

## *Caecijaera kussakini* sp. n., a new asellote isopod from Vietnam (Crustacea, Isopoda: Janiridae)

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*Caecijaera kussakini* sp. n. from the intertidal zone of several islands in the South China Sea is described. It is the first record of a species of this genus in South-East Asia.

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### Introduction

The genus *Caecijaera* contains very small asellote isopods which are found on the walls of the limnoriid channel system. At present 4 species of *Caecijaera* are known: type species *C. horvathi* Menzies, 1951 from the southern coast of California, and 3 boreal species – *C. mirabilis* Kussakin, 1962 from the Sea of Okhotsk, *C. derjugini* Kussakin, 1962 from the Sea of Japan, and *C. borealis* Kussakin, 1962 from the Barents Sea and NE Iceland (Svavarsson, 1982). Species of this genus have not been recorded previously from Asian tropical waters. The species was found together with *Limnoria simulata* Menzies, 1957 in submerged wood and bamboo. All specimens were collected by the author in the intertidal zone of the islands of South and North Vietnam.

Scale (in millimeters) is given only for the entire animal in dorsal and lateral views. Types of the new species are deposited in the Institute of Marine Biology, Vladivostok, with the registration number given below.

### Family JANIRIDAE Sars, 1899

#### *Caecijaera kussakini* sp. n. (Figs 1-32)

*Holotype*. No. 1/19417, ♂, 1.55 mm long, North Vietnam, Baitylong Archipelago, near Katba I. (21° N, 107° 20' E), intertidal zone, from wood and bamboo, in *Limnoria simulata* holes, July 1990, coll. M.V. Malyutina.

*Paratypes*. 16 ♀, 1.30-1.72 mm long, 5 of which with

embryos, 13 ♂ 1.28-1.58 mm long, 9 manca, all collected with the holotype.

