Ocean Sci. J. (2018) 53(4):641–653
http://dx.doi.org/10.1007/s12601-018-0039-6

Article

Available online at http://link.springer.com
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Ocean Science Journal
pISSN 1738-5261
eISSN 2005-7172

Re-evaluation of Morphological Diagnostic Characteristics of *Hexapleomera* Dudich, 1931 (Crustacea: Tanaidacea), with Description of a New Species

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Received 12 March 2018; Revised 30 April 2018; Accepted 9 May 2018
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Abstract – An undescribed species of Tanaidacea was collected from Yokji Harbor in the southern coast of Korea. *Hexapleomera yokjidona* n. sp. can be distinguished from other species of the genus by the distinguishing features of a uropod with five articles, a pleopod basal article lacking inner seta, a mandible setal row with two setae, maxilliped coxa with two proximal setae, pereonites 1–3 together longer than wide, and pereopods 2–3 propodus with three ventral setae. To prove that *H. yokjidona* is a new species, detailed morphological characteristics of both genders are described and a comprehensive comparison among the species of the genus is tabulated. Additionally, diagnostic characteristics previously used to identify the species of *Hexapleomera* are reassessed and upgraded.

Keywords – Peracarida, Tanaidacea, Tanaidomorpha, diagnostic characteristics, morphological variation

1. Introduction

Tanaidacea is a group of generally small, mainly marine peracarid crustaceans found in benthic habitats from the shore to the deep sea (Błażewicz-Paszkowycz and Bamber 2012) and provides a main food source for fishes (Nagelkerken et al. 2000; Edgar 2008). Studies of the tanaidaceans have increased since the 1980s with extensive investigation in the deep sea, the tropics and the Antarctic, and as a result, valuable baselines now exist regionally (e.g. Bird and Holdich 1989; Guţu 1997; Poore 2002, 2005; Larsen 2005; Larsen and Shimomura 2007; Bamber 2008; Edgar 2008) and globally (e.g. Sieg 1980; Drumm et al. 2008; Błażewicz-Paszkowycz and Bamber 2012; Tanabe et al. 2017; Wi et al. 2018a, 2018b). The genus *Hexapleomera* includes nine species (Anderson 2017; WoRMS 2018): *H. bultidactyla* Esquete and Fernandez-Gonzalez, 2016 from the Mediterranean; *H. edgari* Bamber, 2012 from the southwestern Pacific; *H. moverleyi* (Edgar, 2008) from the southwestern Pacific; *H. robusta* (Moore, 1894), the type species, from the northern and southwestern Atlantic, Mediterranean, Caribbean, and southeastern Pacific; *H. satella* Bamber, 2012 from the Mediterranean; *H. ulsana* Wi, Jeong and Kang, 2018 and *H. urashima* Tanabe, Hayashi, Tomokai and Kakui, 2017 from the North Pacific, and *H. wombat* Bamber, 2012 from the northeastern Atlantic, and *H. crassa* Riggio, 1975 in the status of 'nomen nudum'. The genus *Hexapleomera* was defined by Sieg (1980) as having characteristics such as narrow anterior pereonites, five distinct pleonites, the differentiation between the pleopods 1–2 and pleopod 3, and the distal article of the uropod without reduction. As in most other genera of Tanaididae, some characteristics of the genus *Hexapleomera*, which contains the relative lengths of antennule articles 1 and 2, the number of setae consisting of the setal row represented as lacinia mobilis of the mandible, and the number and shape of uropod articles, are considered to vary with the growth of individuals (Larsen and Wilson 1998; Edgar 2008). These morphological variations are a main cause of difficulty in classifying species within the genus. Recently, studies to define the stable and variable key characteristics in morphologies of this genus, essential to establish precise identification criteria for species of *Hexapleomera*, have been carried out by some authors (Bamber 2012; Tanabe et al. 2017; Wi et al. 2018b). As a result, *H. wombat*, *H. urashima*, and *H. ulsana* were newly

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described and two of species recorded as cosmopolitan species (e.g., *H. robusta*, type species of the genus) turned out to be new (*H. edgari* and *H. satella*). In this study, an undescribed species of *Hexapleomera* collected from bottom near Yokji Harbor is described as a new, and specimens of different size in adult and immature stages are examined to confirm which features can be distinguished as morphological variations and which features remain stable as *H. yokjidona* develops.

2. Materials and Methods

Hexapleomera specimens were obtained from the bottom near entrance of Yokji Harbour, Yokjido in South Korea (34°37'57.7"N; 128°15'56.5"E) in October 2015. The light trap set was made with a PVC pipe (10 cm in diameter, 50 cm long) and a LED lamp on the mouth, and was placed on the mud-sandy bottom that was 3 m depth at the seawalls in the harbour after sunset. The samples caught overnight in the light trap were filtered through a plankton net with 350 μm mesh at dawn. The specimens were preserved in 99% alcohol solution. The specimens were dissected under a dissection microscope (Nikon SMZ745) in CMC-10 aqueous mounting medium (Masters, Wood Dale, IL, USA), mounted on slides, then sealed with high-quality nail varnish. Drawings were generated using a differential interference contrast microscope (Nikon Y-IM) that was equipped with a drawing tube. The total body length was measured from the tip of the rostrum to the pleotelson apex in the dorsal view. Scale bars are given in mm. The morphological terminology follows Larsen (2003). The type and other materials examined were deposited in the collections of the Marine Biodiversity Institute of Korea (MABIK), Seocheon, South Korea.

3. Results

Systematics

Suborder Tanaidomorpha Sieg, 1980
Family Tanaididae Nobili, 1906
Subfamily Pancolinae Sieg, 1980
Genus *Hexapleomera* Dudich, 1931
Hexapleomera yokjidona n. sp. (Figs. 1–6)

Materials examined

Holotype: ovigerous female dissected and mounted in seven slides (MABIK CR00243179), Yokji Island (34°36'5.1"N, 128°23'2.4"E), Korea in October 2015. **Allotype:** male dissected and mounted in 5 slides (MABIK CR00243180), same locality as for holotype. **Paratypes:** two females partially dissected and mounted in 3 slides (MABIK CR00243181), same locality as for holotype. Two males partially dissected and mounted in 2 slides (MABIK CR00243182), same locality as for holotype. Two females in 1 vial (MABIK CR00243183) and two males in 1 vial (MABIK CR00243184).

