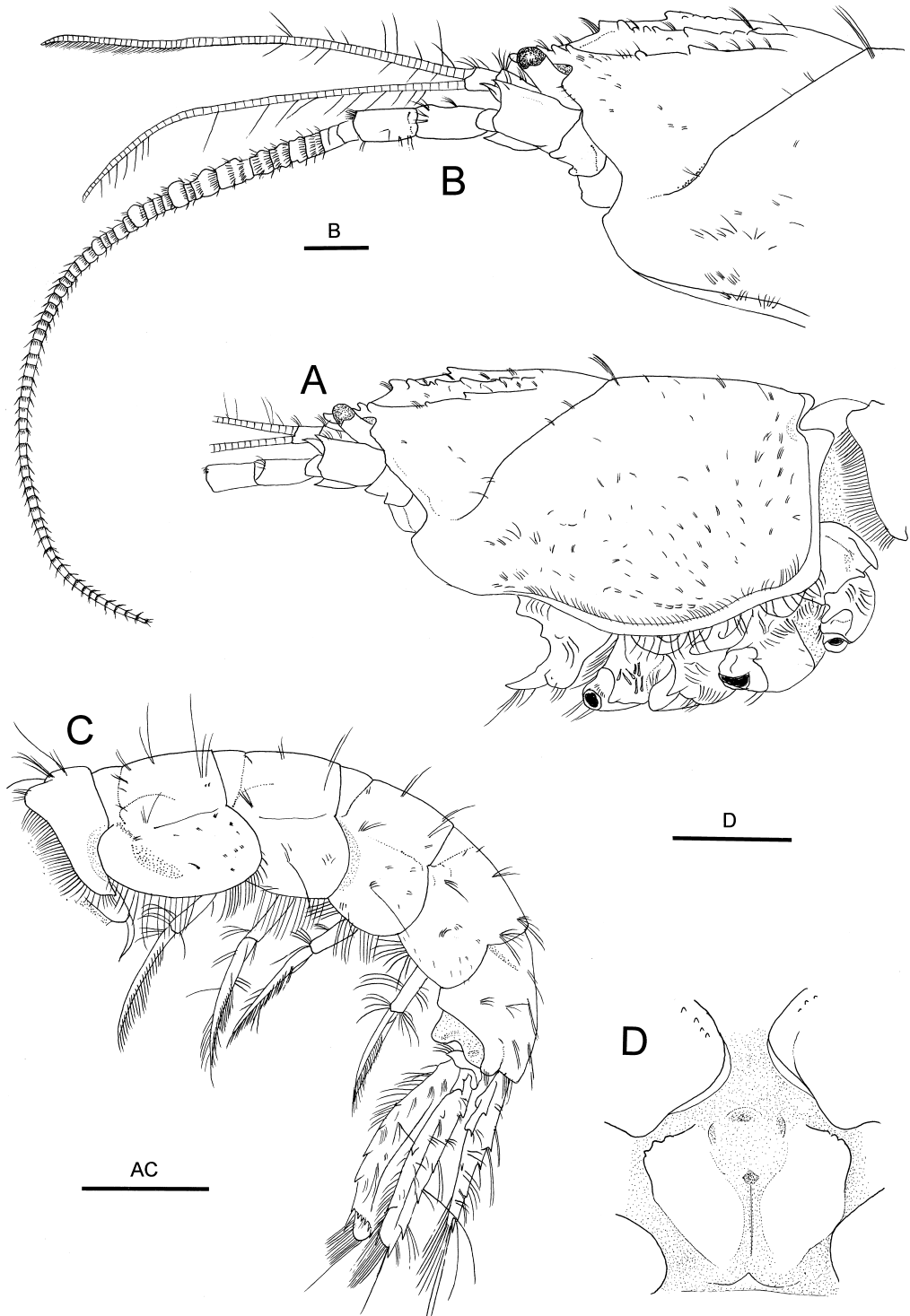


Fig. 2. *Litoraxius boshu* gen. et sp. nov. Holotype female (cl 18.4 mm), CBM-ZC 9225. A, cephalothorax and cephalic appendages, lateral view; B, anterior part of carapace and cephalic appendages, lateral view; C, pleon, telson and pleonal appendages, lateral view; D, thoracic shield, ventral view (setae omitted). Scales: 5 mm for A, C; 2 mm for B, D.