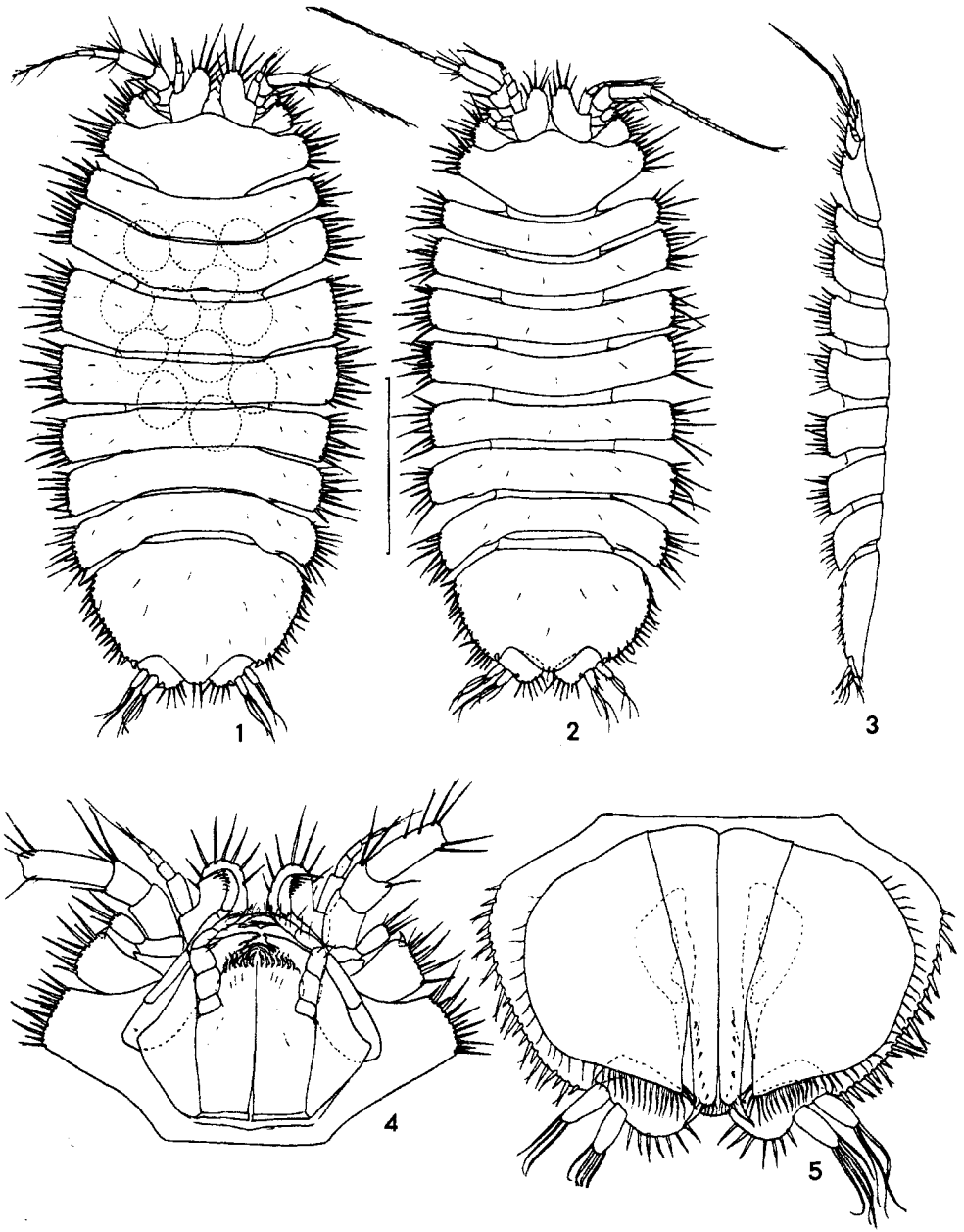
Additional material from south-eastern Vietnam: 1 ♂ (subadult) 1.27 mm long, Tkhu I. (10° 32' N, 108° 56' E), 2 m, from wood, 29.9.1988; 1 ♂ 1.36 mm long, Katuik I. (10° N, 108° 55' E), 4 m, from wood, 10.9.1988.

*Description of holotype*. Body characters (Figs 2-5). Total body length 1.55 mm (2.2 times body width). Head width 2.2 times medial length; anterior margin trilobate, medial lobe the longest; lateral length 0.37 times medial length. Pereonites rather similar, with subrectangular lateral margins, except the first one, broadest laterally, pereonite 1 shortest laterally. Pleotelson width 0.81 times body width and pleotelson length 0.6 times body width. Posterolateral angles with stout short spine.

