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Three Species of the Genus *Dimorphostylis* (Crustacea, Cumacea, Diastylidae) new to Korea

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ABSTRACT

Three species of Cumacea, *Dimorphostylis asiatica, D. valida* and *D. acroplicata* which are new records from Korea, are redescribed.

Key words: Cumacea, Diastylidae, *Dimorphostylis*, redescription, Korea.

INTRODUCTION

The order Cumacea belong to the malacostracan Crustacea, comprising about 800 species in about 100 genera and 7 families (Bliss, 1982). Members of this order are recognized by their inflated carapace and pereon, followed by a slender pleon ending in a forked tail. Relatively few live between tidemarks and many species are to be found in shallow water offshore, especially in the tropics, but they are also common in the deep sea (Jones, 1976). The majority of species occur on soft deposits and a number of them on sand where they may show a preference for a certain range of size. About 100 species have been reported in Japan (Gamo, 1967a, 1967b, 1968, 1969, 1971), whereas in Korea only two species were described by Calman (1911). We add three species new to Korea in this paper. The materials were collected from the shallow water at 18 localities (Fig. 1) in the Korean sea during the period from 1993 to 1994. Among them, three species of the genus *Dimorphostylis* were identified. Drawings and measurements were performed with the aid of a drawing tube. All specimens examined are deposited in the Department of Biology, Dankook University. The collectors will be referred when the specimens were not collected by authors.

이 논문은 1993년도 학술진흥재단의 연구비 지원에 의한 연구의 일부 결과임.

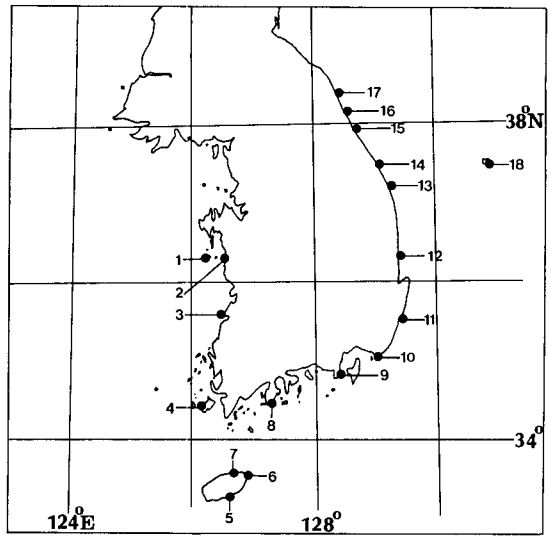

Fig. 1. Sampling localities. 1, Sapsido Is.; 2, Taech'ŏn; 3, Kyŏkp'o; 4, Chindo Is., Kagye; 5, Hamdŏk; 6, Sŏngsanp'o; 7, Sŏgwip'o; 8, Kohŭng, Kangdong; 9, Tongyŏng, Tonam; 10, Tadaep'o; 11, Ulsan, Chŏngja; 12, Kanggu; 13, Imwŏn; 14, Samch'ŏk; 15, Yangyang-gun, Namae; 16, Sokch'o; 17, Kŏjin; 18, Ullŭngdo Is., Sadong.

DESCRIPTION

Order Cumacea Kröyer, 1846 올챙이새우目(신칭)

Family Diastylidae Bate, 1856 긴꼬리올챙이새우科(신칭)

Genus *Dimorphostylis* Zimmer, 1920 이형올챙이새우屬(신칭)

1. *Dimorphostylis asiatica* Zimmer, 1920 보통이형올챙이새우(신칭) **(Figs. 2-4)**

Dimorphostylis asiatica Zimmer, 1920, p. 144, figs, 45-47; Fage, 1945, p. 220, fig. 43; Gamo, 1960, p. 118, pl. 59, fig. 9; 1962, p. 200; 1963a, p. 59; 1963b, p. 84, pl. 14, fig. 20; 1965a, p. 536, fig. 706; 1965b, p. 217; 1968, p. 179; Harada, 1960, p. 203, fig. 2.

Material examined. 12♂♂, Sapsido Is., 9 May 1993; 17♂♂, Taech'ŏn, 27 Feb. 1993; 50♂♂, 17♀♀, Kyŏkp'o, 23 May 1993, I. H. Kim; 2♂♂, Chindo Is., Kagye, 16 Aug. 1993; 3♂♂, Kohŭng, Kangdong, 22 Dec. 1993; 15♂♂, Tadaep'o, 14 Mar. 1993, Y. S. Kim; 1♂, Ulsan, Chŏngja, 5 Nov. 1994; 50♂♂, 19♀♀, Imwŏn, 5 Aug. 1994; 32♂♂, 8♀♀, Namae, Yangyang, 20 Feb. 1993; 7♂♂, 1♀, Sokch'o, 28 June 1993; 24♂♂, 2♀♀, Kŏjin, 26 June 1993, M. S. Kim; 2♂♂, Ullŭngdo Is., Sadong, 20 July 1994.

Diagnosis. Carapace with 4 distinct ridges on each side, of which frontal ridge connected each other with transverse one on dorsal portion. Post-anal portion of telson with 3 pairs of lateral spines in most adult male.

Description. Adult male: Body about 3.7 mm long, excluding pseudorostrum, telson and uropod. Carapace with 4 pairs of oblique ridges (frontal, anterior, middle and posterior) on each side. Frontal ridge connected with each other intermediately by transverse ridge in dorsal midway of frontal lobe.

Anterior oblique ridge turns abruptly upward and merge into midway of frontal ridge on side of frontal lobe and gives off a small branch directing downward at turning point. Middle and posterior oblique ridges almost parallel with anterior ridge. Middle ridge run downward obliquely and reachs at lateral margin of carapace. Dorsal groove formed on postero-median surface of carapace. Antero-lateral angle of carapace serrated and with several long hairs. Carapace somewhat inflated. Length of carapace about 1/3 of body length, 1.25 times as long as its width, and about 1.55 times as long as its depth. Round ocular lobe with 3 ocelli (Fig. 2A, B).

Free thoracic somites about 1/6 of body length. Pleural plate of second to fourth somites a little expanded. Postero-lateral process of last somite prominent, with 4 plumose setae. Abdomen rather slender and nearly 1/2 of body length. First two abdominal somites bear pleopods (Fig. 2A, B).

Antennule 3-segmented; first segment about 2.75 times as long as second one, second segment nearly as long as third one, third segment with many long hairs and flagella on distal margin. Main flagellum 5-segmented, nearly as long as first peduncular segment and with 2 long aesthetascs. Four-segmented accessory flagellum longer than 1/2 of main flagellum and last segment small (Fig. 3A). Antenna long, extending beyond telson.

Labium as shown in Fig. 3K. Mandible normally boat-shaped; right one with 12 spines, left one with 10 spines and lacinia mobilis (Fig. 3I, J). First maxilla with 2 filaments on palp (Fig. 3L). Second maxilla as shown in Fig. 3M. First and second maxillipeds as shown in Fig. 3G, H. Basis of third maxilliped about 2.4 times as long as remaining distal segments; outer distal angle rather inflated, with 6 long plumose setae, one of which hidden under others, situating on opposite side (Fig. 2C).

