

Mysidacea (Crustacea) from the West Coast of Korea

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Fifteen mysid species representing 4 genera are reported from the west coast of Korea. Of these, *Archaeomysis vulgaris* (Nakazawa), *Archaeomysis japonica* Hanamura, Jo and Murano and *Acanthomysis tenuicauda* Murano are new to the Korean fauna. *Acanthomysis aspera* Ii, *Acanthomysis fujinagai* Ii, *Acanthomysis japonica* Nakazawa and *Acanthomysis okayamaensis* Ii are new to the western Korean fauna. Detailed description with illustrative figures, ecological notes and keys to species are given.

Key words : Crustacea, Mysidacea, Korea

Introduction

Approximately 800 species of mysids have been known in the world (Mauchline, 1980). In Korea few systematic study on mysids has been carried out. Ii (1964) was the first to report Korean mysid fauna, describing 10 species representing 6 genera. Thereafter some additional systematic information on the Korean mysids was published: 7 species of *Acanthomysis* (Oh, 1981), 4 species of *Neomysis* (Yoo, 1985; Yoo and Choe, 1985) and 5 species of *Gastrosaccinae* (Ma, 1988). So far, 16 species of mysids have been known from Korea. The purpose of the present study is to describe mysids from the west coast of Korea (Yellow Sea), as a part of a series of the Korean mysid fauna.

Materials and Methods

Samples were collected from the west coast of Korea (Fig. 1) from April 1986 to December 1995 with

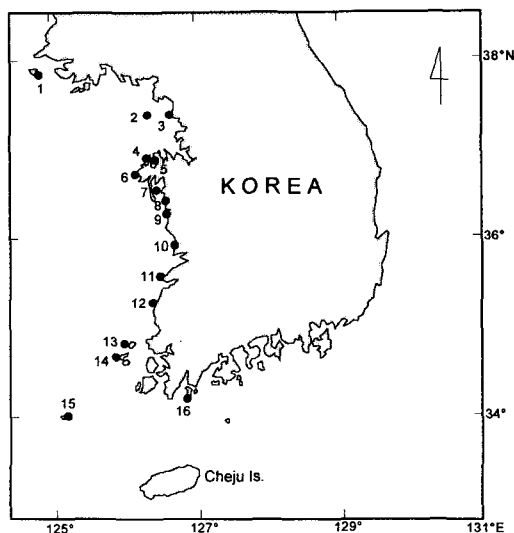


Fig. 1. Map showing collecting localities. 1, Paengnyongdo; 2, Yongyodo; 3, Songdo; 4, Hagampo; 5, Neri; 6, Malipo; 7, Chonsu Bay; 8, Boryong; 9, Muchangpo; 10, Kunsan; 11, Pyonsan; 12, Youngkwang; 13, Tocho; 14, Pigumdo; 15, Sohuksando; 16, Sinjido.

a dip net, a sled net and plankton nets. Mysids obtained were immediately fixed in 10% buffered formalin solution on the seashore and washed in distilled

water before being preserved in 70% ethyl alcohol in the laboratory. Total length was measured from the tip of rostrum to the tip of telson, and illustrations were made with the aid of a camera lucida. Eggs and larvae in the brood pouch of females were counted to determine brood size.

Systematic Accounts

Archaeomysis grebnitzkii Czerniavsky, 1882 (Fig. 2)

Archaeomysis grebnitzkii Czerniavsky, 1882, p. 73~77, pl. 30, figs. 17~24; pl. 32, figs. 19~20; Banner,

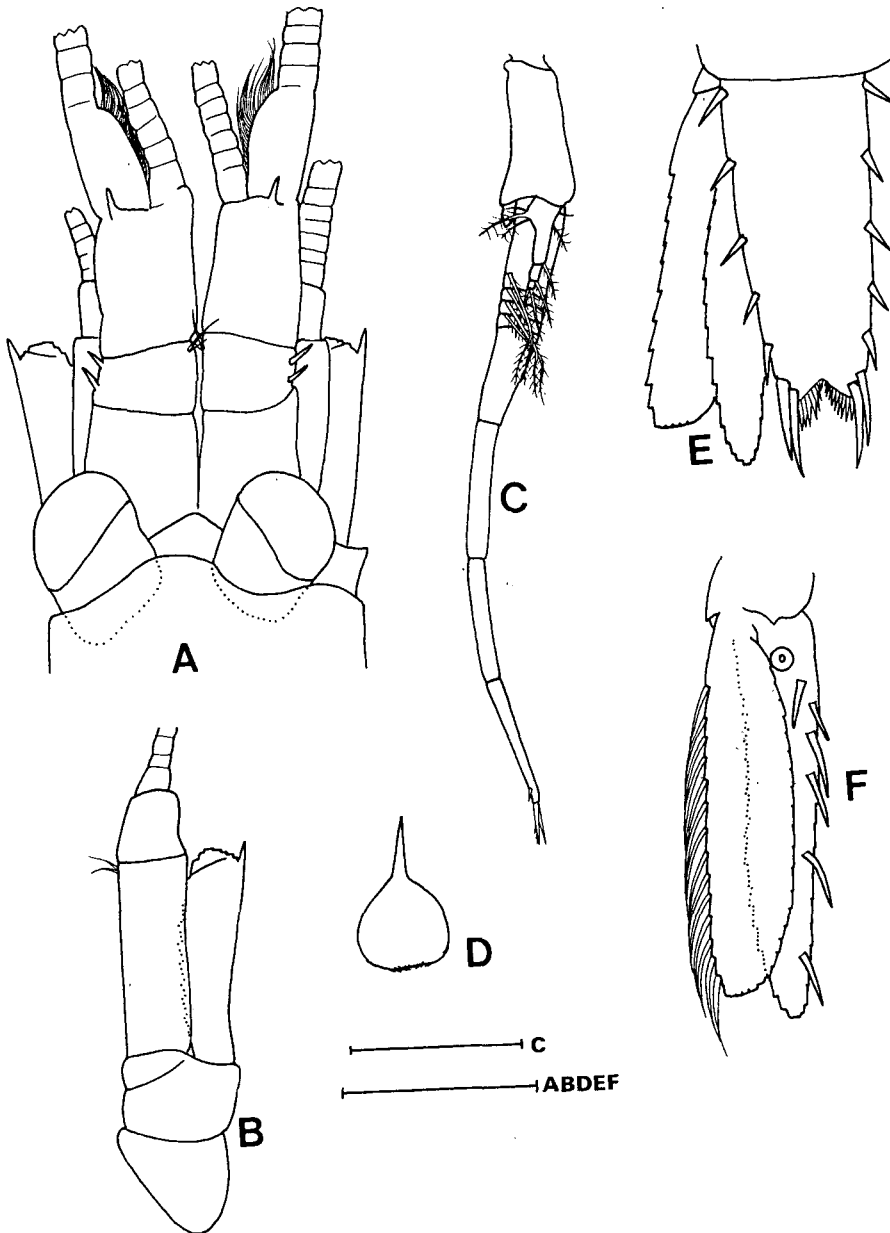


Fig. 2. *Archaeomysis grebnitzkii* Czerniavsky, Adult male (7.0 mm): A, anterior end; B, antenna; C, third pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

1948, p. 369~374, pl. 5, figs. 6a~6i; Tattersall, 1951, p. 81~86, pl. 7, figs. 21~22; Holmquist, 1975, p. 51~71, figs. 1~4.

Materials examined. 3 ♂♂ (8.0 mm), 2 ♀♀ (7.8 mm), Paengnyongdo, Kyonggi, 9 May 1986, sled net; 10 ♂♂ (7.0 mm), 2 immature ♂♂ (5.0 mm), 12 ovigerous ♀♀ (7.0~7.2 mm), 2 ♀♀ (7.0 mm), 1 immature ♀ (5.0 mm), Youngkwang (Kagami beach), Chonnam, 10 Aug. 1986, sled net; 3 ♂♂ (5.2~8.0 mm), 2 ♀♀ (8.0 mm), Tochodo, Chonnam, 6 Oct. 1986, dip net; 5 ♂♂ (5.0~8.0 mm), 6 ♀♀ (6.0~8.5 mm), Pigumdo, Chonnam, 19 Oct. 1986, dip net.

Remarks. Banner (1948), Tattersall (1951) and Holmquist (1975) have reported *Archaeomysis grebnitzkii* from the North Pacific coast except Korean and Japanese coasts since the establishment of the species by Czerniavsky (1882). Ii (1964) made the first detailed description of *A. grebnitzkii* from the Japanese samples. However, Hanamura et al. (1996) found that Japanese specimens previously identified as *A. grebnitzkii* represented a new species, *Archaeomysis japonica*, after examining a large number of specimens collected from the Japanese coast and comparing with those from the Bering Sea and Pacific coast of North America. The major differences between the two species lie in the shape of endopod of third male pleopod and the relative length of distalmost two spines of telson. The specific differences are fully mentioned in the following species, *A. japonica*.

Distribution. Korea (west coast), the Bering Sea, the Pacific coasts of America from Alaska to California.

Ecological notes. *A. grebnitzkii* commonly occurred in the sandy beach of shallow waters and occasionally in brackish waters.

Archaeomysis japonica Hanamura, Jo and Murano, 1996 (Fig. 3)

Archaeomysis grebnitzkii Ii, 1964, p. 221~228, figs. 55, 56.

Archaeomysis japonica Hanamura et al., 1996, figs.

1~6.

Materials examined. 1 ♂ (11.0 mm), 9 immature ♂♂ (6.5~8.7 mm), 2 ♀♀ (10.0, 10.5 mm), Sohuksando sandy beach, Chonnam, 22 July 1986, sled net.

Remarks. Tattersall (1932) revised *Callomysis maculata* Holms as a member of genus *Archaeomysis* after Czerniavsky (1882) established the new genus and new species *Archaeomysis grebnitzkii* from the North Pacific. Ii (1964) first reported *A. grebnitzkii* and a new species *A. kokuboi* from the Japanese coast. Holmquist (1975) fully described the characters of *A. grebnitzkii* through her revisional work based on a large number of materials from the North Pacific except the Korean and Japanese coasts. She concluded that *A. maculata* (Holms) and *A. maculata* (Holms) sensu Tattersall are synonyms of *A. grebnitzkii* and *Bowmaniella banneri*, respectively and reserved her conclusion about the Japanese specimens. However, Hanamura et al. (1996) examined a large number of the Japanese materials previously identified as *A. grebnitzkii*, revealing that the Japanese species of *Archaeomysis* consists of four species: *A. grebnitzkii*, *A. kokuboi*, *A. vulgaris*, and a new species, *A. japonica*. Although *A. japonica* is very closely allied to *A. grebnitzkii*, the former is distinguished from the latter in the following points: 1) in *A. japonica* the telson is slenderer, more than 2.5 times longer than wide near the base, while in *A. grebnitzkii* less than 2.5 times; 2) in *A. japonica* the distalmost 2 spines of telson is similar in length, but the subterminal spine is shorter, about 0.85 times as long as the terminal spine in *A. grebnitzkii*; 3) in *A. japonica* the endopod of third male pleopod is 6- or 7-segmented and relatively longer, more than 0.5 times longer than the first segment of exopod, while in *A. grebnitzkii* 3- or 4-segmented and less than 0.5 times as long as the first segment of exopod.

