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Two New Species of the Genus *Cleantioides* (Isopoda: Valvifera: Holognathidae) from Korea

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한국산 주걱벌레붙이속 등각류(갑각류)의 2신종

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적 요

한국 연안에서 채집된 주걱벌레붙이속의 2신종을 *Cleantioides emarginata* 와 *Cleantioides poorei*로 명명하고 도판과 함께 기재한다.

Key words: Isopoda, Holognathidae, taxonomy, Korea, new species.

Two species of *Cleantioides* Kensley and Kaufman, 1978, *C. japonica* (Richardson, 1899) and *C. anandalei* (Tattersall, 1921), were previously known from Korea (Kwon, 1986). The genus *Cleantioides*, formerly a member of the family Idoteidae, has recently been transferred to the Holognathidae Thomson, 1904 (for comments on the family, see Poore & Lew Ton, 1990) and comprises 10 species (Kwon, 1986; Poore and Lew Ton, 1990). All members of the genus are characterized by the cylindrical body, the pleonite 1 free and articulating, the pleonite 2 completely defined by a transverse line, the pleonite 3 completely or incompletely defined, the pleonite 4 incompletely defined, the second antenna with a clavate flagellum, and the uniramous uropod.

이 논문은 1988년도 인제연구장학재단의 연구비 지원에 의한 연구 결과임.

While examining the Isopoda collections at the Department of Biology, Inje University (IJB), we came across two new species of *Cleantioides* from Korea. They are described in detail.

Cleantioides emarginata, n. sp.

(Figs. 1-3)

Holotype: ♂, 22 mm, Pusan, Myōngji-dong, leg. I.H. Kim, 8 V 1978 (IJB).

Paratypes: 5 ♂♂, 3 (1 ovi.) ♀♀, same data as holotype (IJB); 1 ♀, Pusan, Kadōkto I., Chōngga-dong,

