

# Two New Records of *Dimorphostylis* (Crustacea, Cumacea, Diastylidae) From Korea

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Key Words:

Cumacea  
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Two diastylid species, *Dimorphostylis manazuruensis* Gamô (1960) and *Dimorphostylis longicauda* Gamô (1962), are recorded as new to Korean cumacean fauna. The subadult male of *D. longicauda* is described for the first time. As a result, the genus *Dimorphostylis* found in Korean waters now consists of eight species.

In the *Dimorphostylis* cumaceans, six species have been reported in Korean waters including the recent record of a new species, *D. namhaedoensis* (Kang and Lee, 1995; Hong et al., 1998; Lee and Lee, 2002). Among cumacean specimens collected from shallow coasts of Korea from 1994 to 2002, two species, *Dimorphostylis manazuruensis* Gamô (1960) and *D. longicauda* Gamô (1962) are new to Korean cumacean fauna. Especially, the subadult male of *D. longicauda* is described for the first time. Drawings and measurements were made with the aid of a drawing tube. Measurements of body lengths were made from the anterior tip of carapace to the last abdominal somite, and those of each appendages were made along the mid-line of segment, exclusive of the inflated outer angle.

Descriptions of species

Order Cumacea Kröer, 1846  
Family Diastylidae Bate, 1856  
Genus *Dimorphostylis* Zimmer, 1921

*Dimorphostylis manazuruensis* Gamô, 1960 (Figs. 1-4)

*Dimorphostylis manazuruensis* Gamô, 1960, p. 101-102, 108-109, figs. 1, 2; 1963, p. 87; 1968, p. 181. Băcescu, 1992, p. 334.

*Dimorphostylis triplicata* Harada, 1960, p. 212-214, fig. 6.

Material examined: 3 ♂♂ (immature), 7 ♀♀, Seongsanpo Port (Jejudo Isl.), May 7, 1994, B. J. Kang; 23 ♂♂, 6 ♀♀, Cheongsando Isl. (Wando-gun), May 20-22, 1998, C. M. Lee; 9 ♂♂, 1 ♀, Maemuldo Isl. (Tongyeong-si), June 28, 2002, Y. H. Kim.

Adult male: Body length (Fig. 1A) about 6.9 mm excluding telson and uropod. Carapace (Fig. 1A, B) a

little longer than 1/3 of body length, about 1.5 times as long as its width, twice as long as its depth; with 3 pairs of oblique ridges (anterior, middle and posterior) on each side. Frontal lobe rather flattened, without transverse ridge and 1 pair of frontal ridges. Anterior oblique ridge beginning at side of pseudorostrum, running upward and turning abruptly forward to merge with dorsal median carina. Anterior oblique ridge with 1 branch communicating with anterior portion of middle oblique ridge. Middle oblique ridge beginning at a slight distance behind antero-lateral angle, running upward and turning abruptly forward to merge with anterior ridge. Posterior oblique ridges almost parallel with middle ridge. Dorsal groove formed on postero-median surface of carapace. Antennal notch shallowly concaved and antero-lateral angle blunt. Antero-lateral margin serrated. Pseudorostral lobe slightly longer than 1.5 times of ocular lobe. Ocular lobe round, with 3 lenses.

Thorax (Fig. 1A, B) slightly shorter than 3/5 of carapace length, 1/5 of body length.

Abdomen (Fig. 1A) about 0.75 times as long as cephalothorax. Fifth segment subequal in length to sixth, about 0.7 times as long as third and fourth segments combined.

Antennule (Fig. 1C): Peduncle composed of 3 articles; first article slightly longer than remaining ones combined, with numerous hairs, 1 simple seta, 1 strong plumose seta distally on surface; second about 0.35 times as long as first, with 1 simple and 4 plumose setae; third 1.65 times as long as second, with 1 long and 9 short simple setae on surface and numerous long sensory hairs, 3 sensory setae near outer margin. Main flagellum composed of 5 articles; third article longest, equal in length to first and second combined; fourth slightly shorter than third; fifth slightly shorter than fourth, with 1 aesthetasc and 2 short hairs; sixth very minute, with 1 aesthetasc, 1 long and 1 short simple setae. Accessory flagellum composed of 4 articles, about 0.7 times as long as main flagellum; third article longest, slightly longer than the first and second combined; the fourth very

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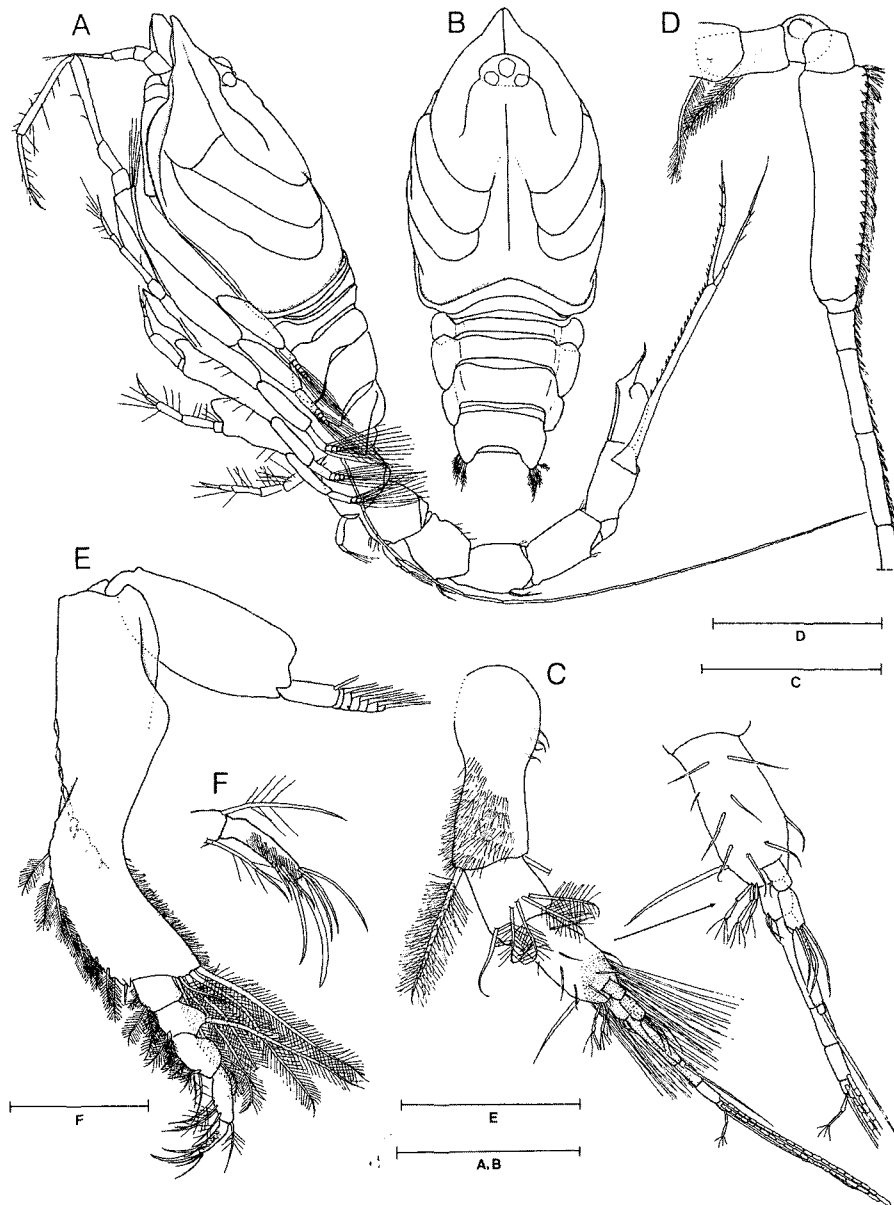