Distribution. Korea (west coast), Japan.

Ecological notes. The present species was predominantly found in the sandy beach of surf zone in which it burrowed into the bottom sediment. Ovigerous females occurred from March to November.

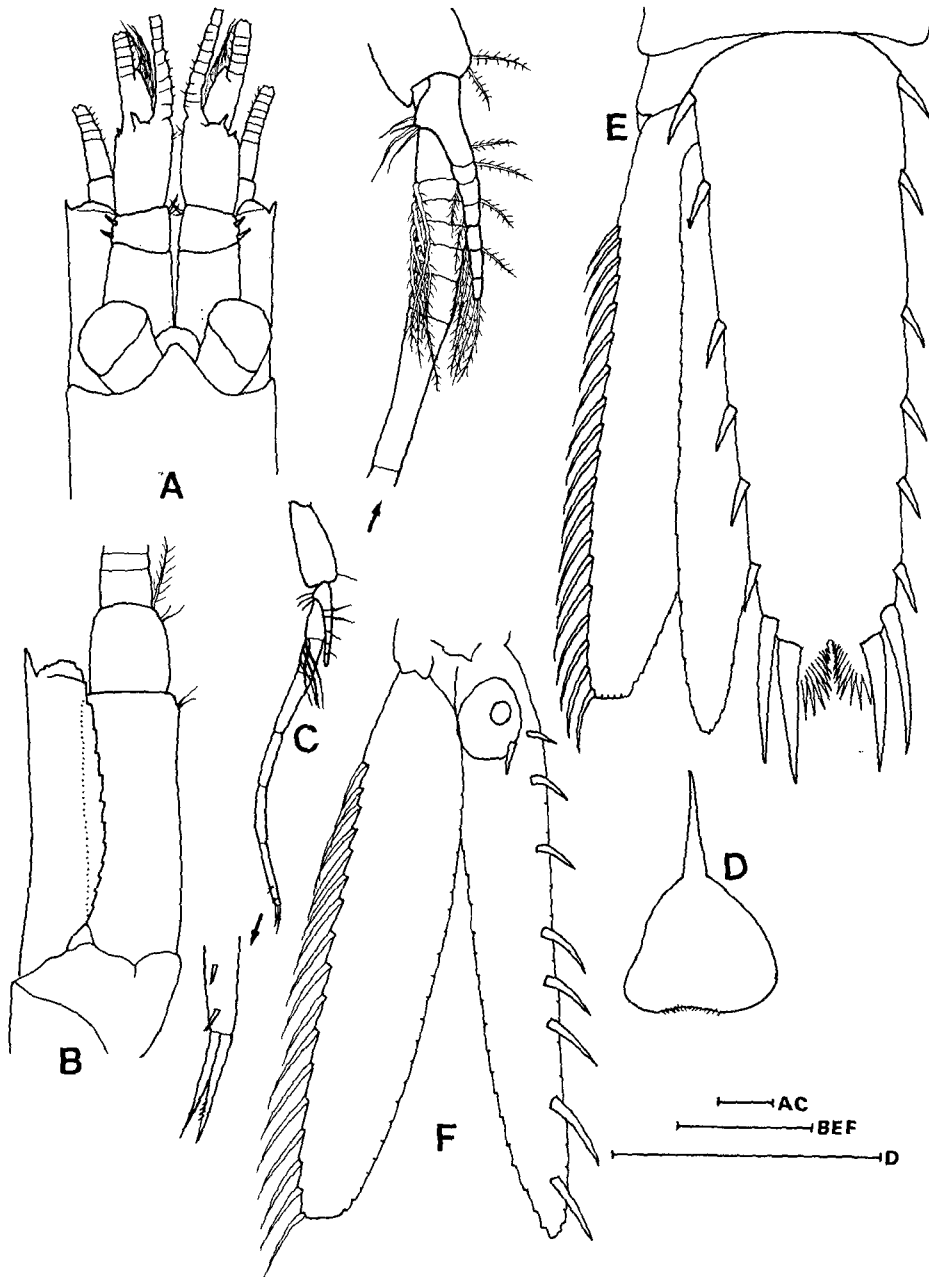


Fig. 3. *Archaeomysis japonica* Hanamura, Jo and Murano, Adult male (11.0 mm): A, anterior end; B, antenna; C, third pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

Archaeomysis vulgaris (Nakazawa, 1910) (Fig. 4)

Gastrosaccus vulgaris Nakazawa, 1910, p. 253, figs. 6, 23, 24, 29, 35; Tattersall, 1921, p. 407; Ii, 1964, p. 262.

Archaeomysis kokuboi Wang and Liu, 1987, p. 206, fig. 1; Shen et al., 1989, p. 194, fig. 2.

Archaeomysis vulgaris Jo and Hanamura, 1993, figs. 1~3.

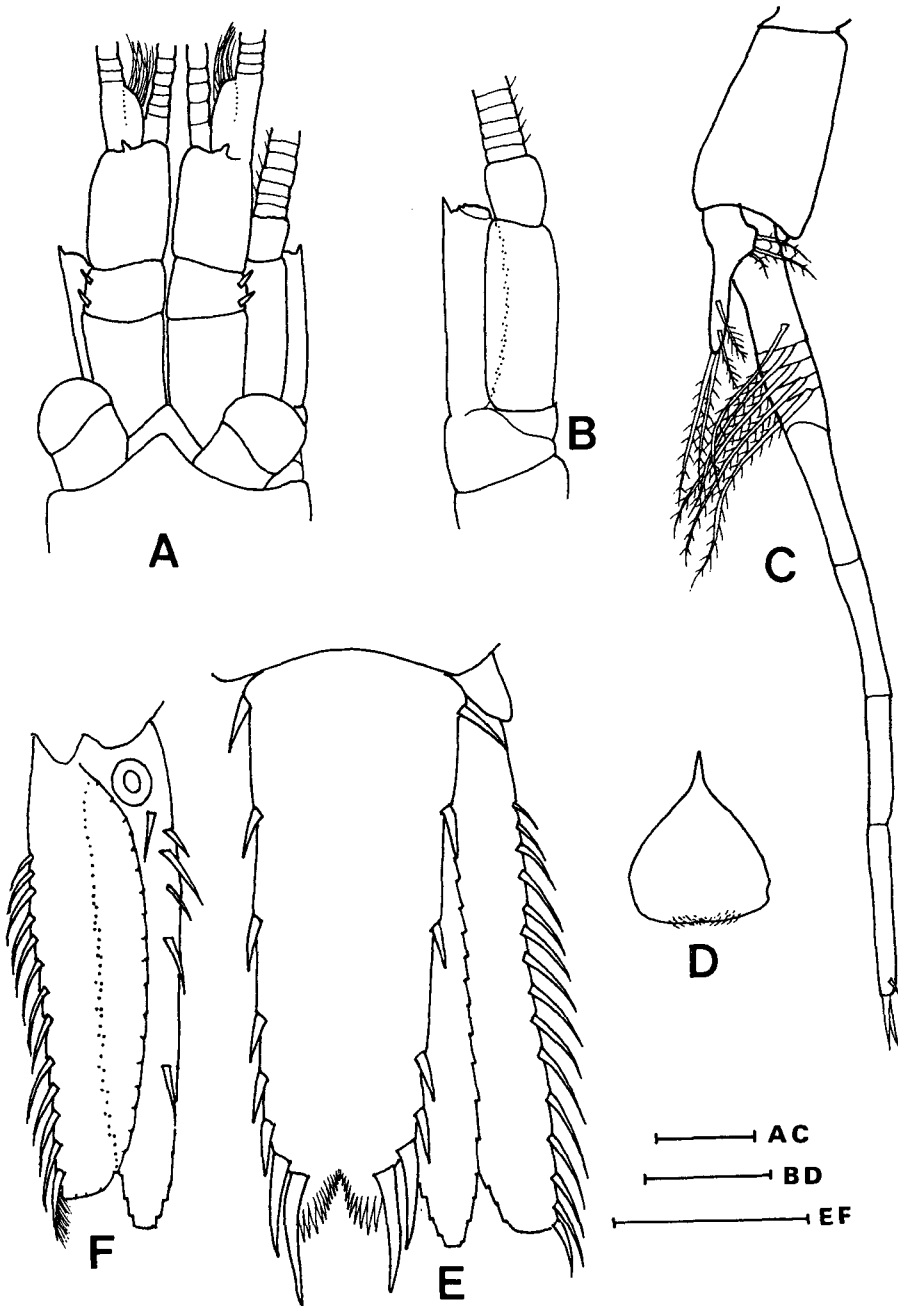


Fig. 4. *Archaeomysis vulgaris* (Nakazawa), Adult male (7.2 mm): A, anterior end; B, antenna; C, third pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

Materials examined. 3 ♂♂ (7.0~7.2 mm), 3 ♀♀ (6.0~8.0 mm), Paengnyongdo, Kyonggi, 9 May 1986, dip net; 6 ♂♂ (6.2~6.8 mm), 8 ♀♀ (7.9~9.2 mm), 10 ♀♀ (7.8~9.4 mm), 13 immature ♀♀ (3.0~5.8 mm), Pigumdo, Chonnam, 19 Oct. 1986, dip net; 1 ♂ (6.9 mm), 25 immature ♂♂ (3.3~4.8 mm), 14 ovigerous ♀♀ (8.0~10.1 mm), 17 immature ♀♀ (3.3~6.3 mm), Hagampo sandy beach, Chu-

ngnam, 19 Oct. 1986; 7 ♂♂ (6.2~6.5 mm), 2 ovigerous ♀♀ (9.0 mm), 30 ♀♀ (8.3~9.2 mm), 4 immature ♀♀ (3.3~6.5 mm), Malipo sandy beach, Chungnam, 21 Oct. 1986, dip net.

Remarks. Jo and Hanamura (1993) redescribed the present species and transferred it from the genus *Gastrosaccus* to the genus *Archaeomysis*. *A. vulgaris* is so similar to *A. kokuboi* Ii that taxonomical confusion between these two species has sometimes happened (Matsudaira et al., 1952; Wang and Liu, 1987; Shen et al., 1989). As fully discussed by Jo and Hanamura (1993), however, *A. vulgaris* is clearly distinguishable from *A. kokuboi* by the wrinkle-like posterolateral carapace and the length ratio of endopod to the first pseudosegment of exopod in the third male pleopod. *A. vulgaris* is the first record from Korea.

Distribution. Korea (west coast), China (north coast), Japan (south of 38°N).

Ecological notes. *A. vulgaris* was collected from the intertidal zone of sandy beaches in which it burrowed into the bottom sediment. Ovigerous females (7.8~9.4 mm) carried 13~23 eggs or larvae.

Iiella formosensis (Ii, 1964) (Fig. 5)

Gastrosaccus formosensis Ii, 1964, p. 248~251, fig. 65; Wang and Liu, 1987, p. 209~212, fig. 2.

