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A new species of *Caprella* (Amphipoda: Caprellidae) from the Cape Verde Islands (Atlantic), with note on Mediterranean *Caprella liparotensis*

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Caprella wirtzi sp. nov. from the Cape Verde Islands is described. It is close to *C. liparotensis* a species recorded from Portugal and along the Mediterranean coasts to the Black Sea, but distinguished from *C. liparotensis* by the morphology of antenna 2, gnathopod 2 and peraeonites 3, 6 and 7. Variation from *C. liparotensis* is also discussed.

INTRODUCTION

The Caprellidae (Crustacea: Amphipoda) of the Mediterranean and the North Atlantic have been reviewed or listed by Krapp-Schickel, 1993, by Larsen, 1998 and by Guerra-Garcia & Takeuchi, 2002. In 1993 Krapp-Schickel listed 24 species from the Mediterranean. Guerra-Garcia & Takeuchi (2002) conducted a taxonomic study of Caprellidae from Ceuta, North Africa (on the border between the North Atlantic and the Mediterranean) and found another new *Caprella* species. Recently, more new species have been described from the Mediterranean by Krapp-Schickel & Vader, 1998 (Adriatic Sea) and Guerra-Garcia et al. (2001a–d) (Mediterranean side of the Strait of Gibraltar). Thus, the number of valid caprellid species known from Mediterranean waters has increased considerably.

On the coast of the Atlantic north of 55 degrees latitude, 33 species have been listed by Larsen, 1998. Platvoet et al., 1995 found an unusually large species of *Caprella* from the coasts of the Netherlands facing the North Sea and described it as *Caprella macho* sp. nov., which is likely to be a synonym of East-Asian species *Caprella mutica* Schurin, 1935.

The present paper deals with the descriptions of another new species of *Caprella*, collected from hydroids of the Cape Verde Islands (about locality see Wirtz, 2001). It is similar to *C. liparotensis* Haller, 1879. This latter species is discussed.

SYSTEMATICS

Caprella wirtzi sp. nov. (Figures 1–5)

Type material

Holotype: male 8 mm, Cape Verde Islands, Tiego, February 2000: Museo di Storia Naturale, Verona, Italy: MVRCr 436, in alcohol.

Additional material: allotype female ov. 5 mm; MVRCr 436; same locality. Paratypes: 4 males, 8–12 mm, 1 female ov., several juveniles, 4–6 mm; all MVRCr, in alcohol.

Description

Male

Length: 8–12 mm.

Head: with rostrum.

Body: robust. Small lateral projection on peraeonite 3. Pair of dorsal tubercules on peraeonites 6 and 7. Pleura not expanded at insertion of gills.

Antennae: antenna 1 >double length of head + peraeonite 1; peduncle articles widened, articles 2+3 ventrally with short, dense setae, flagellum with about 14 articles, more than 3/4 of peduncle. Antenna 2 about half of antenna 1, ventral margin with many long setae; articles less robust than in antenna 1.

Mouthparts: mandible without palp like typical for genus; pars incisiva with 4–5 strong teeth, lacinia mobilis very similar on both sides; three long serrated accessory spines, which are shorter than pars incisiva or lacinia mobilis (subequal in *Caprella liparotensis*); molar strongly triturative, conical, apically with corona of blunt teeth, without elevations. Maxilla 1 without inner lobe; outer lobe with six (partly forked) spines, no marginal setae. Maxilla 2 outer lobe with two rows of smooth setae, inner lobe much shorter, also with two rows of smooth setae distally. Lower lip with inner lobes. Maxilliped basis of both sides fused, so-called inner plate inconspicuous, short; outer plate or prolongation on ischium as long as inner margin of merus, not surpassing insertion of carpus (vs clearly surpassing insertion of carpus in *C. liparotensis*); carpus swollen, more than half as wide as long (about half as wide in *C. liparotensis*), propodus 3/4 of carpus length (2/3 in *C. liparotensis*), dactylus as long as propodus, smooth.

