

# Caprella Fauna (Amphipoda: Caprellidae) from off Yeonggwang Korea

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## ABSTRACT

Eight caprellids are collected from the several islands off Yeonggwang, Jeollanam-do at June 2007. Among them *Caprella chelimana* Mayer, 1903 is newly added to the Korean caprellid fauna. We described this species with illustrations and mentioned some differences from Mayer's original descriptions. *Caprella subtilis* is also the first record since Mayer reported this species from East Sea (Sea of Japan) in 1903.

**Key words:** *Caprella*, Caprellidae, Amphipoda, Korea

## INTRODUCTION

The members of family Caprellidae are free living on the various algae which are widely distributed along the coast in South Korea. We collected the specimens by SCUBA diving from the several islands off Yeonggwang, Jeollanam-do from 26-27 June 2007. Many caprellids specimens were collected from the various algae inhabiting the subtidal zone, at 4-5 m depth. We confirmed eight caprellid species including a newly recorded species, *Caprella chelimana*.

Since Mayer's (1903)s report about Korean caprellids, there were several studies on this taxon (Kim and Lee, 1975, 1978; Lee and Kim, 1980; Lee, 1986, 1988; Lee and Lee, 1993, 1996; Lee and Eun, 2002), and previously 32 species in 5 genera were reported as Korean caprellid fauna. In this study, we added *C. chelimana* Mayer as a newly recorded species in Korea. As a result, Korean caprellid fauna consists of 33 species in 5 genera.

## MATERIALS AND METHODS

We collected specimens from the several Islands off Yeonggwang, Jeollanam-do (Fig. 1) by SCUBA diving during the 26-27 June 2007. The specimens were fixed in 80% ethyl alcohol and dessected in lactic acid on Cobb's aluminium hollow slide. Drawings and measurements were performed with the aid of a drawing tube for the identification of the specimens. The authors referred to the reports such as Mayer

(1903), Vassilenko (1974) and Arimoto (1976). All specimens examined in this study will be deposited in the National Biological Resource Institute, Korea.

## SYSTEMATIC ACCOUNTS

The following systematic accounts include all the caprellid species which are identified in this study. The species marked (\*) are newly reported from in this area (Yellow Sea), and the one with double asterisks (\*\*) is newly known from Korea.

Order Amphipoda Latreille, 1816

Suborder Caprellidea Leach, 1814

Family Caprellidae Leach, 1814

Genus *Caprella* Lamarck, 1804

### 1. *Caprella algaceus* Vassilenko, 1967

*Material examined.* many ♂♂, many ♀♀, Dombae Is., 27 Jun. 2007 (K.S. Lee).

*Type locality.* Possjet Bay.

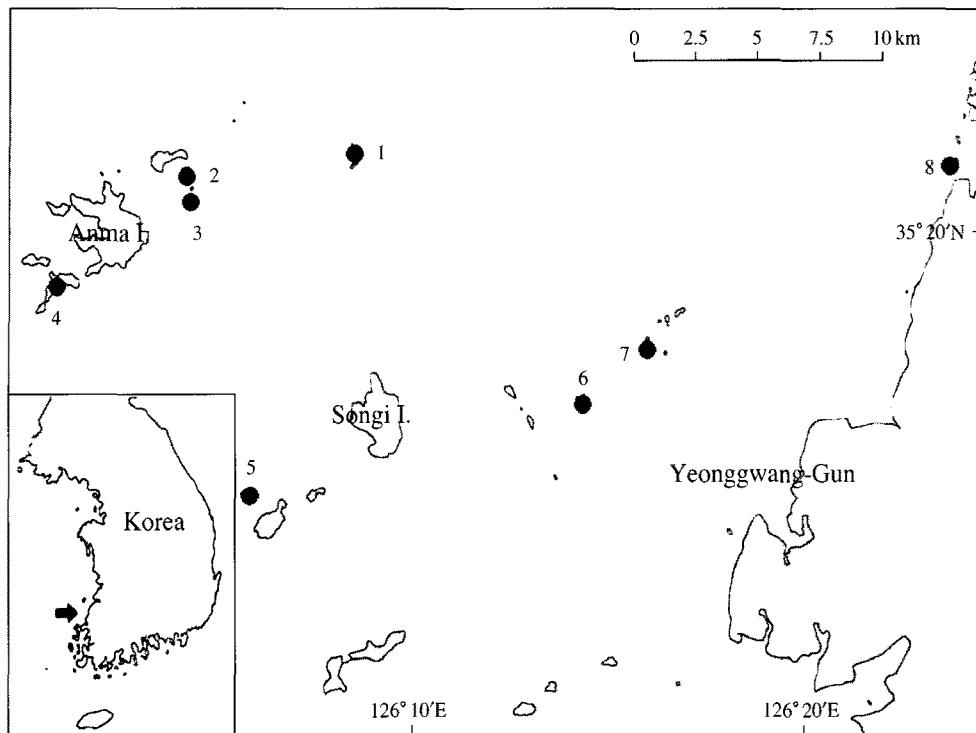
*Distribution.* Korea (East Sea, Yellow Sea, Jeju Is.), Possjet Bay.

