

A New Record of Genus *Nippoleucon* (Cumacea: Leuconidae) from Korea

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ABSTRACT

The genus *Nippoleucon* was newly established within the family Leuconidae and two *Hemileucon* species, *N. hinumensis* (Gamô, 1967) and *N. enoshimensis* (Gamô, 1967), were transferred to this genus. Through examination of the cumacean specimens from the Gwangyang Bay of the Korea Strait, *N. hinumensis* is recorded as new to Korean fauna. The genus *Nippoleucon* is reported from Korea for the first time.

Key words: Cumacea, *Nippoleucon*, Leuconidae, Korea

INTRODUCTION

Ninty-nine species have been reported in the family Leuconidae to date (Băcescu, 1988; Watling, 1991). Watling (1991) established the genus *Nippoleucon* within the family Leuconidae, and then transferred *Nippoleucon hinumensis* (Gamô, 1967) and *Nippoleucon enoshimensis* (Gamô, 1967) from the genus *Hemileucon*.

Through examination of the cumacean specimens from the Gwangyang Bay of the Korea Strait, *Nippoleucon hinumensis* is recorded as new to Korean fauna in this paper. Drawings and measurements were performed with the aid of a drawing tube. Measurements of the body length were made from the anterior tip of carapace to the last abdominal somite, and those of each

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appendages were made along the mid-line of segment, excluding the inflated outer angle.

SYSTEMATIC ACCOUNTS

Order Cumacea Kröyer, 1846

Family *Leuconidae Sars, 1878

Genus ***Nippoleucon* Watling, 1991

******Nippoleucon hinumensis* (Gamô, 1967) (Figs. 1-4)**

Hemileucon hinumensis Gamô, 1967, p. 151, figs. 5-7; Băcescu, 1988, p. 148.

Nippoleucon hinumensis: Watling, 1991, p. 576, fig. 2 (n-q).

Material examined. 2♂♂, 12♀♀, Gwangyang Bay, 26-28 May 1996 (Yosu National Univ., H. C. Shin), by grab from 10-30 m in depth.

Description. Marsupial female. Body length (Fig. 1A) about 5.3 mm, excluding uropods; surface with short sensory hairs. Carapace (Fig. 1A, B) slightly longer than 1/5 of body length, about 1.5 times as long as its depth, 1.1 times as long as its width; shape nearly triangular in dorsal view, with serrated dorso-median crest on frontal lobe; hind portion of crest depressed. Antennal notch and antero-lateral angle prominent. Antero-lateral margin serrated. Pseudorostral lobes (Fig. 1A, B) obliquely upward, serrated. Ocular lobe (Fig. 1B) very small, without lens and pigment. Thorax (Fig. 1A, B) about 1.6 times as long as carapace, about 1/3 of body length. Second segment largest, twice as long as first; third about 0.7 times as long as second; fourth and fifth subequal in length each other. Abdomen (Fig. 1A) about 0.85 times as long as cephalothorax. Fifth segment longest, about 0.6 times as long as third and fourth combined; sixth about 0.6 times as long as fifth, with 4 subequal simple setae near distal margin.

Antennule (Fig. 1C): Peduncle composed of 3 articles; first article about 0.8 times as long as second, with 1 plumose, 4 sensory setae on inner corner; Second subequal in length to third, with 2 simple, 4 sensory, 2 plumose setae near distal margin; third with 1 simple seta near outer margin and 1 plumose, 2 sensory setae on inner corner. Main flagellum composed of 3 articles; first article about 1/2 length of third peduncular article; second slightly shorter than 1/2 of first, with 1 aesthetasc, 1 short, 1 long simple setae; third article very minute, with 1 aesthetasc, 1 sensory, 1 short, 2 long simple setae. Accessory flagellum not articulated, slightly shorter than 1/3 of first article of main flagellum with 2 simple, 2 sensory setae on distal margin.

Antenna (Fig. 1D): Peduncle composed of 3 articles; first article with 2 strong plumose setae on distal margin; third with 4 sensory setae on distal margin.