Gnathopods: gnathopod 1 as in *C. liparotensis*, propodus ratio l:b=1.6, palma with few short and long setae (many setae in *C. liparotensis*); merus hind margin only one long seta (many setae in *C. liparotensis*). Gnathopod 2 inserted on distal end of peraeonite 2, basis short, subquadrate, with carina and rectangular corner on anterior margin, inner surface of triangular projection smooth (vs serrate in *C. liparotensis*), propodus much more than double of preceding articles together, ratio l:b=3.4 (vs 2.4 in

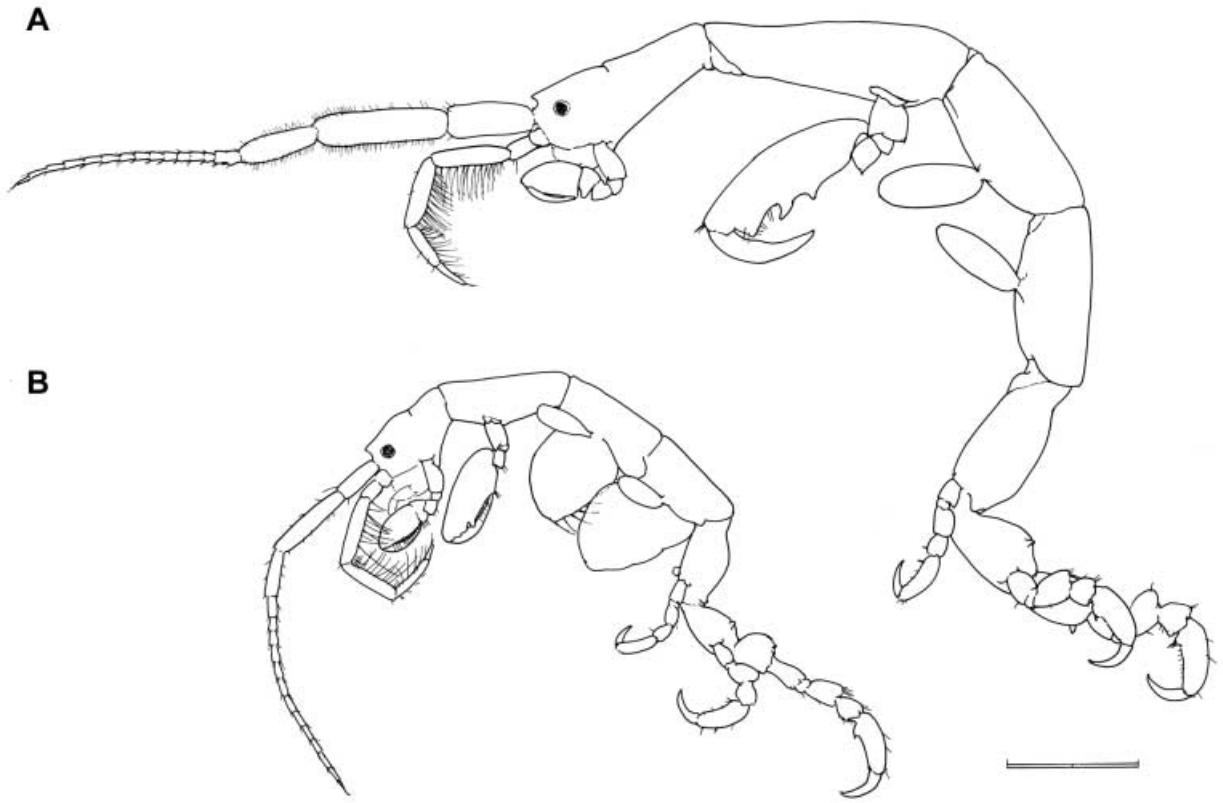

Figure 1. *Caprella wirtzi* sp. nov. (A) holotype male 12 mm; (B) allotype female 6 mm. Scale bar: 1.0 mm.

C. liparotensis); palm defined by small median (vs submedian in *C. liparotensis*) poison tooth on conical protuberance (without protuberance in *C. liparotensis*), followed by two U-shaped concavities (very shallow first one in *C. liparotensis*) which are divided by finger-shaped obliquely directed process (directed parallel to axis of propodus in *C. liparotensis*), followed by the second concavity, which is similar to first one (much deeper and narrower than first one in *C. liparotensis*), defined by rectangular hairy process on distal end (similar to *C. liparotensis*); dactylus strong, less than half of propodus, not much curved (clearly longer than half propodus and strongly curved in *C. liparotensis*).

Gills: oval (vs rounded in *C. liparotensis*).