Basis of first peraeopod much shorter than remaining distal segmants, with plumose setae on distal lateral border. Merus about 1/2 as long as carpus and 1/3 length of propodus. Dactylus a little longer than 1/3 of propodus, with long distal setae, one of which exceeding length of segment (Fig. 2D). Second peraeopod about half as long as first one. Basis longer than 1.5 length of remaining distal segments. Ischium very short. Carpus about 0.75 times as long as propodus and dactylus combined. Dactylus about 1.7 times of propodus length and with long distal setae, one of which much longer than segment (Fig. 2E). Third peraeopod a little shorter than second peraeopod but longer than fourth one. Basis 1.4 times as long as remaining distal segments (Fig. 2F). Basis of fourth peraeopod a little longer than remaining distal segments (Fig. 3C). Fifth peraeopod about 0.75 times as long as fourth one (Fig. 3D).

Outer ramus of first pleopod 2-segmented, shorter than single-segmented inner ramus (Fig. 3E). Outer ramus of second pleopod 1/2 length of inner ramus, both rami single-segmented (Fig. 3F).

Telson nearly as long as last abdominal somite, bears 3 pairs of lateral and 3 terminal spines on post-anal portion (Fig. 2H).

Peduncle of uropod nearly 2.65 times of telson in length, with 15 spines and bears very minute spines between each spines on inner border. Endopod of uropod about half as long as peduncular segment of uropod and 3-segmented; first segment longer than distal two segments, both subequal in length, each bear 7, 3 and 1 spines on inner borders respectively, third segment with a long terminal spine. Exopod of uropod 2-segmented, a little shorter than endopod and with unequal spines on distal end (Fig. 2G).

Adult female: Body about 3.7 mm long, with well-developed marsupium. Carapace rather round and with 1 pair of spinules on ocular lobe and 7 spinules on frontal lobe. Ridges almost same as in

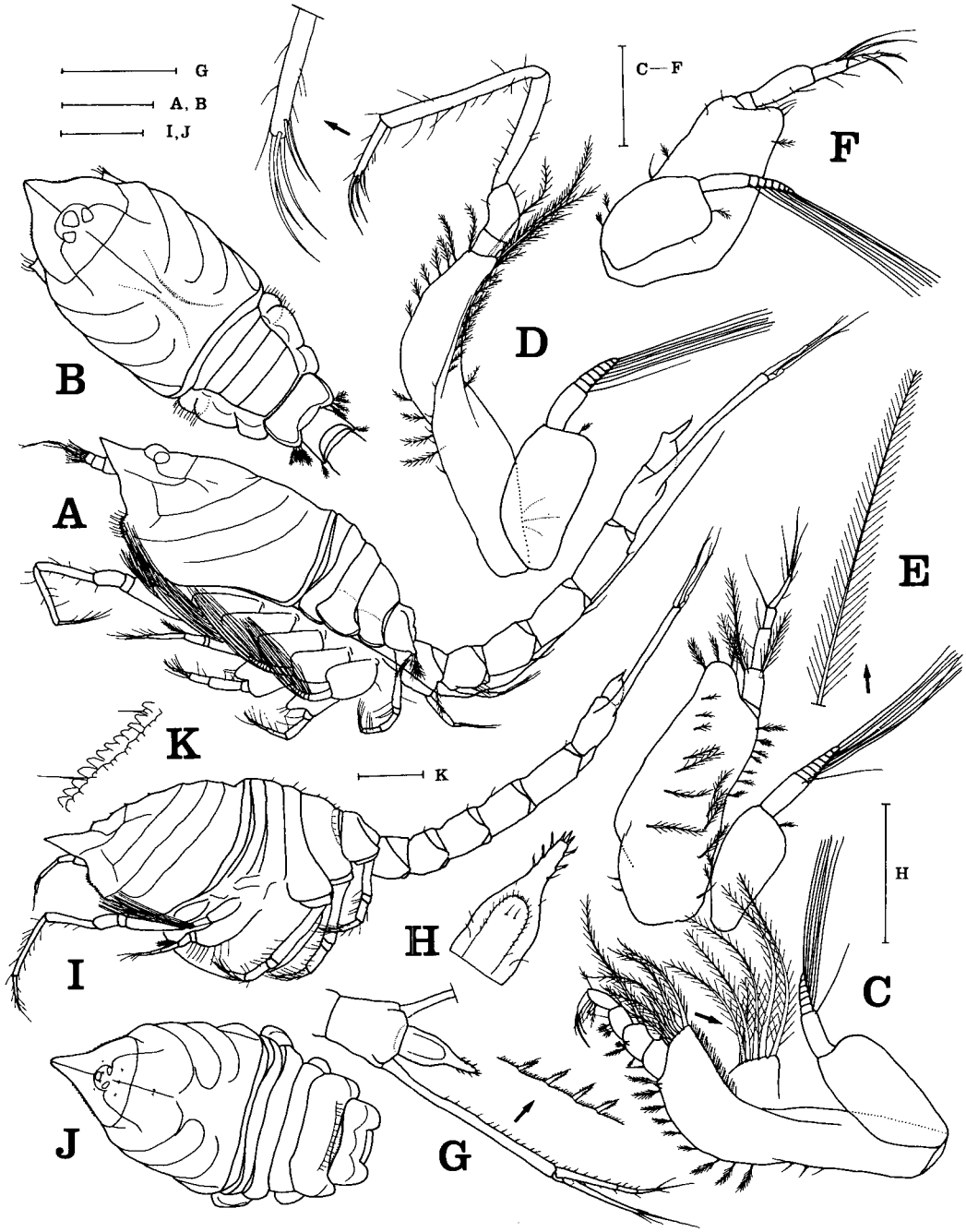

Fig. 2. *Dimorphostylis asiatica* Zimmer, 1920. Male: A, lateral view of body; B, cephalothorax, dorsal; C, third maxilliped; D-F, first to third peraeopods; G, uropods, telson and last abdominal somite; H, telson. Female; I, lateral view of body; J, cephalothorax, dorsal; K, line of ridge. Scales: A, B, G, I, J = 0.5 mm; C-F, H = 0.3 mm; K = 0.1 mm.

male, but posterior oblique ridge connected to middle ridge infront of area where middle ridge vanishing into lateral margin of carapace. Each ridge represented a row of elevated, minute cutaneous scales and provided with hairs sparsely of which longer than in male. Antero-lateral angle