Fig. 1. *Dimorphostylis manazuruensis* Gamô, adult male. A, Habitus, lateral. B, Cephalothorax, dorsal. C, Antennule. D, Antenna. E, Third maxilliped. Scale bars=0.2 mm (F), 0.3 mm (C), 0.5 mm (D), 0.6 mm (E), and 1.5 mm (A, B).

small, with 1 long simple seta. Antenna (Fig. 1A, D) long, extending beyond telson; peduncle composed of 5 articles; second article with 3 plumose setae.

Third maxilliped (Fig. 1E): Basis about twice as long as remaining articles combined; inner margin serrated, with 10 plumose setae distally, 1 row of setae near middle part; inner corner with 1 simple seta, 1 spine; outer margin with numerous hairs distally; outer corner rather inflated, with 1 short and 5 long plumose setae. Ischium, merus subequal in length to each other. Carpus about 1.65 times as long as merus. Propodus subequal in length to carpus, with 4 plumose setae on inner margin; outer corner with 1 plumose seta. Dactyl about 0.75

times as long as propodus, with numerous hairs, 3 short simple setae near inner margin; outer corner with 3 simple setae; terminal margin with 2 simple setae, 1 setiform spine. Exopod well-developed.

First pereopod (Fig. 2A): Basis about 0.65 times as long as remaining articles combined; inner margin with 14 simple setae, 1 row of setae near middle part; inner corner with 1 pair of spines; outer margin with 11 plumose setae; distal margin with 9 long plumose setae. Ischium slightly longer than 1/2 length of merus. Merus about 0.4 times as long as carpus, with 6 plumose setae near distal portion, about 11 simple setae on the surface. Carpus about 1.5 times as long as dactyl, with 5 simple



Fig. 2. *Dimorphostylis manazuruensis* Gamô, adult male. A, First pereopod. B, Second pereopod. C, Third pereopod. D, Fourth pereopod. E, Fifth pereopod. F, First pleopod. Scale bars=0.2 mm (F), 0.3 mm (E), and 0.5 mm (A-D).

setae on inner margin and 3 simple setae on outer margin. Propodus about 1.4 times as long as carpus, with 9 simple setae on inner and 7 simple setae on outer margins. Dactyl about 1/2 length of propodus, with 4 simple setae on outer margin and 5 setae on inner margin; terminal margin with 2 simple setae, 1 setiform spine.

Second pereopod (Fig. 2B): Basis slightly longer than remaining articles combined; inner corner inflated, with 1 simple and 2 plumose setae; outer margin with 13 plumose setae. Merus slightly shorter than 1/2 length of carpus, with 2 long plumose setae on distal margin. Carpus slightly longer than propodus and dactyl

combined, with 3 simple setae on inner margin. Dactyl about 1.85 times as long as propodus, with 3 short and 3 long simple setae near inner margin; outer margin with 4 simple setae; terminal margin with 1 short and 3 long simple setae (one of them very long).

Third pereopod (Fig. 2C): Basis about 1.1 times as long as remaining articles combined; inner corner inflated, with 3 plumose and 2 simple setae near distal margin; outer margin with 2 simple proximal and 8 plumose setae.

Fourth pereopod (Fig. 2D): Basis about 0.85 times as long as remaining articles combined; inner corner inflated, with 4 plumose and 3 simple setae; outer margin with 3

plumose proximal, 4 simple and 1 sensory setae.