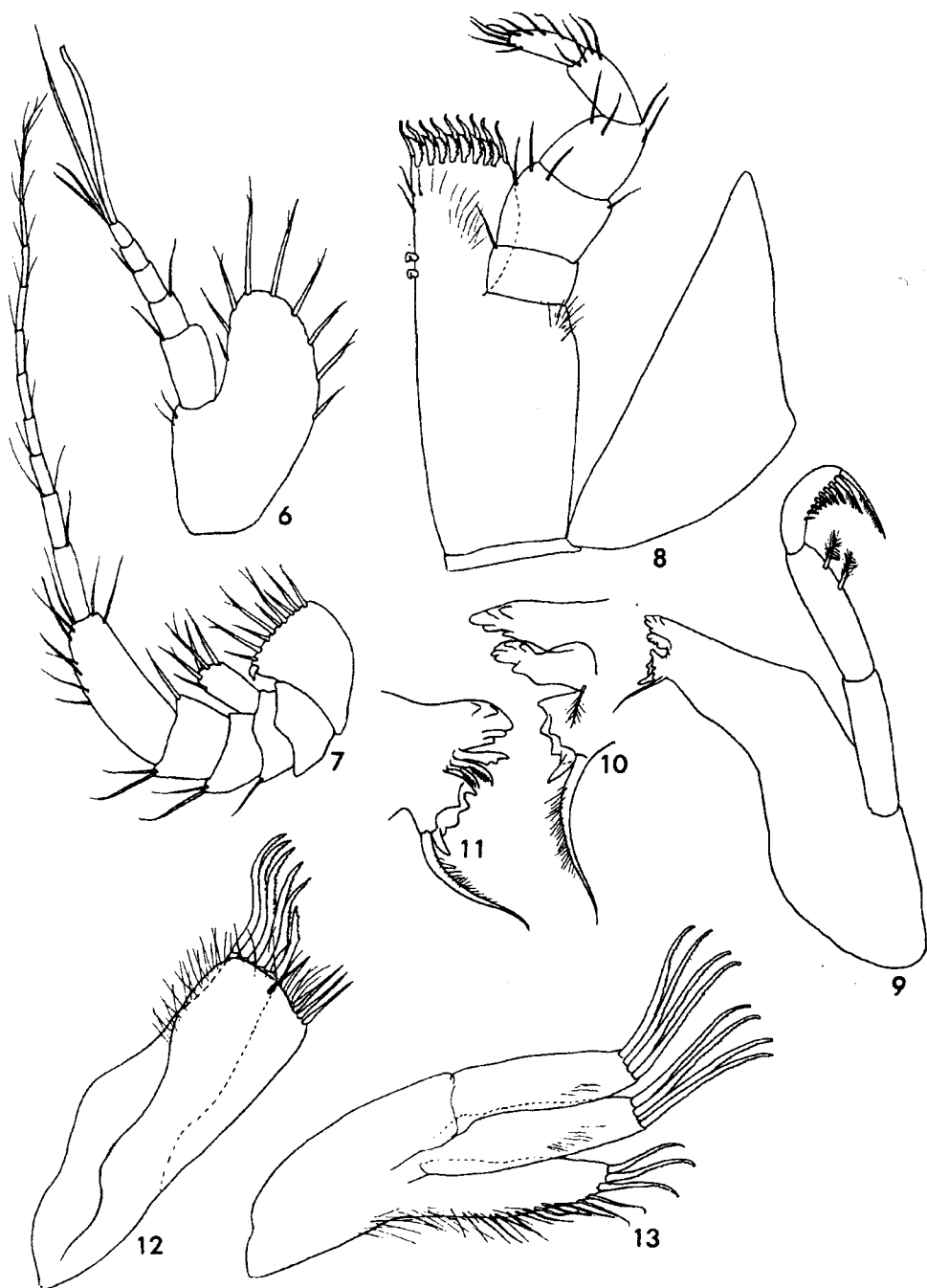
Body setation (Figs 2-5, 22, 23). Dorsum of body smooth, with fine scattered setae. Lateral margins fringed with alternating long and short slender bifid setae. Distal margin of pleotelson with 2 simple setae.

Antenna 1 (Fig. 6). Length 0.15 times body length, 6 articles. Article 1 broadest, flattened, medial lobe with 8 setae, similar to those on lateral body margins; lobe extended beyond distal margin of article 2; lobe width 0.67 times article width. Second article 0.61 times article 1 lateral length, distally with a simple seta. Following articles decreasing in size distally, last article with single aesthetasc and one needle-like seta.