Third maxilliped (Fig. 1E): Basis about 1.3 times as long as remaining articles combined, with 7 plumose setae near median surface, numerous hairs, 7 plumose setae on inner and numerous hairs on outer margins; outer corner inflated, with 3 long plumose setae. Ischium very short, about 1/2 length of merus. Merus slightly shorter than 1/2 of carpus, with 2 plumose setae on inner margin; outer corner inflated, with 1 long plumose seta. Carpus about 1.3 times as long as propodus, with 5 plumose setae on inner margin; outer corner 1 long plumose seta. Propodus about 1.2 times as

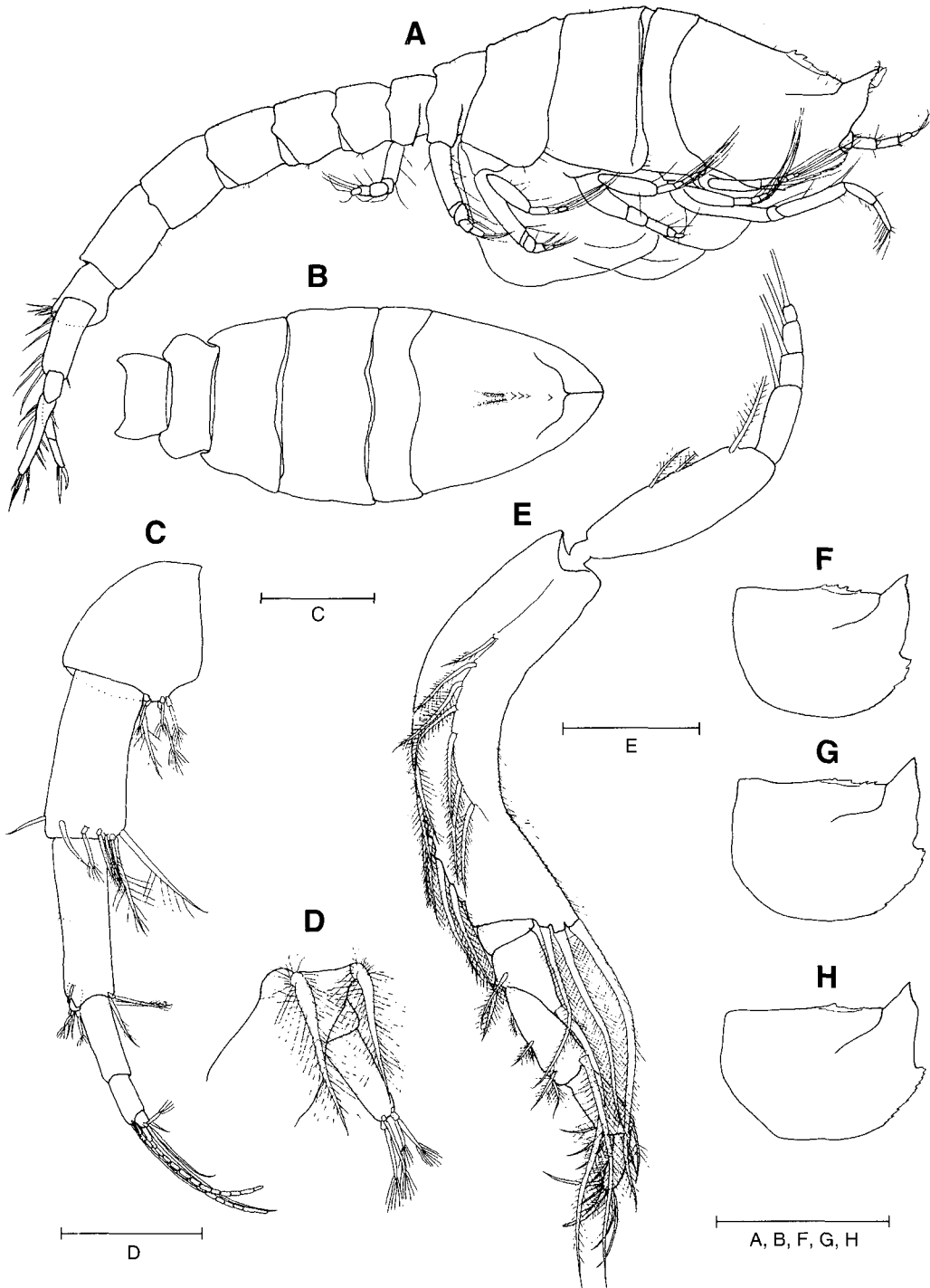


Fig. 1. *Nippoleucon hinumensis*, marsupial female. A, habitus, lateral; B, cephalothorax, dorsal; C, antennule; D, antenna; E, third maxilliped; F-H, carapaces of other specimens, lateral. Scale bars = 0.1 mm (C, D), 0.2 mm (E), 1 mm (A, B, F-H).