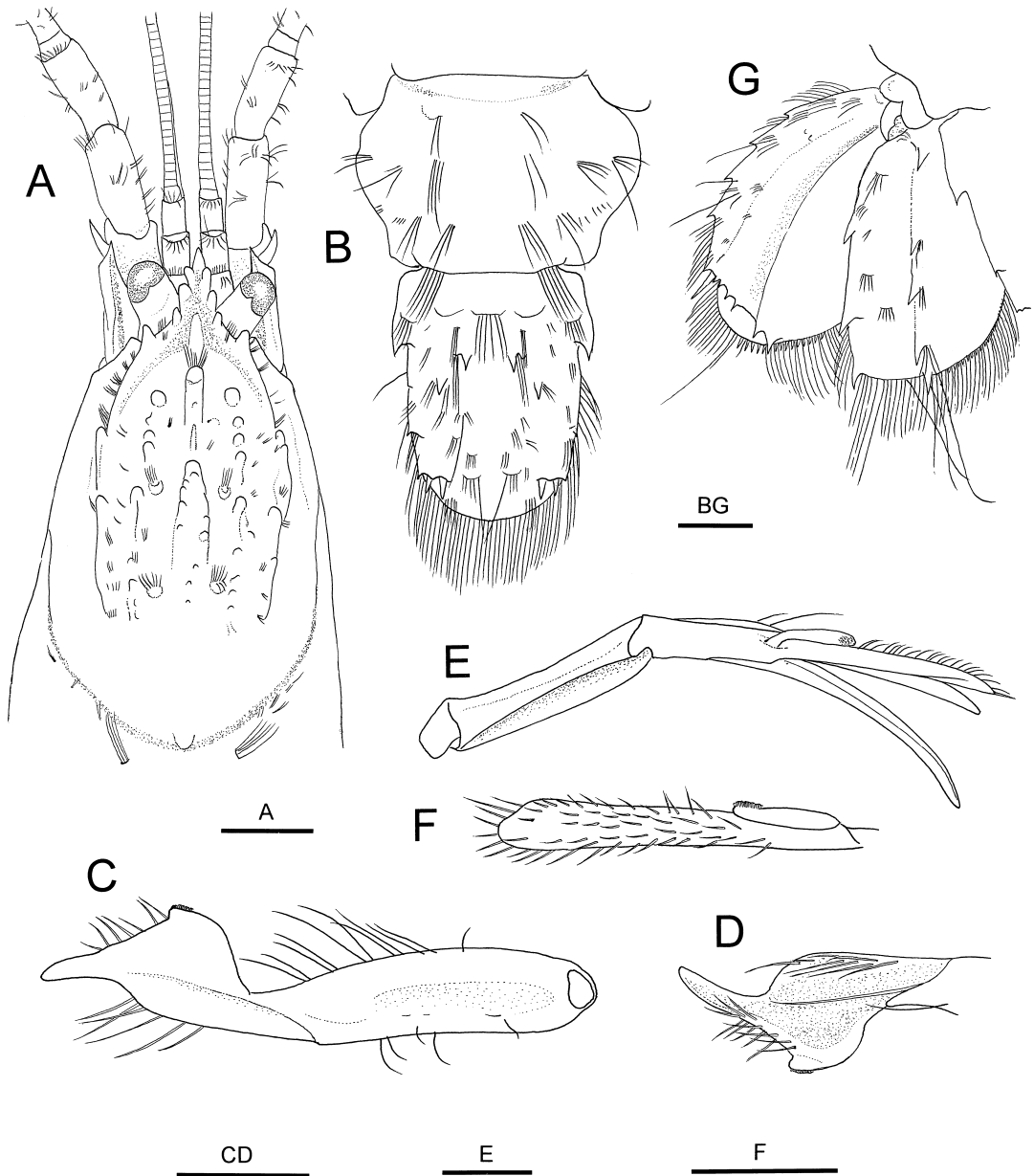


Fig. 3. *Litoraxius boshu* gen. et sp. nov. A, B, G, holotype female (cl 18.4 mm), CBM-ZC 9225; C–F, male paratype (cl 15.5 mm), CBM-ZC 9226. A, anterior carapace and cephalic appendages, dorsal view (antennal flagella omitted); B, sixth pleonal somite and telson, dorsal view; C, left first pleopod, dorsal view; D, distal segment of left first pleopod, ventral view; E, left second pleopod, mesial view; F, appendix masculina and appendix interna of left second pleopod, dorsal view. Scales: 2 mm for A–D, G; 1 mm for E, F.

setae; anterolateral margin blunt suborbital lobe; cervical groove conspicuous, unarmed; posterodorsal part without median carina, but with few prominent tufts of setae on each side of midline; cardiac notch conspicuous; submarginal carinae with fringe of short setae.