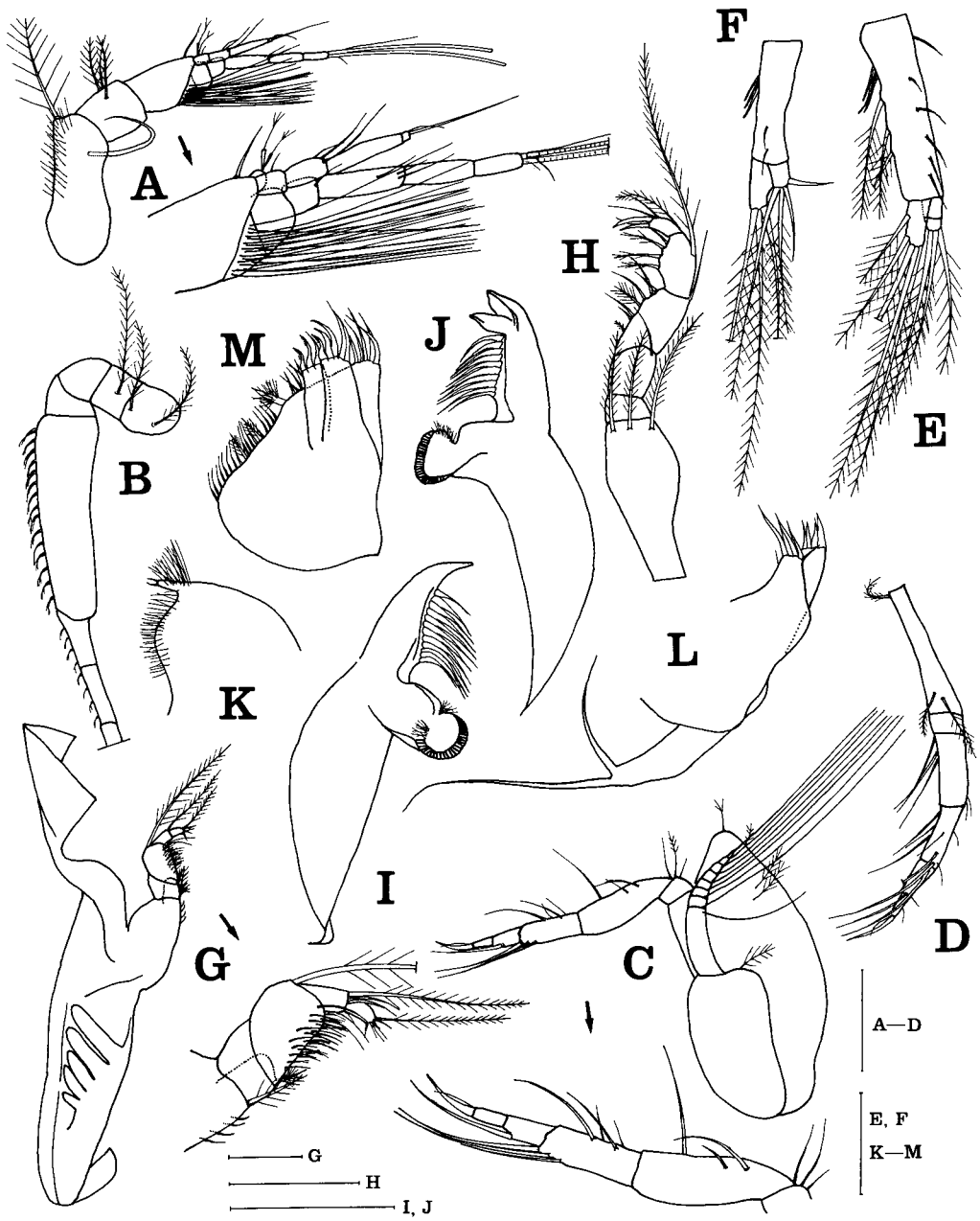

Fig. 3. *Dimorphostylis asiatica* Zimmer, 1920. Male: A, antennule; B, antenna; C, fourth peraeopod; D, fifth peraeopod; E, first pleopod; F, second pleopod; G, first maxilliped; H, second maxilliped; I, right mandible; J, left mandible; K, labium; L, first maxilla; M, second maxilla. Scales: A-D, G-J = 0.2 mm; E, F, K-M = 0.1 mm.

curved weakly and furnished with conspicuous serration. Length of carapace about 1/4 of body length and slightly less than its width, and about 1.3 times as long as its depth. Round ocular lobe with 3 ocelli (Fig. 2I, J).

Free thoracic somites about 4/5 of carapace length. Fourth thoracic somite furnished with a row of hairs on postero-dorsal side. Antero-dorsal border of fifth thoracic somite somewhat serrated.

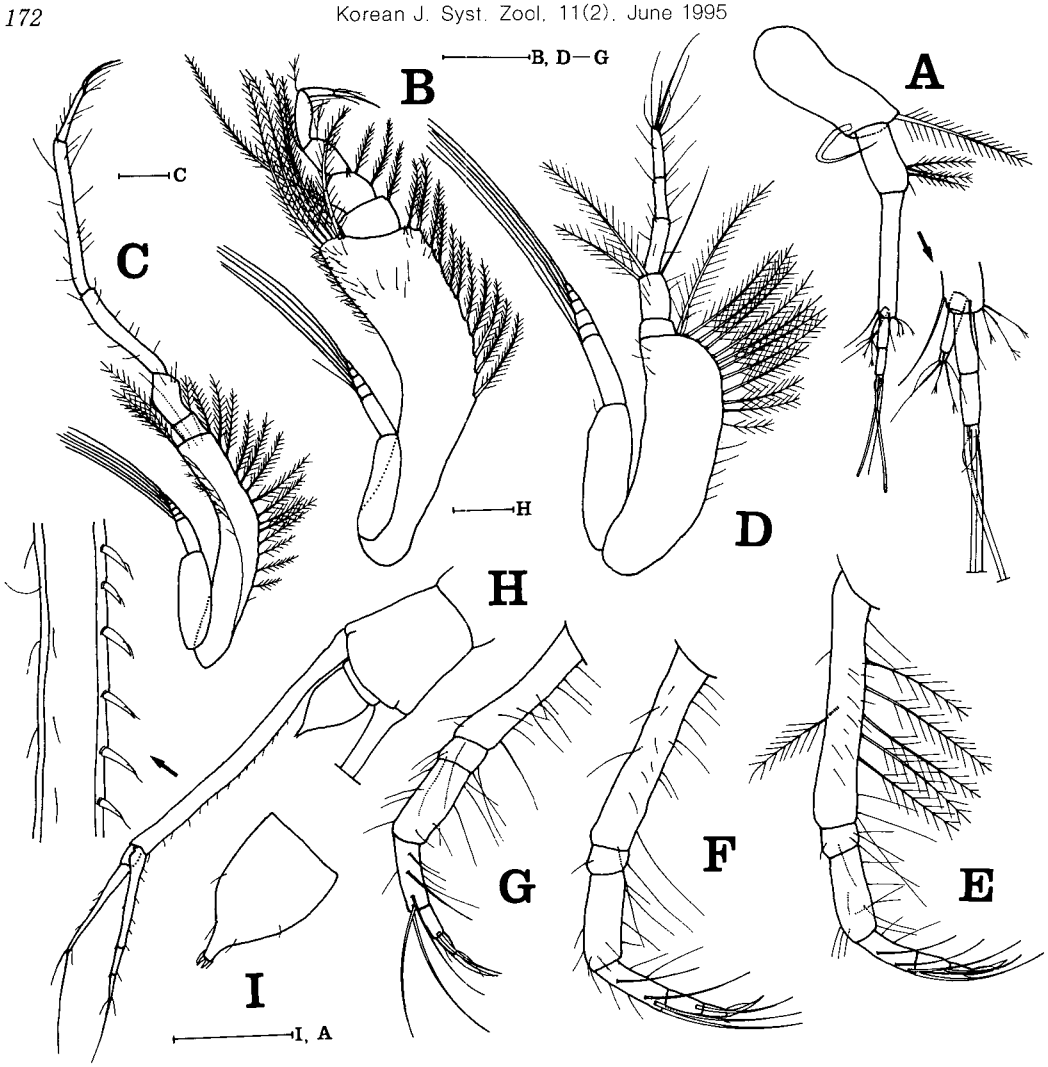

Fig. 4. *Dimorphostylis asiatica* Zimmer, 1920. Female: A, antennule; B, third maxilliped; C-G, first to fifth peraeopod; H, uropods, telson and last abdominal somite; I, telson. Scales: 0.2 mm for all.