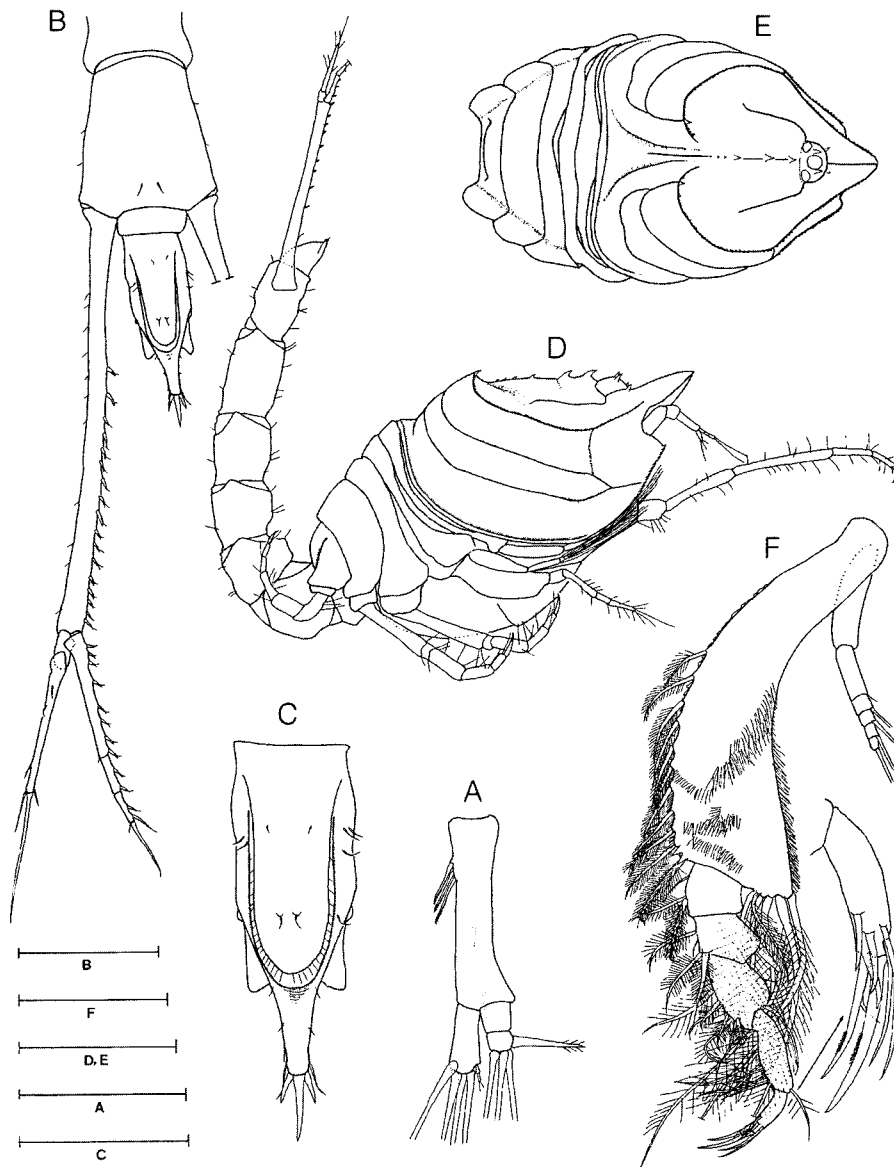
Fifth pereopod (Fig. 2E): Basis about 0.6 times as long as remaining articles combined, with 1 plumose proximal, 2 plumose distal, 3 simple distal setae.

First pleopod (Fig. 2F): Basis about 3.9 times as long as inner ramus, with 2 simple setae, 6 plumose setae on inner margin and 2 simple distal setae on outer margin; with 3 simple setae on ventral surface. Inner and outer rami subequal in length to each other. Outer ramus bi-articulate; distal article with 4 long plumose setae. Inner ramus uni-articulate, with 1 plumose seta on inner margin and 4 long plumose setae on terminal margin.

Second pleopod (Fig. 3A): Basis about 2.9 times as long as inner ramus, with 3 comb-like setae on inner margin, 2 simple setae on ventral surface. Outer ramus bi-

articulate; distal article with 1 short and 3 long plumose setae. Inner ramus about 1.3 times as long as outer ramus, with 1 short sensory and 3 long plumose setae.

Telson and uropod (Fig. 3B, C): Telson slightly shorter than length of abdominal segment; pre-anal section with 2-4 pairs of hairy lateral setae, U-shaped dorsal projection bearing 1 pair of tubercles furnished 1 seta near middle portion; post-anal section slightly longer than 1/3 length of pre-anal, with 3-4 pairs of lateral bristles; terminal margin with 3 apical spines, among them middle spine about twice as long as lateral ones. Uropodal peduncle about 2.6 times as long as telson, with about 17-18 spines on inner margin, 11 hairy setae on outer margin. Endopod composed of 3 articles, slightly shorter than 1/2 length of peduncle; first article 1.8 times as long



**Fig. 3.** *Dimorphostylis manazuruensis* Gamô. A-C, Adult male. A, Second pleopod. B, Uropods and last abdominal segment, dorsal; C, Telson, dorsal. D-F, Marsupial female. D, Habitus, lateral. E, Cephalothorax, dorsal. F, Third maxilliped. Scale bars=0.2 mm (A), 0.3 mm (C, F), 0.5 mm (B), and 1 mm (D, E).

as remaining ones combined, with 8 spines on inner margin; second with 2 spines on inner margin; third with 1 spine, 1 distal seta on inner margin and 1 short distal seta, 1 long terminal seta. Exopod composed of 2 articles, about 0.85 times as long as endopod; second article with 1 inner distal seta, 3 outer setae, 2 terminal setae (one of them long).

Marsupial female: Body length (Fig. 3D) about 5.3 mm, excluding telson and uropod. Carapace (Fig. 3D, E) slightly longer than 1/3 of body length, about 1.2 times as long as its width, 1.8 times as long as its depth; proximal portion of pseudorostral lobe and ocular lobe with a pair of small spines, respectively; frontal lobe with 3 strong spines; rear of frontal lobe with 2 or 3 small spines; both sides with 3 serrated ridges and their pattern same as in male. Frontal lobe rather flattened, without transverse ridge, 1 pair of frontal ridges. Dorsal groove formed on postero-median surface of carapace. Antennal notch and antero-lateral angle prominent. Antero-lateral margin serrated. Pseudorostral lobe slightly longer than 1.85 times of ocular lobe. Ocular lobe round, with 3 lenses.

Thorax (Fig. 3D, E) slightly shorter than 3/5 of carapace length, slightly longer than 1/5 of body length.

First segment subequal in length to second; third slightly longer than second; fourth subequal in length to second and third combined; fifth slightly shorter than fourth.

Abdomen (Fig. 3D) about 0.9 times as long as cephalo-thorax. Fifth segment longest, about 0.65 times as long as third and fourth combined; sixth about 0.9 times as long as fifth.

Third maxilliped (Fig. 3F): Basis about 1.4 times as long as remaining articles combined; inner margin serrated, with about 9 plumose setae; inner corner with 2 spines, 1 strong plumose seta; outer corner rather inflated, with 6 long plumose setae (one of them rather shorter); outer margin with numerous hairs distally. Ischium, merus and carpus subequal in length to each other. Propodus about 1.25 times as long as carpus, with 4 plumose setae on inner margin; outer corner with 1 plumose seta. Dactyl about 0.6 times as long as propodus, with 3 short simple setae on inner margin, 3 simple setae near outer corner; terminal margin with 2 simple setae, 1 setiform spine. Exopod well-developed.