Peraeopods: peraeopods 5–7 carpus on inner margin with teeth and setae, carpus and merus on outer margin group of long setae; propodus palm proximally with one pair of grasping spines and many short setae along the margin.

Urosome: Penes median. Proximo-ventrally a pair of so-called pleopods or abdominal appendages with bunch of long setae; medially the dividing line of the second, laminate pair of abdominal appendages, with scarce short setae.

Female

Length: 4–6 mm.

Body: peraeonites 2–5 subequal, 1/3 longer than head plus peraeonite 1. No lateral spines.

Antennae: antenna 1=2/3 of body length, setae on ventral margin of peduncle scarce; flagellum with 12–13 articles.

Gnathopods: gnathopod 2 basis longer than wide, propodus oval, 2.8 times as long as wide, palm with strong grasping spines on distal third, followed by straight (not excavate like in male) medial part of palm, while distal part is similar to male, but smaller (not similar to male in *C. liparotensis*).

Etymology

This species is dedicated to Dr Peter Wirtz, in grateful appreciation of his zeal and special talent in collecting from special and hidden microhabitats.

Remarks

The new species *Caprella wirtzi* is similar to *Caprella liparotensis* Haller, 1879 (see Figure 6), but shows the following distinct differences: (1) antenna 2 is more slender in *C. wirtzi*, the fringe of long setae is clearly shorter; (2) maxilliped outer plate short, not surpassing insertion of carpus (longer than insertion of carpus in *C. liparotensis*); (3) on the basis of gnathopod 2 in males of *C. wirtzi*, the inner surface of a triangular projection is smooth (vs serrate in *C. liparotensis*), the propodus is much longer in relation to its width (more than three times in *C. wirtzi*, clearly less than three times in *C. liparotensis*), dactylus less than half length of propodus (vs more than half length in *C. liparotensis*); (4) females of *C. wirtzi* show a distal U-shaped excavation on gnathopod 2 propodus, which is similar to males (no excavation in females of *C. liparotensis*); (5) males of *C. wirtzi* have a lateral projection on only peraeonite 3 while males of *C. liparotensis* have projections on peraeonites 2–4; (6) *C. wirtzi* shows a pair of

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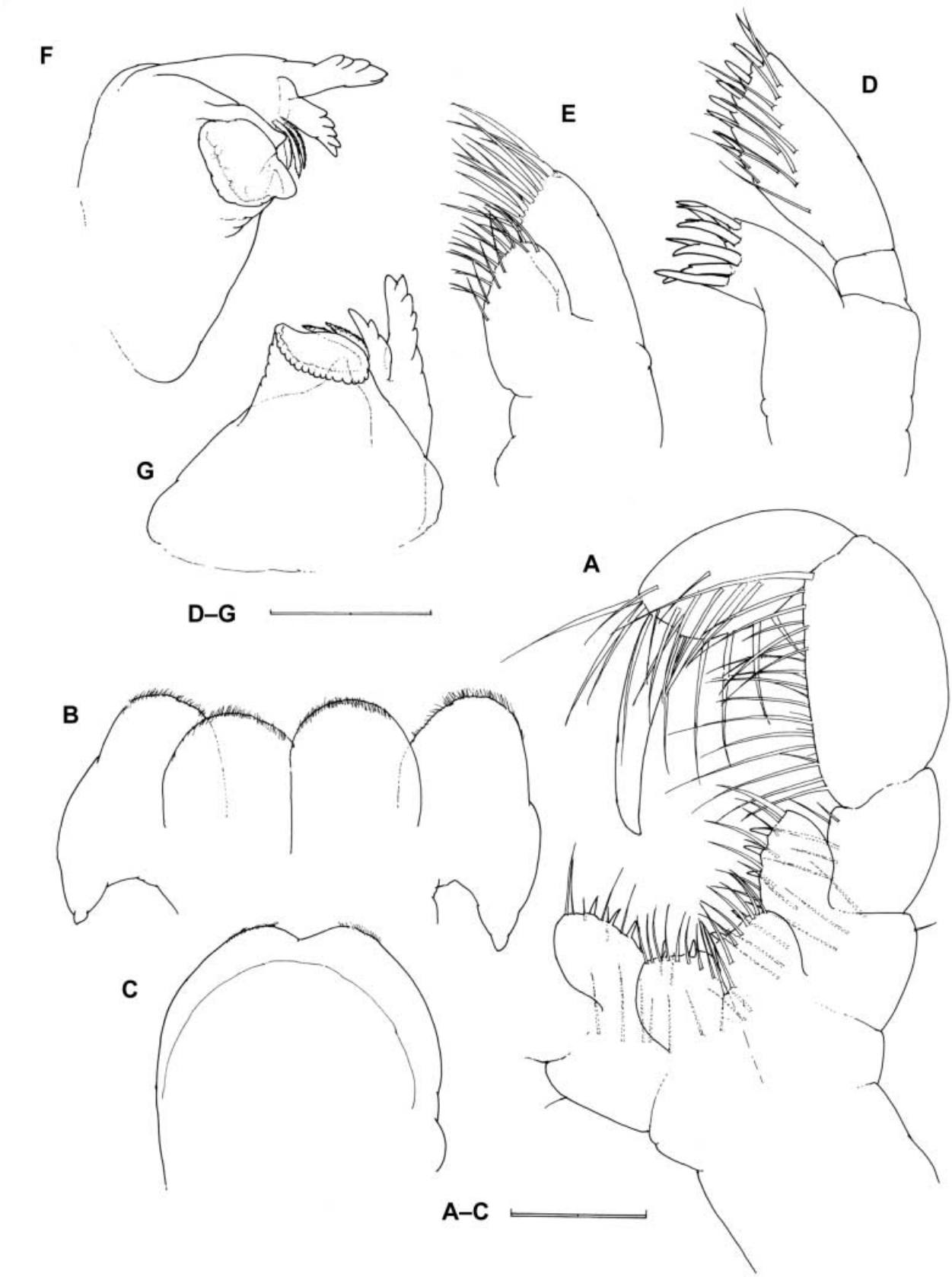