### \*\*2. *Caprella chelimana* Mayer, 1903

*Caprella chelimana* Mayer, 1903, p. 96, pl. 3, figs. 43, 44, pl. 8, figs. 1, 2; Utinomi, 1947, p. 73; McCain and Steinberg, 1970, p. 15; Arimoto, 1976, p. 138, fig. 74.

*Material examined.* 7 ♂♂, 3 ♀♀, 1 juv., Manpungdo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 5 m in

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**Fig. 1.** A map of collecting sites. 1, Daeryukdo Is.; 2, Soseokmando Is.; 3, Manpungdo Is.; 4, Odo Is.; 5, Gakgeodo Is.; 6, Galguyeo Is.; 7, Isando Is.; 8, Dombae Is.

depth.

*Description. Adult male:* Body (Fig. 2A) length about 12.1 mm, long, slender.

Surface of body smooth. Pereonite 1 little shorter than pereonite 2, approximately 5/6 of pereonite 2; pereonites 3 and 5 subequal in length and a little longer than pereonite 4; pereonites 6 and 7 little shorter than pereonite 5.

Head with a acute dorsal spine frontally, pereonites 1 and 2 smooth. Pereonites 3 and 4 are also smooth, but with spiky tubercle in fore part of each side. Gill elongated, about 4 times longer than its greatest width, slightly longer than half of pereonite 3.

Mouth part typical in genus. Inner and outer lobes of lower lip (Fig. 2B) with numerous setules on distal margins.

Inner lobe of maxilliped (Fig. 2C) with 6 plumose setae on distal margin, outer lobe with 3 spiniform teeth and 6 simple setae on inner margin.

Outer lobe of maxilla 1 (Fig. 2D) with 4 fork-like branched strong teeth, 3 simple setae; segment 1 of palp short; segment 2 with 4 spiniform teeth on distal margin and 5 long setae on inner surface.

Maxilla 2 (Fig. 2E) with many long setae on distal margins of the both lobes.

Incisor of right mandible (Fig. 2F) divided 5 teeth; lacinia mobilis also separated into 3 teeth, with setal row of 2 plumose setae. Incisor of left mandible armed with 5 teeth; laci-

nia mobilis consisting of 3 teeth and 2 plumose setae.

Antenna 1 (Fig. 2G) little longer than 1/3 of body length; peduncle 1 shorter than other peduncles, peduncle 2 longest; its flagellum 7-segments with 3-fused first segment.

Antenna 2 (Fig. 2H) shorter than 1/3 of antenna 1 and not reached peduncle 2 of antenna 1.

Gnathopod 1 (Fig. 2I) with propodus, about twice as long as wide; propodus with a pair of grasping spines near proximal end; inner margin of dactylus serrated.

Gnathopod 2 (Fig. 3A) attached to low end of pereonite 2; its basal segment very long and little shorter than half of pereonite 2; propodus nearly as long as basal segment, more than twice as long as its wide, with 2 well-developed and striking projections; proximal one with 2 grasping spines, a row of setae between the projections and the dactylus.