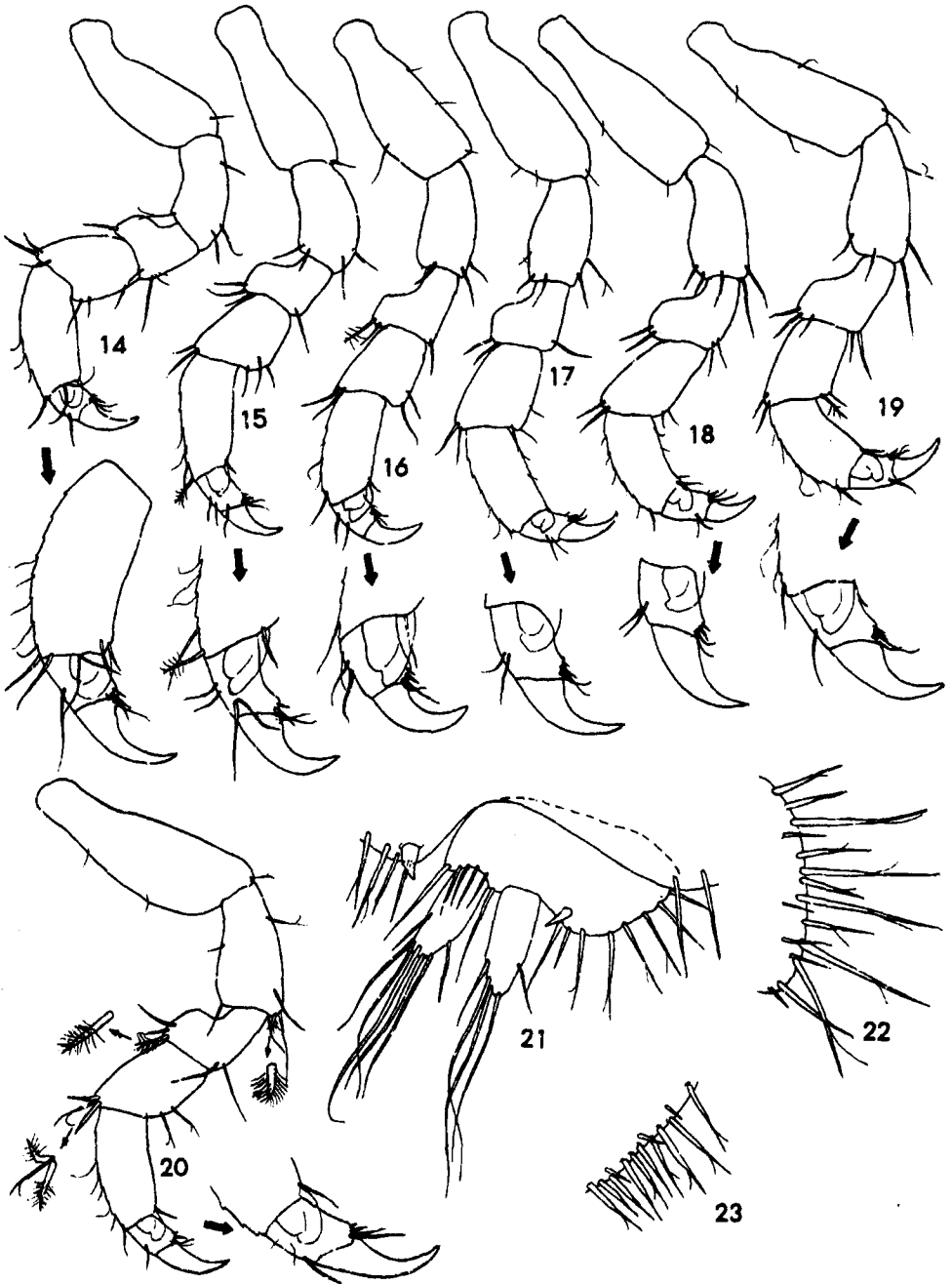
Antenna 2 (Fig. 7). Length 0.45 times body length, almost 3 times longer than antenna 1. Article 1 broadest, flattened, with distal stout