Figure 2. *Caprella wirtzi* sp. nov. holotype male mouthparts: (A) maxilliped; (B) lower lip; (C) upper lip; (D) maxilla 1; (E) maxilla 2; (F,G) mandible. Scale bar: 0.1 mm.

lateral projections on peraeonites 6 and 7 (vs two pairs of small tubercles on peraeonite 5, one pair on peraeonite 6 and two pairs on peraeonite 7 in *C. liparotensis*); (7) gills are elongate in *C. wirtzi* and oval in *C. liparotensis.*

Ecology

The species was collected at 8 m depth in a colony of the hydroid *Nematophorus clarkei*. It was found together with *Phtisica marina* Slabber.

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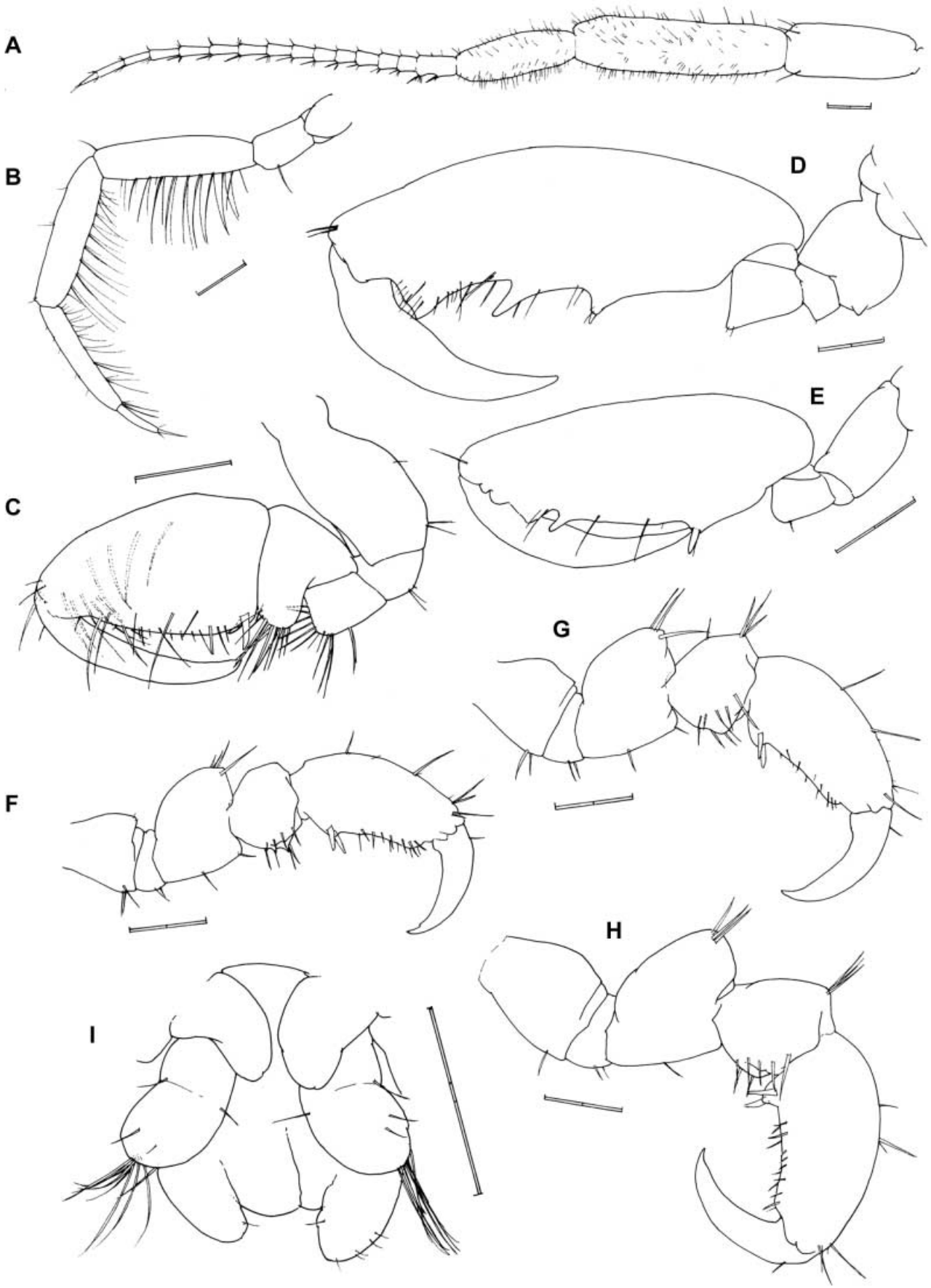

Figure 3. *Caprella wirtzi* sp. nov. holotype male: (A) antenna 1 male; (B) antenna 2 male; (C) gnathopod 1 male; (D) gnathopod 2 male; (E) gnathopod 2 female; (F) peraeopod 5; (G) peraeopod 6; (H) peraeopod 7; (I) urosome male. Scale bar: 0.2 mm.