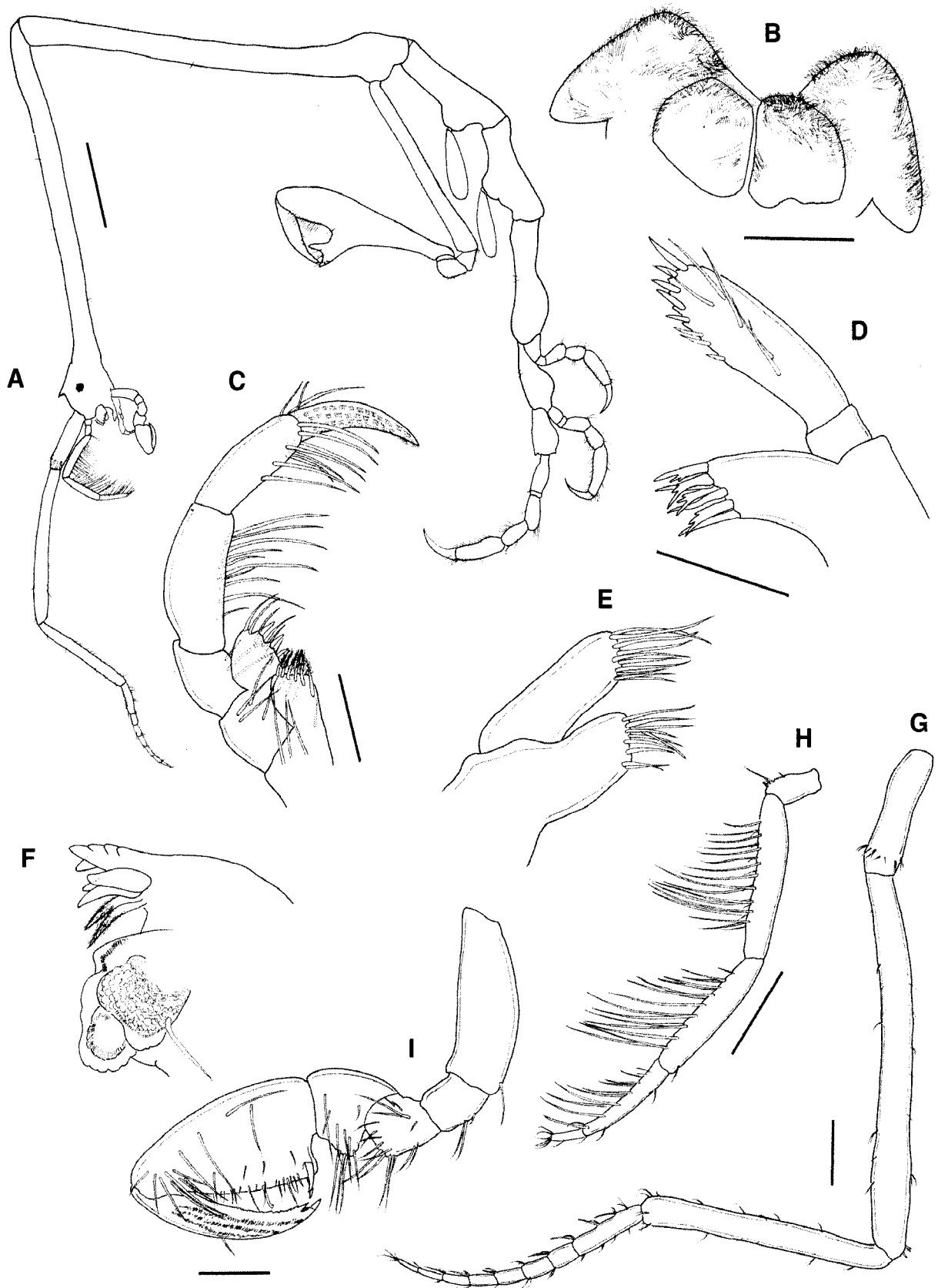
Pereopod 5 (Fig. 3B) about little shorter than pereonite 5.

Pereopod 6 (Fig. 3C) little longer than pereopod 5.