Seventh thoracic sternite (Fig. 2D) with deep median slit, thoracic shield weakly produced to form rounded, marginally denticulate, flange to either side; no conspicuous carina set between articulations of fourth pereopods.

Pleon (Fig. 2C) with paired tufts of setae of varying lengths. First pleuron narrowed, subacute ventrally; second to fourth pleura broadly rounded; Fifth pleuron with weak angle posteroventrally. Sixth pleonal somite (Fig. 3B) flared laterally, broader than long, with angled anteroventral margin and rounded flange at posterolateral margin. Telson (Fig. 3B) longer than wide, lateral margin with 1 strong subproximal tooth and 2 small teeth in posterior half, posterior margin evenly convex, with 2 movable spines posterolaterally; dorsal surface bearing 2 pairs of fixed spines; setation as figured.

Ocular peduncle (Figs. 2B, 3A) subcylindrical, directed anterodorsally and anterolaterally, slightly falling short of tip of rostrum. Cornea terminal, globose, not dilated.

Antennular peduncle (Figs. 2B, 3A) overreaching rostrum by half length of second segment; flagella slightly longer than carapace, each with several setae.

Antennal peduncle (Figs. 2B, 3A) bearing weakly produced nephridiopore proximoventrally on first segment. Second segment stout, bearing small dorsodistal spine. Third segment distally bearing small ventromesial spine. Fourth and fifth segments stout. Antennal acicle small, acuminate, curved mesially. Antennal flagellum (Fig. 2B) about 1.3 times longer than carapace; proximal part consisting of some rounded, inflated articles interspersed by 2–4 small articles, every article with distal setae; articles consisting distal half of flagellum each with numerous setae on distal margin.

Mandible as figured (Fig. 4A, B). Maxillule

(Fig. 4C) with coxal endite bearing cluster of spiniform setae on distomesial margin; basial endite truncate distally, with double row of corneous spines; endopod consisting of 2 segments forming arc, distal segment tapering distally. Maxilla (Fig. 4D) with coxal endite divided in 2 strongly unequal lobes; basial endite divided in 2 subequal lobes; endopod sinuous; scaphognathite composed of narrow anterior lobe and broad, subtriangular posterior lobe, latter with elongate setulose seta apically. First maxilliped (Fig. 4E) with small coxal and elongate basial endites; endopod slender, consisting of 2 segments (distal segment about half length of proximal segment) (Fig. 4F); exopod moderately narrow, fringed with setae on lateral margin, flagellum short, divided in about 6 articles; epipod large, bilobed, posterior lobe elongate, terminating in acute tip, with minutely denticulate posterolateral margin. Second maxilliped (Fig. 4G) with endopod consisting of six segments, of which basis and ischium are fused; merus longest; dactylus rounded, with row of spiniform setae; exopod reaching distal margin of carpus, tapering distally, multiarticulated; epipod terminating in slender lobe with denticulate margins, podobranch well developed, multilamellate. Third maxilliped (Fig. 4H) with coxa bearing acutely produced ventrodiscal angle; basis unarmed; ischium of endopod (Fig. 4I) with strong, distally elevated crista dentata on mesial surface, bearing about 20 spines, not particularly increasing in size distally; merus with 2 ventral spines, one at about midlength and other larger and subterminal in position; carpus unarmed; dactylus shorter than propodus; all segments of endopod bearing fields of long setae, many dense and heavily plumose, especially on mesial and ventral surfaces; exopod overreaching distal margin of carpus.

Gill formula summarized in Table 2. Epipods on third maxilliped to fourth pereopods large, foliaceous, each with row of tiny marginal hooks (cf. Fig. 4J).

Chelipeds (first pereopods) (Fig. 5A–C) strongly asymmetrical. Major cheliped (Fig. 5A, B) heaviest, chela 1.03–1.10 times as long as cara-