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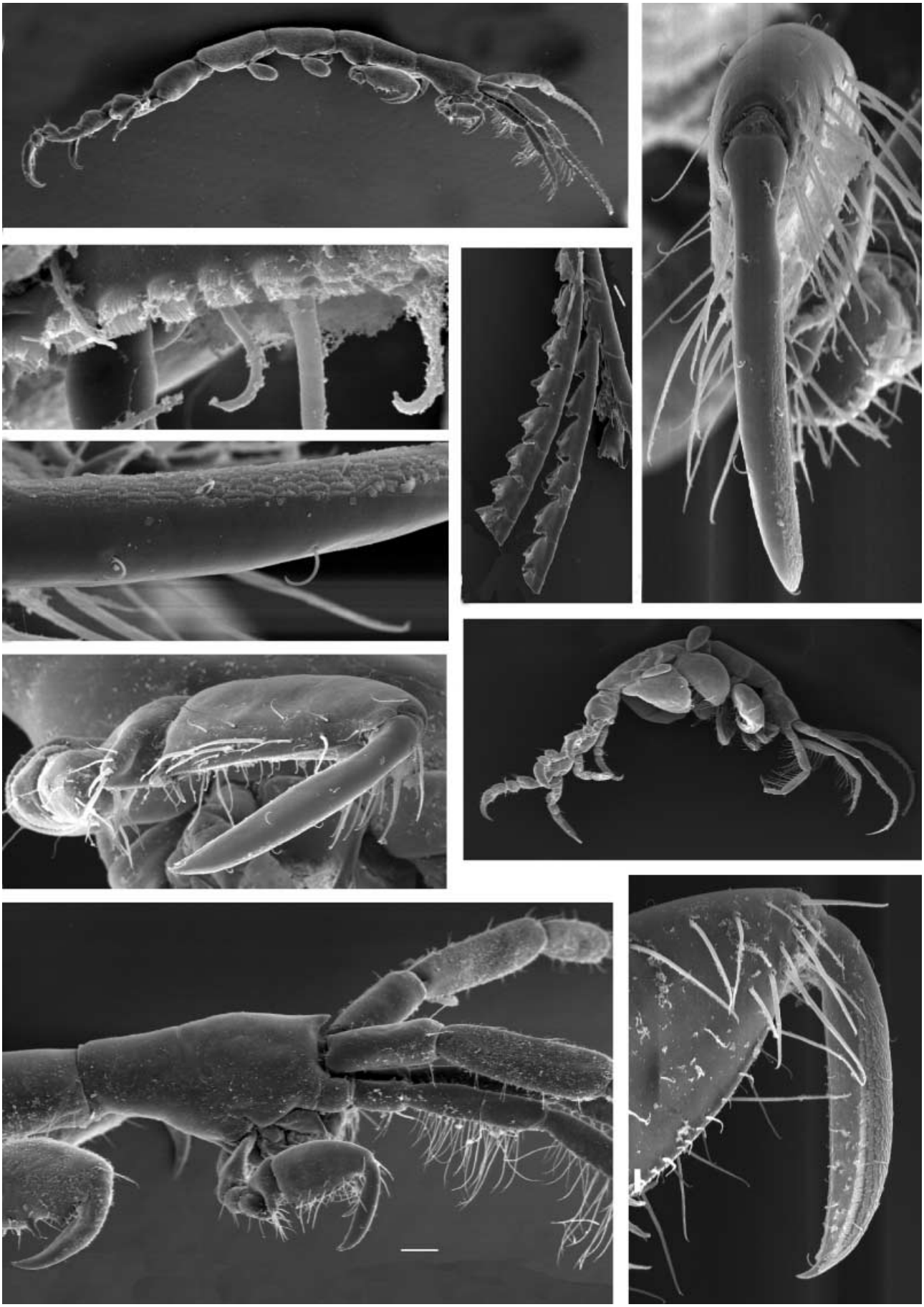

Figure 4. Scanning electron microscopy (SEM) pictures of *Caprella wirtzi* sp. nov. left side from above to below: habitus male; gnathopod 1 propodus palm; gnathopod 1 dactylus; gnathopod 1 distally; front female. Centre: hydroid colony of *Nematophorus clarkei* right side from above to below: gnathopod 1 frontally; habitus female; gnathopod 1 laterally.