Postero-lateral process of last segment rather blunt. Abdomen about half as long as body. Fifth somite longer than others (Fig. 2I, J).

Antennule 3-segmented; first segment 0.75 times as long as second and third segments combined, second segment slihgtly shorter than 2/3 length of third one. Main flagellum 2-segmented, almost 1. 5 times as long as 3-segmented accessory flagellum (Fig. 4A).

Basis of third maxilliped about 1.83 times as long as remaining distal segments, and with 6 long plumose setae on outer distal angle (Fig. 4B). Basis of first peraeopod slightly shorter than 2/3 length of remaining distal segments. Carpus slightly shorter than 1/2 length of basis. Propodus slightly shorter than length of carpus and merus combined. Dactylus almost 1/3 of propodus in length (Fig. 4C). Second peraeopod shorter than 0.5 times as long as first one. Basis furnished with long plumose setae on inner border (Fig. 4D). Basis of third peraeopod as long as combined length of distal segments, and with long plumose setae (Fig. 4E). Basis of fourth peraeopod much shorter than remaining distal segments in length (Fig. 4F). Fifth peraeopod much shorter than length of fourth one

(Fig. 4G). Third to fifth peraeopods without exopods (Fig. 4E-G).

Telson almost 2/3 length of last abdominal segment. Post-anal portion tapering abruptly and furnished with a pair of terminal spines and 3 pairs of lateral bristles (Fig. 4I).

Peduncle of uropod about 3.8 times as long as telson and bears 15 spines on inner border. Endopod of uropod about 1/2 length of peduncular segment and 3-segmented; first segment about twice as long as distal two segments, each bear 6, 1 and 1 spines on inner borders respectively, of which last spine relatively long. Exopod of uropod 2-segmented, shorter than endopod, with setae on outer border and 2 long setae at distal end (Fig. 4H).

Remarks. Harada (1960) described that spines of the basis, ischium and merus of third maxilliped of this species were not detectable on the distal margins, but our specimens are provided with 1 spine on basis and 1 or 2 spines on merus.

Some of our specimens show variations in adult males. The branch of anterior oblique ridge directing downward is rather vague, and frontal and anterior oblique ridges converge into the more forward part. peduncle of the uropod bears 14-23 spines, and first to third segments of endopod of uropod are provided with spines of 7-12, 3 and 1-3 respectively. The telson is provided with 2-4, usually 3, pairs of lateral spines.

Distribution. West Pacific from southern Kurile to Vietnam

2. *Dimorphostylis valida* Harada, 1960 벨리다이형올챙이새우(신칭) (Figs. 5-7)

Dimorphostylis valida Harada, 1960, p. 205, fig. 3; Gamo, 1968, p. 180.

Material examined. 1♂, Kyŏkp'o, 23 May 1993, I. H. Kim; 19♂♂, Chindo Is., Kagye, 16 Aug. 1993; 29♂♂, Chindo Is., Kagye, 24 July 1994, S. J. Song; 7♂♂, 5♀♀, Hamdŏk, 19 June 1993, S. H. Cho; 50♂♂, 24♀♀, Sŏngsanp'o, 7 May 1994; 1♂, Sŏgwip'o, 29 Oct. 1993; 31♂♂, 5♀♀, Kohŭng, Kangdong, 22 Dec. 1993; 2♂♂, 1♀, T'ongyŏng, Tonam, 30 Oct. 1994; 2♂♂, 1♀, Chŏngja, 5 Nov. 1994; 2♂♂, 1♀, Kangku, 4 Nov. 1994; 50♂♂, 24♀♀, Imwŏn, 5 Aug. 1994; 50♂♂, 29♀♀, Samch'ŏk, 6 Aug. 1994.

Diagnosis. Carapace with 4 distinct ridge and 1 hindmost accessory ridge. Post-anal portion of telson with 3 pairs of bristles in adult male.

Description. Adult male: Body about 4.1 mm long, excluding pseudorostrum, telson and uropod. Pseudorostrum bluntly produced. Carapace with 4 distinct ridges (frontal, anterior, middle and posterior). These well developed and finely crenated. Frontal and anterior oblique ridges converge on side of pseudorostrum. Middle oblique ridge run antero-ventrally and merge into lateral margin of carapace. Posterior oblique ridge vanishing downward without contacting with middle one. Last three oblique ridges almost parallel with one another on side of carapace and turn abruptly forward before they converge on dorsal submedian carina. Dorsal groove present on postero-median portion between submedian carina. Hindmost ridge oblique, detectable as indefinited line on rear of posterior oblique ridge. Dorsal median carina well developed. Length of carapace about 1/3 of body, 1.33 times as long as width, and 1.65 times as long as its depth. Ocular lobe with 3 ocelli (Fig. 5A, B).

Free thoracic somites slightly longer than 1/6 of body length, with posteriorly decreased depth and width. Thoracic somites smooth without dorsal carina. Abdomen subequal in length to cephalothorax. Each of first 2 abdominal somites bears pleopods (Fig. 5A B).

Antennule 3-segmented, first peduncular segment longer than remaining 2 segments. Main