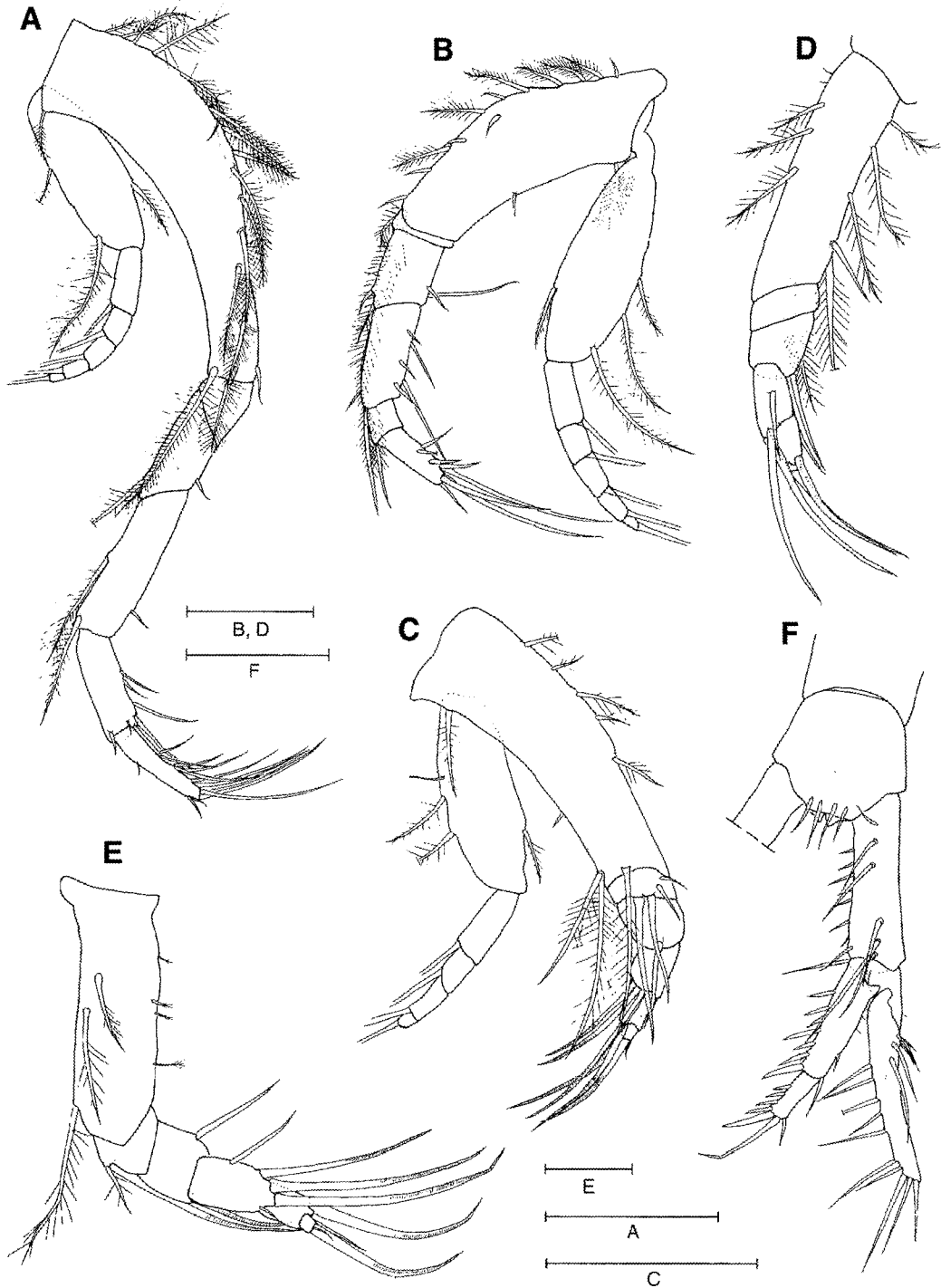


Fig. 2. *Nippoleucon hinumensis*, marsupial female. A, first pereopod; B, second pereopod; C, third pereopod; D, fourth pereopod; E, fifth pereopod; F, uropods and last abdominal segment, dorsal. Scale bars = .1 mm (E), 0.2 mm (B, D), 0.3 mm (A, C), 0.4 mm (F).

long as dactylus, with 3 plumose setae on inner margin, 3 plumose setae near outer corner. Dactylus with 1 simple outer seta, 5 simple terminal setae. Exopod well developed, with 3 plumose setae on outer corner.