Materials examined. 2 immature ♂♂ (7.5 mm), 12 immature ♀♀ (7.5 mm), Yongyodo, Incheon, 27 Apr. 1986, dip net; 19 ♂♂ (10.0~13.5 mm), 4 ♀♀ (10.0~13.0 mm), Kunsan, 8 Dec. 1987, plankton net.

Remarks. Ii (1964) established the present species as a member of genus *Gastrosaccus* with 9 other species: *G. dunckeri* Zimmer, *G. kojimaensis* Nakazawa, *G. pelagicus* Ii, *G. ohshimai* Ii, *G. hibii* Ii, *G. indicus* Hansen, *G. pacificus* Hansen, *G. bengalensis* Hansen and *G. vulgaris* Nakazawa. However, Bacescu (1968) revised the former genus *Gastrosaccus* Norman, 1868 dividing into three genera: *Gastrosaccus*, *Bowmaniella* and *Iiella*. He gave definitions of the two new genera; genus *Bowmaniella* has the third male pleopod with exopod 2- or 3-segmented, ending with a complicated device

of seizing. Genus *Iiella* has all the female pleopods uniramous, labrum with spines on each side of the median frontal process, and endopod of the third male pleopod multisegmented. Bacescu (1973) additionally resumed genus *Haplostylus* within genus *Gastrosaccus* for the species which had endopod of the third male pleopod rudimentary and unsegmented. Bacescu's definition described above has been approved by many authors (Brattegard, 1973; Greenwood et al., 1991; Wooldridge et al., 1992). Judging from Bacescu (1968, 1973), 5 species of *Gastrosaccus* from Asian waters, *G. formosensis* Ii, *G. kojimaensis* Nakazawa, *G. pelagicus* Ii, *G. ohshimai* Ii and *G. hibii* Ii, should belong to genus *Iiella*, and 3 species, *G. indicus* Hansen, *G. pacificus* Hansen and *G. bengalensis* Hansen, to genus *Haplostylus*. *G. vulgaris* has been already transferred to genus *Archaeomysis* (Jo and Hanamura, 1993). The present specimens are in agreement with the original description of the species collected from Japan. However, a minor difference lies in the number of spines on labrum; in the present specimens 4 but in the latter 3.

Distribution. Korea (west coast), Taiwan, China (south coast), Japan (Okinawa).

Ecological notes. The present species dominantly occurred in the brackish waters.

Iiella pelagicus (Ii, 1964) (Fig. 6)

Gastrosaccus pelagicus Ii, 1964, p. 243~246, figs. 62, 63.

Materials examined. 5 ovigerous ♀♀ (11.5 mm), Boryong (Taechon beach), Chungnam, 9 May 1986, sled net; 10 ♂♂ (12.0 mm), 32 ovigerous ♀♀ (12.0~14.0 mm), Taean (Chonsu Bay), Chungnam, 15 Apr. 1995, sled net.

Remarks. The present species so closely resembles *I. kojimaensis* (Ii) but differs in the following points: 1) in *I. pelagicus* the endopod of the third male pleopod is as long as the first segment of exopod, while in *I. kojimaensis* 0.7 times; 2) in *I. pelagicus* the endopod of uropod is armed with 17~24 (more numerous) spines, while in *I. kojimaensis* with 12 (less nu-

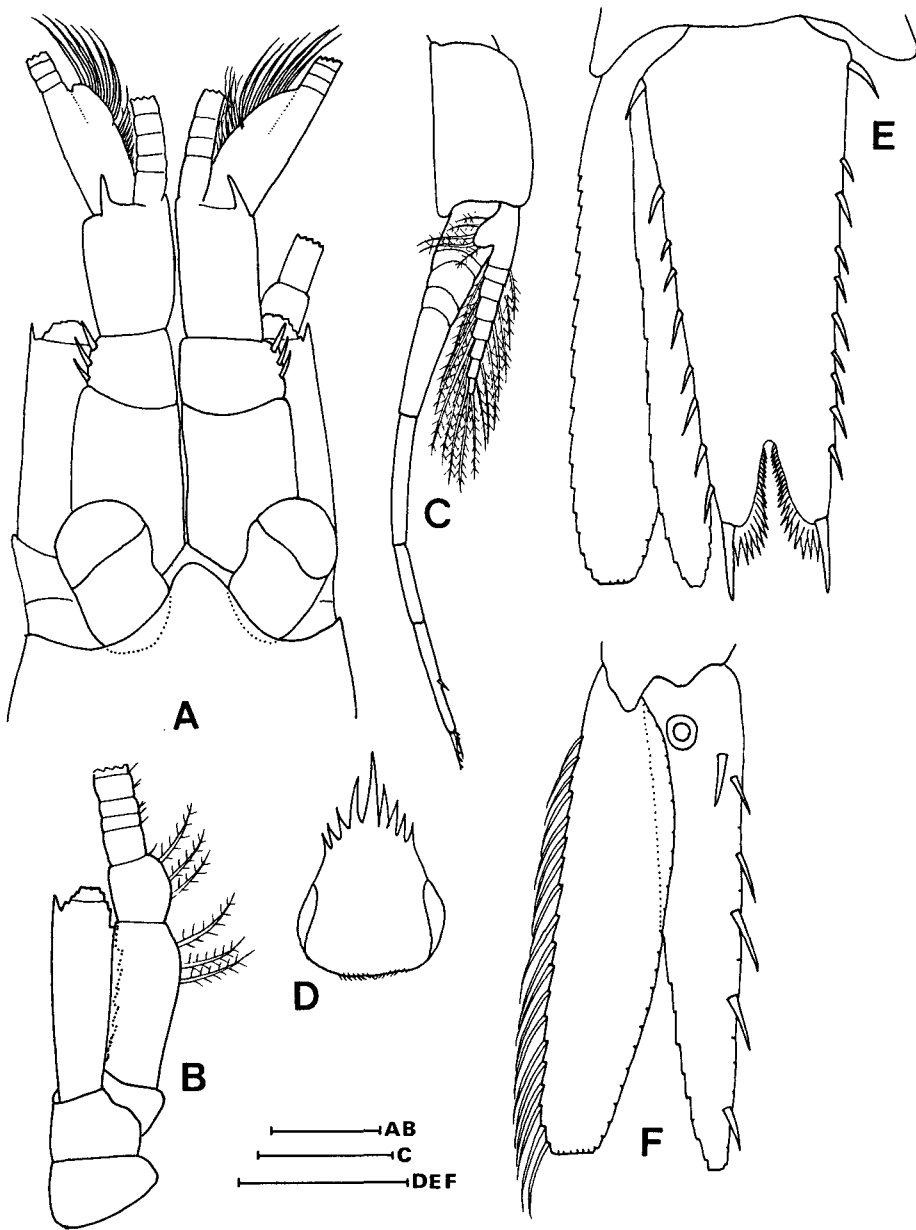


Fig. 5. *liella formosensis* (Ii), Adult male (13.0 mm): A, anterior end; B, antenna; C, third pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

merous) spines; 3) in *I. pelagicus* the rostral plate is narrower and longer than in *I. kojimaensis*.

Distribution. Korea (west coast), China (East China Sea).

Ecological notes. *I. pelagicus* is a pelagic form. In spring brood pouches of ovigerous females (12.0~14.0

mm) contained 55~70 eggs or larvae per individual. Egg size was 0.5 mm in diameter. Night plankton net collections provided 95% of the specimens of the present species on the sandy beaches of Chonsu Bay.

Acanthomysis aspera Ii, 1964 (Fig. 7)

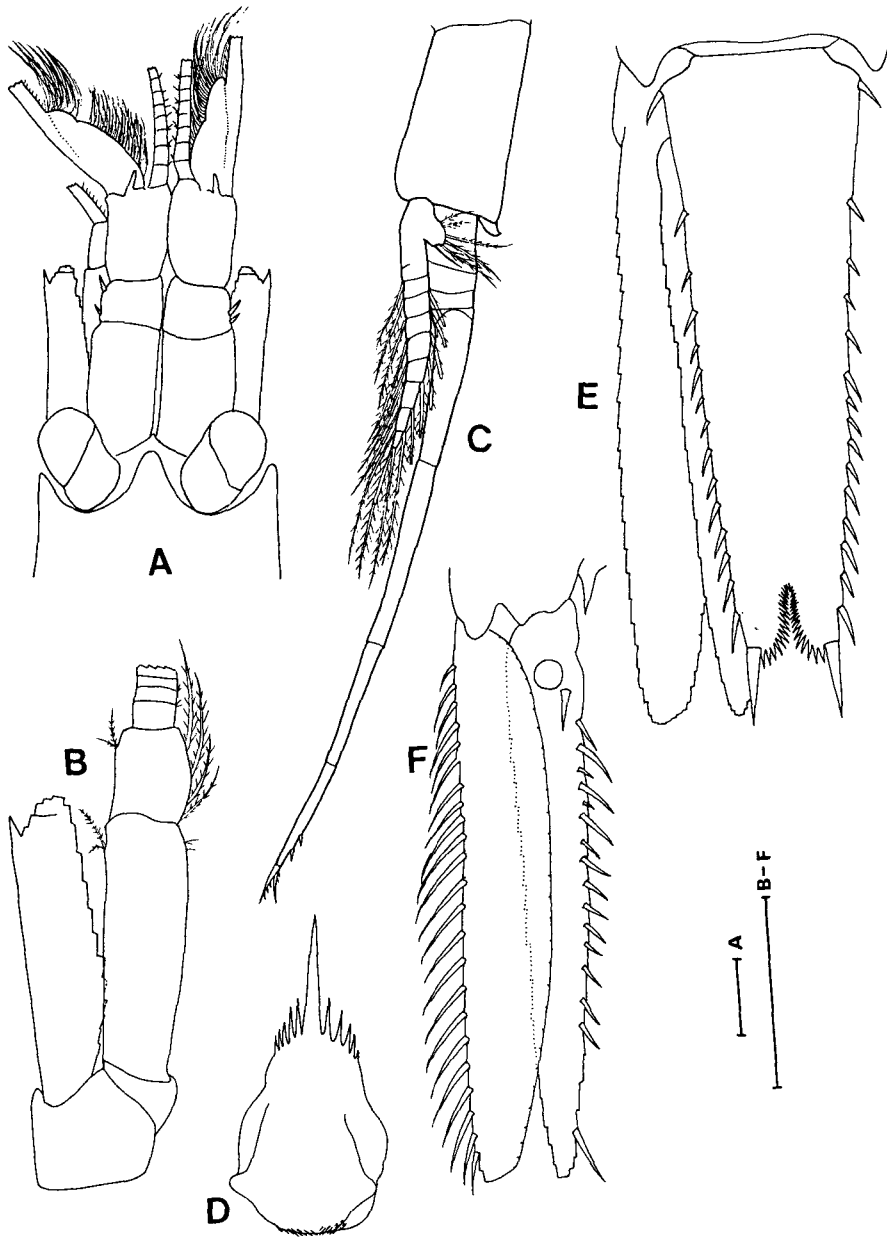


Fig. 6. *liella pelagicus* (Ii), Adult male (12.0 mm): A, anterior end; B, antenna; C, third pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

Acanthomysis aspera Ii, 1964, p. 492~495, fig. 126; Shen et al., 1989, p. 215~216, fig. 13; Oh, 1981, p. 21~24, fig. 5, dip net.