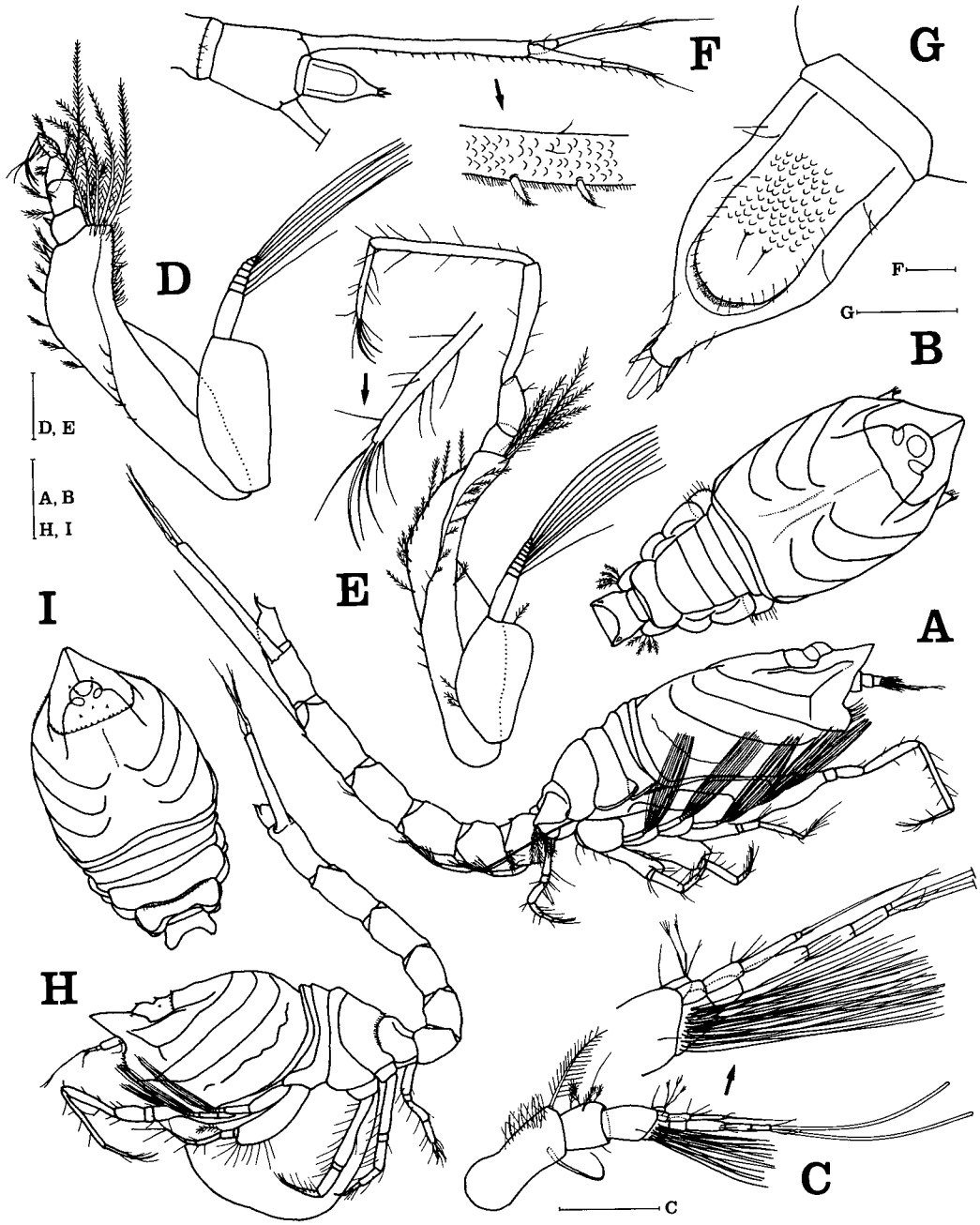

Fig. 5. *Dimorphostylis valida* Harada, 1960. Male: A, lateral view of body; B, cephalothorax, dorsal; C, antennule; D, third maxilliped; E, first peraeopod; F, uropods, telson and last abdominal somite; G, telson. Female: H, lateral view of body; I, cephalothorax, dorsal. Scales: A, B, H, I = 0.5 mm; C-F = 0.2 mm; G = 0.1 mm.

flagellum 5-segmented, with 1 small, segment-like protuberance. Accessory flagellum 4-segmented, last segment very small (Fig. 5C). Antenna long, extending beyond telson.

Third maxilliped with well developed exopod. Basis robust, about 2.5 times as long as remaining segments and with 6 long plumose setae on outer distal angle, one of which situated on opposite

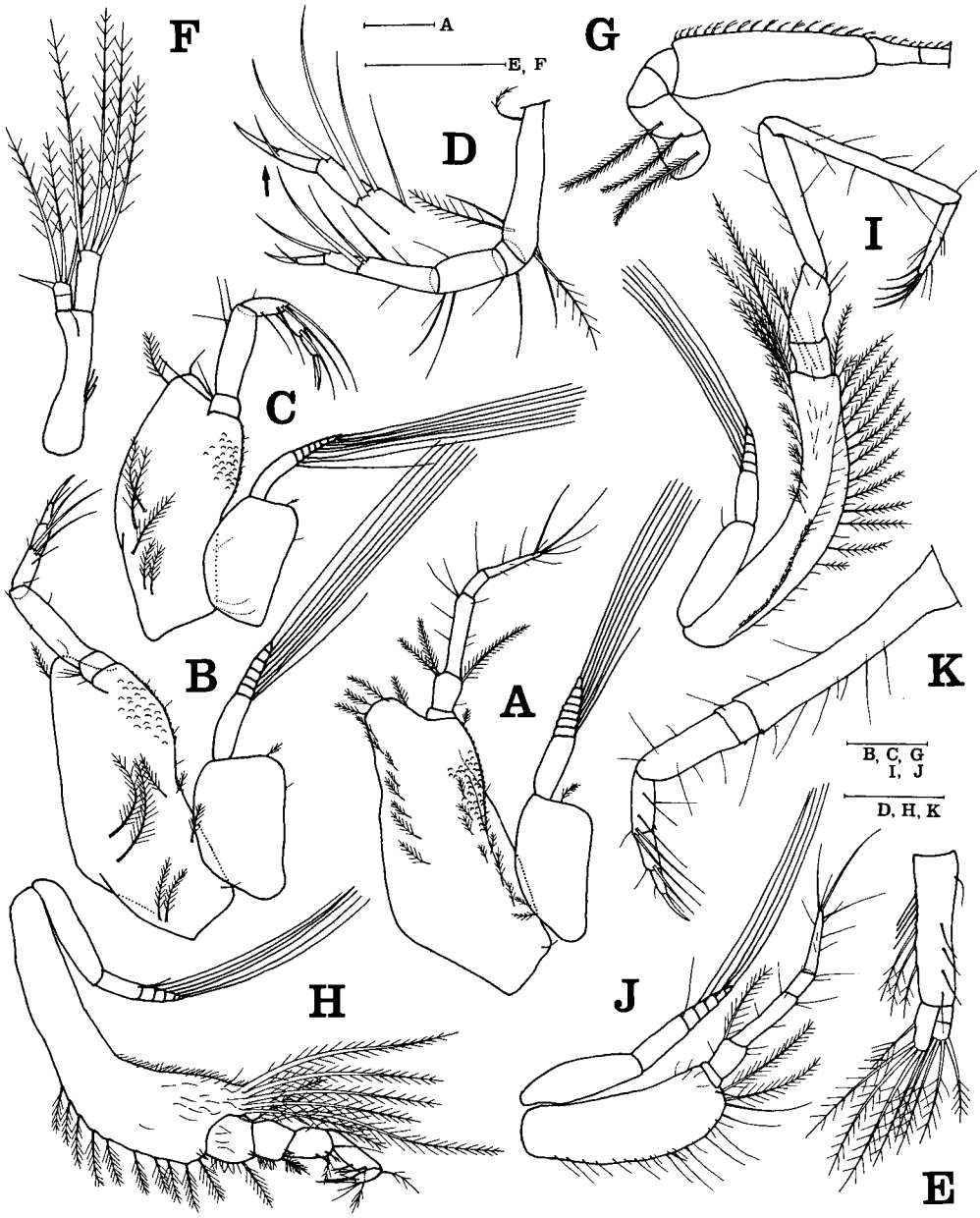

Fig. 6. *Dimorphostylis valida* Harada, 1960. Male: A-D, secod to fifth peraeopod; E, first pleopod; F, second pleopod; G, antenna. Female: H, third maxilliped; I~K, first to third peraeopod. Scales: 0.2 mm for all.