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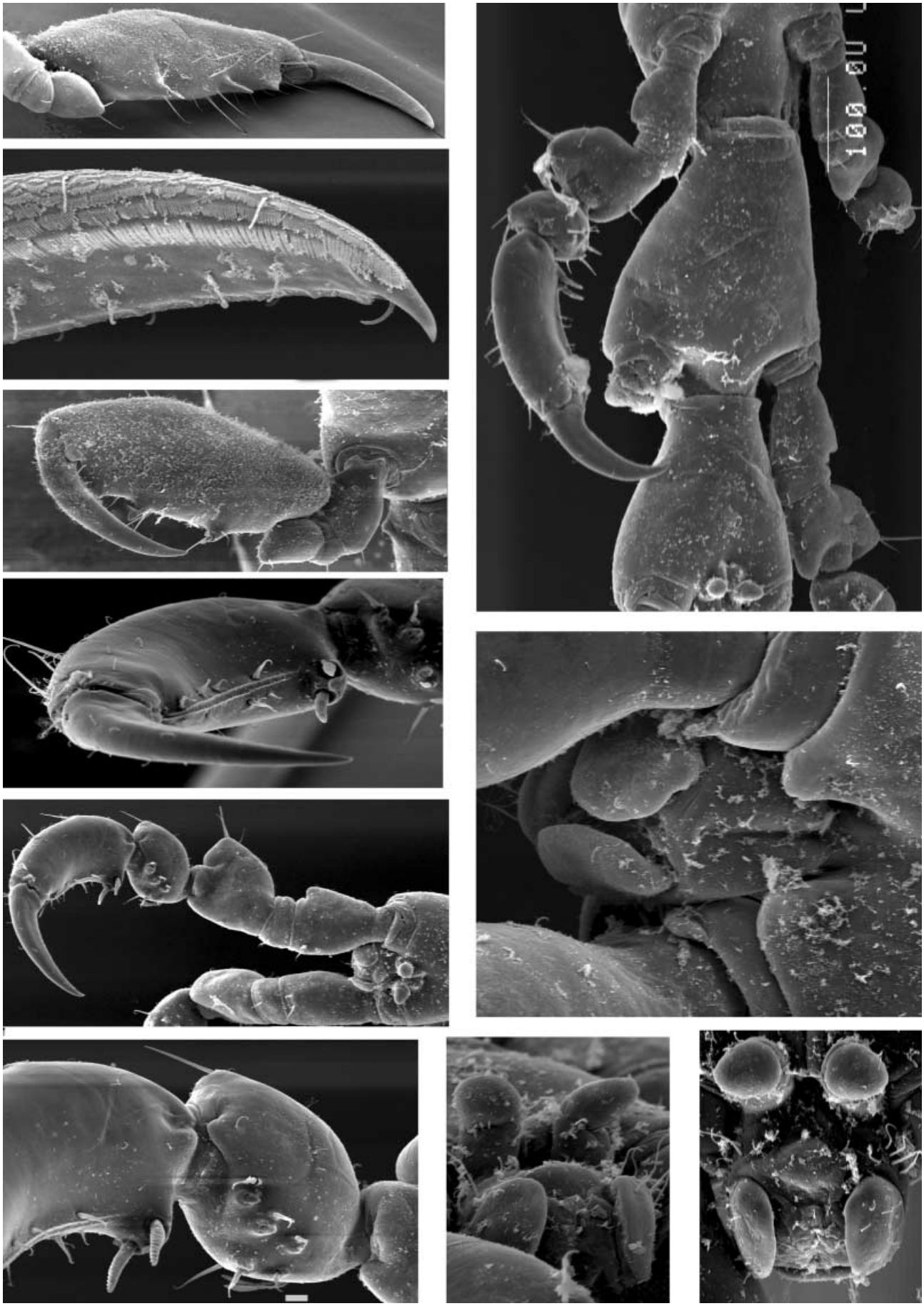

Figure 5. SEM pictures of *Caprella wirtzi* sp. nov. left side from above to below: gnathopod 2 inner view; gnathopod 2 dactylus inner margin; gnathopod 2 from outside; peraeopod 5 palm; peraeopod 7 and urosome ventrally; peraeopod 5 propodus and carpus. Right side from above to below: peraeopod 5 and peraeosomites; urosome enlarged; male pleopods and urosome ventrally.