Materials examined. 1 ♂ (9.3 mm), Yongyodo, Incheon, 27 Apr. 1986, dip net.

Remarks. *A. aspera* is similar to *A. aoki* Ii, but differs from the latter in having a hispid body. *A. aspera* resembles also *A. indica* Tattersall in having a hispid body, but is easily distinguishable from the latter in the spine arrangement and its composition on the tel-

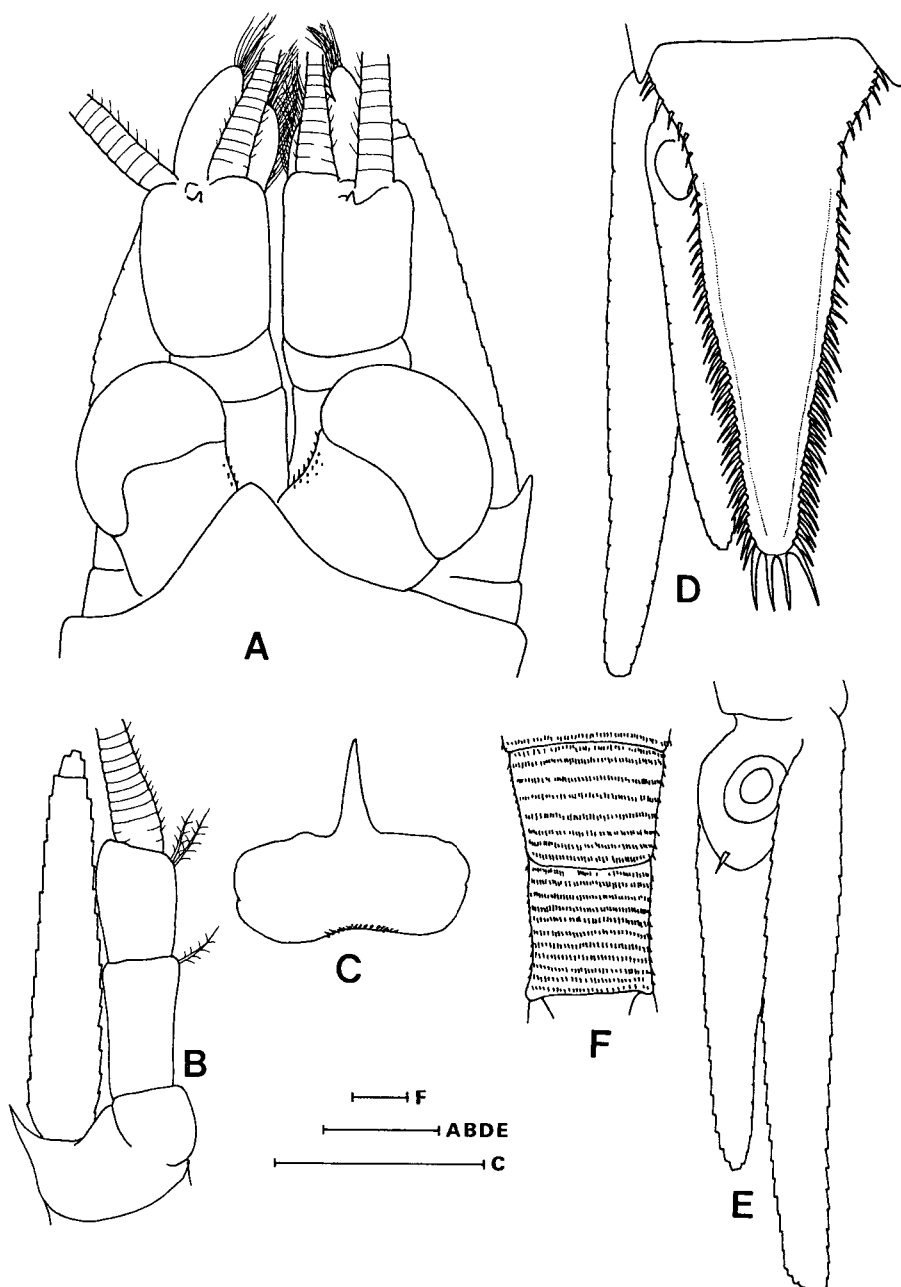


Fig. 7. *Acanthomysis aspera* li, Adult male (9.3 mm): A, anterior end; B, antenna; C, labrum; D, telson and uropod; E, ventral part of uropod; F, dorsal part of fifth and sixth abdominal somites. Scales, 0.4 mm.

son and inner uropod. *A. aspera* is the first record from the west coast of Korea although Oh (1981) reported the present species from Dungyang Bay, the south coast of Korea.

Distribution. Korea (south and west coasts), China (north coast), Japan (Seto Inland Sea).

Ecological notes. A single specimen was collected with a dip net from Yongyodo, Incheon.

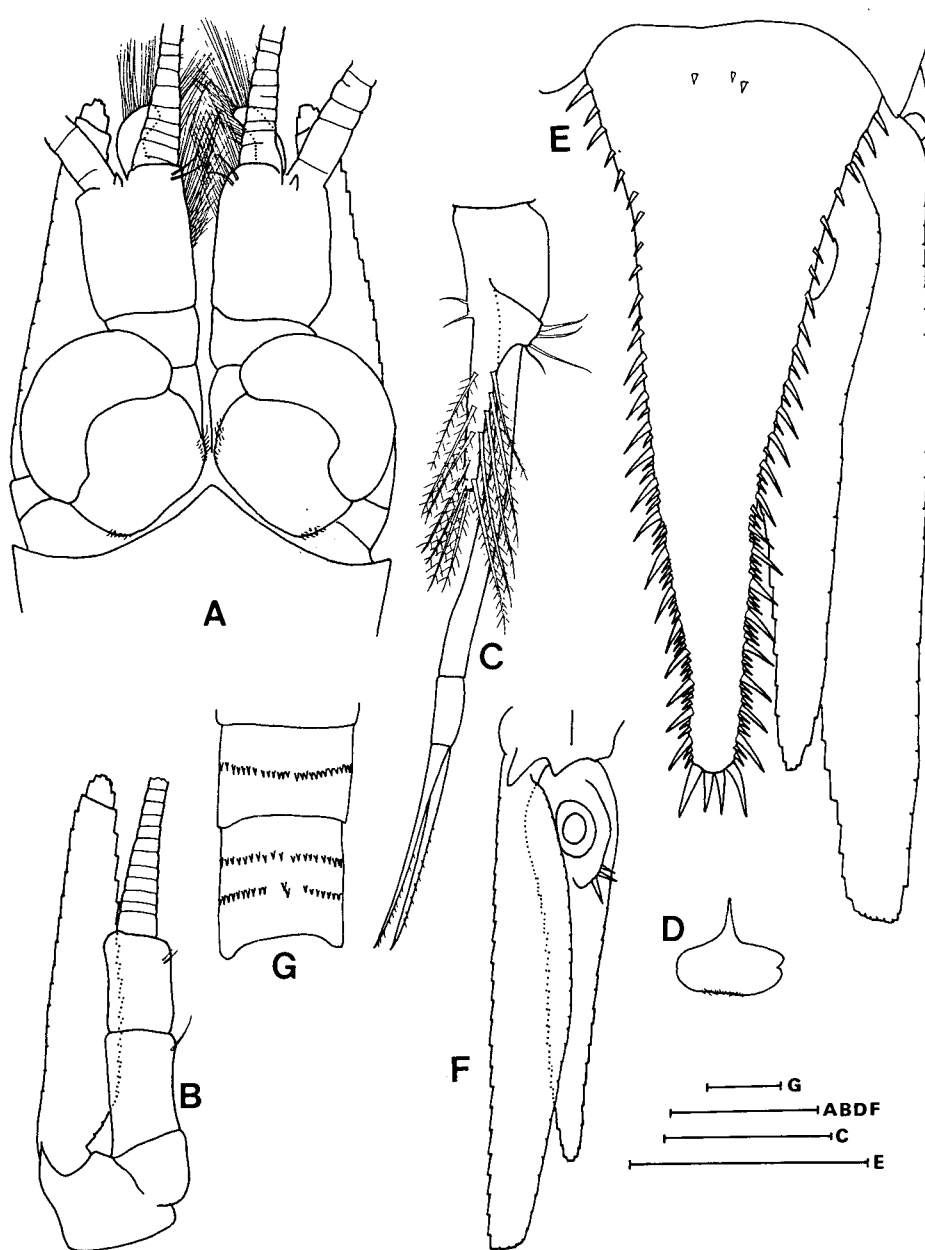


Fig. 8. *Acanthomysis fujinagai* Ii, Adult male (6.0 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod; G, dorsal part of fifth and sixth abdominal somites. Scales, 0.4 mm.

Acanthomysis fujinagai Ii, 1964 (Fig. 8)

Acanthomysis fujinagai Ii, 1964, p. 502~504, fig. 129.

Materials examined. 10 ♂♂ (6.0 mm), 2 ovigerous ♀♀ (6.5 mm), 5 ♀♀ (6.0 mm), Youngkwang (Kagami beach), Chonnam, 10 Aug. 1986, sled net.

Remarks. Since the original description by Ii (1964) from the southeastern coast of Korea, the present record is made for the first time in Korea. The present specimens agree well with the original description except telson. In the present specimens the telson is ar-

med with 1 or 2 spines on the dorsal margin near the base, while in the original description with no spines. However, it seems that Ii (1964) has failed to notice the spines on the telson. *Acanthomysis fujinagai* is similar to *A. koreana* Ii in having the transverse spine rows on the fifth and sixth abdominal somites, but different from the latter in the following characters: 1) in *A. fujinagai* the rostral plate is short, but in *A. koreana* long and triangular; 2) in *A. fujinagai* the antennal scale is short, 1.5 times as long as the antennal peduncle, while in *A. koreana* long, 1.7 times; 3) in *A. fujinagai* the dorsal margin of telson is armed with 1 or 2 spines on each side, but in *A. koreana* 2 or 3 spines; 4) in *A. fujinagai* the endopod of uropod is armed with 3 spines on statocyst region, but in the latter 5 or 6 spines.

Distribution. Korea (west and south-east coasts)

Ecological notes. In summer brood pouches of the ovigerous females (8.0 mm) carried 8~10 eggs.

Acanthomysis hwanhaiensis Ii, 1964 (Fig. 9)

Acanthomysis hwanhaiensis Ii, 1964, p. 486~488, fig. 124; Oh, 1981, p. 16~19, fig. 4; Shen et al., 1989, p. 217~219, fig. 14.

Materials examined. 1 ♂ (16.1 mm), Boryong (Taechon beach), Chungnam, 25 Apr. 1991, plankton net; 4 ♂♂ (15.0 mm), 1 ovigerous ♀ (13.5 mm), Boryong (Taechon beach), Chungnam, 1 Apr. 1992, plankton net.

Remarks. The present specimens agree well with the original description from Haeju Bay, Korea. *A. hwanhaiensis* resembles *A. koreana* Ii, *A. fujinagai* Ii and *A. okayamaensis* Ii in having the grouped spines on the lateral margins of telson. However, it differs from them in having two apical spines of telson, the smooth abdominal somites and the smooth dorsal margin of telson.