Diagnosis

Uropod 5-articulate. Pleopod 3 basis without inner seta. Maxillule palp 1-articulate, with six distal setae. Maxilliped coxobasis with two proximal setae. Mandible setal row with two setae. Pereopod 1 coxa with apophysis. Pereopods 2–3 propodus with two ventral slender setae and one spiniform seta. Female pereonites 1–3 combined longer than wide.

Description

Female. Body from holotype (Fig. 1A) with developed brood sacs. Length 3.7 mm, 4.8 times as long as wide. Pereonites 1–3 combined longer than wide. Dark brown pigmentation on most of dorsal surface, including antennule and cheliped, patterned with un-pigmented lacunae. Cephalothorax with densely coalescing flecks but pereonites, pleonites, and pleotelson with scattered spots.

Cephalothorax (Fig. 1A): Posterolateral margin rounded, anteriorly narrowing, 1.1 times as long as wide, 22% of body length, with two simple setae on anterolateral margin and one simple seta on mid-lateral margin.

Pereon (Fig. 1A): 55.3% of body length, 2.6 times as long as wide, with several simple setae on anterodorsal and lateral margins. Pereonites 1–6 proportional lengths of 9.1: 13.2: 16.4: 20.9: 20.9: 19.5.

Pleon (Fig. 1A): Pelonites 1–5 about 18.6% of body length. Pleonite 1 with two simple anterolateral setae and three plumose posterolateral setae. Pleonite 2 with two simple anterolateral and two plumose posterolateral setae. Pleonite 3 with two simple anterolateral setae. Pleonites 4 and 5 each with two simple lateral setae. Pleonites 1–5 proportional lengths of 28.4: 26.5: 24.5: 11.8: 8.8. Pleotelson (Fig. 1A) as long as pleonite 1, half as long as wide, with two proximolateral setae, two simple setae and one broom seta on sub-posterolateral margin and four terminal simple setae of unequal length.

Antennule (Fig. 1B): 4-articulate, proportional lengths of articles 62.2: 21.9: 13.2: 2.7. Length 78% of cephalothorax. Article 1 three times as long as wide, with several broom and

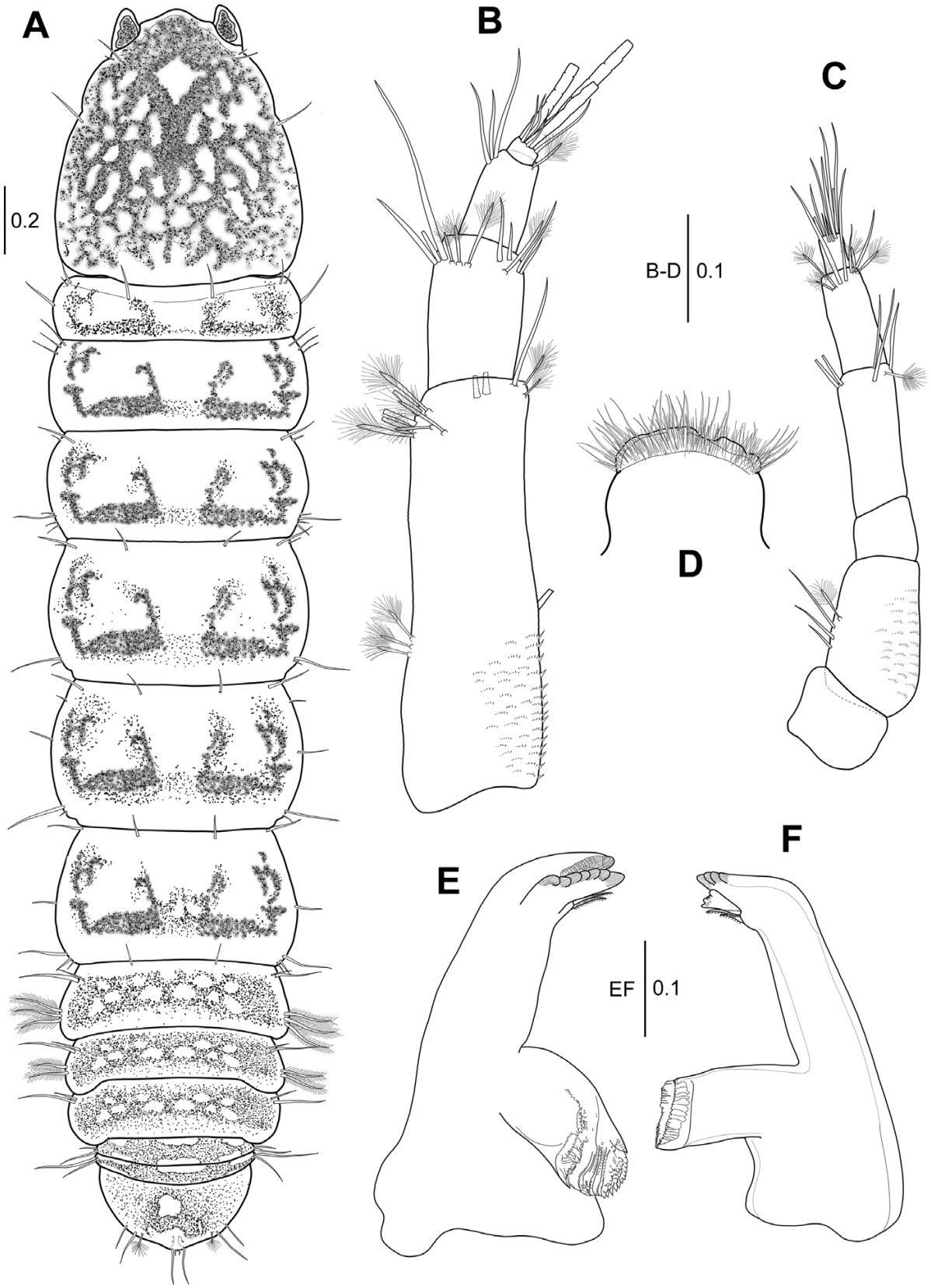

Fig. 1. *Hexapleomera yokjidona* n. sp., holotype female. A, Habitus, dorsal; B, Antennule; C, Antenna; D, Labrum; E, Left mandible; F, Right mandible. Scale bars are given in mm

simple setae on inner, outer, and distal margins. Article 2 1.6 times as long as wide, with four broom setae and seven simple setae on subdistal margin. Article 3 1.5 times as long as wide, with one broom seta and three simple setae on distal margin. Article 4 shortest, with three aesthetascs and four simple setae on distal margin.