side. Basis, ischium and merus each with 1 strong spine on distal margin respectively (Fig. 5D). Basis of first peraeopod about 4/5 length of remaining segments. Propodus 1.4 times as long as carpus. Carpus about 1.5 times as long as dactylus (Fig. 5E). Basis of second peraeopod about 1.25 times as long as remaining distal segment. Ischium very short. Merus half as long as carpus and with 3 long plumose setae. Carpus a little shorter than propodus and dactylus combined. Dactylus a little more than twice length of propodus, and with long distal setae (Fig. 6A). Third peraeopod shorter than

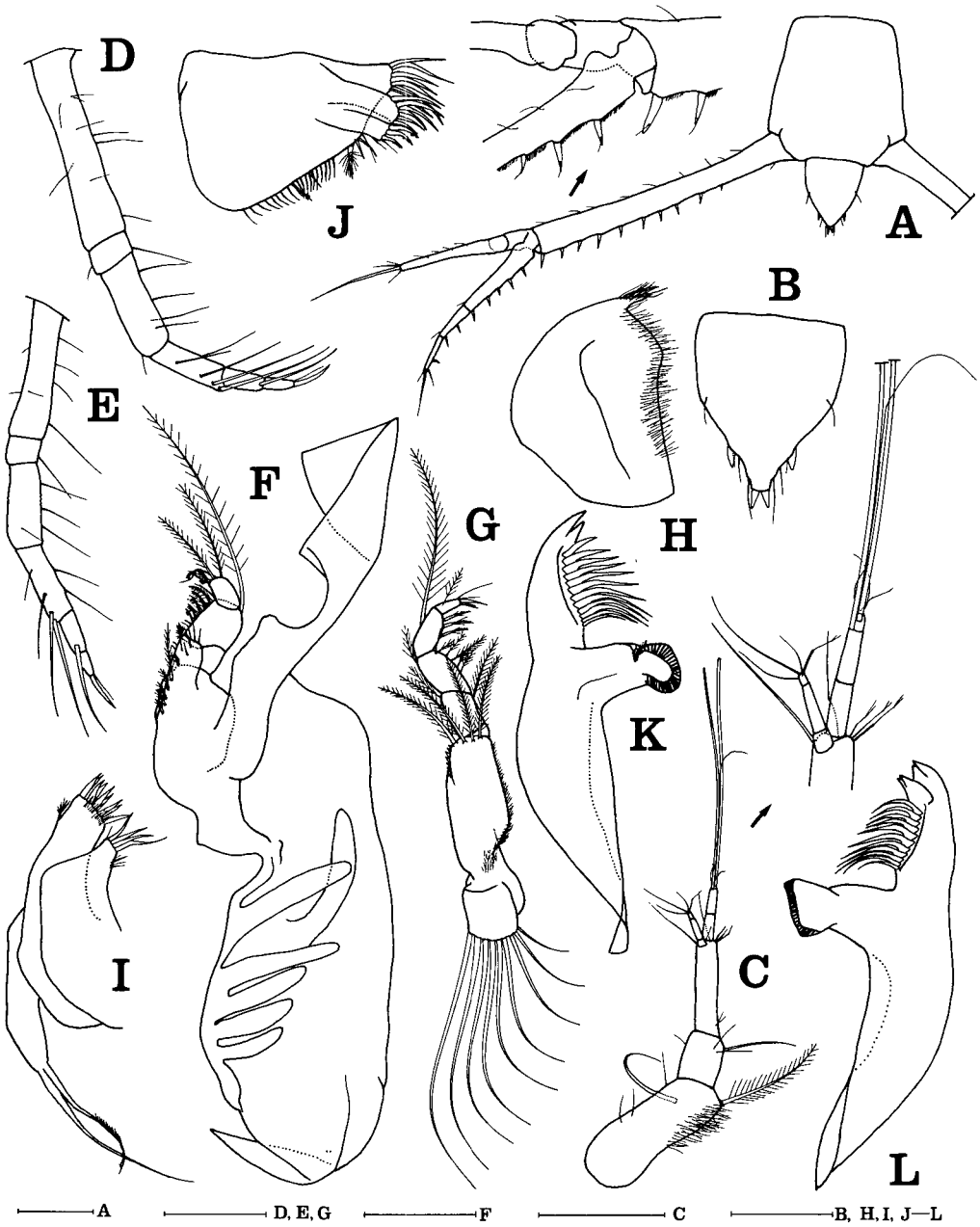

Fig. 7. *Dimorphostylis valida* Harada, 1960. Female: A, uropods, telson and last abdominal somite; B, telson; C, antennule; D, fourth peraeopod; E, fifth peraeopod; F, first maxilliped; G, second maxilliped; H, labium; I, first maxilla; J, second maxilla; K, right mandible; L, left mandible. Scales: A, C-G = 0.1 mm; B, H-L = 0.2 mm.

second one but longer than fourth one. Basis of third peraeopod almost 1.35 times as long as remaining distal segments (Fig. 6B). Basis of fourth peraeopod nearly as long as remaining distal segments (Fig. 6C). First 4 pairs of peraeopods each with powerful exopods. Basal segment of second to fourth peraeopods markedly broad. Third peraeopod similar to fourth one in form. Basis of fifth peraeopod about 0.65 times as long as remaining distal segments (Fig. 6D).

Outer ramus of first and second pleopod 2-segmented, shorter than inner ramus (Fig. 6E, F).

Telson about as long as last abdominal somite, with 3 strong terminal spines, median one of which longest, and with 3 pairs of lateral bristles. Dorsal rising u-shaped, fringed by a row of minute hairs, with 1 pair of minute setae on its dorsal surface (Fig. 5G).

Peduncle of uropod about 2.7 times as long as telson, with 13 spines on inner border. Endopod of uropod 3-segmented, each segment with 7, 2, and 2 spines on inner borders respectively; first segment longer than distal two segments, latters subequal in length. Exopod of uropod 2-segmented, shorter than endopod (Fig. 5F).

Adult female: Body about 4.1 mm long, with well-developed marsupium. Carapace short and rounded, with 1 pair of small spinules on ocular lobe and 5 spinules on frontal lobe. Transverse ridge on frontal lobe of dorsal portion serrated with small spinules. Ridges on carapace closely allied as in male. Middle and posterior ridges oblique, merged antero-ventrally into a single ridge. Antero-lateral border of carapace serrated and weakly curved. Carapace about 1/3 as long as body and almost same as long as its width, and 1.2 times as long as its depth. Ocular lobe round, with 3 ocelli and bears 1 pair of spinules (Fig. 5H, I).

Free thoracic somits about 2/3 length of carapace. Fourth thoracic somite bears a row of hairs on postero-dorsal margin. Fifth thoracic somite weakly serrated along on antero-dorsal margin. Abdomen nearly half as long as body (Fig. 5H, I).

Antennule 3-segmented; first segment about as long as second and third combined. Main flagellum 2-segmented, with small segment-like protuberance. Accessory flagellum 3-segmented, about 0.75 times as long as main flagellum (Fig. 7C).

Labium as shown in Fig. 7H. Mandible boat-shaped; right one with 12 spines, left one with 11 spines and lacinia mobilis (Fig. 7K, L). First and second maxillae as shown in Fig. 7I, J. Branchial apparatus of first maxilliped with 5 lobules and 1 accessory lobule (Fig. 7F). Second maxilliped with 9 filaments on coxal segment (Fig. 7G). Basis of third maxilliped about 1.6 times as long as remaining distal segments, with 6 long plumose setae on outer distal angle (Fig. 6H).