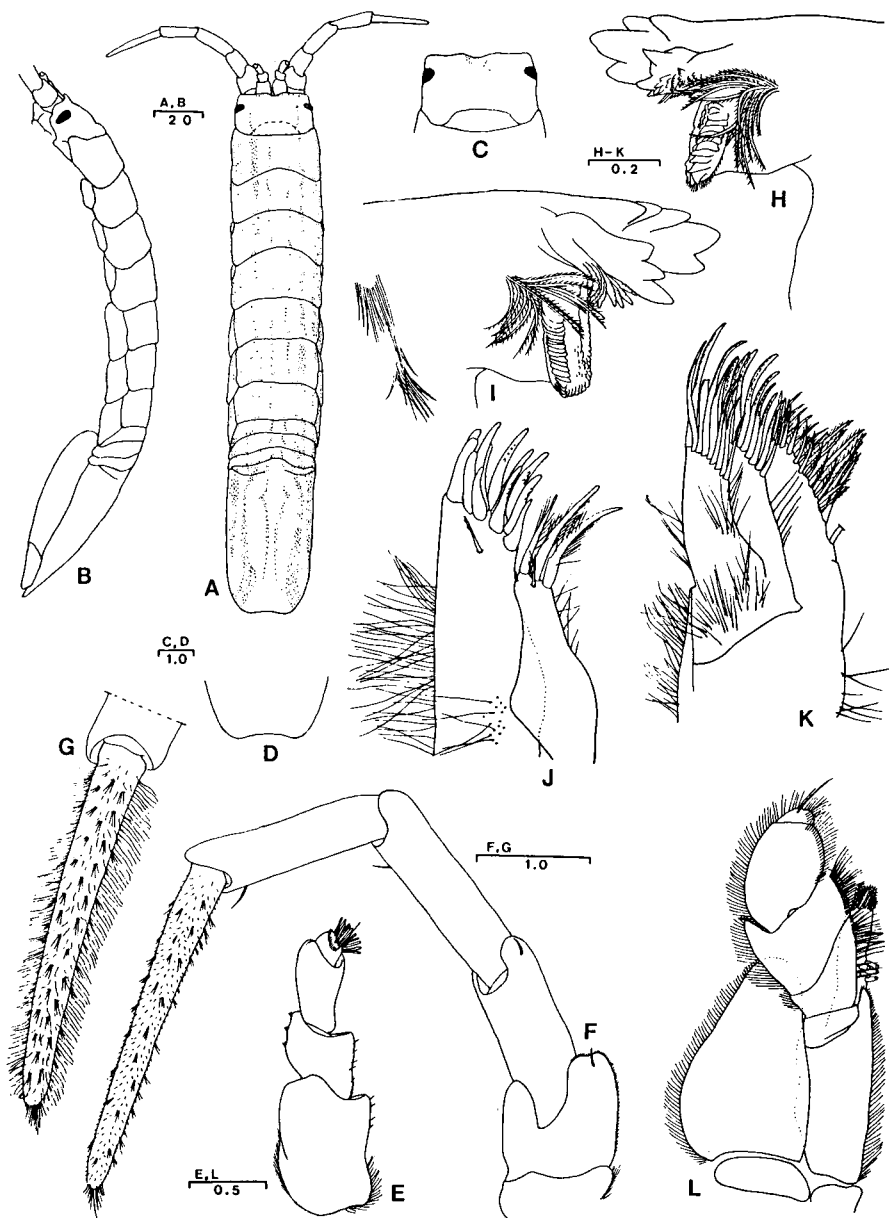


Fig. 1. *Cleantioides emarginata*, n.sp., A-D, holotype male; G & J-K, paratype male; E-F, H-I & L, paratype female. A, habitus, dorsal view; B, habitus, lateral view; C, cephalon; D, apex of pleotelson; E, antenna 1; F, antenna 2; G, flagellum of antenna 2; H, left mandible; I, right mandible; J, maxilla 1; K, maxilla 2; L, maxilliped. (scale bars in mm)