First pereopod (Fig. 2A): Basis about 0.85 times as long as remaining articles combined, with 6 short simple, 13 plumose setae on inner margin and 1 simple, 2 plumose setae near distal margin. Ischium slightly longer than 1/2 length of merus. Merus slightly longer than 1/2 of carpus, with 1 simple seta on inner and 1 plumose seta on outer margins. Carpus about 1.55 times as long as propodus, with 1 simple seta on inner and 2 plumose setae on outer margins. Propodus slightly shorter than dactylus, with 7 simple setae on inner margin and surface. Dactylus with 7 simple setae on inner and 3 short simple setae on outer margins; terminal margin with 3 simple setae.

Second pereopod (Fig. 2B): Basis about 0.9 times as long as remaining articles combined, with 8 plumose, 6 short simple setae near inner margin; outer margin with 1 simple, 2 plumose setae. Ischium very short. Merus about 0.65 times as long as carpus, with 2 simple setae on inner margin and 1 simple, 1 long plumose setae on outer corner. Carpus about 3.5 times as long as propodus, with 3 short, 2 long simple setae on outer margin, 2 long plumose setae on inner corner. Propodus about 0.4 times as long as dactylus. Dactylus with 4 short, 1 long simple setae on inner margin; terminal margin with 1 short, 2 long simple setae.

Third pereopod (Fig. 2C): Basis about 1.7 times as long as remaining articles combined, with 4 short simple, 9 plumose setae on surface.

Fourth pereopod (Fig. 2D): 1.25 times as long as remaining articles combined, with 9 plumose setae on surface.

Fifth pereopod (Fig. 2E): Basis 1.2 times as long as remaining articles combined, with 3 plumose, 4 sensory setae on surface.

Uropod (Fig. 2F): Peduncle about 1.15 times as long as last abdominal segment, with 8 short, 1 long simple setae on inner margin, 6 simple setae near median surface. Endopod 2-articulated, about 1.2 times as long as peduncle; first article with 7 plumose spines on inner and 2 setae, 3 sensory hair on outer margins; second slightly shorter than 1/2 of first, with 5 spines and 2 terminal setae (one of them long). Exopod 2-articulated, about 1.25 times as long as endopod; inner margin with 7 simple setae; outer margin with 7 simple setae near middle portion; terminal margin with 3 simple setae.

Adult male. Body length (Fig. 3A, B) about 3.6 mm, excluding uropods; surface with short sensory hairs as in female. Carapace (Fig. 3A, B) longer than 1/5 of body length, about 1.7 times as long as its depth, 1.5 times as long as its width; shape nearly rectangular in dorsal view, rather smooth. Antennal notch absent and antero-lateral angle obtuse. Antero-lateral margin faintly serrated. Pseudorostral lobes (Fig. 3A, B) shorter than female's. Ocular lobe (Fig. 3B) same as in female. Thorax (Fig. 3A, B) subequal in length to carapace, about 0.25 times as long as body; third segment longest, about 0.8 times as long as first and second combined. Abdomen (Fig. 3A) slightly longer than cephalothorax. Fifth segment longest, about 0.6 times as long as third and fourth combined; sixth about 0.7 times as long as fifth.

Antennule (Fig. 3C): Peduncle composed of 3 articles; first article about 0.9 times as long as second, with 3 plumose setae near distal margin; second equal in length to third, with 4 sensory, 10 plumose setae near distal margin. Main flagellum composed of 4 articles; first article about 1/2