First pereopod (Fig. 4A): Basis about 0.45 times as long as remaining articles combined; inner margin with about 7 hairy proximal and 16 plumose setae; inner corner with 1 pair of spines; outer margin with 11

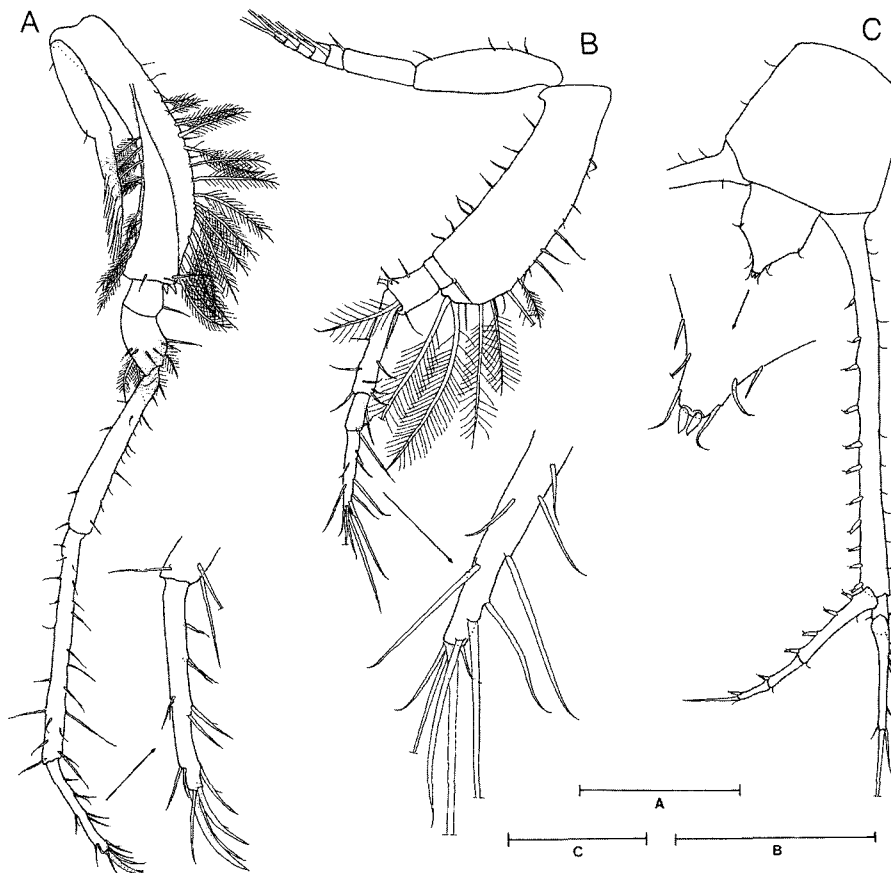


Fig. 4. *Dimorphostylis manazuruensis* Gamô, marsupial female. A, First pereopod. B, Second pereopod. C, Uropods and last abdominal segment, dorsal. Scale bars=0.4 mm (C) and 0.5 mm (A, B).

plumose setae. Ischium slightly longer than 1/2 length of merus, with 1 simple seta on inner margin. Merus about 0.3 times as long as carpus, with 4 plumose and 6 simple setae near middle portion. Carpus about 1.7 times as long as dactyl, with about 13 simple setae on inner margin and surface; outer margin with 4 simple setae. Propodus about 1.3 times as long as carpus, with 11 simple setae on inner and 10 simple setae on outer margins. Dactyl slightly shorter than 1/2 length of propodus, with 4 simple setae on outer and 7 setae on inner margins; terminal margin with 2 simple setae, 1 setiform spine.

Second pereopod (Fig. 4B): Basis about 0.85 times as long as remaining articles combined; inner margin with 8 hairy, 5 simple and 4 plumose proximal setae; outer margin with 8 hairy setae. Carpus very long, about 0.85 times as long as propodus and dactyl combined, with 8 simple setae on surface. Dactyl about twice as long as propodus, with 1 short and 5 long simple setae near inner margin; outer margin with 2 simple setae; terminal margin with 1 short and 3 long simple setae (one of them very long).

Telson and uropod (Fig. 4C): Telson subequal to 1/2 length of last abdominal segment; both lateral margins with 4 pairs of bristles; terminal margin with 2 apical spines. Uropodal peduncle about 4.5 times as long as telson, with 11 spines on inner margin; outer margin with about 11 hairy setae. Endopod composed of 3 articles, slightly shorter than 1/2 length of peduncle; first article about 1.35 times as long as remaining ones combined, with 4 spines on inner margin; second and third each with 1 spine on inner margin, respectively. Exopod composed of 2 articles, about 0.8 times as long as endopod; second article with 1 inner distal seta, about 4 outer setae, 2 terminal setae (one of them long).

Remark: This species was originally described on the basis of mature female and immature male specimens from the Japanese waters (Gamô, 1960). After that, this species was reported to *D. triplicata* including the description of mature male by Harada (1960). A few differences are found between our specimens and specimens previously reported (Gamô's and Harada's): (1) in our female specimens the telson is furnished with three pairs of bristles on both lateral margins, while it is furnished with four pairs in Harada's; (2) in all Gamô's and Harada's the third maxilliped of the female specimens have a spine on the distal margins of the basis, ischium and merus, while our female specimens have two spines only on the inner distal margin of the basis; (3) the uropodal peduncle of our male specimens is furnished with 17-18 spines on the inner margin, while Harada's is furnished with about 20 ones.

This species is closely allied to *Dimorphostylis namhaedoensis* Lee and Lee (2002), *D. asiatica* Zimmer (1921), *D. valida* Harada (1960) and *D. hirsuta* Gamô

(1960) in having carapace ornamented with three pairs of the oblique ridges and telson furnished with three terminal spines. This species, however, could be distinguished from the other four species by its lacking transverse and frontal ridges on the carapace.