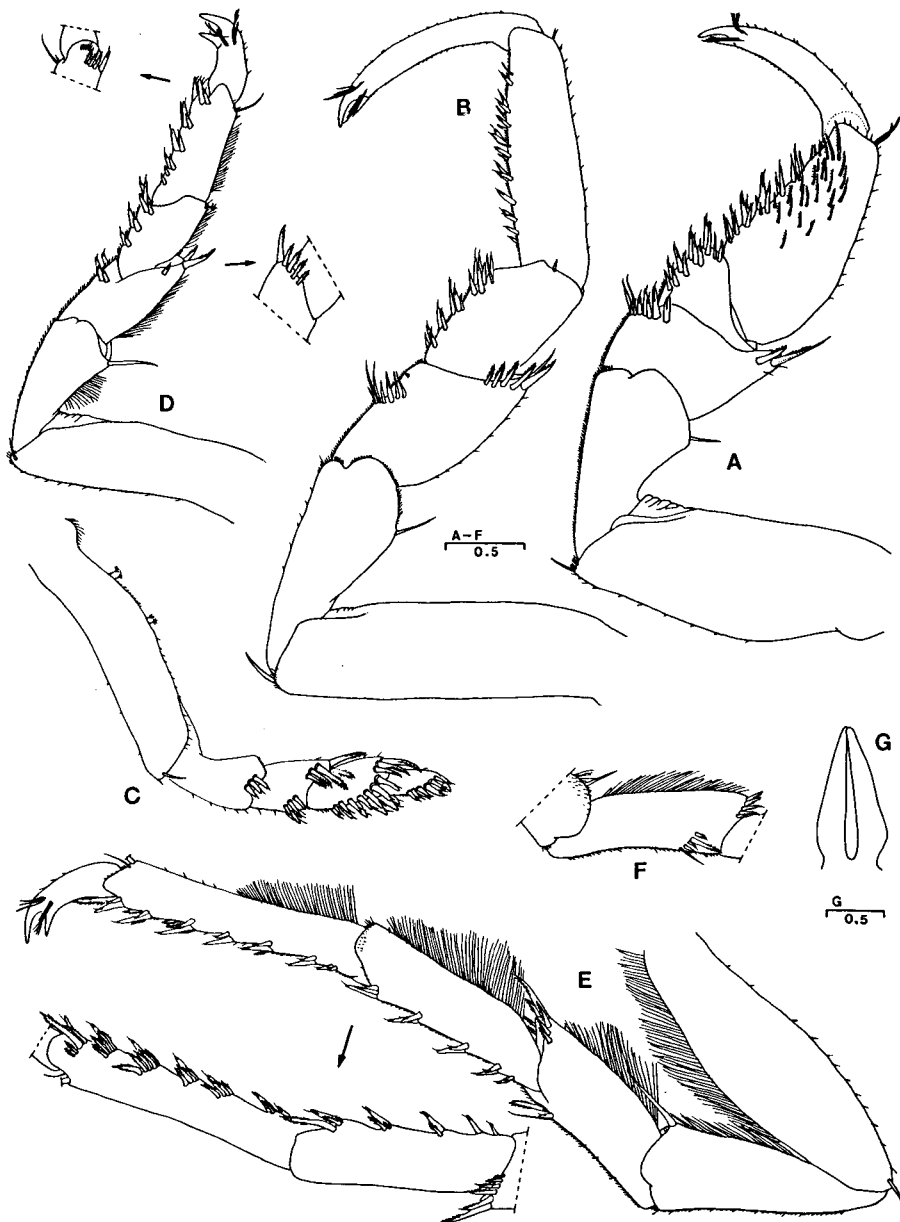


Fig. 2. *Cleantioides emarginata*, n.sp., A-E & G, paratype female; F, paratype male. A, pereopod 1; B, pereopod 2; C, pereopod 4; D, pereopod 5; E, pereopod 7; F, merus of pereopod 7; G, penes. (scale bars in mm)

leg. H.S. Kim, 22 V 1978 (IJB); 1 ♂, Kanghwado I., Ch'oji-ri, leg. D.H. Kwon, 4 V 1980 (IJB); 11 ♂♂, 21 (10 ovi.) ♀♀, Kanghwado I., Sinjōng-ri, leg. D.H. Kwon, 24 VIII 1980 (IJB).

Description: Adult female — Body elongate, cylindrical, about 6 times as long as wide. Color (in alcohol) yellow or light brown with scattered purple pigment (lighter in specimens from Kanghwado I., near the river-mouth of Han River), pleotelson pigmented densely; 6 dark purple longitudinal stripes, medial 2 narrow, on pereon and pleotelson. Dorsal surface without setae. Cephalon 1.65 times as wide as long; anterior