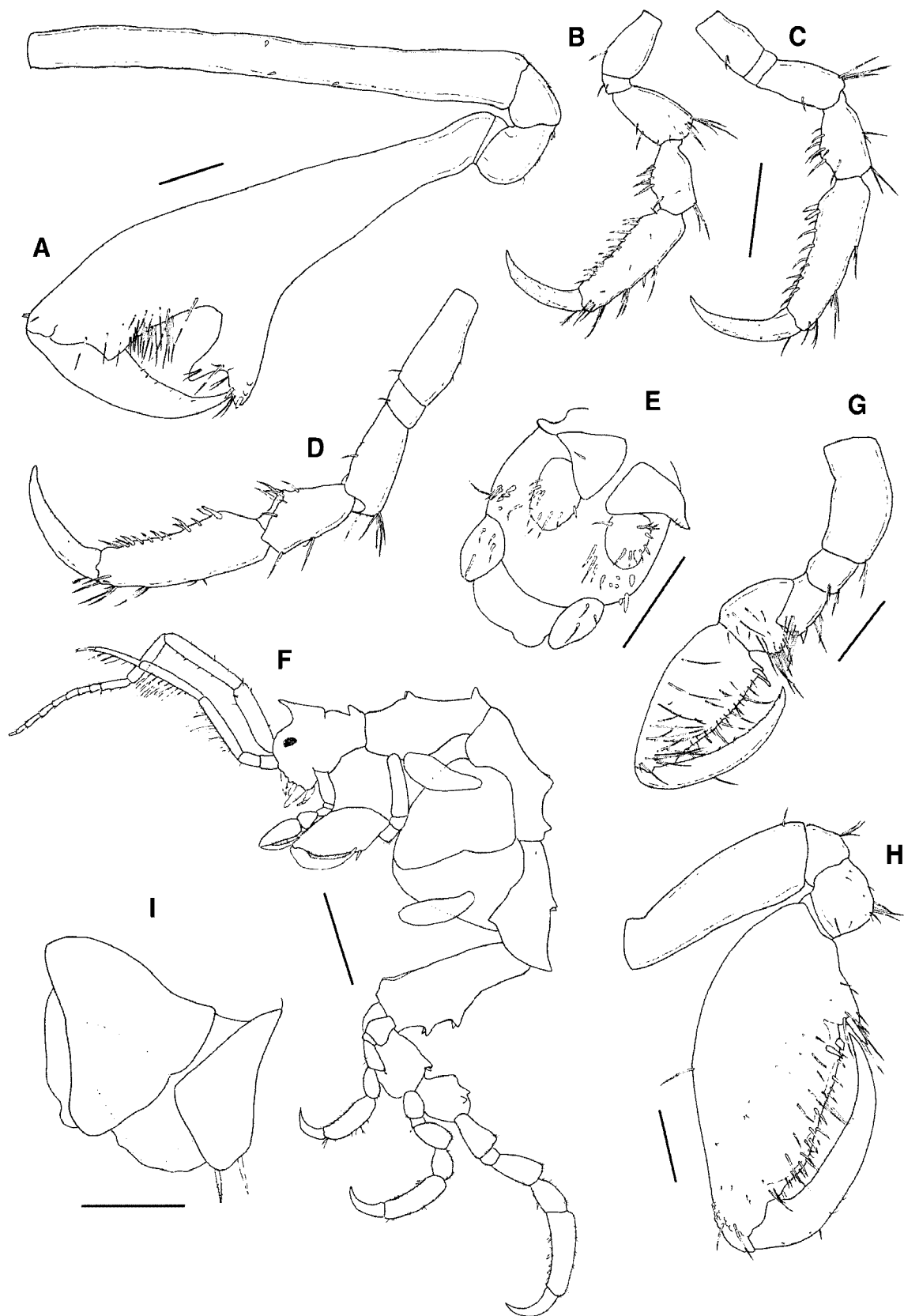
Pereopod 7 (Fig. 3D) longer than other pereopods. Pereopods 5-7 with 2 proximal serrated grasping spines.

Penes of abdomen (Fig. 3E) medial, distal end of appendages rounded, with many setae and a pair of lobes bearing 3-4 setae.

*Female:* Body (Fig. 3F) length about 9 mm. Head with 1 acute long spine. Pereonites subequal in length; pereonite 6 little shorter than pereonite 5; pereonite 7 little shorter than pereonite 6; pereonite 1 shorter than all pereonites. Body



**Fig. 2.** *Caprella chelimana*, male. A, habitus, lateral view; B, lower lip; C, maxilliped; D, maxilla 1; E, maxilla 2; F, mandible; G, antenna 1; H, antenna 2; I, gnathopod 1. Scale bars=1 mm (A), 0.1 mm (B-F), 0.3 mm (G-I).



**Fig. 3.** *Caprella chelimana*, A-E, male. A, gnathopod; B, pereopod 5; C, pereopod 6; D, pereopod 7; E, abdomen. F-I, female. F, habitus, lateral view; G, gnathopod 1; H, gnathopod 2; I, abdomen. Scale bars=0.3 mm (A-D, H), 0.1 mm (E, I), 1 mm (F), 0.2 mm (G).

surface with 1 dorsal acute tubercle on distal end of pereonites 1-4, respectively; 2 acute dorsomedial tubercles each on pereonites 2-4, respectively; pereonite 5 with 4 dorso-medial tubercles; pereonite 6 with 2 distal end tubercles; pereonite 7 with 1 medial and 3 distal end tubercles. Antenna 1 little shorter than half of body length; its peduncle little shorter than antenna 2, with 9-segmented flagellum, about 2 times longer than peduncular segment 1. Gill elongated, about as long as half of pereonite 3.

Gnathopod 1 (Fig. 3G) with a pair of proximal grasping spines.