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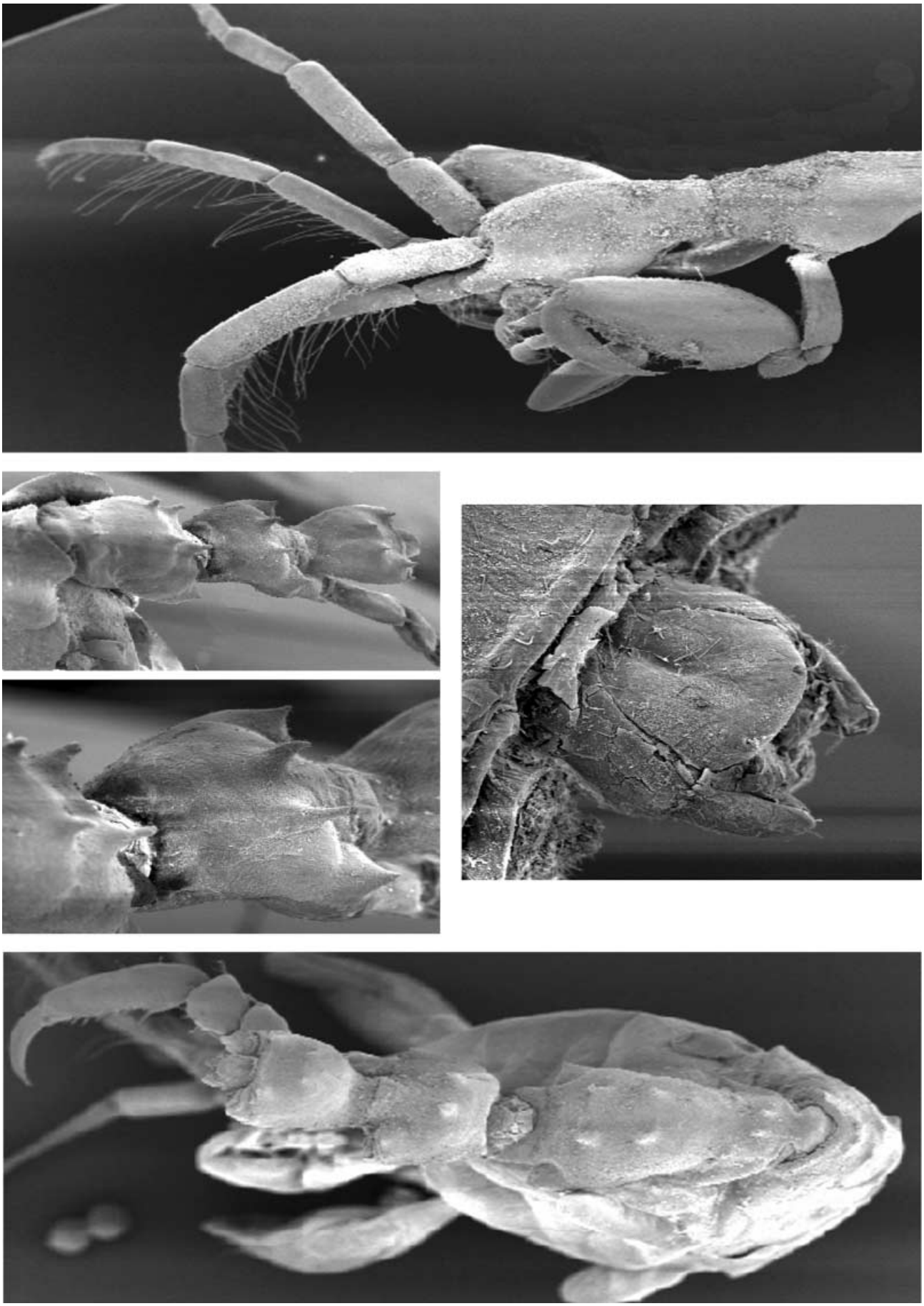

Figure 6. SEM pictures of *Caprella liparotensis* Haller from Sicily: above: male head with gnathopods; middle left: peraeosomites with processes enlarged; middle right: urosome; below: dorsal view of body.

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Caprella prope *liparotensis* Haller, 1879

Caprella liparotensis Haller, 1879 was described based on specimens collected from Lipari, Italy and has since been reported along all the Mediterranean coasts from Portugal to the Adriatic and Black Seas (e.g. Mayer, 1882, 1890; Chevreux & Fage, 1925; McCain & Steinberg, 1970; Krapp-Schickel, 1993). As no type material seems to be extant (see McCain & Steinberg, 1970), Chevreux & Fage, 1925 and Krapp-Schickel, 1993 provided descriptions of the species from Cette (France) and Napoli (Italy), respectively. Recently, Guerra-Garcia & Takeuchi, 2002 redescribed this species based on specimens collected from Ceuta (northern coast of Africa, Strait of Gibraltar). The descriptions of the above three authors are in good agreement.

Here some scanning electron microscopy (SEM) pictures of specimens from Sicily (near typical region of Lipari Island) are provided (Figure 6). Although in general view the present material and other citations of *C. liparotensis* are very similar to each other, concerning the features of peraeonites, gnathopods and peraeopods, the following differences could be observed: (1) males have an inner elongate projection on the basis of gnathopod 2, and the basis is much longer than in the material from Naples shown in Krapp-Schickel, 1993 figure 537; (2) the gills more elongate; (3) the last peraeon segments show much more acute spine-pairs than in the animals from Naples. The mouthparts are very similar, like generally in *Caprella* species.

The differences here reported should draw attention to the fact that there are some doubts about the wide distribution of *Caprella liparotensis* within the Mediterranean and north-east Atlantic. Careful checking of rich series taken from many different localities should shed more light on what is variable and what are small but constant differences.

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