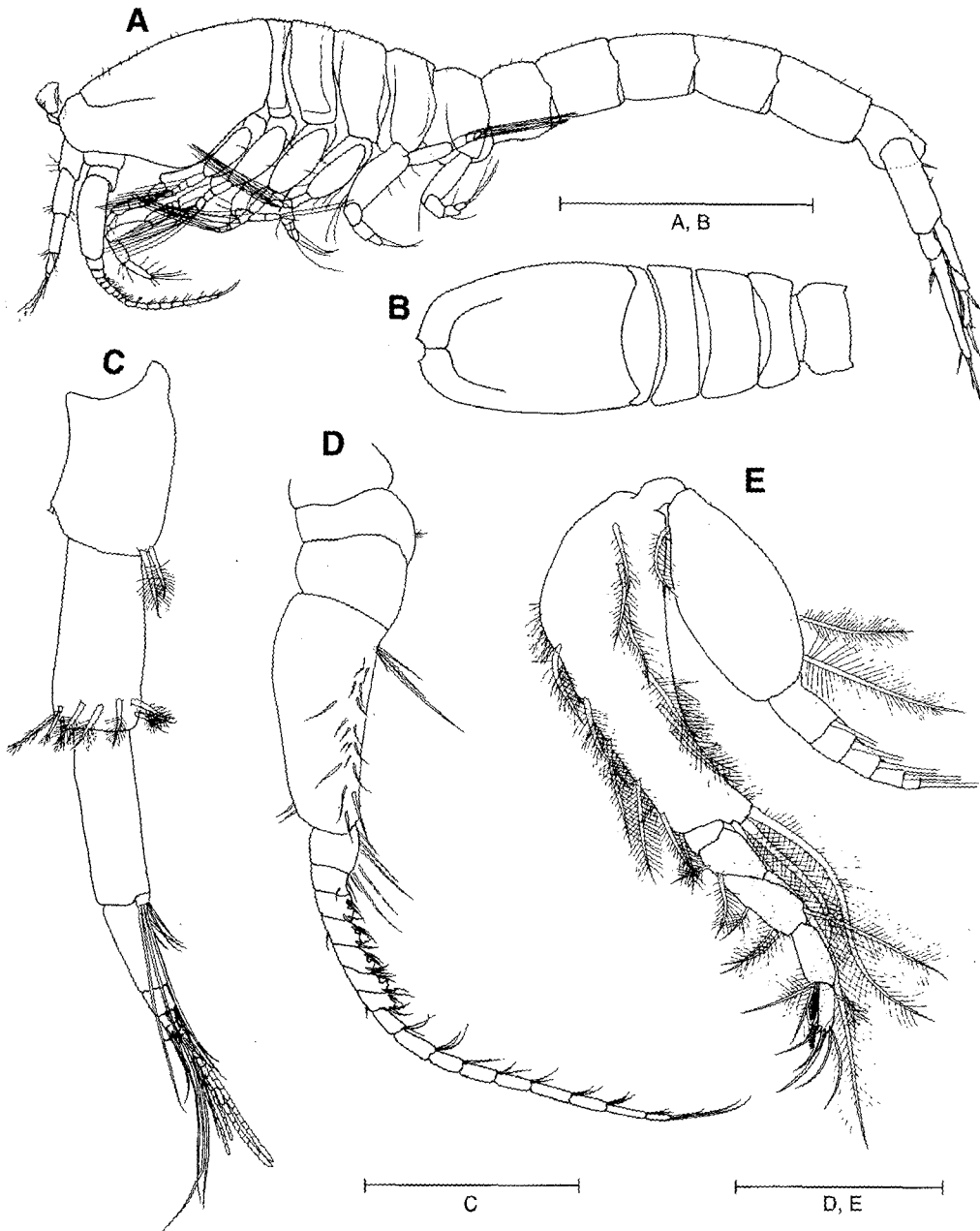


Fig. 3. *Nippoleucon hinumensis*, adult male. A, habitus, lateral; B, cephalothorax, dorsal; C, antennule; D, antenna; E, third maxilliped. Scale bars = 0.2 mm (C), 0.3 mm (D, E), 1 mm (A, B).

length of third peduncular article, with 2 aesthetascs on distal margin; second slightly shorter than 1/3 of first, with about 3 simple setae; third article very minute, with 1 aesthetasc, 1 long, 2 short simple setae; fourth subequal in length to third, with 1 aesthetasc, 2 short, 2 long setae. Accessory