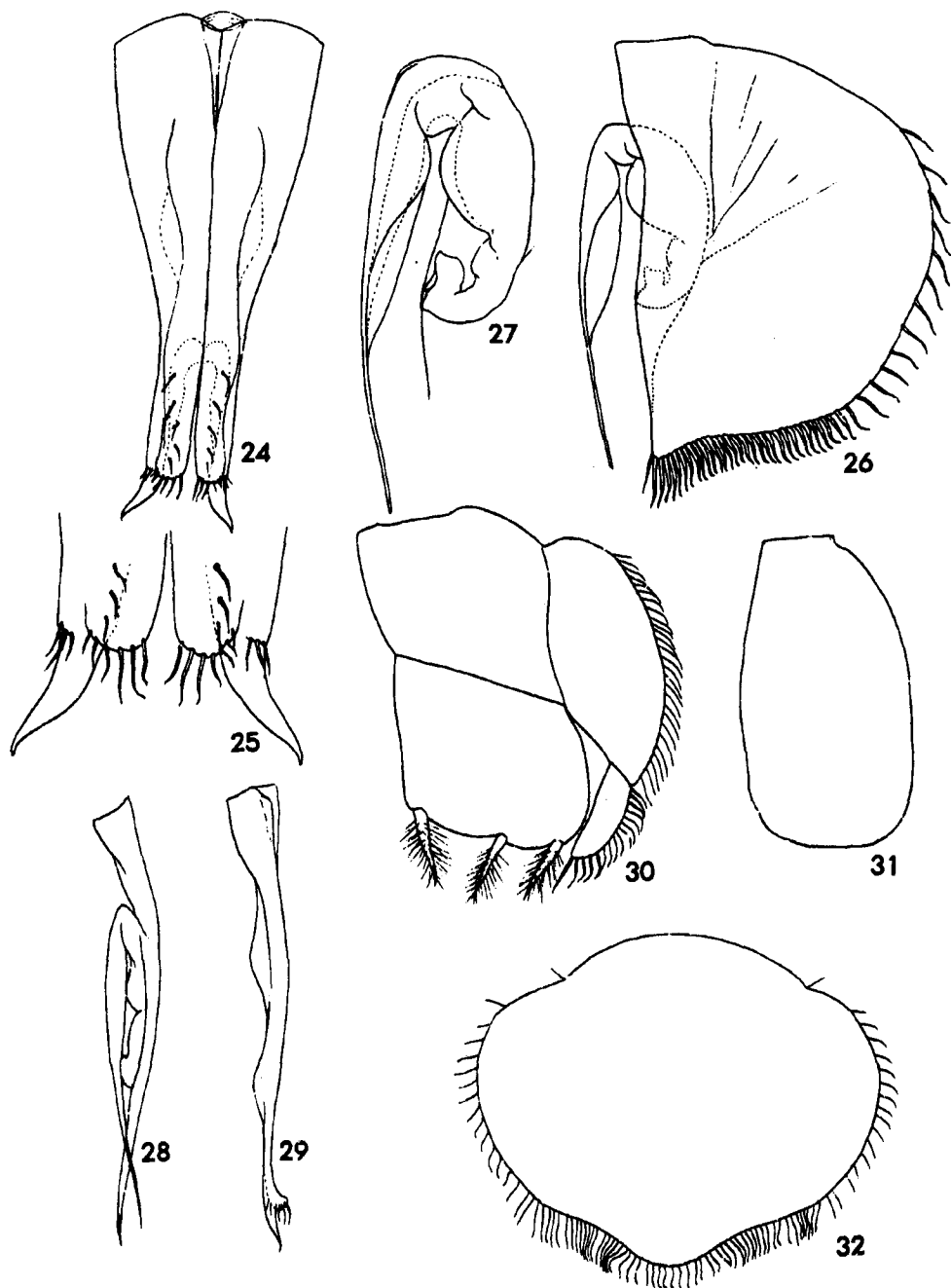
Figs 1-5. *Caecijaera kussakini* sp. n. 1, female, paratype; dorsal view; 2, male, holotype; dorsal view; 3, lateral view; 4, cephalon, ventral view; 5, pleotelson, ventral view. Scale: 0.5 mm.