*Dimorphostylis longicauda* Gamô, 1962  
(Figs. 5-8)

*Dimorphostylis longicauda* Gamô, 1962, p. 200-203, figs. 35, 36; 1963, p. 88. Băcescu, 1992, p. 333.

*Dimorphostylis longicaudata* Gamô, 1968, p. 182.

Material examined: 2 ♂♂ (subadult), 1 ♀ (subadult), Choengsando Isl. (Wando-gun), May 20-22, 1998, K. S. Lee and C. M. Lee; 1 ♂ (subadult), 1 ♀ (subadult), Daechoen Port (Boryeong-si), Sep. 9, 1998, Y. H. Kim; 1 (subadult), Namhaedo (Namhae-gun), July 14, 1999, Y. H. Kim.

Subadult male: Body length (Fig. 5A) about 3.5 mm excluding telson and uropod. Carapace (Fig. 5A, B) slightly longer than 1/3 of body length, about 1.4 times as long as its width, 1.8 times as long as its depth; with 1 pair of small spines on ocular lobe, about 6 spines on dorsal carina of frontal lobe; with 1 pair of frontal ridges, 3 pairs of finely serrated oblique ridges (anterior, middle and posterior) on each side. Frontal ridge beginning at side of pseudorostrum and reached rear portion of frontal lobe. Anterior oblique ridge beginning at front portion of frontal ridge, running upward and turning abruptly forward to merge with dorsal median carina. Anterior ridge with 1 small branch directing downward near anterior portion and not connected with middle oblique ridge. Middle and posterior oblique ridges almost parallel with anterior ridge. Dorsal groove formed on postero-medial surface of carapace. Antennal notch shallowly concaved and antero-lateral angle blunt. Pseudorostral lobe about 1.5 times as long as ocular lobe. Ocular lobe round, with 3 lenses.

Thorax (Fig. 1A, B) slightly longer than 1/2 of carapace length, slightly longer than 1/5 of body length. First segment slightly shorter than second; third subequal in length to second; fourth subequal in length to second and third combined; fifth slightly shorter than fourth.

Abdomen (Fig. 5A) about 0.78 times as long as cephalothorax. Fifth segment longest, about 0.6 times as long as third and fourth combined; sixth about 0.85 times as long as fifth.

Antennule (Fig. 5C): Peduncle composed of 3 articles; first article subequal to length of remaining ones combined, with numerous hairs, 1 bent simple seta, 1 strong plumose seta distally on surface; second about 0.4 times as long as first, with 1 sensory and 3 simple setae on outer margin; third about 1.6 times as long as second, with 3 hairy and 1 simple setae on inner margin