Antenna (Fig. 1C): 6-articulate, slightly shorter than antennule, proportional lengths of articles 14.5: 27.2: 11.3: 23.2: 17.4: 6.4. Article 1 naked. Article 2 1.7 times as long as wide, with one broom seta, three simple setae, and microtrichia on outer margin. Article 3 naked. Article 4 with one broom seta and five simple setae. Article 5 with four broom setae and four simple setae on distal margin. Article 6 shortest, with ten simple setae.

Labrum (Fig. 1D): Rounded, ornamented with numerous setules on distal margin.

Mandibles. Left mandible (Fig. 1E): Incisor stout, with small denticles along distal margin. Lacinia mobilis wide, with seven distal denticles. Setal row consisting of two setulose setae. Molar broad, with several rows of denticles. Right mandible (Fig. 1F): Slightly more slender than left mandible. Incisor with four denticles along distal margin. Lacinia mobilis reduced to blunt spine fused with incisor, with small denticles along distal margin. Setal row consisting of two setulose setae of unequal length. Molar broad, with small pointed spines along distal margin.

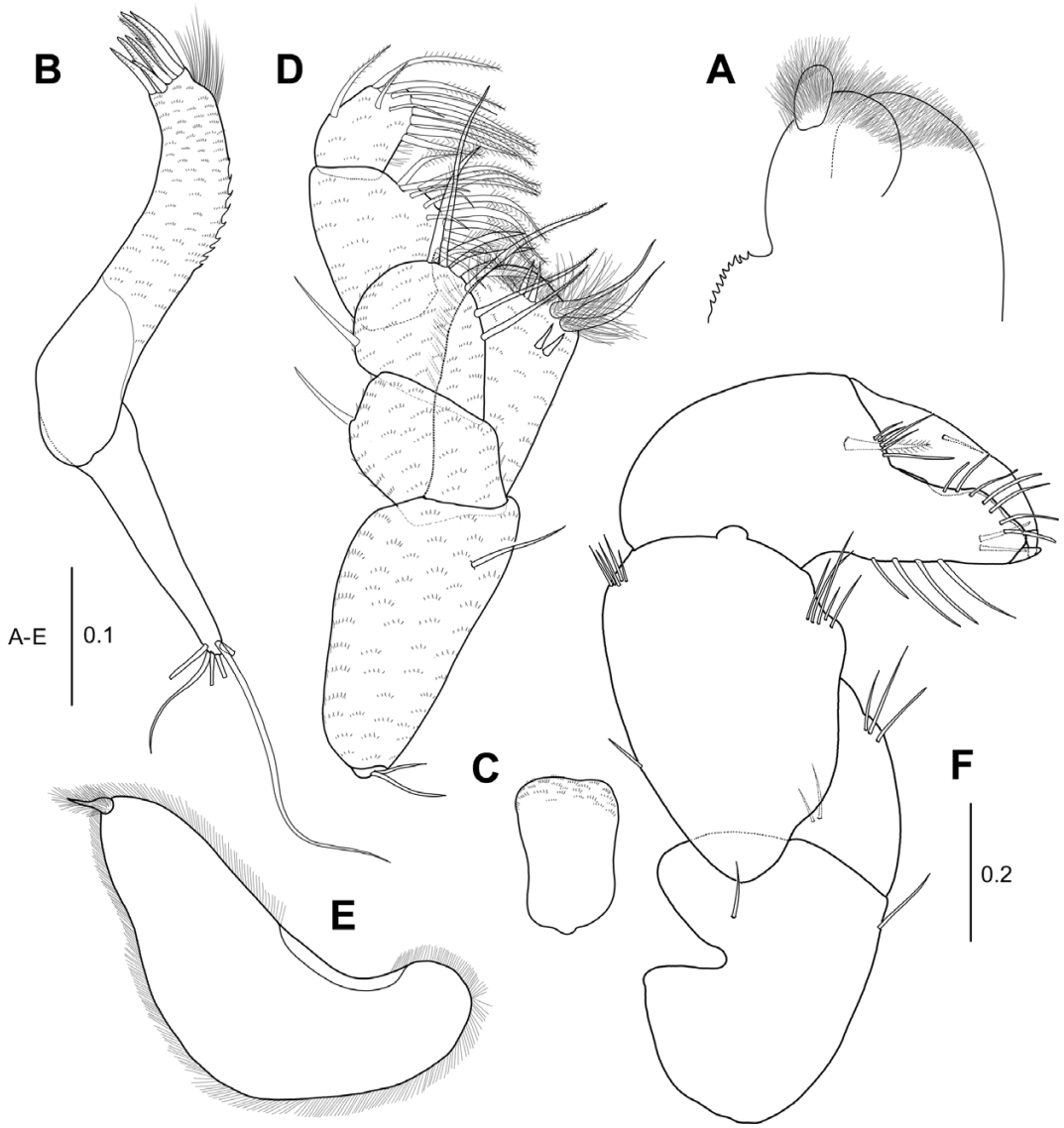

Fig. 2. *Hexapleomera yokjidona* n. sp., holotype female. A, Labium; B, Maxillule; C, Maxilla; D, Maxilliped; E, Epignath; F, Chelliped. Scale bars are given in mm

Labium (Fig. 2A) wide, lobe with setules distally and nine spines proximolaterally; labial palp rounded, with numerous setules.

Maxillule (Fig. 2B): Endite distally with seven strong spiniform setae bearing row of setules along inner margin and one slender seulose seta, patch of fine simple setae on outer distal margin, and surface ornamented with microtrichia; palp uniarticulate, with six distal setae.

Maxilla (Fig. 2C): Rounded, distal margin covered with microtrichia.

Maxilliped (Fig. 2D): Coxa with two proximal simple setae. Basis 1.9 times as long as wide, with simple subdistal seta and covered with microtrichia. Palp article 1 with one outer seta and covered with microtrichia. Palp article 2 with nine plumose setae along inner margin and one outer seta. Palp article 3 with 13 plumose inner setae and microtrichia. Palp article 4 with eleven setae. Endite with two long plumose setae and numerous setules on distal margin and two short spiniform setae and two rounded spiniform setae on subdistal margin, and microtrichia. Epignath (Fig. 2E): with short and distally pointed plumose seta and fringed by setules.