Basis of first peraeopod longer than 1/2 of remaining distal segments. Merus almost twice as long as ischium and about 1/2 length of carpus. Propodus 1.35 times as long as carpus and about 2.5 times as long as dactylus (Fig. 6I). Second peraeopod about half as long as first one, its basis a little shorter than remaining distal segments (Fig. 6J). Basis of third peraeopod almost same as remaining distal segments in length (Fig. 6K). Basis of fourth peraeopod as long as 3/4 of remaining distal segments (Fig. 7D). Fifth peraeopod shorter than fourth, its basis about half as long as remaining distal segments (Fig. 7E). Third to fifth peraeopods without exopod.

Telson about half as long as last abdominal somite and armed with 2 minute, terminal spines, 4 pairs of small lateral bristles and a pair of spines of which situated post-anal portion (Fig. 7B).

Peduncle of uropod twice as long as last abdominal somite, with 10 spines on inner margin. Endopod of uropod 3-segmented, each with 5, 2 and 2 spines respectively. Exopod 2-segmented, shorter than endopod (Fig. 7A).

Remarks. Harada (1960) described that the outer ramus of the first pleopod was single-segmented. But in our specimens this ramus is 2-segmented.

In adult male the first abdominal somite bears a pair of spines on both sides of the dorsal surface, and hindmost ridge is indistinct but is detectable on the back of the posterior oblique ridge. It seems

that these are important characters of this species, although not mentioned in the original description by Harada (1960).

Distribution. Korea and Japan.

3. *Dimorphostylis acroplicata* Harada, 1960 큰이형올챙이새우(신칭) (Figs. 8, 9)

Dimorphostylis acroplicata Harada 1960, p. 210, fig. 5; Gamo 1968, p. 180.

Material examined. 24♂♂, Namae, 20 Feb. 1993; 30♂♂, Sŏngsanp'o, 7 May 1994.

Diagnosis. Carapace with 4 pairs of prominent ridges, of which frontal ridge unconnected with each other on dorsal portion. Post-anal portion of telson with 2 pairs of spines in most adult males. Body comparatively large.

Description. Adult male: Body about 6.4 mm long, excluding pseudorostrum, telson and uropod. Pseudorostrum rather pointed. Carapace with markedly 4 prominent ridges. Frontal ridge terminate posteriorly at basal part of frontal lobe, unconnecting with each other on dorsal portion. Frontal and anterior ridges converge anteriorly into single ridge, of which reachs pseudorostral lobe. Anterior ridge spread branch downward. Middle and posterior oblique ridges converge antero-ventrally into single ridge and stretch to serrated lateral margin of carapace. Dorsal groove present postero-median portion between submedian carinae of which connected with anterior and middle ridges on dorsal portion. Posterior ridge unconnected with dorsal submedian carina. Length of carapace about 1/3 of body, about 1.4 times as long as its width, and 1.65 times as long as its depth. Dorso-median carina prominent. Antero-lateral angle of carapace protruded, serrated and with several long hairs. Ocular lobe wider than its length and provided with 3 ocelli (Fig. 8A, B).

Free thoracic somites about 1/6 length of body. Fourth thoracic somite prominent dorso-median elevation. Abdomen longer than cephalothorax. First 2 abdominal somites each bear pleopods (Fig. 8A, B).

Antennule 3-segmented; first segment about 1.5 times as long as second and third combined, second segment about 4/5 length of third one. Main flagellum 5-segmented, longer than accessory flagellum. Accessory flagellum 4-segmented, last segment minute (Fig. 8C). Antenna long and extending beyond telson.

Labium as shown in Fig. 9G. Mandible normally boat-shaped; right one with 15 spines, left one with 13 spines and lacinia mobilis (Fig. 9E, F). First maxilla with 2 filaments on palp (Fig. 9H). Second maxilla as shown in Fig. 9I. First and second maxilliped as shown in Fig. 9C, D. Basis of third maxilliped slightly longer than twice as long as remaining distal segments and with 6 long plumose setae on outer distal angle. Basis, ischium and merus each with 1 strong spines respectively. Dactylus nearly half as long as propodus (Fig. 8E).

Basis of first peraeopod shorter than remaining distal segments. Propodus much longer than carpus and slightly longer than twice as long as dactylus (Fig. 8F). Second peraeopod a little longer than 1/2 length of first one. Basis of second peraeopod 1.4 times as long as remaining distal segments. Ischium very short. Merus about 1/2 length of carpus. Dactylus twice as long as propodus and with long distal setae (Fig. 8G). Third peraeopod similar to fourth one in form, but setae of each segments reduced than that of fourth peraeopod except basis. Basis slightly longer than remaining distal segments (Fig. 9A). Basis of fourth peraeopod a little shorter than rest distal segments (Fig. 9B).

First pleopod longer than second one. Outer rami of first and second plepods 2-segmented, shorter