Distribution. Korea (south and west coasts), China (north coast).

Ecological notes. *A. hwanhaiensis* is a pelagic form. Ovigerous female (13.5 mm) carried 73 eggs.

Acanthomysis koreana Ii, 1964 (Fig. 10)

Acanthomysis koreana Ii, 1964, p. 499~501, fig. 128; Shen et al., 1989, p. 208~210, fig. 10.

Materials examined. 1 ♀ (16.0 mm), Yongyoodo, Inchon, 12 Dec. 1987, dip net.

Remarks. The present specimen consists of only one adult female. *A. koreana* is characterized by transverse spine rows on the fifth and sixth abdominal somites, two or three spines on each side of the anterodorsal margin of telson, and a long triangular rostral plate. *A. koreana* resembles *A. fujinagai* Ii but differs from the latter in the rostral plate, antennal scale, telson and uropod. Details of the difference between them have been already described in the previous species, *A. fujinagai*.

Distribution. Korea (west coast), China (north coast).

Acanthomysis longirostris Ii, 1936 (Fig. 11)

Acanthomysis longirostris Ii, 1936, p. 590~593, figs. 22~23; Banner, 1948, p. 86 (in key); Shen et al., 1989, p. 219~221, fig. 15.

Materials examined. 13 ♂♂ (13.5 mm), 23 ♀♀ (13.5~14.0 mm), Kunsan, 8 Dec. 1987, dip net.

Remarks. *A. longirostris* is very similar to *A. sinensis* Ii, but differs from the latter in the followings: 1) in *A. longirostris* the rostral plate is longer, and exceeds the distal end of second segment of antennular peduncle, while in *A. sinensis* it does not reach even the distal end of the first segment; 2) in *A. longirostris* the apex of telson is narrowly truncate, while in *A. sinensis* broadly truncate. *A. longirostris* is easily distinguished from other members of genus *Acanthomysis* in the shape of rostral plate, the armature of telson and the fourth male pleopod.

Distribution. Korea (west coast), China (north coast), Japan.

Acanthomysis okayamaensis Ii, 1964 (Fig. 12)

Acanthomysis okayamaensis Ii, 1964, p. 504~506, fig. 130; Oh, 1981, p. 28~31, fig. 7; Shen et al., 1989,

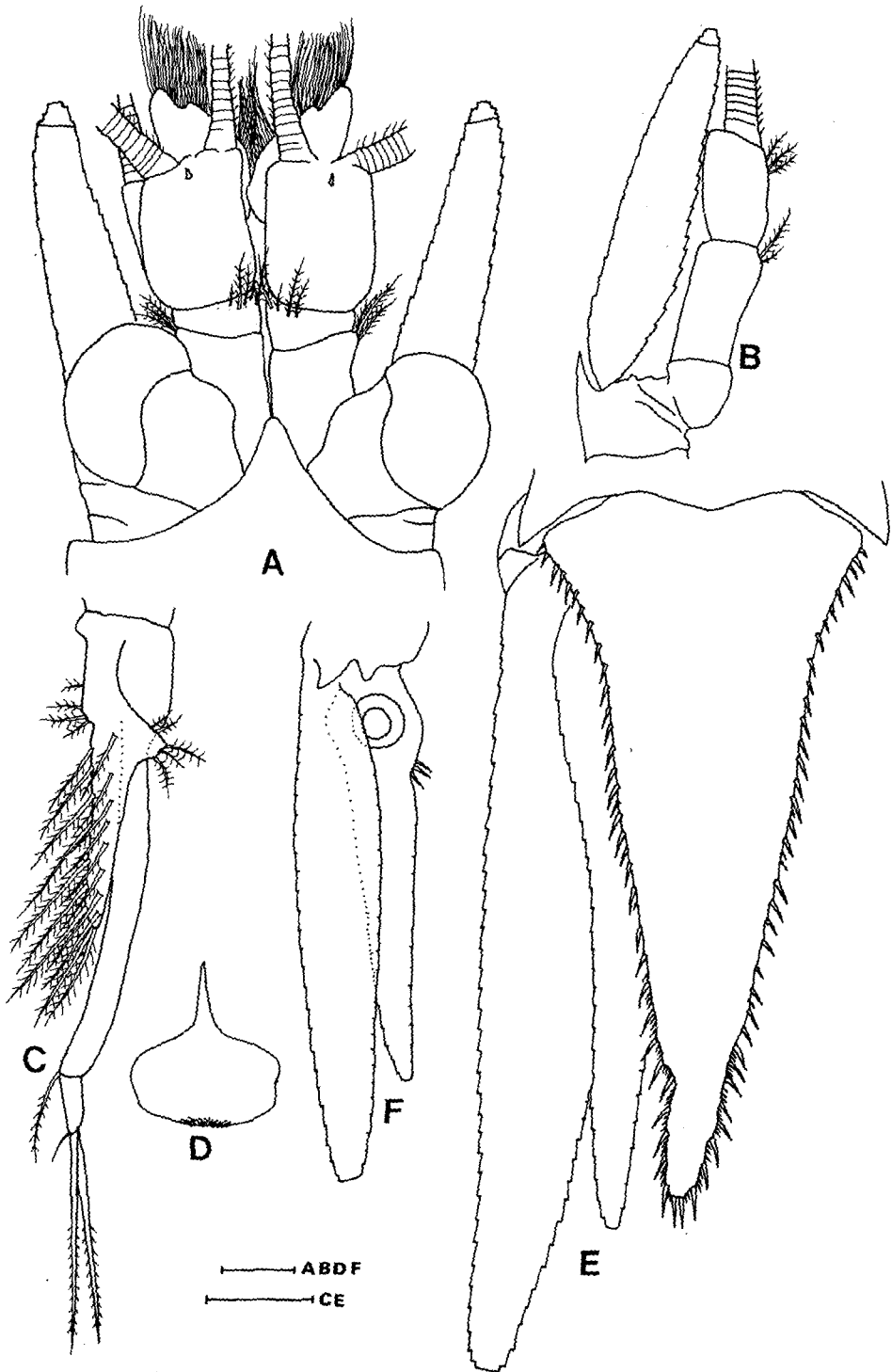


Fig. 9. *Acanthomysis hwanhaiensis* II, Adult male (15.0 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

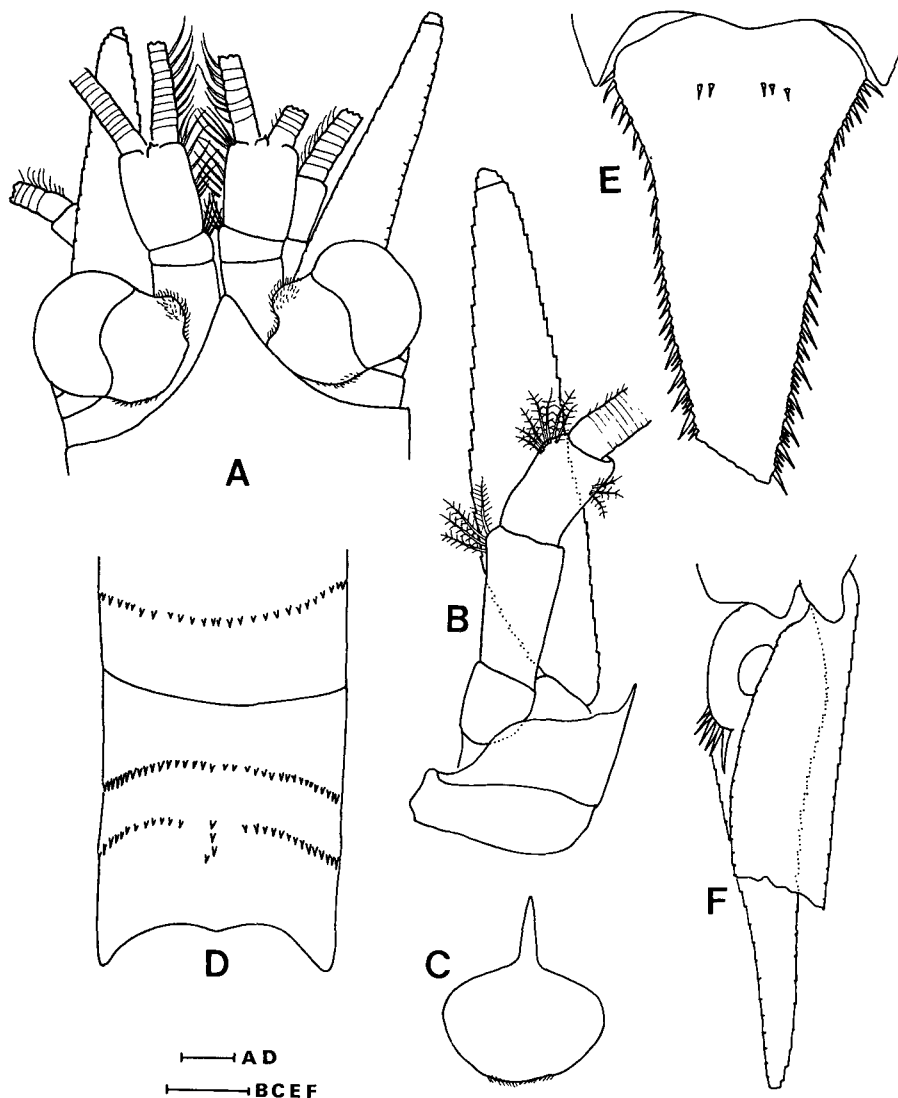


Fig. 10. *Acanthomysis koreana* Ii, Adult female (16.0 mm): A, anterior end; B, antenna; C, labrum; D, dorsal part of fifth and sixth abdominal somites; E, telson; F, ventral part of uropod. Scales, 0.4 mm.

p. 215, fig. 12.

Materials examined. 2 ♀♀ (20.1 mm), Boryong (Taechon beach), Chungnam, 1 Apr. 1992, plankton net.