Cheliped (Fig. 2F): Basis 1.2 times as long as wide, with simple seta each on ventro-subdistal and dorso-subdistal margin. Merus triangular, 0.7 times as long as basis, with three ventro-subdistal simple setae and two dorso-subproximal simple setae. Carpus 1.3 times as long as basis, 1.7 times as long as wide, with five ventro-subdistal setae, one dorso-subproximal seta, and five dorso-subdistal setae. Propodus 1.2 times as long as carpus, 2.1 times as long as wide, with one plumose inner seta and five simple outer setae near insertion of dactylus. Fixed finger with four simple ventral setae, two inner simple setae, and with seven simple setae along cutting edge. Dactylus as long as fixed finger, with one inner medial simple seta.

Pereopod 1 (Fig. 3A): Coxa with apophysis, with two simple setae. Ischio-basis 4.2 times as long as wide, with one ventrodistal seta, one broom and one simple setae on dorsoproximal margin. Merus 0.3 times as long as ischio-basis, with one simple ventrodistal seta. Carpus 1.2 times as long as merus, with one simple seta each on ventrodistal and dorsodistal margin. Propodus 1.6 times as long as carpus, with one simple dorsodistal seta, one dorsal broom seta, one inner subdistal seta, and four simple ventrodistal setae. Ischio-basis, merus, carpus, and propodus covered by microtrichia. Dactylus and unguis combined 0.8 times as long as propodus. Dactylus with one proximal simple seta. Unguis slightly longer than dactylus.

Pereopod 2 (Fig. 3B): Ischio-basis 3.1 times as long as wide, with two simple ventrodistal setae, one ventromedial broom seta, and one broom and one simple setae on dorsoproximal margin. Merus 0.4 times as long as ischio-basis, with one spiniform seta and two simple setae on ventrodistal margin and one simple dorsodistal seta. Carpus 0.7 times as long as merus, with five spniform setae, one ventrodistal simple seta, and two dorsodistal simple setae. Propodus 1.3 times as long as carpus, with two simple setae of unequal length and one broom seta on dorsal margin and two simple slender setae and one short spiniform seta on ventral margin. Ischio-basis, merus, carpus, and propodus covered by microtrichia. Dactylus and unguis combined 0.7 times as long as propodus. Dactylus with proximal simple seta. Unguis slightly longer than dactylus.

Pereopod 3 (Fig. 3C): Ischio-basis 3.2 times as long as wide, setation equal to that of pereopod 2. Merus half as long as ischio-basis, setation equal to that of pereopod 2. Carpus 0.7 times as long as merus, with four spiniform setae and three simple setae on distal margin. Propodus 1.4 times as long as carpus, setation equal to that of pereopod 2. Dactylus and unguis combined 0.7 times as long as propodus. Unguis 1.4 times as long as dactylus.

Pereopod 4 (Fig. 3D): Ischio-basis 2.7 times as long as wide, with three ventrodistal simple setae. Merus almost half as long as ischio-basis, with two spiniform and two simple setae on ventrodistal margin and three dorsodistal simple setae. Carpus 0.6 times as long as merus, with five spiniform setae and three simple setae on distal margin. Propodus 1.3 times as long as carpus, with one inner seta, two dorsodistal setae, one dorsal broom seta, and two ventral simple setae. Ischio-basis, merus, carpus, and propodus ornamented with microtrichia. Dactylus and unguis fused into claw, with comb-like lateral rows of five flattened setae.

Pereopod 5 (Fig. 3E): Ischio-basis 3.1 times as long as wide, with two ventrodistal simple setae. Merus 0.4 times as long as ischio-basis, with two ventrodistal setulose spiniform setae and three distal simple setae. Carpus 0.7 times as long as merus, with five setulose spiniform setae and two distal simple setae. Propodus 1.2 times as long as carpus, setation equal to that of pereopod 4. Ischio-basis, merus, carpus, and propodus covered by microtrichia. Dactylus and unguis fused into claw, with comb-like lateral rows of six flattened setae distally.