Gnathopod 2 (Fig. 3H) attached to anterior part of pereonite 2; propodus palmar edge slightly convex, more two times longer than its greatest breadth; propodus with 1 palmar spine at proximal part, 2 subpalmar spines.

Abdomen (Fig. 3I) typical in genus, with a pair of lobes.

*Type locality.* Korea and Japan (Tsugaru Straits).

*Distribution.* Korea (Korea Strait, Yellow Sea), Japan (Tsugaru Straits).

*Remarks.* The most specimens coincide well with Mayer (1903)'s description except for a minor discrepancies of male specimens (body length 11 mm, while 5.5 mm in Mayer's specimens). However two specimens have some remarkable differences as follows: 1) Mayer's specimens has a long acute spine on the head dorsally, but our head spine small even compared to larger specimens; 2) Mayer's illustration shows two large acute lateral tubercles on foreparts of pereonites 3 and 4, while ours shows only small distinctly projected acute angle; 3) According to Mayer's description, pereopod 5 without proximal grasping spines on the propodus, but ours has a pair of proximal grasping spines. Recently Guerra and Gomez (2003) reported *C. sabineae* as a new species. They mentioned that the species is very close to the *C. chelimana*. *Caprella sabineae* in having a round head, but our specimens has a small projection. This characteristic is intermediate form between *C. sabineae* and *C. chelimana*. Ornamentations on the body reveals also intermediate form of two species. Further studies will be needed to clarify the taxonomic status of the presented two species.

### 3. *Caprella penantis* Leach, 1814

*Material examined.* 6♂♂, 7♀♀, many juvs., Daeryukdo Is., 26 Jun. 2007 (J.Y. Choi), by SCUBA diving from 9 m in depth; 1♀, Soseokmando Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 4 m in depth; 1♀, Manpungdo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 5 m in depth; 2♂♂, 2♀♀, Odo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 6 m in depth; 1♂, Gakgeodo Is., 27 Jun. 2007 (J.Y. Choi), by SCUBA diving from 4 m in depth; 1♀, Galguyeon Is., 27 Jun. 2007 (Y.H. Kim), by SCUBA diving from

4 m in depth; 2♂♂, Isando Is., 27 Jun. 2007 (J.Y. Choi), by SCUBA diving from 5 m in depth.

*Type locality.* Devonshire Coast, England.

*Distribution.* Cosmopolitan.

### \*4. *Caprella polyacantha* Utinomi, 1947

*Material examined.* 2♀♀, Daeryukdo Is., 26 Jun. 2007 (J.Y. Choi), by SCUBA diving from 9 m in depth; 1♀, Galguyeon Is., 27 Jun. 2007 (Y.H. Kim), by SCUBA diving from 4 m in depth.

*Type locality.* Asamushi, Honshu, Japan.

*Distribution.* Korea (East Sea, Yellow Sea), Japan.

### 5. *Caprella scaura* Templeton, 1836

*Material examined.* 17♂♂, 5♀♀, 2 juvs., Soseokmando Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 4 m in depth; 1♂, 1♀, Manpungdo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 5 m in depth; 7♂♂, 2♀♀, Odo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 6 m in depth; 2♂♂, Gakgeodo Is., 27 Jun. 2007 (J.Y. Choi), by SCUBA diving from 4 m in depth.

*Type locality.* Mauritius (Riviere Noire).

*Distribution.* Cosmopolitan.

### \*6. *Caprella subinermis* Mayer, 1890

*Material examined.* 4♂♂, 2♀♀, 1 juv., Soseokmando Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 4 m in depth; 1♂, 1♀, 1 juv., Odo Is., 26 Jun. 2007 (Y.H. Kim), by SCUBA diving from 6 m in depth.

*Type locality.* Japan (Kadsiyama).

*Distribution.* Korea (East Sea, Yellow Sea), Japan.

### \*7. *Caprella subtilis* Mayer, 1903

*Material examined.* 2♂♂, 2♀♀, 2 juvs., Daeryukdo Is., 26 Jun. 2007 (J.Y. Choi), by SCUBA diving from 9 m in depth.

*Type locality.* 38°30'N., 128°35'E.

*Distribution.* Korea (East Sea, Yellow Sea).

*Remarks.* This species is first recorded from Korea since Mayer had reported it at the East Sea in 1903.

### \*8. *Caprella verrucosa* Boeck, 1871

*Material examined.* 1♀, Daeryukdo Is., 26 Jun. 2007 (J.Y. Choi), by SCUBA diving from 9 m in depth.

*Type locality.* U.S.A. (California).

*Distribution.* Korea, Japan, U.S.A. (California).

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