Remarks. The present specimens agree well with the original description except two spines on the dorsal margin of telson which might have been overlooked by Ii (1964). Shen et al. (1989) also described *A.*

okayamaensis, collected from the north coast of China, with two spines on the dorsal margin of telson. *A. okayamaensis* resembles *A. tenuicauda* Murano in having a transverse spine row on the sixth abdominal somite and two spines on the dorsal margin of telson, but differs from the latter in the shape of the telson and the rostral plate. *A. okayamaensis* is also similar to *A. sagamiensis* (Nakazawa) in having four large api-

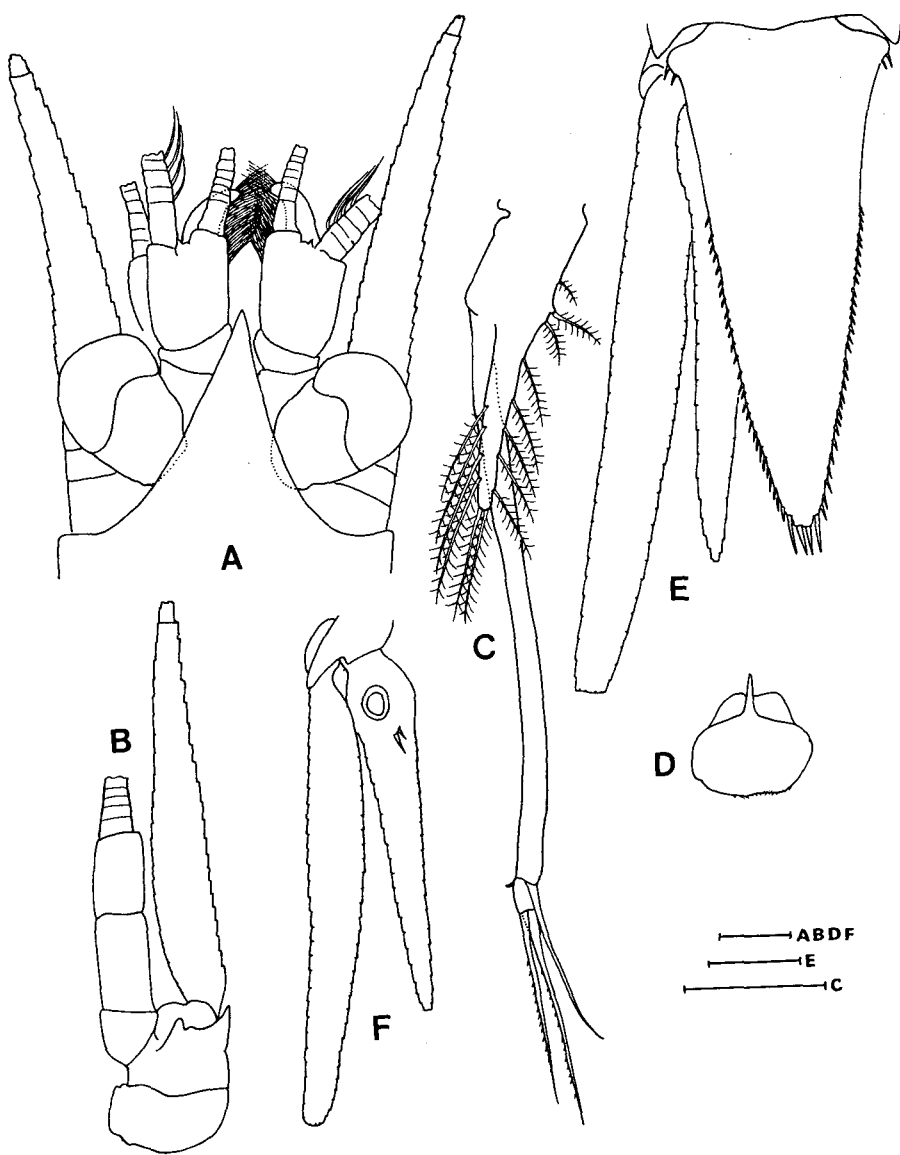


Fig. 11. *Acanthomysis longirostris* li, Adult male (13.5 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

cal spines of telson but differs the latter in having a transverse spine row on the dorsal margin of the sixth abdominal somite and the armature of telson. *A. okayamaensis* is the first record from the west coast of Korea.

Distribution. Korea (south and west coasts), China (north coast), Japan (Seto Inland Sea).

Ecological notes. *A. okayamaensis* is a pelagic form. Ovigerous females were large-sized (more than 20.0 mm).

Acanthomysis tenuicauda Murano, 1984 (Fig. 13)
Acanthomysis tenuicauda Murano, 1984, p. 112~116, figs. 4, 5.

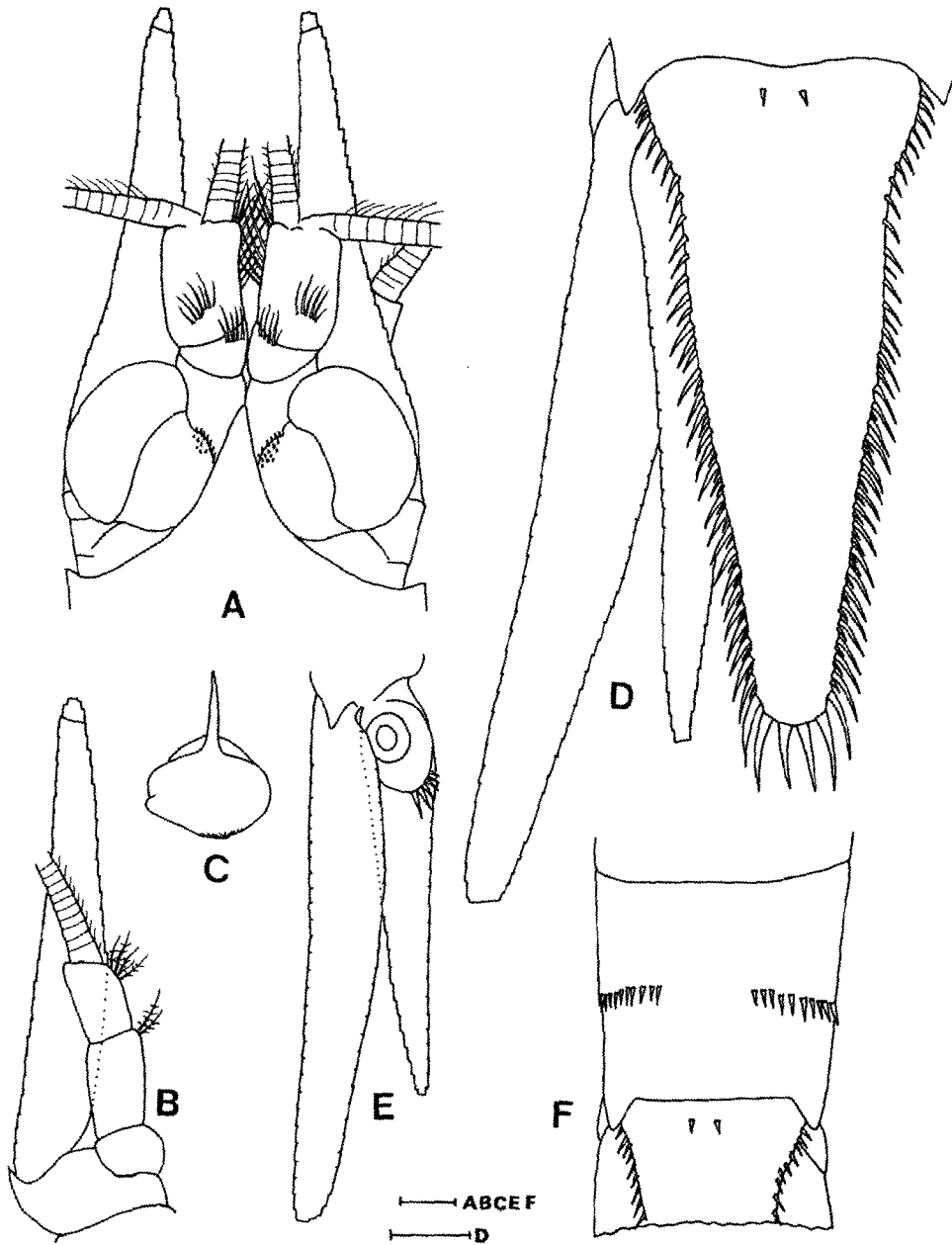


Fig. 12. *Acanthomysis okayamaensis* li, Adult female (20.1 mm): A, anterior end; B, antenna; C, labrum; D, telson and uropod; E, ventral part of uropod; F, dorsal part of sixth abdominal somite. Scales, 0.4 mm.

Materials examined. 2 ♂♂ (4.1 mm), Pyonsan, Chonbuk, 11 Aug. 1986, dip net; 2 ♂♂ (12.5, 13.0 mm), Boryong, Chungnam, 25 Apr. 1991, plankton net; 3 ♀♀ (10.2 mm), Boryong (Taechon beach),

Chungnam, 1 Apr. 1992, plankton net.

Remarks. *A. tenuicauda* belongs to the *Koreana* group which has the transverse spine row on the dorsal margin of the sixth (sometimes fifth also) abdomi-

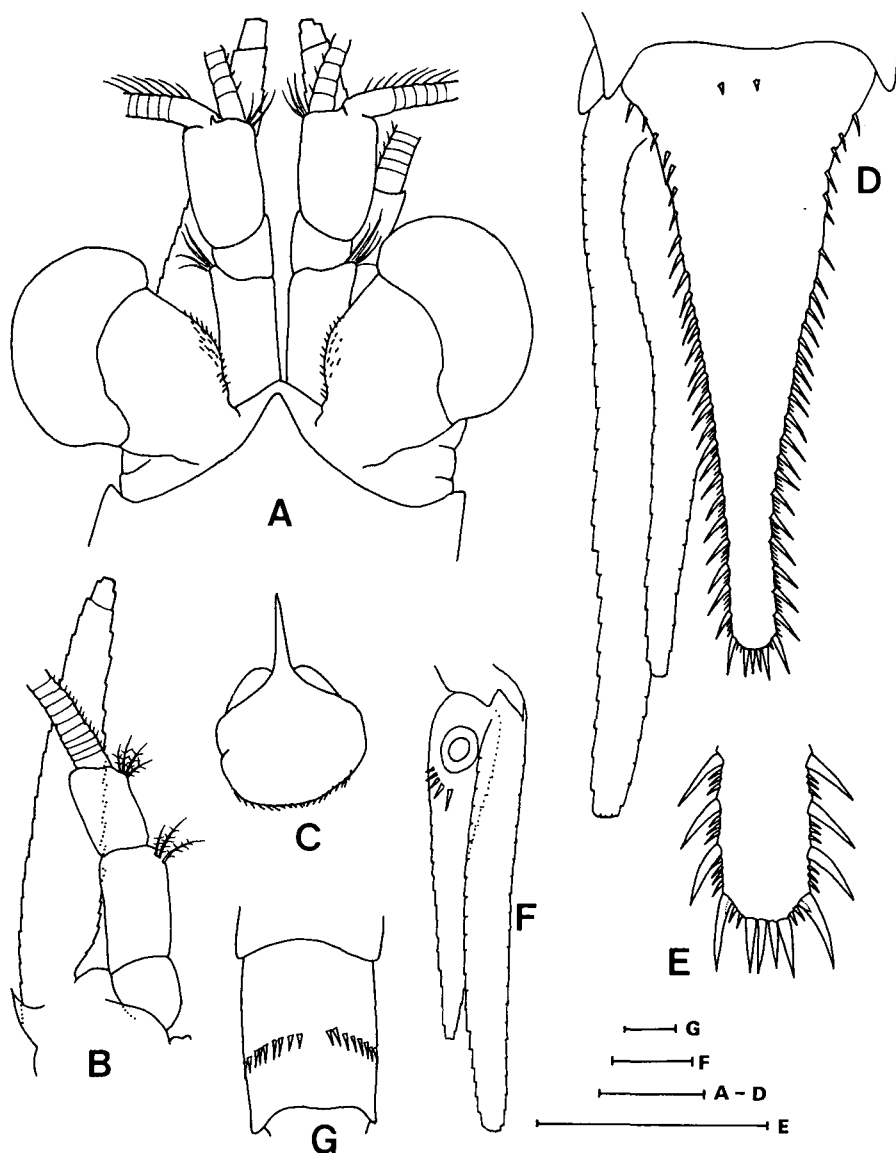


Fig. 13. *Acanthomysis tenuicauda* Murano, Adult female (10.2 mm): A, anterior end; B, antenna; C, labrum; D, telson and uropod; E, distal part of telson; F, ventral part of uropod; G, dorsal part of sixth abdominal somite. Scales, 0.4 mm.

nal somite and spines more than two on the anterodorsal margin of telson. *A. tenuicauda*, *A. fujinagai* Ii, *A. okayamaensis* Ii, *A. rotundicauda* Liu and Wang, *A. robusta* Murano and *A. serrata* Liu and Wang belong to this group. *A. tenuicauda*, however, differs from those species of the group in the subparallel shape of the distal third margin of telson. *A. tenuicauda* is

the first record from the coast of Korea.