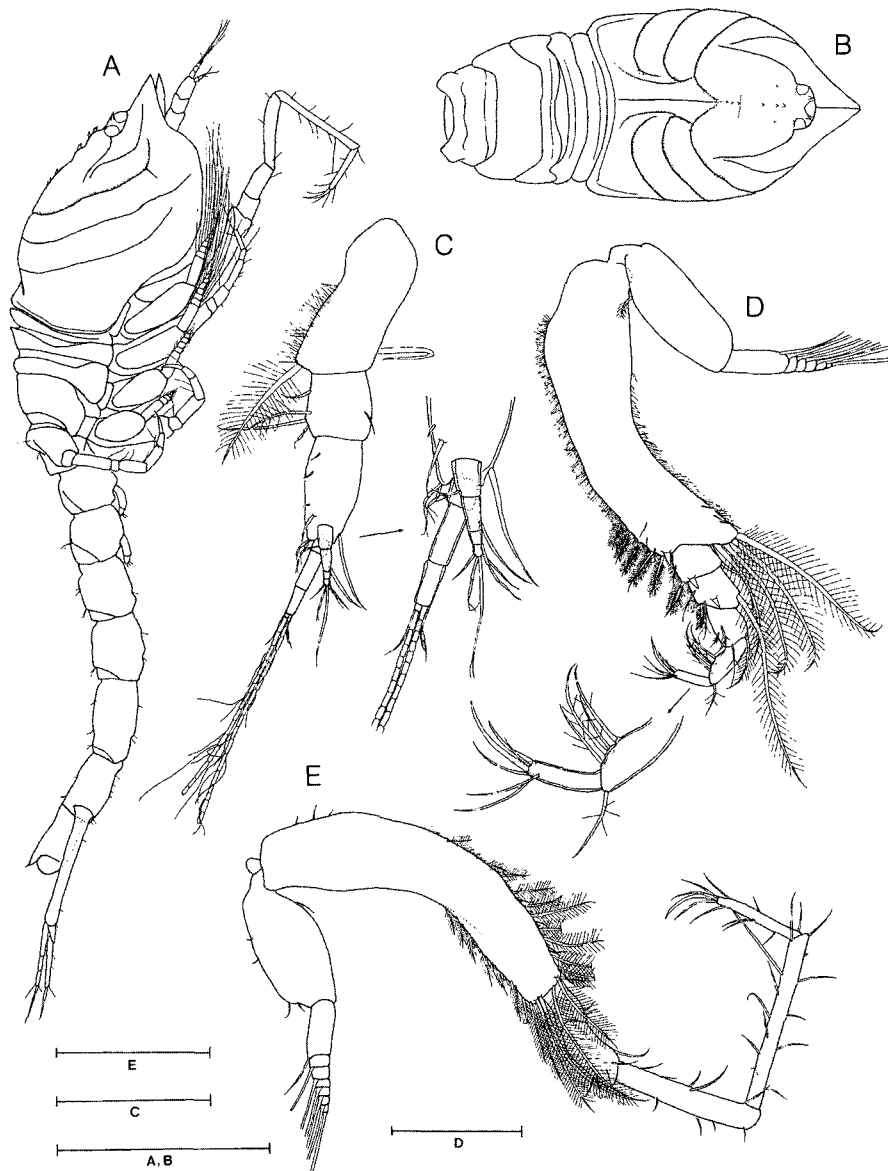


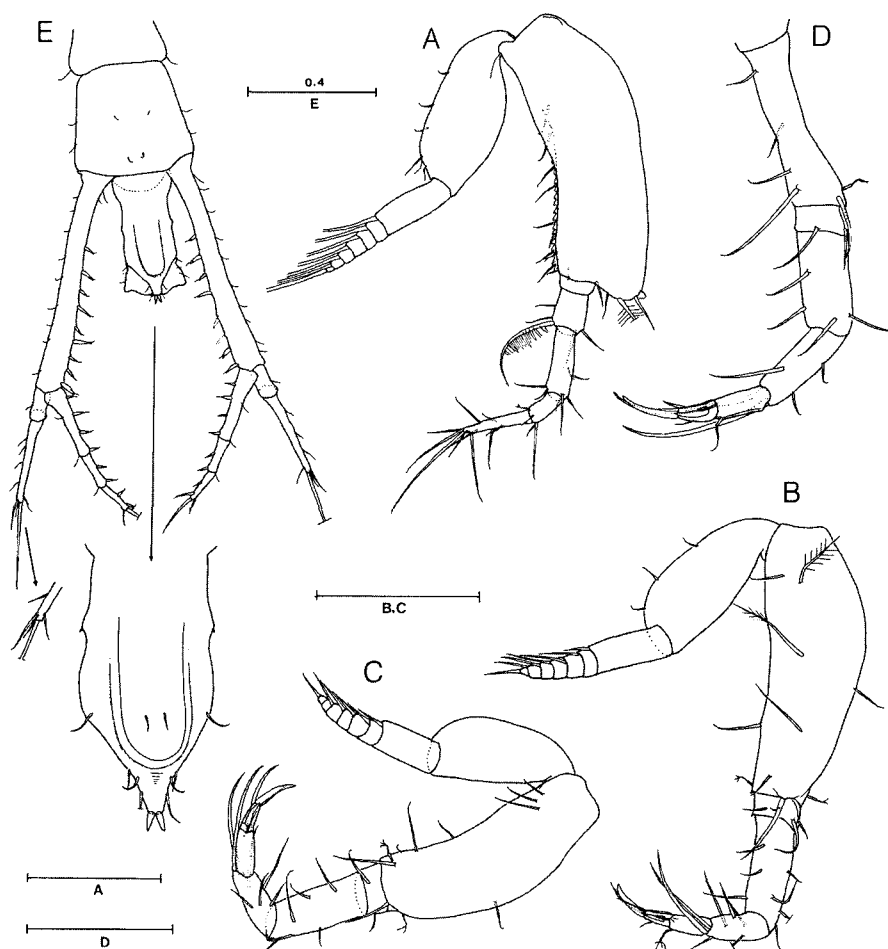
Fig. 5. *Dimorphostylis longicauda* Gamô, subadult male. A, Habitus, lateral. B, Cephalothorax, dorsal. C, Antennule. D, Third maxilliped. E, First pereopod. Scale bars=0.2 mm (C), 0.3 mm (D), 0.4 mm (E), and 1 mm (A, B).

and 2 sensory setae on outer corner and 1 simple seta near inner corner. Main flagellum composed of 4 articles; first article about 0.45 times as long as second; second the longest, 1.4 times as long as third; third with 1 simple seta, 1 aesthetasc bearing sensory hairs on terminal margin; fourth very small, with 1 sensory seta, 1 simple seta, 1 aesthetasc bearing sensory hairs. Accessory flagellum composed of 4 articles, about 0.75 times as long as main flagellum; first article longest; second slightly shorter than first; third small, with 1 sensory seta; fourth with 1 sensory, 1 long, 2 short setae on terminal margin.

Third maxilliped (Fig. 5D): Basis about 1.55 times as long as remaining articles combined; inner margin with

numerous hairs, 5 plumose distal setae; inner corner with 1 spine; outer margin with numerous hairs; outer corner rather inflated, with 1 simple and 4 long plumose setae. Ischium, merus subequal in length to each other, each with 1 spine, respectively. Propodus about 1.35 times as long as carpus, with 4 plumose setae on inner margin; outer corner with 1 plumose seta. Dactyl about 0.8 times as long as propodus, with 1 short simple seta on inner corner; outer margin with 3 simple setae distally; terminal margin with 2 simple setae, 1 setiform spine. Exopod well developed.

First pereopod (Fig. 5E): Basis about 0.6 times as long as remaining articles combined; inner margin serrated, with 11 plumose, 5 hairy setae; outer margin



**Fig. 6.** *Dimorphostylis longicauda* Gamô, subadult male. A, Second pereopod. B, Third maxilliped. C, Fourth pereopod. D, Fifth pereopod. E, Uropods and last abdominal segment, dorsal. Scale bars=0.2 mm (D), 0.3 mm (A-C), and 0.4 mm (E).

serrated, with 8 plumose, 2 hairy setae; distal margin with 5 plumose setae. Ischium about 1/2 length of merus. Merus about 0.4 times as long as carpus, with 6 simple distal setae. Carpus about 1.75 times as long as dactyl, with 5 simple setae on inner margin, 4 simple setae on outer margin. Propodus about 1.2 times as long as carpus, with 6 simple setae on inner margin, 6 simple setae on outer margin; distal margin with 2 simple setae. Dactyl about 1/2 length of propodus; outer margin with 3 simple setae; inner margin with 4 simple setae; terminal margin with 3 simple setae, 1 setiform spine.

Second pereopod (Fig. 6A): Basis about 1.3 times as long as remaining articles combined; inner corner inflated, with 1 plumose and 4 simple setae; outer margin serrated, with 8 simple and 3 hairy setae. Ischium very short. Merus about 0.55 times as long as carpus, with 2 simple and 1 plumose setae on outer margin and 2 simple setae on inner margin. Carpus about 0.65 times as long as propodus and dactyl combined, with 2 simple setae on inner margin, 4 simple setae near distal margin. Propodus with 1 sensory, 1 long and 2 short simple setae near distal margin. Dactyl

about 1.9 times as long as propodus, with 2 short and 4 long simple setae on surface; terminal margin with 4 long setae.

Third pereopod (Fig. 6B): Basis about 1.12 times as long as remaining articles combined, with 2 sensory, 2 plumose and 6 simple setae on surface.

Fourth pereopod (Fig. 6C): Basis slightly shorter than length of remaining articles combined, with 2 sensory and 8 simple setae on surface.

Fifth pereopod (Fig. 6D): Basis slightly longer than 1/2 length of remaining articles combined.