Figs 6-13. *Caecijaera kussakini* sp. n., male, holotype. 6, antenna 1; 7, antenna 2; 8, maxilliped; 9, left mandible; 10, distal part of left mandible; 11, right mandible; 12, maxilla 1; 13, maxilla 2.



**Figs 14-23.** *Caecijaera kussakini* sp. n., male, holotype. 14-20, pereopods 1-7 with enlarged dactylus; 21, uropod; 22, lateral margin of head; 23, lateral margin of pleotelson.



Figs 24-32. *Caecijaera kussakini* sp. n. 24-31, male, holotype: 24, pleopod 1, dorsal view; 25, distal part of pleopod 1; 26, pleopod 2; 27, enlargement of pleopod 2 distal portion; 28-29, pleopods 1, 2, lateral view; 30, pleopod 3; 31, pleopod 4. 32, female, paratype, pleopod 2.

curved spine on the rectangular lateral lobe; articles 2-5 short, article 6 longest, subequal to previous four. Squama of article 3 large, sub-rectangular. Outer margins of articles 2, 5 and squama setiferous; flagellar articles (11-12) with 1-2 lateral simple setae, last article with tuft of simple setae.

Mandibles (Figs 9-11). Both mandibles with 5 cusps on incisor process; lacinia mobilis of left mandible with 5 teeth, left spine row with one plumose seta, right mandible with 3 apically expanded denticulate spines in spine row; molar process rosette-shaped with 6 short and one long teeth and elongate apical seta. Article 1 and 2 of mandibular palp subequal, article 2 with 2 distal fringed spines, terminal article curved, with 8 setae progressively longer than distal one.

Maxilla 1 (Fig. 12). Inner endite short and flattened, 1.9 times outer endite width, with 3 stout and numerous thin setae; outer endite with 6 denticulate spine-like setae.

Maxilla 2 (Fig. 13). Innermost endite with a row of slightly serrated setae; medial and outer endites with 4 strong slightly serrated spine-like setae.

Maxilliped (Fig. 8). Coxa very short, quadrangular. Basis with 2 receptaculi; distal margin with two rows of setae – simple, stout and fan-like setae. Palp inserted after 5.8 of basis length; palp length 0.8 times total basis length. Palp article 1 short, ring-like with 1 simple seta; article 2 broadest, with 4 distal simple setae; article 3 as long as article 2, but narrower, with 4 setae; article 4 about half as broad as article 3, also with 4 simple distal setae; last article subequal in length but narrower than article 4, with 8 setae. Epipod triangular, slightly longer than basis, epipod length 2.3-2.5 times its width.

All pereopods ambulatory, quite similar in shape and setation. Dactylus of all pereopods with 1 or 2 dorsal simple setae and 2 distal claws. Dorsal claw about a third as long as ventral, ventral claw seta-like; two sensillae between these claws. Propodus dorsal margin of all pereopods serrated, with very thin setae. Basis with 1-3 thin simple setae. Basis 1-7 length to body length ratio: 0.08; 0.085; 0.088; 0.091; 0.095; 0.10; 0.11 respectively.

Pereopod 1 (Fig. 14): length 4.31 times body length, carpus length 0.51 times basis length, dactylus 0.81 times propodus length; ischium with 3 ventral and 2 distoventral setae; merus with 1 distodorsal and 2 distoventral setae; carpus with 3 distodorsal, 1 ventral and 2 dis-

toventral setae; propodus with 6 distal setae.

Pereopod 2 (Fig. 15): length 3.86 times body length, carpus length 0.48 times basis length, dactylus 0.8 times propodus length. Ischium with 2 ventral and 2 dorsal whip setae; merus with 3 distodorsal and 1 distoventral setae; carpus with 2 distodorsal and 3 ventral setae; propodus with 1 plumose feather-like distodorsal setae.