Distribution. Korea (west coast), East China Sea.

Neomysis awatschensis (Brandt, 1851) (Fig. 14)
Mysis awatschensis Brandt, 1851, p. 126, pt. 1.

Neomysis awatschensis Tattersall, 1951, p. 190~192.
fig. 74; Ii, 1964, p. 436~440, fig. 110; Yoo and Choe,

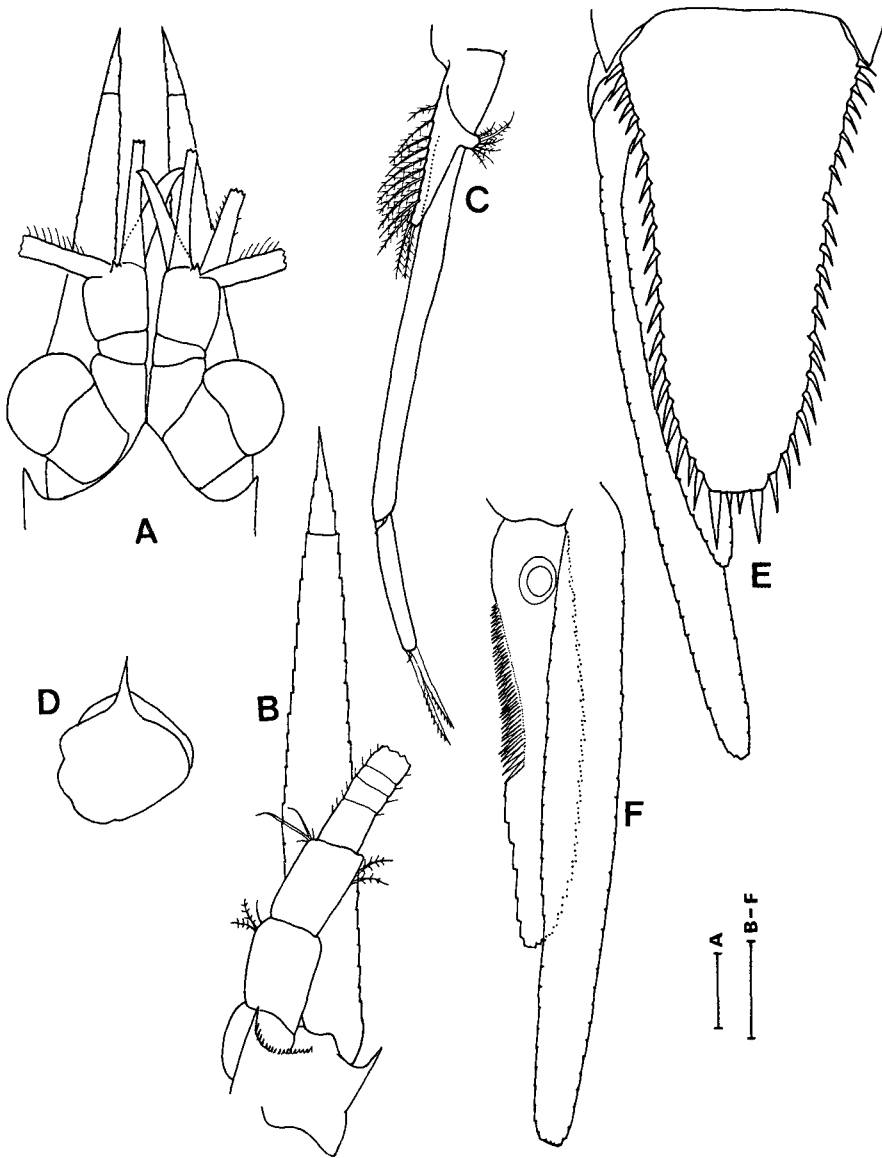


Fig. 14. *Neomysis awatschensis* (Brandt), Adult male (10.0 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

1985, p. 61~66, fig. 2; Shen et al., 1989, p. 205~208, fig. 8.

Materials examined. 2 ♂♂ (7.5 mm), 1 ♀ (7.2 mm), Sinjido, Chonnam, 11 May 1986, dip net; 2 ♂♂ (10.0 mm), 1 ♀ (10.3 mm), Muchangpo beach, Chungnam, 27 Dec. 1995, dip net; 24 ♂♂ (7.0~7.3 mm), 25 ♀♀ (7.2~7.5 mm), 5 Nov. 1995, dip net; 12

♂♂ (7.2 mm), 10 ♀♀ (7.3 mm), 9 Feb. 1996, dip net; large numbers of males and females, Kunsan, Jan.~Dec., 1995, dip net; 7 ♂♂ (7.5 mm), 6 ♀♀ (7.3 mm), Hagampo, Chungnam, 14 July 1996, dip net; 20 ♂♂ (7.0~7.5 mm), 22 ♀♀ (7.2~10.0 mm), Neri, Chungnam, 20 Nov. 1996, dip net.

Remarks. Yoo and Choe (1985) made a detailed

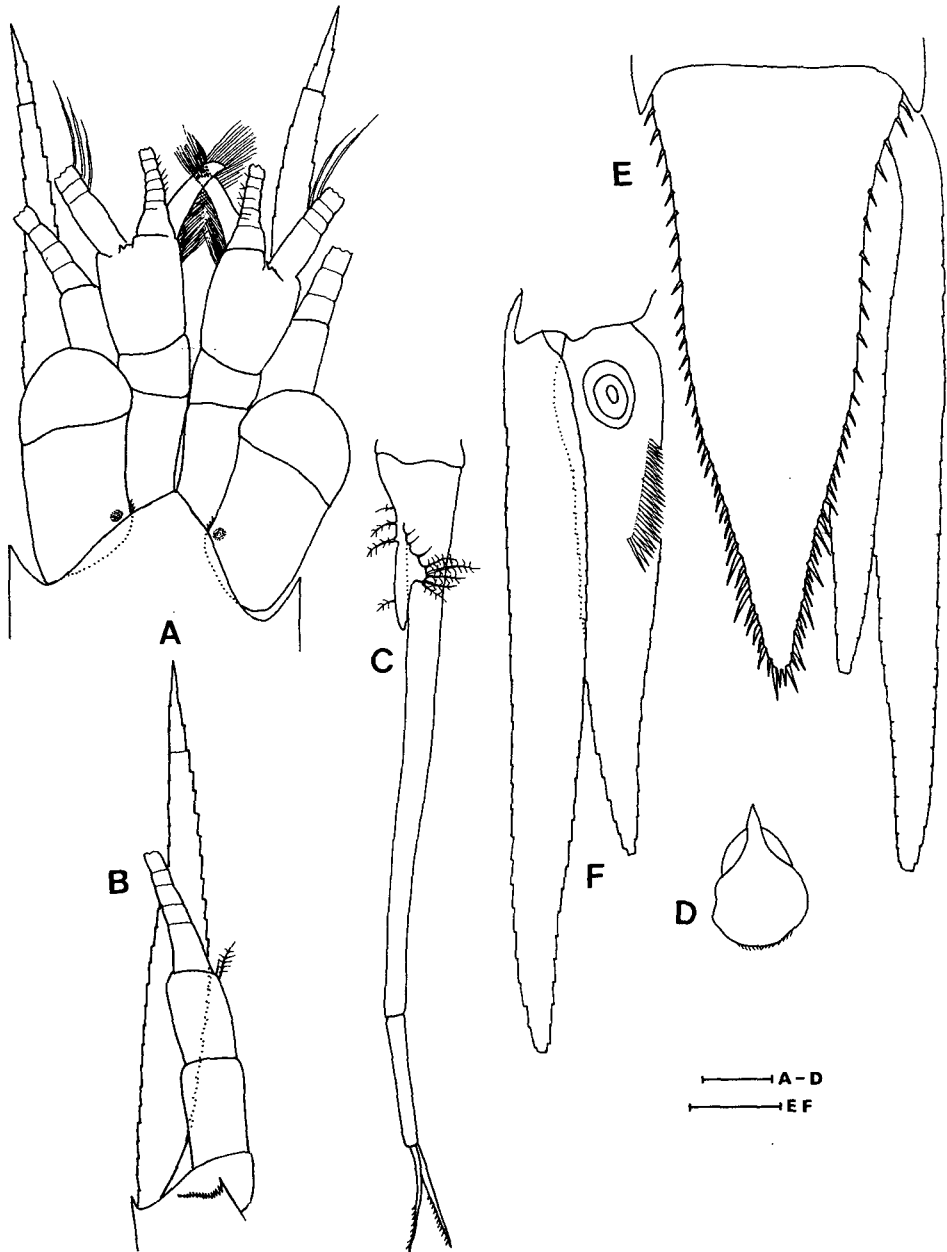


Fig. 15. *Neomysis orientalis li*, Adult male (14.5 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

description of *N. awatschensis* collected from the south and west coasts of Korea. The present specimens agree well with their description. *N. awatschensis* is so similar to *N. intermedia* (Czerniavsky) that some taxonomical confusion between both species has hap-

pened by the previous authors (Tattersall, 1921; Derschavin, 1923; Miyazi, 1933). *N. awatschensis*, however, differs from *N. intermedia* in having the sharply pointed rostral plate, while *N. intermedia* always has the rounded rostral plate. *N. awatschensis* is easily disti-