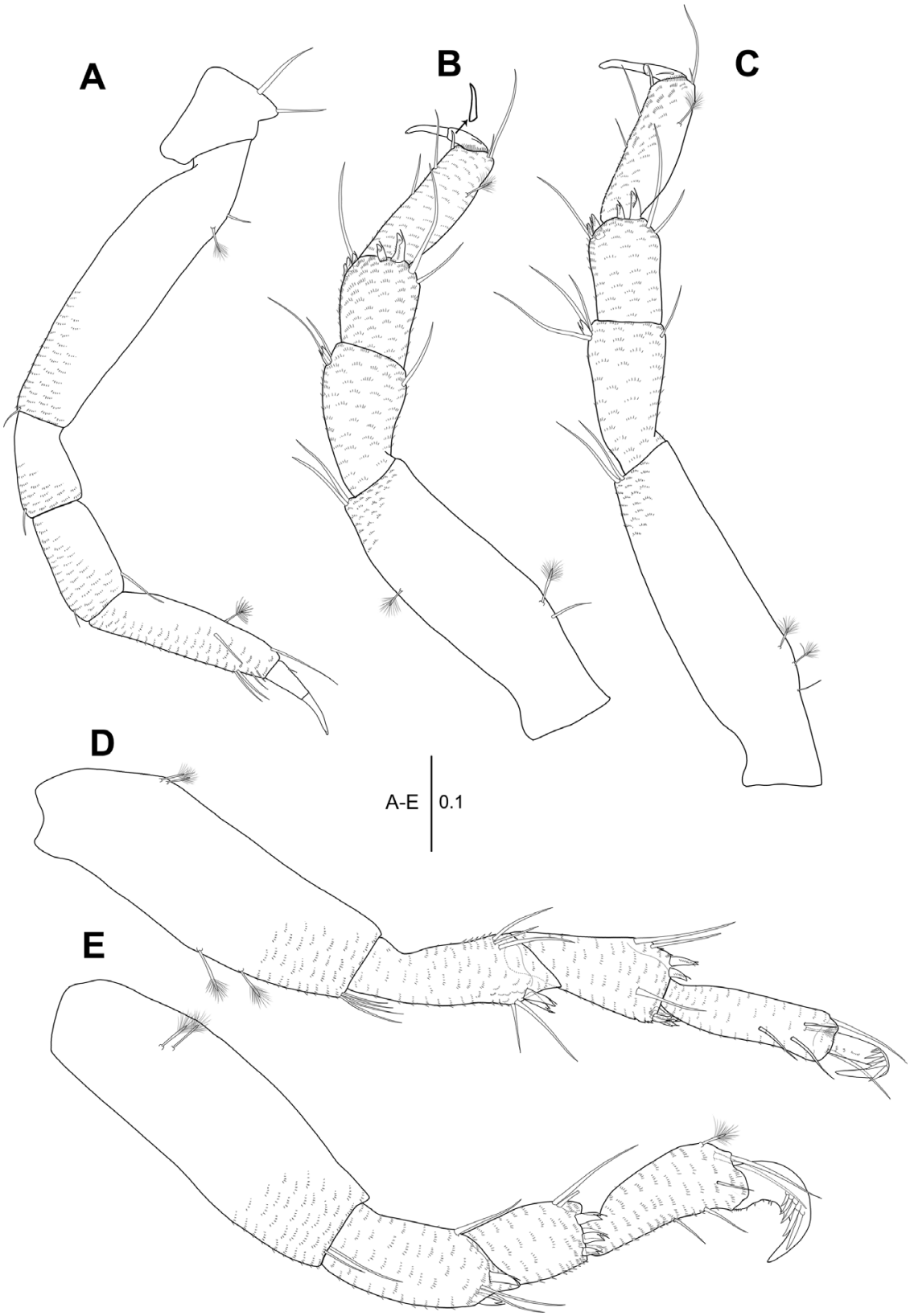

Fig. 3. *Hexapleomera yokjidona* n. sp., holotype female. A, Pereopod 1; B, Pereopod 2; C, Pereopod 3; D, Pereopod 4; E, Pereopod 5. Scale bars are given in mm

Pereopod 6 (Fig. 4A): Ischio-basis 2.6 times as long as wide, with two ventrodistal simple setae and two dorsal broom setae. Merus half as long as ischio-basis, with two simple setae and two setulose spiniform setae on ventrodistal margin and two dorsodistal simple setae. Carpus 0.6 times as long as merus, with five setulose spiniform setae and four simple setae on distal margin. Propodus 1.3 times as long as carpus, with four flattened denticulate setae and three simple setae on distal margin, one dorsal broom seta, and two ventral slender setae. Dactylus and unguis fused into claw, with comb-like lateral rows of seven flattened setae distally.

Pleopod 1 (Fig. 4B): Basal article as long as wide, with one inner and six outer plumose setae. Exopod with 28 plumose setae along outer margin. Endopod with one inner plumose seta, 14 outer plumose setae, and one distal robust spiniform seta bearing two spines and one setulose seta.

Pleopod 2 (not figured): Basal article and exopod similar to those of pleopod 1. Endopod with 13 outer plumose setae, three inner plumose setae, and one robust seta.

Pleopod 3 (Fig. 4C): Basal article without inner seta (arrowed) and with four outer plumose setae. Exopod with 25 plumose setae along outer margin. Endopod with eleven outer plumose setae, one inner plumose seta, and one distal robust seta.

Uropod (Fig. 4D): 5-articulate, basal article 2.3 times as long as wide, with five simple setae and one broom seta distally.

Male. Body (Fig. 5A): Length 3.5 mm, 3.5 times as long as wide. Pigmentation similar to female. Cephalothorax 31% of body length, gradually narrowing toward rostrum, slightly

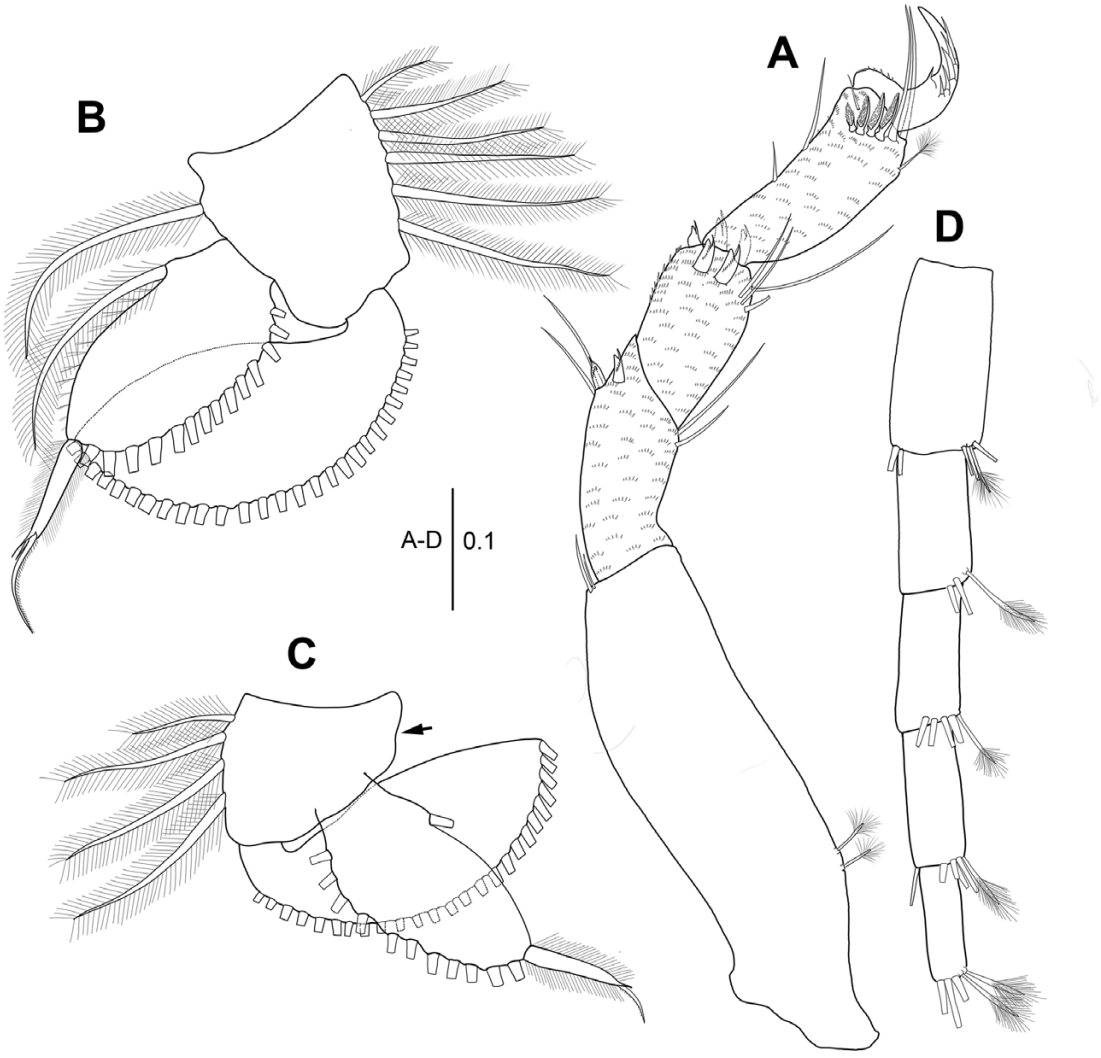

Fig. 4. *Hexapleomera yokjidona* n. sp., holotype female. A, Pereopod 6; B, Pleopod 1; C, Pleopod 3; D, Uropod. Scale bars are given in mm