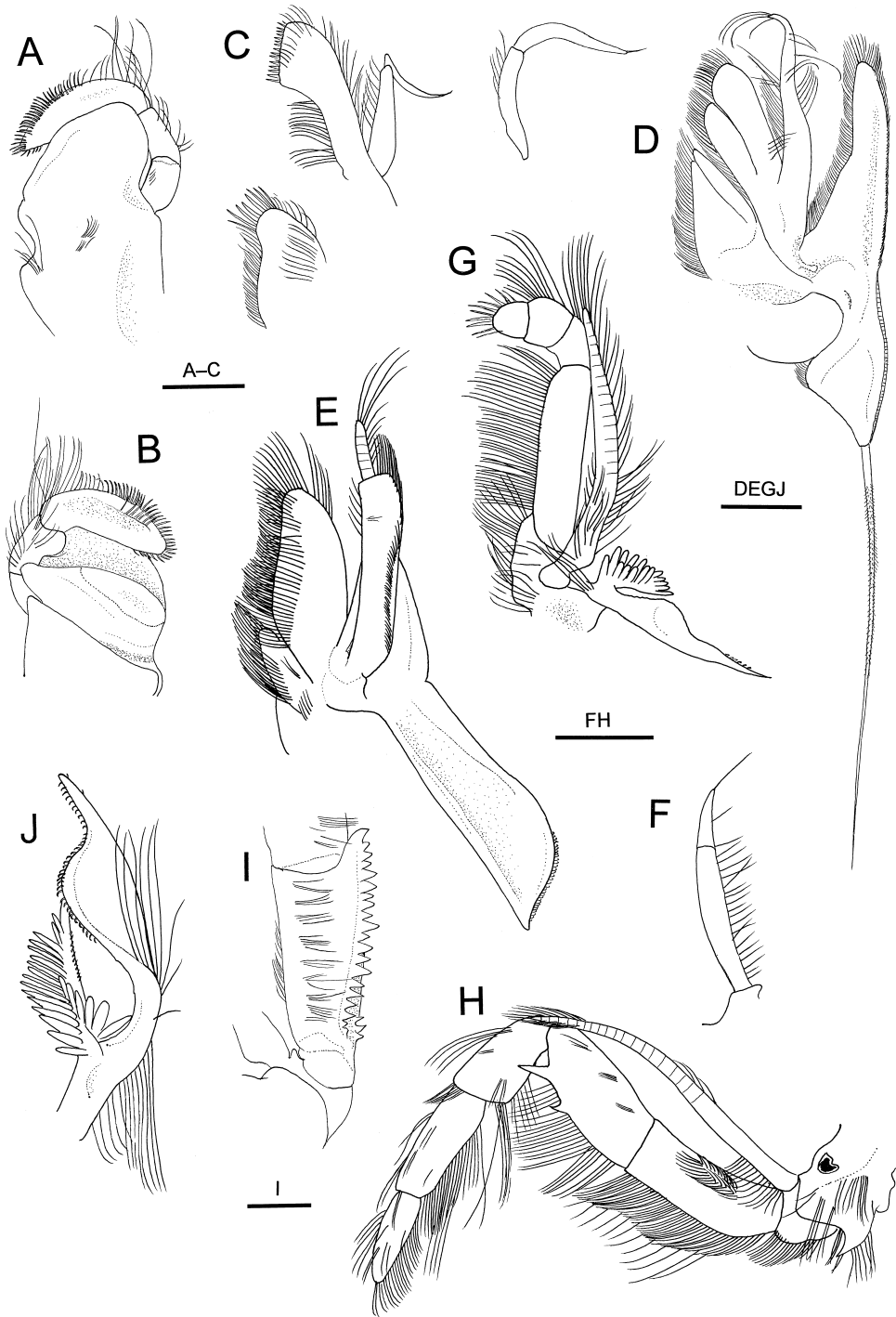


Fig. 4. *Litoraxius boshu* gen. et sp. nov. Holotype female (cl 18.4 mm), CBM-ZC 9225, left mouthparts. A, mandible, ventral view; B, same, dorsal view; C, maxillule, ventral view; inset 1, endopod, lateral view; inset 2, coxal endite, ventral view; D, maxilla, ventral view; E, first maxilliped, ventral view; F, same, endopod, dorsal view; G, second maxilliped, ventral view; H, third maxilliped, lateral view; I, same, ischium, dorsal view; J, same, epipod and podobranch, lateral view. Scales: 2 mm for H; 1 mm for A–G, I, J.