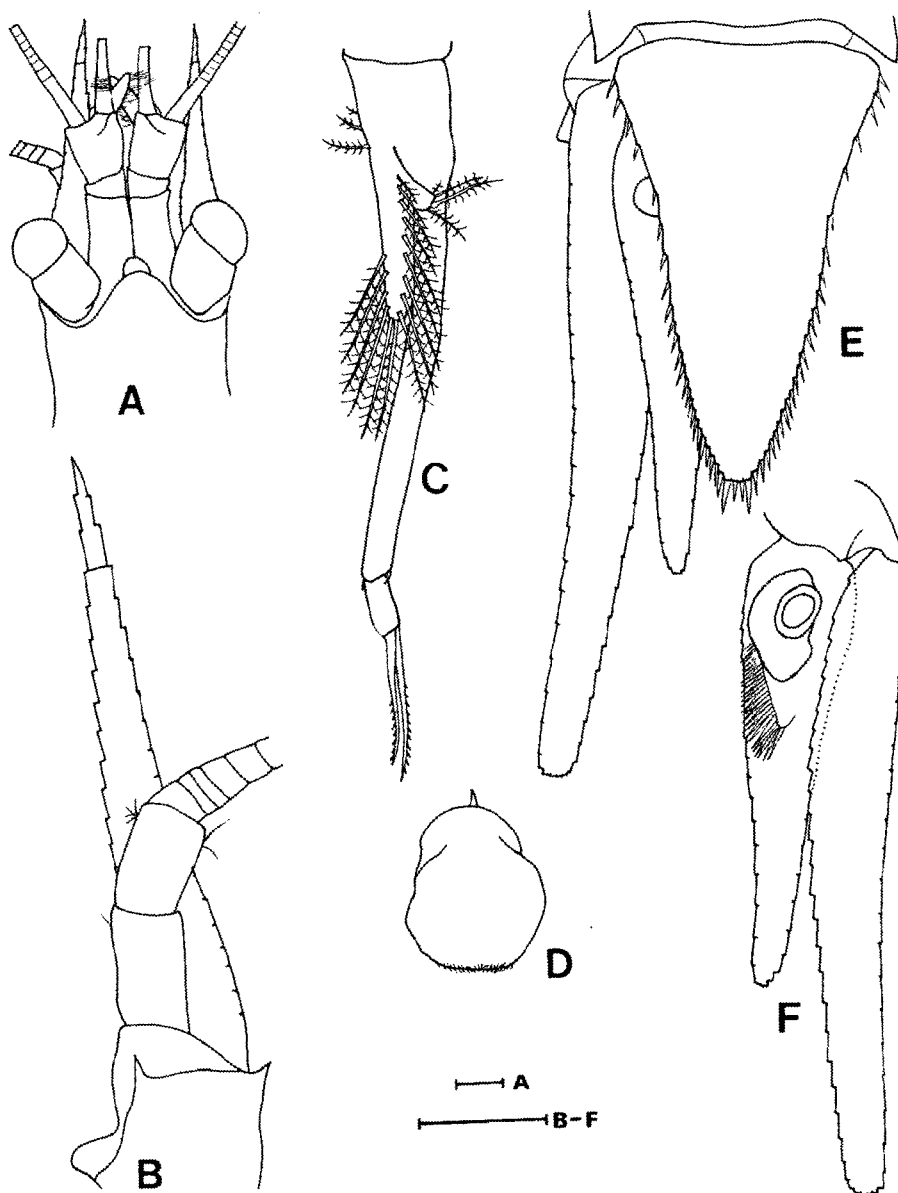


Fig. 16. *Neomysis japonica* Nakazawa, Adult male (8.0 mm): A, anterior end; B, antenna; C, fourth pleopod; D, labrum; E, telson and uropod; F, ventral part of uropod. Scales, 0.4 mm.

nguished from other species of genus *Neomysis* in the fourth long exopod of male. Local fishermen utilize the present species as salted mysids paste.

Distribution. Korea (south and west coasts), China (north coast), Japan, Russia (Kamchatka)

Ecological notes. *N. awatschensis* was collected together with *N. japonica* in the brackish water. Ovige-

rous females occurred during the period from March to October, carrying 4~16 eggs or larvae.

Neomysis orientalis Ii, 1964 (Fig. 15)

Neomysis orientalis Ii, 1964, p.451~454, fig. 114; Shen et al., 1989, p.203~205, fig. 7.

Materials examined. 3 ♂♂ (14.5 mm), 30 ovige-

rous ♀♀ (15.5 mm), Songdo beach, Incheon, 26 Apr. 1986, dip net; 3 ♂♂ (14.5 mm), 28 ovigerous ♀♀ (15.5 mm), 3 ♀♀ (12.0 mm), 5 immature ♀♀ (7.0 mm), 27 Apr. 1986, dip net; large numbers of males and females (9.5~10.0 mm), Yongyoodo, Incheon, 12 Dec. 1987.

Remarks. The present specimens agree well with the original description of Ii (1964) who collected the species from Haeju Bay, Korea. *N. orientalis* is similar to *N. americana* (Smith) from the east coast of North America. The major difference, however, lies in the armature of endopod of uropod which is armed with 25~30 spines on the inner margin but with 11 spines in *N. americana*. In *N. orientalis* the rostrum is produced into a distinctly pointed plate, while broadly rounded in *N. americana*. *N. orientalis* is easily distinguished from other species of genus *Neomysis* by having the elongated exopod of the fourth male pleopod.

Distribution. Korea (west coast), China (north coast).

Ecological notes. *N. orientalis* abundantly occurred in the west coast of Korea. In spring the ovigerous females (14.0~18.0 mm) carried 55~80 eggs or larvae, while in December (9.5~10.0 mm) 13~21 eggs.

Neomysis japonica Nakazawa, 1910 (Fig. 16)

Neomysis japonica Nakazawa, 1910, p. 247~248, figs. 2, 25; Tattersall, 1951, p. 194~195, fig. 76; Ii, 1964, p. 447~451, fig. 113; Shen et al., 1989, p. 206~208, fig. 9.

Materials examined. Large numbers of males and females, Kunsan, Jan.~Dec., 1995, dip net.

Remarks. The present specimens agree well with the original description by Nakazawa (1910). *N. japonica* is similar to *N. awatschensis* (Brandt), but differs from the latter in the followings: 1) the rostral plate is broadly rounded, but triangular and pointed in *N. awatschensis*; 2) in *N. japonica* the exopod of the fourth male pleopod posteriorly extends to the distal end of the sixth abdominal somite, while to the middle of telson in *N. awatschensis*.

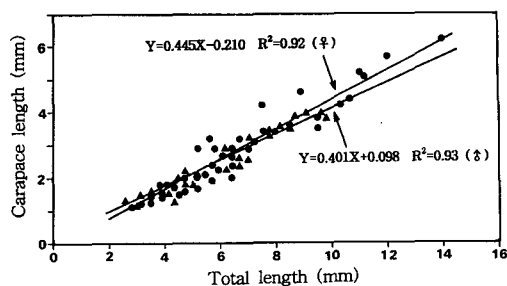


Fig. 17. *Neomysis japonica*. Relationship between carapace length and total length in males (▲) and females (●).

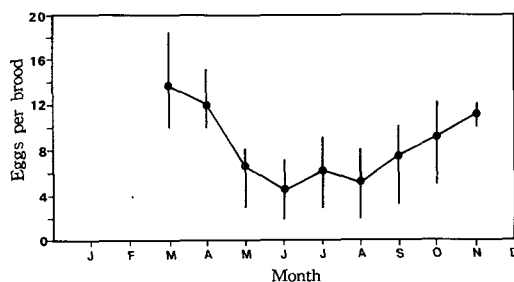


Fig. 18. *Neomysis japonica*. Seasonal variation in mean brood size of ovigerous female. Vertical bars indicate the minimum and maximum brood sizes.

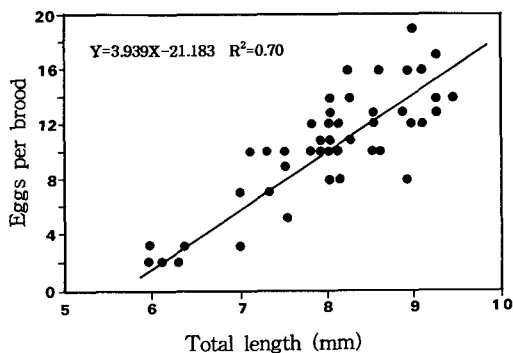


Fig. 19. *Neomysis japonica*. Relationship between brood size and total length of ovigerous female.

Distribution. Korea (west coast), China (north coast), Japan.

Ecological notes. *N. japonica* was a dominant mysid species in the brackish water (11~20‰) of Kunsan throughout the year although *N. awatschensis* was collected together. The present species comprised more

than 80% of the collections. The relationship between carapace length (Y) and total length (X) was described as, $Y=0.401X+0.098$ ($r^2=0.93$, d.f.=40, $p<0.0001$) and $Y=0.445X-0.210$ ($r^2=0.92$, d.f.=44, $p<0.0001$) for males and females, respectively (Fig. 17). The carapace of females was longer relative to total length than that of males. Ovigerous females occurred from late February to November. Broods changed seasonally; during March through April the brood sizes were large (10~19 eggs or larvae) and remained small (2~11 eggs or larvae) after April (Fig. 18). The relationship between brood size (Y) and total length (X) for ovigerous females was described as, $Y=3.939X-21.183$ ($r^2=0.70$, d.f.=47, $p<0.001$). Brood size tended to be larger with increasing body size, ranging from 2 to 19 eggs or larvae (Fig. 19).

Key to the Mysidacea of the west coast of Korea

1. Antennal scale with inner margin setose and outer margin naked 2
 - Antennal scale with inner and outer margins setose 6
2. Exopod of third male pleopod with pseudosegments bearing plumose setae; labrum with anterior margin without spine on each side of median process 3
 - Exopod of third male pleopod with pseudosegments without setae; labrum with 4~5 spines on each side of median process 5
3. Endopod of third male pleopod segmented ... 4
 - Endopod of third male pleopod unsegmented *Archaeomysis vulgaris*
4. Endopod of third male pleopod 3- or 4-segmented and less than 0.5 times length of first segment of exopod *Archaeomysis grebnitzkii*
 - Endopod of third male pleopod 6- or 7-segmented and more than 0.5 times length of first segment of exopod *Archaeomysis japonica*
5. Uropod with endopod bearing 6 or 7 spines along inner margin; telson short, 2.4 times as long as broad at base and with lateral margin armed with 10 spines *Iiella formosensis*
 - Uropod with endopod bearing 17~20 spines along inner margin; telson long, 3 times as long as broad at base and with lateral margin armed with 16 spines *Iiella pelagicus*
6. Distal end of antennal scale rounded 7
 - Distal end of antennal scale sharply pointed 13
7. Dorsal margin of telson armed with spines 8
 - Dorsal margin of telson armed without spines 11
8. Fifth and sixth abdominal somites bearing transverse spine row 9
 - Sixth abdominal somite bearing transverse spine row 10
9. Rostral plate short and broadly triangular *Acanthomysis fujinagai*
 - Rostral plate short and narrowly triangular *Acanthomysis koreana*
10. Telson tapering distally *Acanthomysis okayamaensis*
 - Telson subparallel in distal third margin *Acanthomysis tenuicauda*
11. Body surface smooth 12
 - Body surface hispid *Acanthomysis aspera*
12. Lateral margins of telson armed with spines along entire length *Acanthomysis hwanhaiensis*
 - Lateroproximal margins of telson without spine except 2 spines at base *Acanthomysis longirostris*
13. Fourth male pleopod extending posteriorly to middle of telson 14
 - Fourth male pleopod extending posteriorly to base of telson; rostral plate broadly rounded *Neomysis japonica*
14. Rostral plate sharply pointed; telson elongated, with broad apex *Neomysis awatschensis*

– Rostral plate broadly pointed; telson short, with narrow apex *Neomysis orientalis*

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Mysidacea (Crustacea) from the West Coast of Korea

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