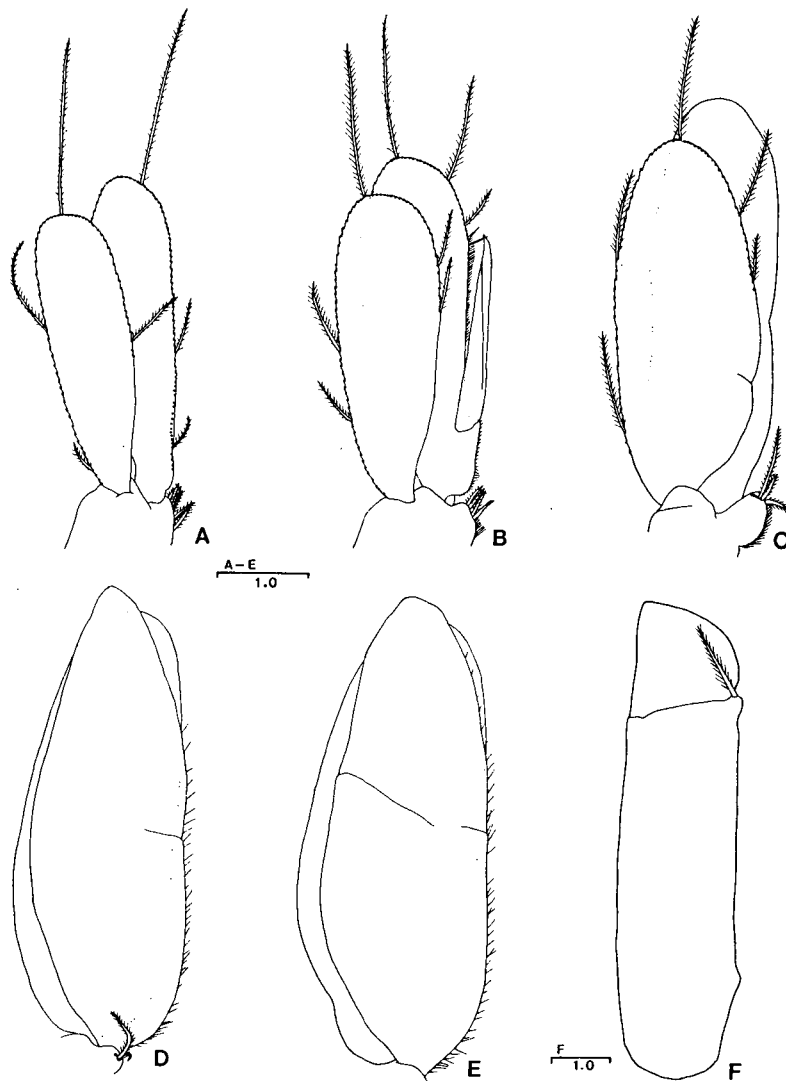


Fig. 3. *Cleantioides emarginata*, n.sp., paratype male. A, pleopod 1; B, pleopod 2; C, pleopod 3; D, pleopod 4; E, pleopod 5; F, uropod. (scale bars in mm)

margin with a shallow midline notch, dorsally concave in middle; posterior margin convex. Coxal plates distinct on pereonites 2-7 as in Fig. 1B. Pleotelson (together with pleonites) 1/3 as long as whole length; pleonite 1 free and articulating, pleonites 2 and 3 well defined with free lateral margin but articulating only laterally, pleonite 4 incised laterally and lacking free lateral margin; pleotelson parallel-sided with slightly emarginated apex, posterior planiform area poorly defined.

Antenna 1 reaching to middle of peduncular article 3 of antenna 2; peduncular article 1 broadest and longest; flagellum of single article with numerous (ca. 30) aesthetascs and a long seta at apex, and a semicircular row of subapical setae. Antenna 2 slender; flagellum of single article, twice as long as peduncular article 5, with dense fine setae and scattered tufts of setae all over, and a dense clump at apex.

Mandible asymmetrical, lacking palp; incisor 4- (left) or 5-toothed (right); lacinia mobilis of 2-toothed

blade (left) or a 3-spined tooth (right); spine row of about 10 dentate spines, molar process stout with a ridged triturating surface. Maxilla 1 endopod with 3 apical pappose setae and a short simple seta at outer-distal corner; exopod with 12 (9 serrate) teeth. Maxilla 2 endopod with about 30 pappose setae; exopod with both rami bearing 9 serrate setae each. Maxillipedal endite with 3 mesial and numerous distal plumose setae; palp of 5 articles with suture between 2 and 3 not articulating.

Pereopods 1-3 increasing in length, pereopod 4 shortest, pereopods 5-7 increasing in length, pereopod 7 longest. Pereopods 1-3 and 5-7 merus with a row of posterior cuspidate and simple setae (also serrate ones on mesial face of pereopod 7), carpus and propodus fringed with rows of cuspidate setae (also serrate ones on mesial face of pereopod 7). Pereopods 1-3 with dactylus as long as propodus. Pereopod 1 merus mesially with 2 anterodistal serrate setae and a simple one; propodus expanded anteroproximally, with 24 serrulate setae on mesial surface. Pereopods 2 and 3 similar; merus mesially with 5 (6 in pereopod 3) anterodistal serrate setae and a simple one. Pereopods 4 ischium with 3 mesiodistal cuspidate setae; merus, carpus and propodus with U-shaped row of 6, 13 and 11 posterior cuspidate setae respectively; merus and carpus with 7 and 6 anterodistal serrate setae respectively; dactylus with unguis differentiated from short proximal part. Pereopods 5-7 fringed with long setae on anterior margins except dactylus; dactylus much shorter than propodus. Pereopods 5 and 6 similar, merus with 6 and 8 anterodistal serrate setae respectively. Pereopod 7 merus with 7 anterodistal serrate setae.