Pereopod 3 (Fig. 16): length 3.50 times body length, carpus length 0.47 times basis length, dactylus 0.83 times propodus length. Basis with 3 small simple setae; ischium with 2 distoventral setae; merus with 1 simple distoventral, 1 simple and 1 feather-like distodorsal setae; carpus with 1 distodorsal and 1 distoventral setae, propodus with 1 distodorsal and 1 distoventral setae.

Pereopod 4 (Fig. 17): length 3.36 times body length, carpus length 0.45 times basis length, dactylus 0.87 times propodus length. Ischium with 2 ventral and 2 dorsal whip setae; merus with 2 distodorsal and 1 distoventral setae; carpus with 2 distodorsal, 1 distoventral and 2 ventral setae; propodus with thin setule only.

Pereopod 5 (Fig. 18): length 3.22 times body length, carpus length 0.43 times basis length, dactylus 0.83 times propodus length. Ischium with 2 distoventral, 1 distomedial and 2 distodorsal whip setae; merus with 2 distodorsal and 2 distoventral setae; carpus with 2 distodorsal and 2 distoventral setae; propodus with 1 distoventral setae and several thin setae.

Pereopod 6 (Fig. 19): length 3.20 times body length, carpus length 0.43 times basis length, dactylus 0.87 times propodus length. Ischium with 1 ventral, 2 long distoventral and 2 dorsal whip setae; merus with 3 distodorsal and 2 distoventral setae; carpus with 2 distodorsal, 1 plumous and 1 simple distoventral setae; propodus with 1 distodorsal setae.

Pereopod 7 (Fig. 20): length 3.06 times body length, carpus length 0.40 times basis length, dactylus 0.81 times propodus length. Ischium with 1 ventral, 1 dorsal, 1 distodorsal, 3 long simple and plumous distoventral setae; merus with 2 simple and 1 plumous distodorsal and 2 simple distoventral setae; carpus with 2 plumous, 1 bifid distodorsal and 2 bifid distoventral setae; propodus with 1 distodorsal and 1 distoventral simple setae.

Male pleopod 1 (Figs 24, 25, 28): length 2.4 times proximal width, distal width 0.3 times proximal width, outer lobe of tip triangular with pointed apex, inner lobe short and rounded in

ventral view, with 7 simple setae.

Male pleopod 2 (Figs 26, 27, 29): sympod length 1.4 times its width. Lateral margin rounded with 18-20 distolateral plumose setae and 14-17 lateral simple setae. Endopod inserting after 0.5 sympod length. Stylet directed dorsally, extending to distal tip of sympod, distal tip of sperm tube acute.

Pleopod 3 (Fig. 30): endopod broad with 3 distal plumose setae; exopod biarticulated, much slender and curved, distally with 1 simple seta and many thin lateral setae.

Pleopod 4 (Fig. 31): only 1 small oval lobe.

Pleopod 5 reduced.

Uropod (Fig. 21): length 0.05 times body length; protopod almost fully visible in dorsal view, broadly rounded, setal medial lobe with stout short spine; protopod medial length 0.04 times its width. Rami subequal, 0.93 protopod length, with elongate distal simple setae more than twice longer than rami.

Paratype, ovigerous female (Fig. 1). Body length 1.58 mm; length 1.9 times width. Peronites, especially 3 and 4, broader laterally than in male.

Female pleopod 2 (Fig. 32): length 0.83 times width, almost circular, with a convexity at the distal margin. Lateral and distal margins with dense row of thin setae.

*Remarks.* The new species is very similar to the type species of the genus - *C. horvathi*

Menzies, 1951. It differs from *C. horvathi* in having subrectangular lateral margins of peronites, deeper uropodal notches on pleotelson, stout short spines on distolateral angle of first article of antenna 2, on posterolateral angle of pleotelson and basis of uropod, longer outer lobes of tip of male pleopod 1, longer rami of uropod.

*Etymology.* The name of species was given in honour of the well known Russian marine biologist Prof. O.G. Kussakin, who has made many valuable contributions to the study of isopods.

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