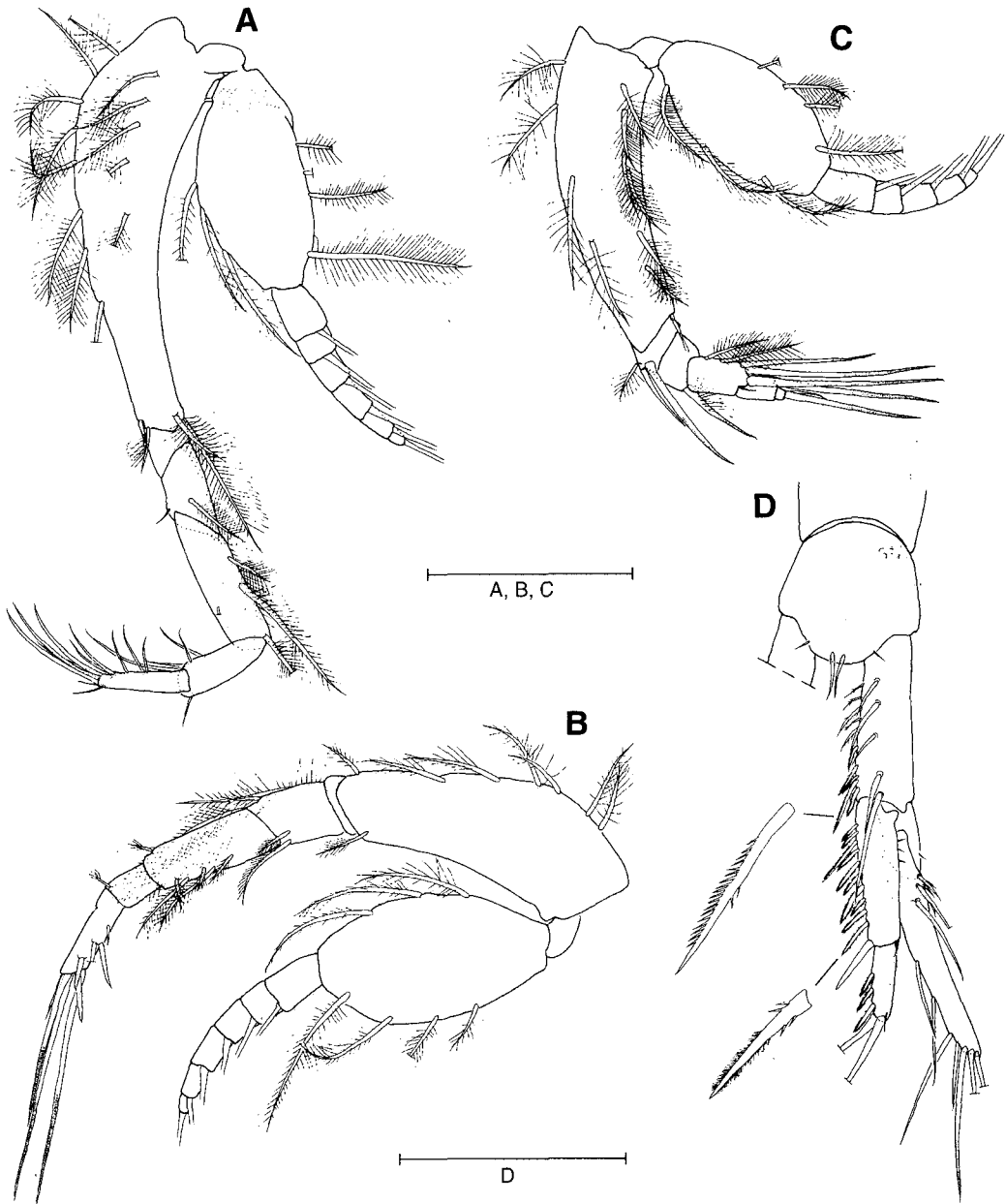


Fig. 4. *Nippoleucon hinumensis*, adult male. A, first pereopod; B, second pereopod; C, third pereopod; D, uropods and last abdominal segment, dorsal. Scale bars = 0.3 mm (A-C), 0.5 mm (D).

flagellum not articulated, about 1/6 length of first article of main flagellum with 2 sensory, 2 shorter, 3 long simple setae on distal margin.

Antenna (Fig. 3A, D) short, not exceeding cephalothorax. Peduncle composed of 4 articles; fourth segment poorly with sensory setae on inner margin. Flagellum 16-articulated; several

proximal articles modified into grasping-like structures.