Uropod uniramous, 1/4 length of protopod; protopod with a long plumose seta at outerdistal corner.

Adult male — Differs from female in antenna 2 flagellum ventrally with dense fine setae much longer; merus, carpus and propodus of pereopod 1 with more numerous setae on each row of posterior setae; pereopods 2, 3 and 5-7 slender and more elongate with posterior margin of merus slightly concave; pereopods 2-4 with basis fringed with long setae on anterior margin; pereopod 4 with more setae.

Pleopods 1-3 exopods with about 70 marginal plumose setae, distal one longest but shorter than ramus; pleopods 1 and 2 endopod with about 75 and 40 marginal plumose setae respectively; pleopod 2 with appendix masculina shorter than endopod, apex acute. Pleopod 3 endopod and both rami of pleopods 4 and 5 lacking marginal plumose setae. Penes separate at base.

Etymology: The name refers to the shape of pleotelson with emarginated apex (Latin *emarginatus*, emarginate).

Remarks: Ten species of the genus *Cleantioides* are known to be valid. Of these three species, *C. annandalei* (Tattersall, 1921), *C. japonica* (Richardson, 1912) and *C. rotundata* (Kussakin, 1982) are recorded from the western North Pacific (Kwon, 1986; Poore and Lew Ton, 1990). The proposed new species is distinguished from other species of the genus by the slightly emarginated posterior margin of pleotelson. Another species with emarginated pleotelsonic apex, *C. annandalei*, differs in having not parallel-sided body. This species is exclusively restricted to brackish water.

***Cleantioides poorei*, n. sp.**

(Figs. 4 and 5)

Holotype: ♀, 8.7 mm, Pusan, off Mip'o, from a fishing net, leg. D.H. Kwon, 26 IV 1983 (IJB).

Paratypes: 2 juveniles, same locality as holotype, from a fishing net, leg. H.S. Kim, 22 VII 1976 (IJB).

Description: **Holotype female** — Body elongate, cylindrical, about 4 times as long as wide. Color (in alcohol) dull yellow with longitudinal stripes on dorsal surface, but not distinct due to long preservation. Dorsum of cephalon and pereon granulated along midline, posterolateral parts of pleotelson setose. Cephalon 1.4 times as wide as long; anterior margin notched at midpoint, dorsally concave in middle. Coxal plates