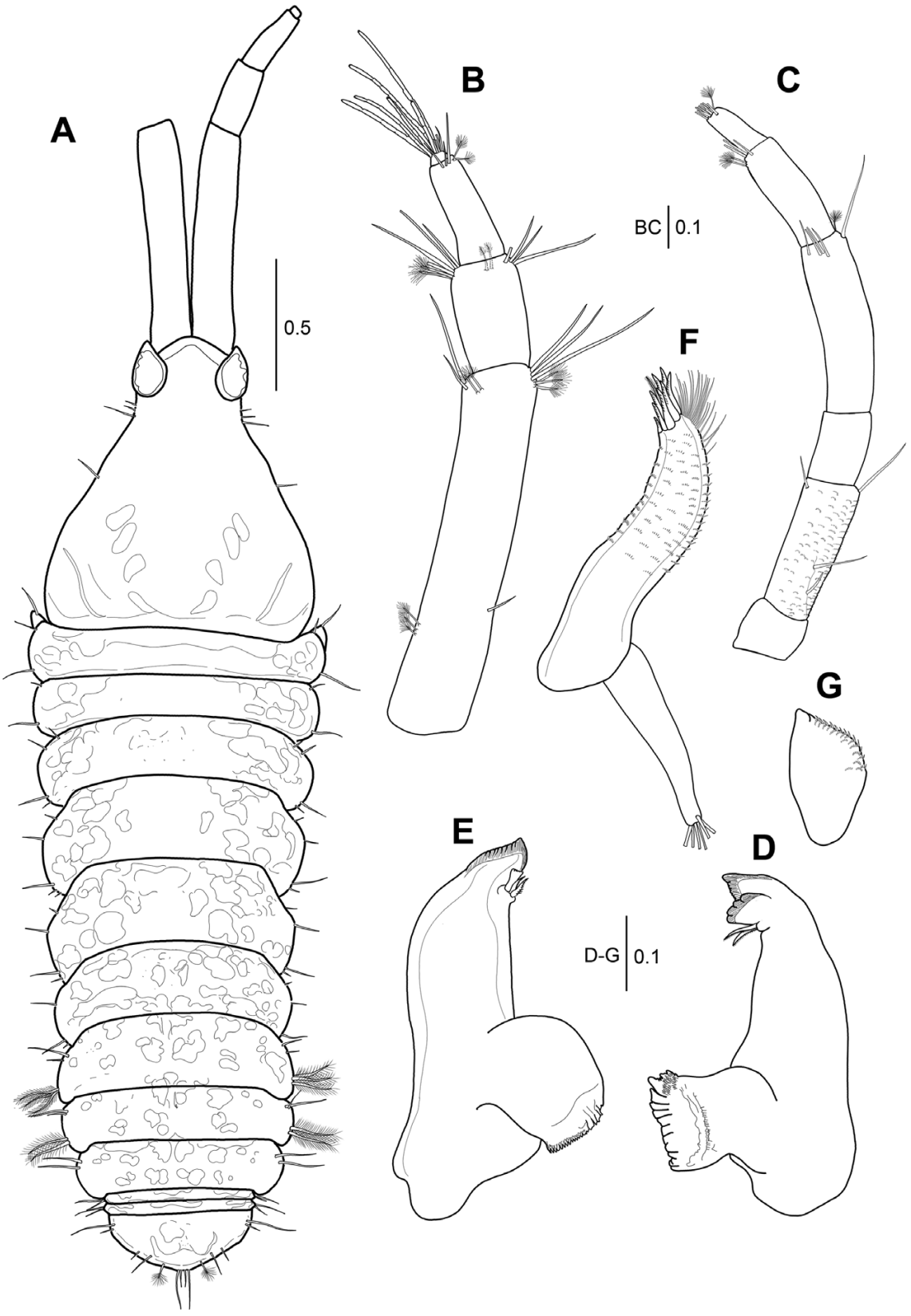

Fig. 5. *Hexapleomera yokjidona* n. sp., allotype male. A, Habitus, dorsal; B, Antennule; C, Antenna; D, Left mandible; E, Right mandible; F, Maxillule; G, Maxilla. Scale bars are given in mm

wider than long, with three simple setae on anterolateral margin and one simple seta on mid-lateral margin.

Pereon (Fig. 5A): Gradually narrowing toward posterior margin, 41% of body length, 1.4 times as long as wide, with some lateral setae. Pereonites 1–6 proportional lengths of 12.1: 10.7: 15.4: 21.5: 21.5: 18.8.

Pleonites 1–5 (Fig. 5A): 21.3% of body length, 0.8 times as long as wide. Pleonite 1 as long as pereonite 6, 0.3 times as long as wide, with two simple anterolateral and three plumose posterolateral setae. Pleonite 2 0.7 times as long as wide, 0.2 times as long as wide, with two simple setae and two plumose setae along lateral margin. Pleonite 3 0.85 times as long as pleonite 2, 0.2 times as long as wide, with two simple anterolateral setae. Pleonites 4 and 5 almost half length of pleonite 3, each with two simple setae laterally. Pleotelson (Fig. 5A): 0.8 times as long as pleonite 1, 0.4 times as long as wide, setation equal to that of female.

Appendages similar to those of female except for antennule, antenna, maxilliped, and cheliped.

Antennule (Fig. 5B): 4-articulate, elongate. Proportional lengths of articles 62.4: 17.7: 18.3: 1.6. Length 1.2 times as long as cephalothorax. Article 1 4.8 times as long as wide, with three broom setae on outer subproximal margin, two broom and two simple setae on outer distal margin, one simple inner subproximal seta, and three broom and three simple setae on inner distal margin. Article 2 1.5 times as long as wide, with two broom and four simple setae on outer distal margin and three broom and four simple setae on inner distal margin. Article 3 as long as article 2, 2.4 times as long as wide, with two broom and three simple setae on distal margin. Article 4 shortest, with four simple setae and six aesthetascs on distal margin.