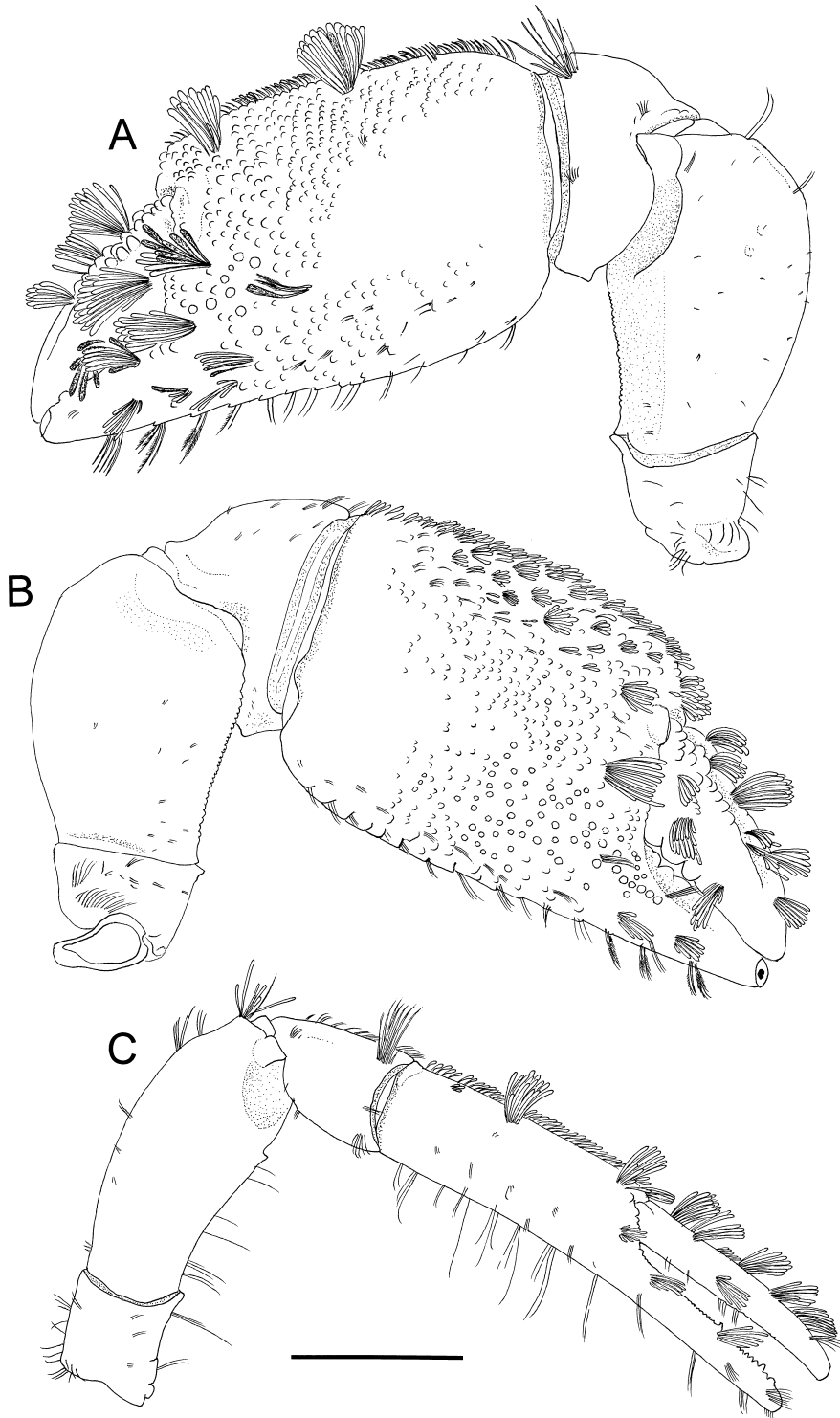


Fig. 5. *Litoraxius boshu* gen. et sp. nov. Holotype female (cl 18.4 mm), CBM-ZC 9225. A, left major cheliped, lateral view; B, same, mesial view; C, right minor cheliped, lateral view. Note that thickly plumose setae are illustrated schematically as simple rods. Scale: 5 mm.

Table 2. Gill formula of *Litoraxius boshu* gen. et sp. nov. r: rudimentary.

	Thoracic somites							
	1	2	3	4	5	6	7	8
	Maxilliped			Pereopods				
	1	2	3	1	2	3	4	5
Pleurobranchs	0	0	0	0	0	0	0	0
Arthrobranchs	0	0	2	2	2	2	2	2
Podobranchs	0	0	1	1	1	1	r	0
Epipods	1	1	1	1	1	1	1	0
Exopods	1	1	1	0	0	0	0	0