Telson and uropod (Fig. 6E): Telson slightly longer than length of abdominal segment; pre-anal section depressed near anterior portions of both sides, with 1 pair of lateral projections bearing 1 small spine near middle portion, 1 pair of hairy lateral setae near posterior portion, U-shaped projection on dorsal surface; post-anal section very short, with 3 pairs of lateral bristles, 2 apical spines on terminal margin. Uropodal peduncle about 1.8 times as long as telson, with about 8 or 9 spines on inner margin, 9 or 10 hairy setae on outer margin. Endopod composed of 3 articles, about 0.6 times as long as 1/2



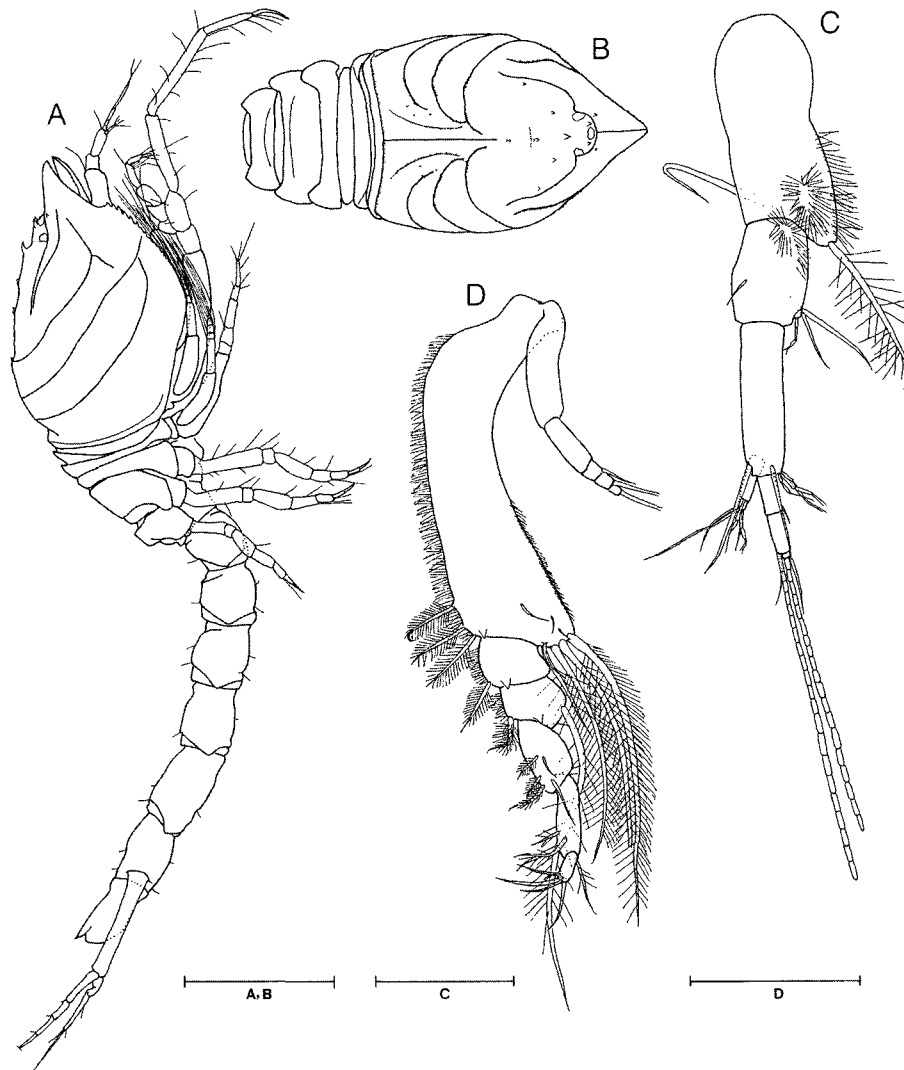


Fig. 7. *Dimorphostylis longicauda* Gamô, subadult female. A, Habitus, lateral. B, Cephalothorax, dorsal. C, Antennule. D, Third maxilliped. Scale bars=0.1 mm (C), 0.2 mm (D), and 0.5 mm (A, B).

length of peduncle; first article slightly longer than remaining ones combined, with 4 spines on inner margin; second with 2 spines on inner margin; third with 1 spine, 1 distal seta on inner margin; terminal margin with 1 short distal and 1 long terminal setae. Exopod composed of 2 articles, about 0.85 times as long as endopod; second article with 1 inner distal seta, 4 or 5 outer setae, 2 terminal setae (one of them long).

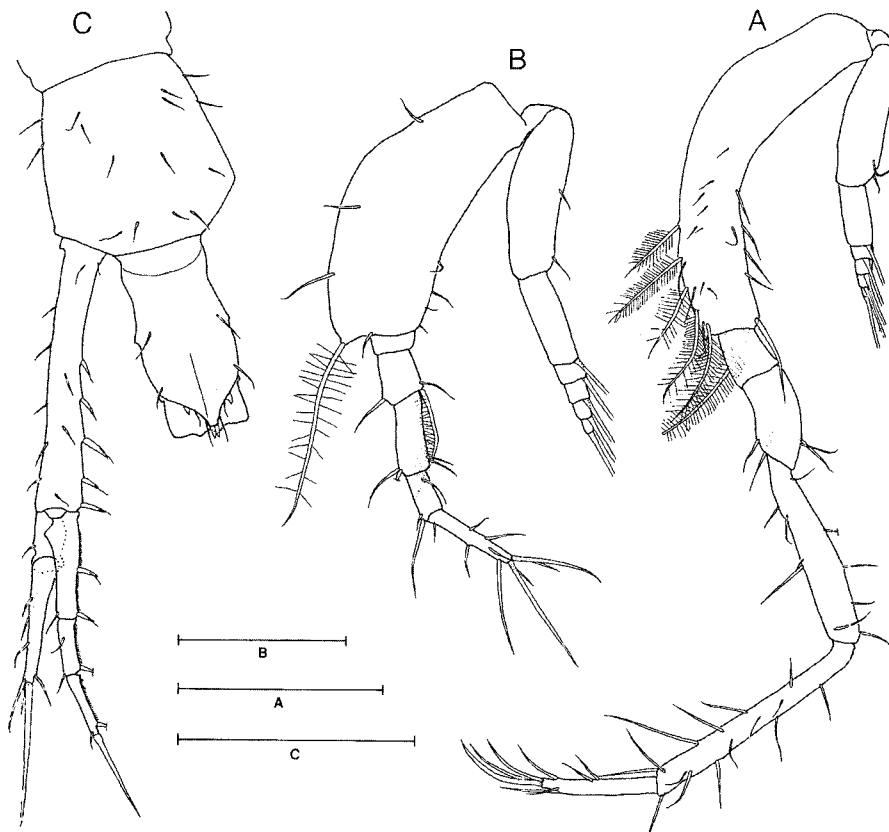
Subadult female: Body length (Fig. 7A) about 2.6 mm, excluding telson and uropod. Carapace (Fig. 7A, B) slightly longer than 1/3 of body length, about 1.45 times as long as its width, 1.7 times as long as its depth; proximal portion of pseudorostral lobe and ocular lobe each with 1 pair of small spines, respectively; frontal lobe with about 5 strong spines on median carina, several spines scattered around; both sides with 4 serrated ridges (frontal and oblique ridges) and their pattern same as in male. Dorsal groove