Third maxilliped (Fig. 3E): Basis about 1.4 times as long as remaining articles combined, with 6 plumose setae near median surface; inner margin with numerous hairs, 6 plumose setae; outer margin with numerous hairs, 1 plumose proximal seta; outer corner inflated, with 3 long plumose setae. Ischium very short, about 1/2 length of merus. Merus slightly shorter than 1/2 of carpus, with 2 plumose setae on inner margin; outer corner inflated, with 1 long plumose seta. Carpus about 1.2 times as long as propodus, with 2 plumose setae on inner margin, 1 long plumose seta on outer corner. Propodus about 1.3 times as long as dactylus, with 2 plumose, 1 comb-like setae on inner corner, 1 plumose seta on outer corner. Dactylus with 1 comb-like setae on inner and 1 simple distal seta on outer margins; terminal margin with 5 simple setae. Exopod well developed, with 2 plumose setae on outer margin.

First pereopod (Fig. 4A): Basis slightly longer than remaining articles combined, with 5 plumose setae near median surface, 8 plumose setae on inner and 1 proximal seta on outer margins; inner corner with 1 spiniform seta, 1 plumose seta; outer corner with 2 plumose setae. Ischium shorter than 1/2 of merus. Merus about 1/2 length of carpus, with 1 simple seta on inner margin, 2 plumose seta on outer margin and surface. Carpus about 1.7 times as long as propodus, with 1 simple seta on inner and 3 plumose setae on outer margins. Propodus about 0.8 times as long as dactylus, with 5 simple setae on inner and outer margins. Dactylus with 6 simple setae on inner and 2 short simple setae on outer margins; terminal margin with 3 simple setae.

Second pereopod (Fig. 4B): Basis about 0.8 times as long as remaining articles combined, with 8 plumose setae on inner margin; outer corner with 1 plumose seta. Ischium very short. Merus about 1/2 length of carpus, with 5 plumose setae near distal margin. Carpus about 3.1 times as long as propodus, with 5 plumose setae on inner and 1 sensory seta on outer margins. Propodus slightly shorter than 1/2 length of dactylus, with 1 sensory seta on inner corner. Dactylus with 5 short, 1 long simple setae near inner margin; terminal margin with 1 short, 2 long simple setae.

Third pereopod (Fig. 4C): Basis about twice as long as remaining articles combined, with 11 plumose setae on surface.

Uropod (Fig. 4D): Peduncle about 1.15 times as long as last abdominal segment, with 10 plumose setae on inner margin, 5 simple setae near median surface. Endopod 2-articulated, about 1.3 times as long as peduncle; first article with 10 setiform plumose spines on inner margin, 1 strong spine on inner corner; outer margin 3 sensory hairs near proximal portion; second slightly longer than 1/2 of first, with 3 setiform plumose spines on inner margin, 1 strong spine on inner corner; terminal margin with 1 short, 1 long setae. Exopod 2-articulated, about 1.2 times as long as endopod, with 1 plumose, 5 simple setae on inner margin; outer margin with 7 simple setae near middle portion; terminal margin with 3 long simple setae.

Remarks. The specimens in this study are well accorded with the original description (Gamô, 1967). *Nippoleucon hinumensis* has a couple of distinct features. For one thing, the carapace of the female is furnished with serrated dorso-median crest on frontal lobe, which is depressed at hind portion of the crest. Another feature is that the uropodal exopod is much longer than the length of endopod. The shape of the crest seem to be variable (having 2-6 serrations in our specimens and about 9 ones in type specimen). The male of *N. hinumensis* has a close resemblance to the male of *N. enoshimensis* Gamô, 1967 in having a similar body form. However, in *N. hinumensis*, the

flagellum of the antenna is much longer than the length of the peduncle, while in *N. enoshimensis* the two are subequal in length. Moreover, the uropodal exopod has a plumose and four simple setae on inner margin in *N. hinumensis*, while four plumose setae in *N. enoshimensis*.

Distribution. Japan, Korea (Korea Strait).

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한국산 흰올챙이새우류 (올챙이새우목: 흰올챙이새우과)의 1미기록종

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요 약

대한해협(광양만)에서 채집된 올챙이새우류를 동정·분류한 결과 흰올챙이새우과 (Leuconidae)에 속하는 1종, 벗갈고리체찍올챙이새우 (*Nippoleucon hinumensis*)가 한국미기록종으로 밝혀져 보고한다. 갈고리체찍올챙이새우속 (*Nippoleucon*)은 우리나라에서 처음으로 보고된다.