pace in males, 0.83–0.93 (0.87) times as long in females. Ischium with small spiniform tubercle on ventral margin adjacent to articulation with merus. Merus deep; dorsal margin strongly convex, unarmed; lateral surface weakly convex, with clearly defined convexity accommodating proximal margin of carpus, and with scattered very short setae; mesial surface flat; ventral margin granular, without conspicuous spines. Carpus very short, with prominent tuft of setae dorsodistally and few short setae. Chela very thick; palm 1.20–1.30 (1.27) times longer than deep, lacking well-defined teeth or spines on weakly tuberculate dorsal margin concealed by numerous thickly plumose setae; lateral surface covered with granules often forming vertical rows except for smooth middle to proximal part; mesial surface also granular except for proximal part, with tufts or individual thickly plumose setae dorsally; ventral surface with short transverse ridges and tufts of short setae; fixed finger heavy, with granules on lateral and mesial surfaces proximally, distal part often eroded, cutting edge with 3 or 4 (3) rounded teeth proximally; dactylus shorter than palm, with proximally tuberculate longitudinal ridge on either side of less strongly tuberculate median ridge, lateral and mesial surfaces with some more additional tubercles proximally, cutting edge with 3–5 (3) rounded teeth in proximal half; no hiatus between fingers. Prominent tufts of thickly plumose setae present on chela, especially numerous on fingers.

Minor cheliped (Fig. 5C) slender. Ischium with few low tubercles on ventral margin, ven-

trodistal angle with tiny subacute tubercle. Merus with dorsal margin convex, unarmed, but bearing tufts of setae in distal part; lateral surface weakly convex, with shallow convexity accommodating proximal margin of carpus, and with few very short setae; mesial surface flat; ventral margin nearly smooth, with 1 tiny tooth subdistally. Carpus nearly as long as deep, with prominent tuft of setae dorsodistally and few tufts of short setae on lateral surface; dorsal surface with numerous short setae. Chela rather slender; palm 2.50 times longer than deep, lacking well-defined teeth or spines on dorsal margin concealed by thick covering of short plumose setae; lateral surface non-granular, with 2 prominent tufts of thickly plumose setae and few short tufts of setae; mesial surface also non-granular; ventral surface smooth, with row of tufts of simple long setae extending onto fixed finger; fixed finger slender, distal part often eroded, cutting edge minutely denticulate in proximal half, with row of small subacute teeth in distal half; dactylus subequal to or slightly longer than palm, unarmed, distal part often eroded, dorsal margin with short plumose setae and several prominent tufts of thickly plumose setae, cutting edge smooth or minutely denticulate.

Second pereopod (Fig. 6A) chelate, moderately stout, combined length of ischium and merus subequal to combined length of carpus and chela; ischium marginally unarmed; merus unarmed on dorsal margin, with 1 tiny tooth slightly distal to midlength on ventral margin; carpus unarmed marginally; chela subequal in length to carpus, 3.30–3.40 (3.38) times longer than deep; fingers each terminating in tiny corneous claw, cutting edges each with row of corneous spinules; dactylus slightly longer than palm; setation as figured. Third pereopod (Fig. 6B–D) relatively stout, subequal in length to second pereopod; ischium unarmed; merus unarmed on dorsal margin, with tiny tubercle at about distal 0.30 on ventral margin; carpus unarmed; propodus slightly longer than carpus, armed with 5 or 6 (5) sets of darkly pigmented corneous spines on lateral surface, set in short transverse rows of 2–4 spines near ven-