formed on postero-medial surface of carapace. Antennal notch and antero-lateral angle prominent. Antero-lateral margin serrated. Pseudorostral lobe about twice as long as ocular lobe. Ocular lobe round, with 3 lenses.

Thorax (Fig. 7A, B) slightly longer than 2/5 of carapace length, slightly longer than 1/3 of body length.

Abdomen (Fig. 7A) about 0.8 times as long as cephalothorax. Fifth segment longest, about 0.7 times as long as third and fourth combined; sixth about 0.8 times as long as fifth.

Antennule (Fig. 7C): Peduncle composed of 3 articles; first article about 0.8 times as long as remaining ones combined, with numerous hairs, 1 bent simple seta, 1 strong plumose seta distally on surface; second about 1/2 length of first, with 1 sensory and 2 simple setae on outer margin; third about 1.5 times as long as second, with 3 sensory and 1 simple setae on outer corner. Main flagellum composed of 3 articles; first article subequal in



**Fig. 8.** *Dimorphostylis longicauda* Gamô, subadult female. A, First pereopod. B, Second pereopod. C, Uropods and last abdominal segment, dorsal. Scale bars=0.2 mm (B) and 0.3 mm (A, C).

length to second; second with 1 simple seta, 1 aesthetasc on distal margin; third very small, with 1 simple seta, 1 aesthetasc. Accessory flagellum composed of 3 articles, about 0.65 times as long as main flagellum; first article with 1 simple seta on outer margin; second longest, slightly shorter than twice of first, with 1 sensory seta on distal margin; third shorter than first, with 1 sensory and 3 simple setae (one of them long).

Third maxilliped (Fig. 7D): Basis about 1.6 times as long as remaining articles combined; inner margin with numerous hairs, 3 plumose distal setae; inner corner with 1 spine; outer corner rather inflated, 1 short simple and 4 plumose distal setae; outer margin with numerous hairs distally. Ischium, merus subequal in length to each other, each with 1 spine, respectively.

First pereopod (Fig. 8A): Basis about 0.55 times as long as remaining articles combined; inner margin with 5 plumose and 11 hairy setae on surface; outer margin with 5 simple setae; outer corner with 2 plumose setae. Merus about 0.45 times as long as carpus, with 4 simple setae. Carpus about twice as long as dactyl; inner and outer margins with 5 simple setae, respectively. Propodus about 1.2 times as long as carpus; inner and outer margins each with 6 simple setae, respectively; surface with 4 hairy setae. Dactyl about 1/2 length of propodus; inner margin with 3 simple setae; outer margin with 2

simple distal setae; terminal margin with 2 simple setae and 1 setiform spine.

Second pereopod (Fig. 8B): Basis slightly shorter than remaining articles combined; inner corner with 1 plumose and 1 simple setae; inner margin with 3 simple setae; outer margin with 4 hairy setae. Merus about 0.6 times as long as carpus, with 1 simple and 1 plumose setae on outer margin, 1 simple seta on inner margin. Carpus about 0.55 times as long as propodus and dactyl combined; inner and outer margins each with 2 simple distal setae, respectively. Propodus with 1 simple proximal seta; inner corner with 1 long and 2 short simple setae. Dactyl about twice as long as propodus, with 1 long, 4 short simple setae on surface; terminal margin with 2 short, 2 long setae.

Telson and uropod (Fig. 8C): Telson subequal in length to abdominal segment bearing several hairy dorsal setae; pre-anal section depressed laterally near proximal portion, with 1 pair of projections and lateral setae near middle portion, 1 pair of lateral setae near posterior portion; post-anal section with 1 pair of lateral spines, 2 pairs of bristles; terminal margin with 2 apical spines. Uropodal peduncle about 1.4 times as long as telson, with 1 hairy proximal seta, 5 spines on inner margin, 5 hairy setae on outer margin, 4 hairy setae on surface. Endopod composed of 3 articles, about 0.85 times as long as peduncle; first article slightly shorter than remaining ones combined, with 2

spines on inner margin, 1 hairy distal seta on outer margin; second with 1 spine on inner margin, 2 hairy setae on outer margin; third with 1 spiniform seta on inner margin, 1 distal seta on outer margin, 1 long terminal seta. Exopod composed of 2 articles, about 0.75 times as long as endopod; second article with 1 inner distal seta, 4 outer setae, 2 terminal setae (one of them long).

Remarks: The male of this species has not been known, because this species was originally described on the basis of immature female specimens from the Japanese waters (Gamô, 1962). We collected a few immature subadult male and female specimens of *Dimorphostylis longicauda* from shallow coasts of Korea. Our subadult female specimens agree well with the type specimen.

A few sexual dimorphisms are found between the subadult male and female specimens: 1) the flagellum of subadult male antennule has several long sensory hairs, while it is absent in the subadult female; 2) the pre-anal section of subadult male telson has faintly U-shaped projection on the dorsal surface, while it is absent in the subadult female; 3) the post-anal section of subadult male telson is furnished with three pairs of bristles on the lateral margin, while it has two pairs of ones in the subadult female.

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