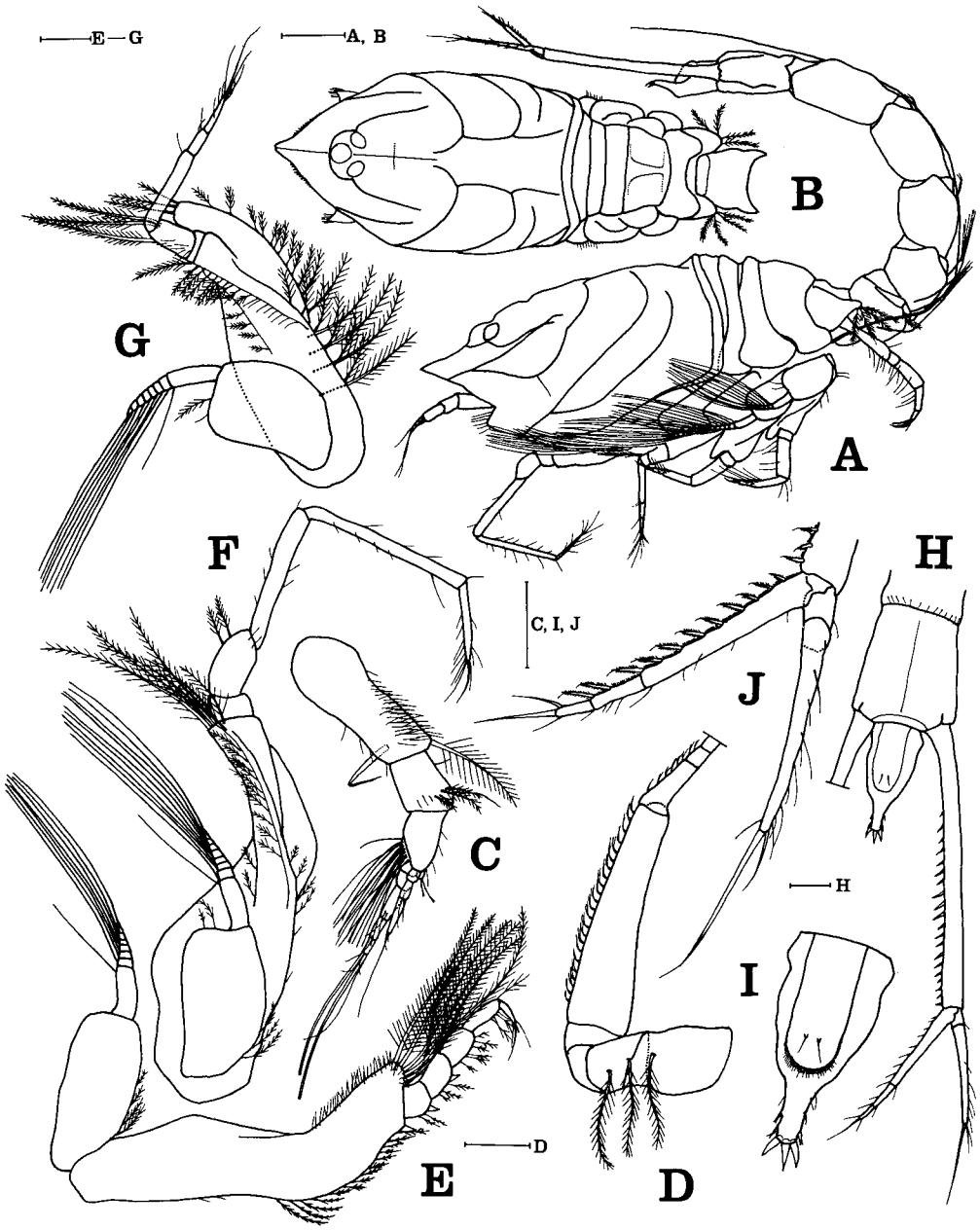

Fig. 8. *Dimorphostylis acroplicata* Harada, 1960. Male: A, lateral view of body; B, cephalothorax, dosal; C, antennule; D, antenna; E, third maxilliped; F, first peraeopod; G, second peraeopod; H, uropods, telson and last abdominal somite; I, telson; J, exopod and endopod of uropod. Scales: A, B = 0.5 mm; C-J = 0.2 mm.

than inner rami (Fig. 9J, K).

Telson about same times of last abdominal somite in length, with U-shaped dosal rising. Three strong terminal spines and 2 lateral spines on post-anal portion (Fig. 8I).

Peduncle of uropod about 2.5 times as long as last abdominal somite and bear about 20 spines on

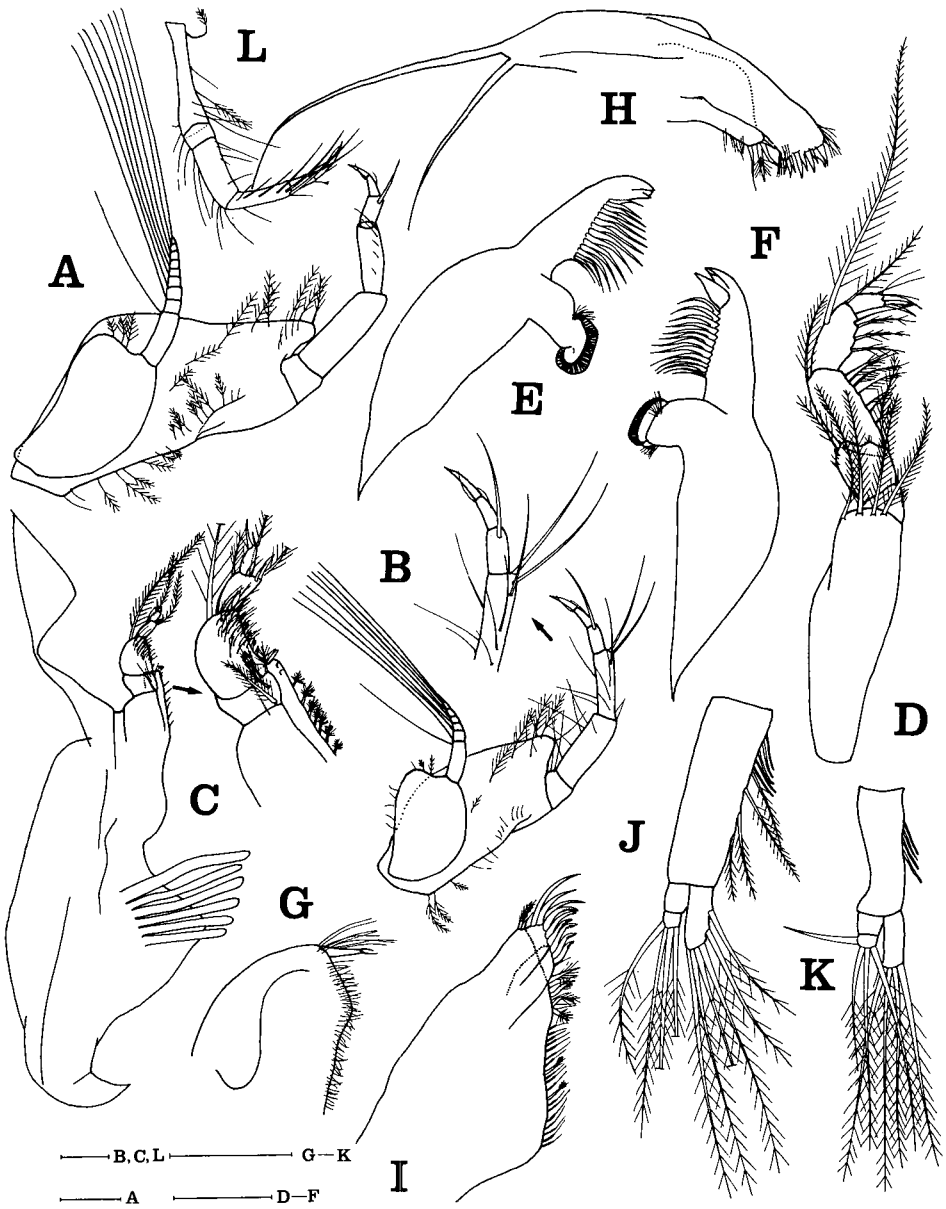

Fig. 9. *Dimorphostylis acroplicata* Harada, 1960. Male: A, third peraeopod; B, fourth peraeopod; C, first maxilliped; D, second maxilliped; E, right mandible; F, left mandible; G, labium; H, first maxilla; I, second maxilla; J, first pleopod; K, second pleopod; L, fifth peraeopod. Scales: 0.2 mm for all.

inner border. Endopod of uropod 3-segmented, with 9, 2 and 1 spines on inner borders respectively. Exopod of uropod 2-segmented, shorter than endopod (Fig. 8H).

Remarks. The present species exhibits variations. Branching of anterior oblique ridge is not distinct in some specimens. The post-anal portion of the telson bears 1-3 pairs of lateral spines, however

most of them have 2 pairs of spines.

Our specimens show dorso-median elevation on the fourth thoracic somite, which may be an important character of this species.

Distribution. Korea and Japan.

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요 약

1993년 2월부터 1994년 11월까지 한국 연안에서 채집된 올챙이새우류, *Dimorphostylis asiatica*, *D. valida*, 그리고 *D. acroplicata* 3종의 한국미기록종을 보고한다.