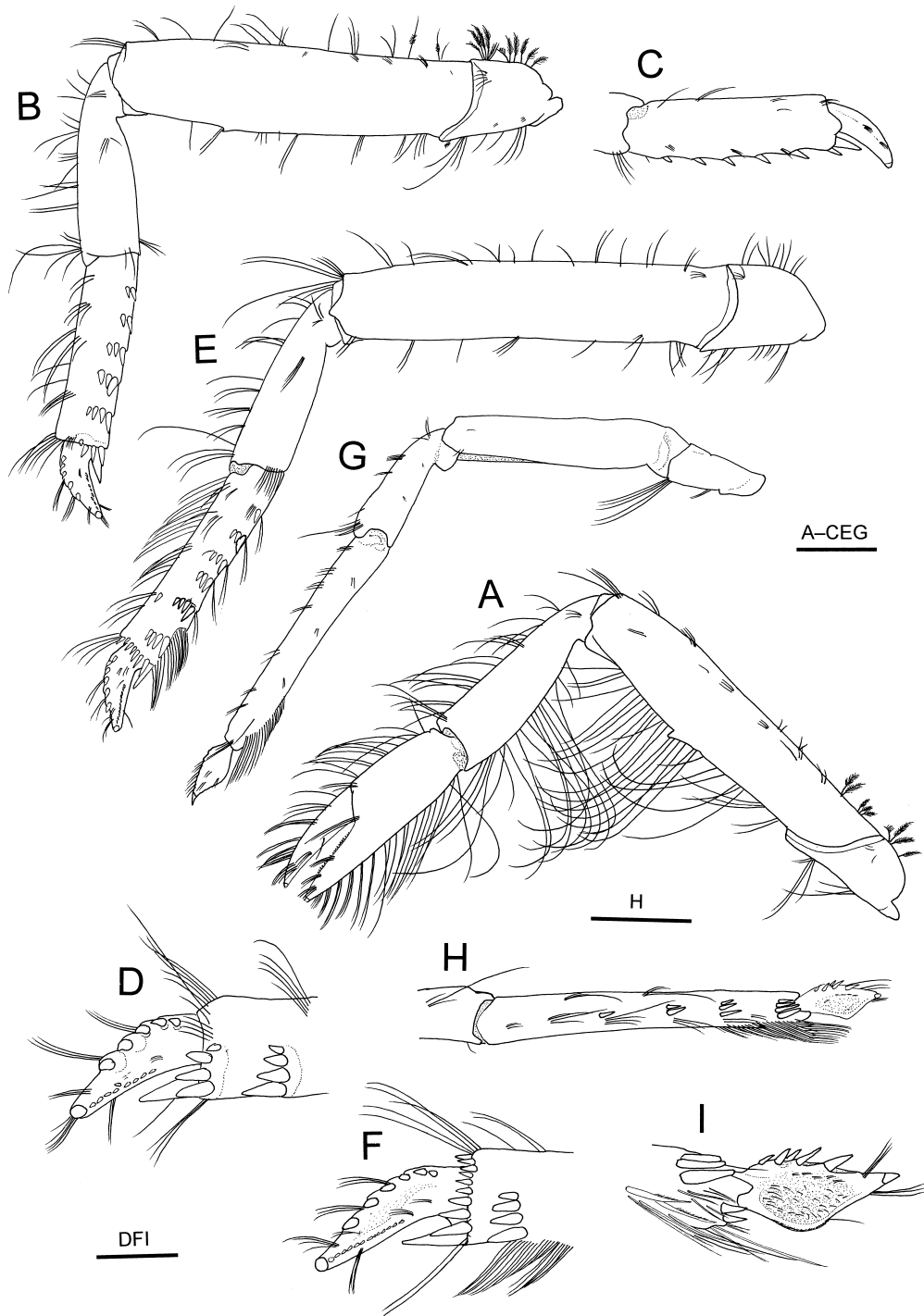


Fig. 6. *Litoraxius boshu* gen. et sp. nov. Holotype female (cl 18.4 mm), CBM-ZC 9225. Left pereopods. A, second pereopod, lateral view; B, third pereopod, lateral view; C, same, propodus and dactylus, mesial view; D, same, distal part of propodus and dactylus, lateral view; E, fourth pereopod, lateral view; F, same, distal part of propodus and dactylus, lateral view; G, fifth pereopod, lateral view; H, same, propodus and carpus, mesial view; I, distal part of propodus and dactylus, mesial view. Scales: 2 mm for A–C, E, G, H; 1 mm for D, F, I.

tral margin (number of spines in rows decreasing proximally), and with strong terminal spine, about half length of dactylus, at distal angle, forming subchelate structure; ventral margin of propodus with very low protuberances corresponding to base of spines; dactylus about 0.40 times as long as propodus, weakly curved, with row of 5 corneous spines near dorsal margin and row of corneous spinules near ventral margin, dorsal margin with row of low protuberances corresponding to basal socket of spines, terminating in rounded corneous claw; setation as figured. Fourth pereopod (Fig. 6E, F) generally similar to third pereopod in structure, but slightly longer than that; merus and carpus unarmed on margins; propodus longer than carpus, armed with 5–7 (6) sets of corneous spines on lateral surface, set in short transverse rows of 2–4 spines or individually, distalmost marginal set composed of 10 spines and with 1 strong terminal spine at ventrodiscal corner; ventral margin of propodus subdistally with obliquely longitudinal row of stiff setae, extending from ventral margin onto mesial surface; dactylus 0.30–0.40 (0.40) times as long as propodus, armed with 6 corneous spines near dorsal margin and row of corneous spinules near ventral margin on lateral surface, terminating in blunt corneous claw. Fifth pereopod (Fig. 6G–I) longer and slender than fourth pereopod; merus and carpus unarmed; propodus about twice length of carpus, lateral surface unarmed, mesial surface with 4 sets of corneous spines, set in short transverse rows of 2–4 spines or individually, ventrodiscal margin with 2 corneous spines; cluster of grooming setae extending from distal 0.3 to near distal margin on ventral margin of propodus; dactylus lanceolate, 0.20–0.30 (0.29) times as long as propodus, armed with 5 corneous spines on dorsal margin, terminating in acute claw, lateral surface concave, with short setae, ventral margin minutely denticulate.