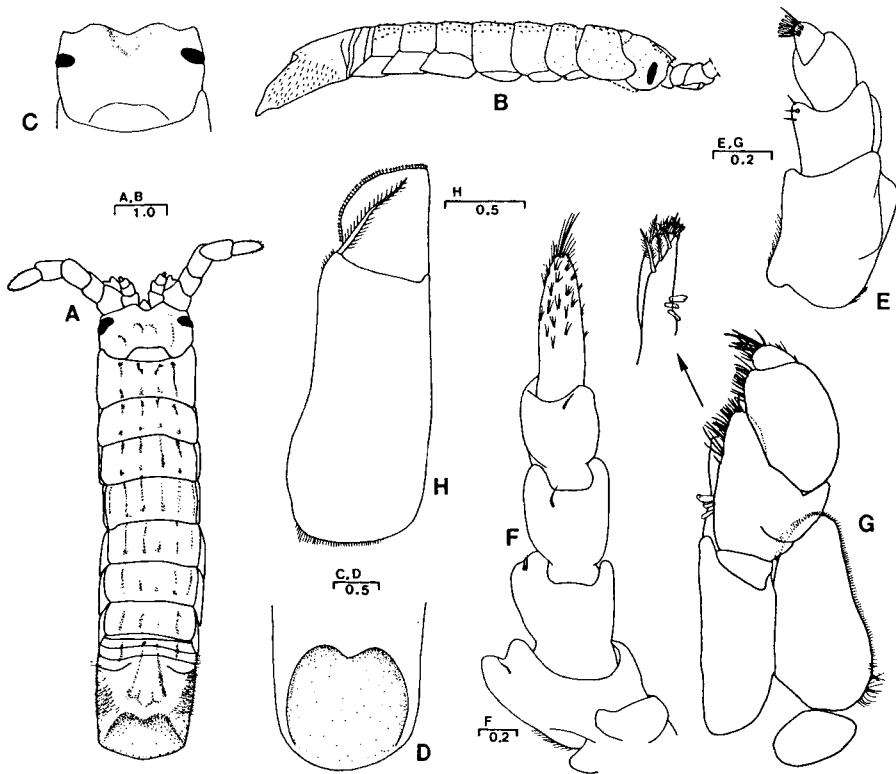


Fig. 4. *Cleantioides poorei*, n.sp., holotype female. A, habitus, dorsal view; B, habitus, lateral view; C, cephalon; D, apex of pleotelson; E, antenna 1; F, antenna 2; G, maxilliped; H, uropod. (scale bars in mm)

distinct on pereonites 2-7 as in Fig. 4B. Pleonites 1-4 as in *C. emarginata*; pleotelson parallel-sided with slightly rounded apex, posterior planiform area with anteriorly bilobed depression.

Antenna 1 with peduncular article 1 broadest and longest; articles 2 and 3 subequal in length; article 3 ovate; flagellum of single minute article with 6 aesthetascs and a long seta at apex, and a row of subapical setae. Antenna 2 with flagellum of single clavate article bearing scattered tufts of setae all over and dense clump at apex. Mandible, maxillae 1 and 2 similar to those in *C. emarginata*. Maxillipedal endite with row of 3 mesial and 11 distal plumose setae, and 3 coupling hooks; palp of 5 articles with partial suture between 2 and 3.

Pereopods 1-3 increasing in length, pereopod 4 shortest, pereopods 5-7, shorter than pereopod 1, abruptly increasing in length. Pereopods 1-3 basis and ischium fringed with long setae on anterior margin; rows of posterior cuspidate and simple setae on merus, carpus and propodus; dactylus as long as propodus. Pereopod 1 merus mesially with 2 anterodistal serrate and 2 cuspidate setae; propodus expanded with 20 serrulate setae on mesial surface. Pereopods 2 merus mesially with 2 anterodistal serrate setae and a simple one. Pereopod 3 similar to pereopod 2 but much slender, with 2 anterodistal serrate setae. Pereopod 4 ischium with 3 mesiodistal cuspidate setae; merus, carpus and propodus with posterior U-shaped row of 6, 14 and 10 cuspidate setae respectively; dactylus with unguis differentiated from short proximal part. Pereopods 5-7 fringed with long setae on anterior margins of basis, ischium, merus and carpus, and posterior margin of basis; dactylus much shorter than propodus. Pereopods 5 merus, carpus and propodus with 4