Antenna (Fig. 5C): 6-articulate. Proportional lengths of articles 9.9: 28: 12.1: 26.9: 17: 6.1. Article 1 naked. Article 2 with two distal simple setae and two subproximal simple setae. Article 3 naked. Article 4 with one broom seta and five simple setae distally. Article 5 with two broom setae and three simple setae distally. Article 6 shortest, with eleven simple setae and one broom seta distally.

Left mandible (Fig. 5D) and right mandible (Fig. 5E): Lacinia mobilis smaller than those of female.

Maxillule (Fig. 5F) and maxilla (Fig. 5G) similar to those of female.

Maxilliped (Fig. 6A): Basis 1.4 times as long as wide, almost as long as endite.

Cheliped (Fig. 6B, C): Much stouter than that of female. Basis 1.2 times as long as wide, with one ventro-subdistal seta and one outer dorsal seta. Meurs 0.9 times as long as basis, with three simple setae on ventromedial protrusion and two dorsoproximal setae. Carpus almost as long as wide, 1.6 times as long as basis, with ventral protrusion (arrowed) bearing five setae, one dorsoproximal seta, and five dorsodistal setae. Propodus 1.8 times as long as carpus, 1.8 times as long as wide, with one inner plumose seta and five simple setae near dactylus insertion. Fixed finger with five ventral simple setae, two inner distal setae, and eight simple setae along cutting edge. Dactylus with 17 small denticles along cutting edge. Dactylus and fixed finger in small sized male (body length 2.15 mm) (Fig. 6C) each with small process on cutting edge.

Pleopod 1 (Fig. 6D), pleopod 3 (Fig. 6E), and uropod (Fig. 6F) similar to those of female.

Etymology. The specific name refers to Yokjido, a harbour city near the type locality.

Remarks

Hexapleomera yokjidona n. sp. can be differentiated from other species of the genus by the following points (Table 1): in both sexes, 1) the uropod has five articles, 2) the basal articles of pleopods 2 and 3 have six outer setae, 3) the basal article of pleopod 3 lacks inner seta and has four outer setae, 4) the setal row of each mandible has two seutlose setae, 5) the maxillule palp has six distal setae, in the maxilliped, 6) the endite bears two distal plumose setae and four subdistal spiniform setae, 7) the coxa has two proximal setae, 8) the pereopod 1 coxa has an apophysis bearing two setae, in females, 9) the pereonites 1–3 combined is longer than the width, 10) each propodus of pereopods 2–3 has two slender setae and one short spiniform seta ventrally, 11) the cutting edge of the cheliped dactylus is simple and has a medial process, and in males, 12) the length ratio of cephalothorax to pereonites 1–3 combined is much larger compared to other species. *Hexapleomera yokjidona* corresponds with *H. ulsana* in the number of uropod articles (5), the length ratio of cephalothorax to pereonites 1–3 combined (1.8: 1), the basal article of pleopod 3 without inner seta and with four outer setae, and the number of setae of the mandible setal row (2), but can be distinguished by the pereopod 1 coxa with apophysis (vs. absence) and the number of proximal seta on the maxilliped coxa (2 vs. 3). In particular, the length to width of pereonites 1–3 combined was specific enough to distinguish this species from the other species within

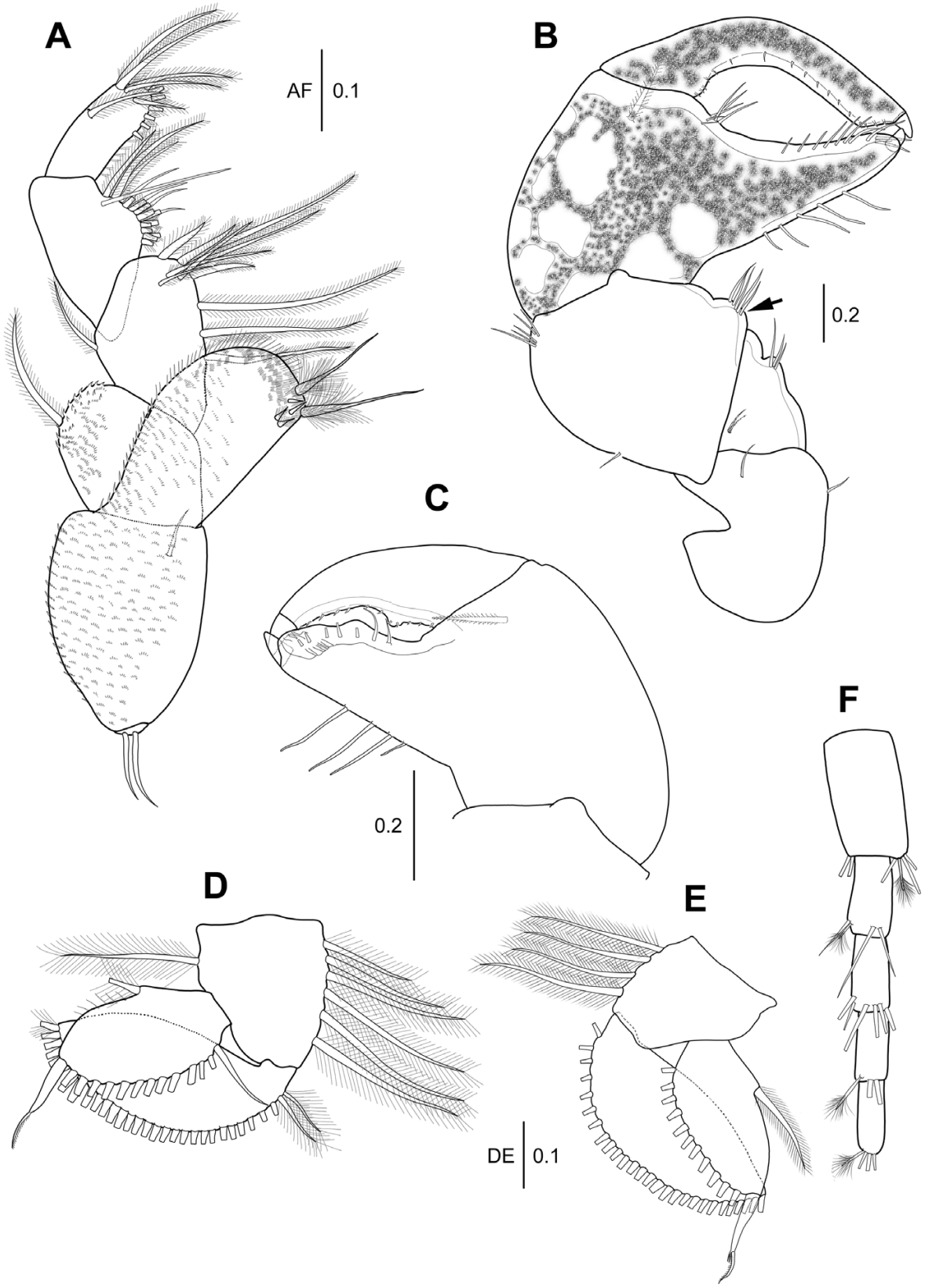

Fig. 6. *Hexapleomera yokjidona* n. sp., allotype male. A, Maxilliped; B, Cheliped; C, Cheliped chela, paratype male; D, Pleopod 1; E, Pleopod 3; F, Uropod. Scale bars are given in mm