First pleopod of male (Fig. 3C, D) consisting of 2 incompletely fused segments; first segment somewhat depressed dorsoventrally; second segment spatulate, with obliquely longitudinal suture visible from both dorsal and ventral view, narrow

terminal lobe and proximomesial lobe well delineated. First pleopod of female uniramous, uniaarticulate. Second pleopod of male (Fig. 3E) with appendix interna and appendix masculina articulating at about 0.4 length of endopod; appendix masculina (Fig. 3F) elongate, slightly broadened distally, flattened, slightly overreaching tip of endopod, distally rounded, dorsal surface with scattered numerous spiniform setae; appendix interna about 0.3 length of appendix masculina.

Uropodal exopod (Fig. 3G) with 4 serrations on convex lateral margin, 6 or 7 (7) serrations along transverse suture, row of corneous spinules on posterior margin, and 1 moderately long movable spine at posterolateral angle, dorsal surface with 2 smooth longitudinal carinae; endopod (Fig. 3G) with 3 serrations on lateral margin (posteriormost one at posterolateral angle), row of 5 strong fixed spines on middorsal ridge, distalmost spine well beyond margin, and with row of corneous spines on posteromesial margin.

Eggs small and numerous.

Size. Males cl 10.8–15.5 mm; females cl 18.4–24.0 mm, ovigerous female cl 24.0 mm.

Coloration in life. Based on color slides shown in Fig. 1. Carapace mottled with light brown, becoming pale ventrally; anterior part grayish. Pleon mottled with grayish brown and pale yellowish brown. Cornea pigmented with grayish brown. Antennular peduncle generally brown; flagella red. Antennal peduncle dark grayish brown, third segment darker; flagellum red. Chelipeds generally grayish brown or brown, dorsal parts of palms darker; fingers pinkish or purplish. Second pereopod with merus pale brown; carpus and chela dark grayish brown; fingers pink or purple generally with distal parts yellowish. Third to fifth pereopods with meri, carpi and propodi light brown with tinge of gray; dactyli reddish; corneous spines on propodi and dactyli black. Pleopods white. Uropods grayish brown.

Distribution and habitat. At present, known only from southern part of the Boso Peninsula (Katsuura, Kominato and Tateyama) and Sagami Bay (Misaki), central Japan, intertidal to 15 m.

Habitat of the new species is not well known, but majority of the specimens was found among the fragments of destroyed silt stone or under rock. Therefore, it can be assumed that the shrimp inhabits burrow made on silt stone substrates. It is interesting to note that some specimens bear spirorbid polychaete tubes on the surface of the body or appendages.

Variation. The available material suggests that females are larger than males in size (cl 18.4–24.0 mm versus 10.8–15.5 mm).

As is apparent from the above description, the armament of the gastric carinae shows some degree of variation.

Handedness is also variable individually. Of the nine specimens examined, six specimens have a left major cheliped, whereas three have right major cheliped. No relation with sex is recognized.

Remarks. Discovery of such a large decapod crustacean from shallow water of rather well-investigated area is remarkable given the strong history of thalassinidean research in Japan, especially by K. Sakai since the 1960s. The only other axioid species with a similar habit is the calocaridid *Calaxiopsis manningi* Komai, 2000 which was found to inhabit a burrow constructed in silt stone (Komai, 2000).

Etymology. The specific name “*boshu*” is the old name of the southern part of the Boso Peninsula, where most of the specimens were collected. Used as a noun in apposition.

Acknowledgments

We thank Masahiro Aizawa (CMNH), Eijiro Nishi (Yokohama National University) and Keiichi Nomura (Kushimoto Marine Park) for collecting specimens and for Ken-Ichi Hayashi (National Fisheries University, Shimonoseki) for donating a specimen from Sagami Bay. We also thank Gary C. B. Poore (Museum of Victoria, Melbourne) and Peter C. Dworschak (Naturhistorisches Museum, Wien) for reviewing the manuscript. This study was partially supported by a grant from the Showa Seitoku Memorial Founda-

tion to the first author.

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