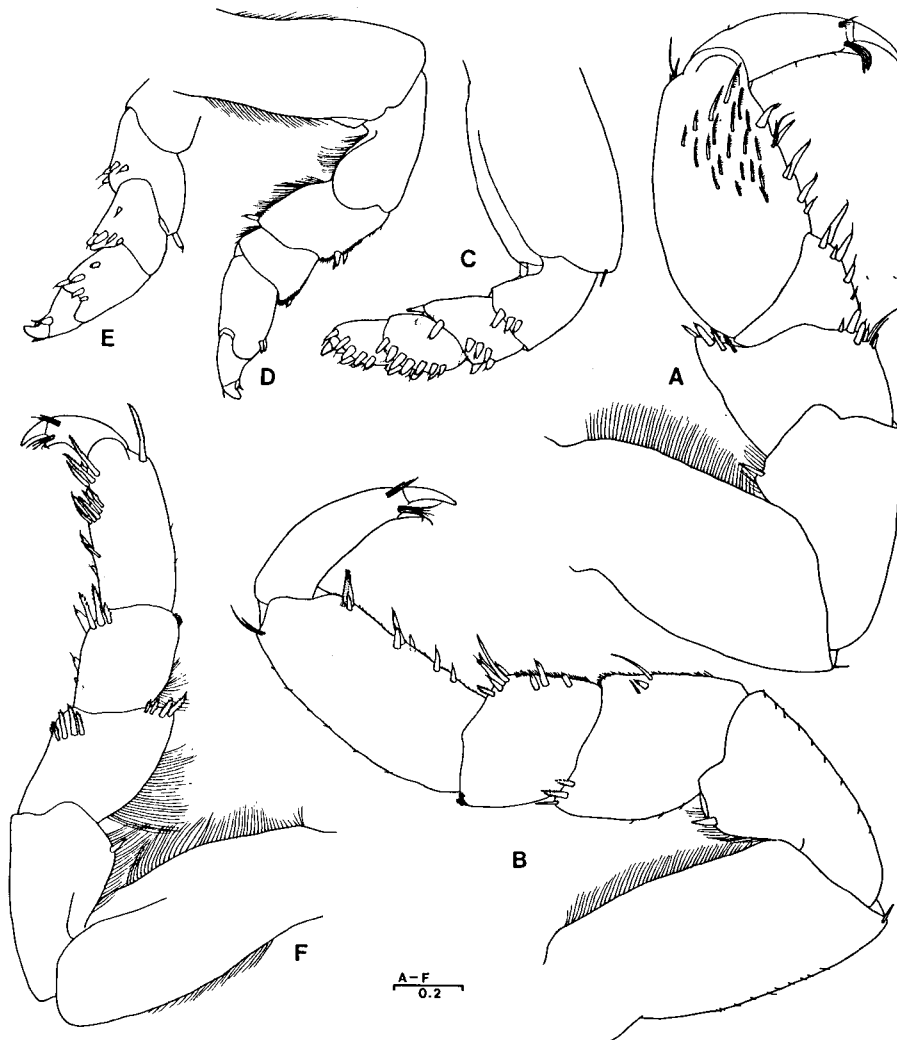


Fig. 5. *Cleantioides poorei*, n.sp., holotype female. A, pereopod 1; B, pereopod 2; C, pereopod 4; D, pereopod 5, mesial view; E, pereopod 5, lateral view; F, pereopod 7. (scale bar in mm)

(on posterodistal row) + 0 (on posterior margin), 4 + 1 and 4 + 2 cuspidate setae respectively; merus with an anterodistal cuspidate seta. Pereopod 6 similar to pereopod 5 but much elongated. Pereopod 7 merus with 6 anterodistal serrate setae; merus, carpus and propodus with rows of posterior setae, cuspidate ones on lateral face and serrate ones on mesial face; propodus with an anterodistal serrate seta.

Pleopods 1-3 exopod with about 30 marginal plumose setae, distal ones of pleopod 1 longer than or as long as ramus. Pleopods 1 and 2 endopod with about 28 marginal plumose setae; pleopod 3 endopod with a distal and a proximal plumose setae on mesial margin. Pleopod 3 exopod bi-articulated, those of pleopods 4 and 5 partially bi-articulated. Pleopods 4 and 5 with both rami lacking marginal plumose setae. Uropod uniramous, $2/5$ length of protopod, a long plumose seta at outer distal corner of protopod.

Etymology: The new species is named after Dr. G.C.B. Poore (Museum of Victoria, Melbourne).

Remarks: The proposed new species is distinguished from all the members of the genus *Cleantioides*

by the planiform area of pleotelson with anteriorly bilobed depression.

ABSTRACT

Two new species of the family Holognathidae, *Cleantioides emarginata*, n.sp. and *C. poorei*, n.sp., are described from Korea.

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