Table 1. Morphological comparisons between species within the genus *Hexapleomera*

Key characters \ species	*H. bultydactyla*	*H. edgari*	*H. moverleyi*	*H. robusta sensu Moore*	*H. robusta sensu Sieg*	*H. satella*	*H. ulsana*	*H. urashima*	*H. wombat*	*H. yokjidona*
		F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M
Body length to width ratio	3.6:1/4:1	-/3.6:1	-/3.2:1	-/3.5:1	3.4:1/3.1:1	4.4:1/3.8:1	4.2:1/3:1	3:1/3:1	4.5:1/3.9:1	4.8:1/3.5:1
Female pereonites 1–3 combined Longer than width	yes	-	-	-	no	no	no	no	no (equal)	yes
Male cephalothorax to pereonites 1–3	1.2:1	1.5:1	1.7:1	1.1:1	1.5:1	1.2:1	1.8:1	1.5:1	1.2:1	1.8:1
Antennule Number of aesthetascs	3/5	6/6	-/5	-	8/5	3/4	6/6	4/5	4/6	3/6
Number of uropod articles	4/4	4/4	-/5	-/4	4/4	4/4	5/5	4/4	5/5	5/5
Pleopod3 basal article Number of inner setae	0/0	1/1	-/1	-/-	0/0	0/0	0/0	0/0	0/0	0/0
Pereopod 1 coxa with apophysis	yes	yes	yes	-	no	yes	no	yes	no	yes
Maxillule palp setae number	4	5	5	7	8	4	4	6	5	6
Maxilliped										
Basis setae	2	2	1	-	2	2	1	1	1	1
Coxa setae	2	3	2	-/4	2	2	3	2	3	2
Endite with distal setae	yes	yes	yes	-	yes	no	yes	yes	no	yes
Right/Left Mandibles Setae number of setal row	1	1	1	-	2	1	2	2	1	2
Pereopods 2–3 Ventral slender setae on propodus	2, 2	4, 4	2, 2	-	3, 2	1, 2	2, 2	2, 2	2, 3	2,2
Habitat	Fish farm fouling	turtles	epifaunal	turtles	turtles	benthic/ epifaunal	harbor	turtles	yacht hulls	harbor

Hexapleomera, showing relatively longer length only in *H. bultydactyla* and *H. yokjidona*

4. Discussion

Recently, efforts to resolve taxonomic confusion caused by morphological variations within the genus *Hexapleomera* and to establish precise identification criteria of the genus have been conducted. Bamber (2012) reassessed the genus, designating three new species and providing additional key parameters to the previous known diagnostic method: the number of uropod articles, the number of inner setae on the pleopod endopod, the number of setae of the maxilliped coxa and basis, the presence or absence of small spinules on the maxilliped endite, slight reduction or loss of setae of pleopod 3 basis, and the presence/absence of apophysis on the coxa of pereopod 1 were suggested as stable and specific key determinants to distinguish the species that make up the genus *Hexapelomer*a. Of them, the coxa of pereopod 1 lacking apophysis had been suggested as a generic diagnostic distinguishing trait by Sieg (1980), but Bamber (2012) confirmed the presence of the apophysis in three species of *Hexapleomera* (*H. edgari* Bamber, 2012, *H. satella* Bamber, 2012, and *H. wombat* Bamber, 2012) and concluded that this trait could be used for species-specific diagnostic purposes. Bamber (2012) also suggested the number of aesthetascs of antennule, the number of ventral setae on the cheliped fixed finger, the presence/absence of apophysis on the cheliped fixed finger, and spinulation of cheliped dactylus as significant characteristics of populations and taxa of *Hexapleomera* (in his Table 1). However, *H. urashima* described by Tanabe et al. (2017) showed variation among individuals in some of the characteristics suggested as being stable by Bamber (2012), which included the number of aesthetascs of antennule, the number of inner setae on the pleopod endopod, the number of distal setae on the maxillule palp, the ventral setae on the cheliped fixed finger, the size of dorsoproximal process of cheliped fixed finger of the male, and ventral setae on the maxilliped basis. On the other hand, *H. ulsana* recently recorded by Wi et al. (2018) did not show morphological variations between similar sized individuals collected from the same region. However, individuals collected from two different regions presented variations in some features. These results mean that any assessment seeking to define the stable and variable characteristics of *Hexapleomera* should be conducted with consideration given to the size of the specimens and the sampling area. Unlike the results of Tanabe et al. (2017), the results in our study regarding the inner setae of pleopod endopod, the distal setae on the maxillule palp, and the shape of the cheliped fixed finger of the male did not show any variation in similar sized specimens of *H. yokjidona*, which corresponded to results confirmed regarding *H. ulsana* (Wi et al. 2018). On the other hand, the size of the process on the cutting edge of the cheliped fixed finger varied with body lengths in *H. yokjidona* but did not among similar sized specimens. Taking these results together, we can conclude that the presence or absence of apophysis on the pereopod 1 coxa, the setae on the maxilliped endite, the number of setae on the maxilliped coxa, the number of uropod articles, and the setae on the pleopod basal article are the stable characteristics of *Hexapleomera*.

Acknowledgements

We would like to thank reviewers who made constructive and invaluable suggestions and useful comments. This study was a part of the project titled "Long-term change of structure and function in marine ecosystems of Korea", funded by the Ministry of Oceans and Fisheries, Korea. This work was supported by the National Marine Biodiversity Institute Research Program (2018M01200), funded by the National Marine Biodiversity Institute of Korea (MABIK).

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