

**First Report of the Alpheid Shrimp *Salmoneus gracilipes*
(Decapoda: Caridea: Alpheidae) from Korea**

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ABSTRACT

As a result of recent taxonomic study on shrimps collected from Korean waters, one species of the alpheid shrimp turned out to belong to the genus *Salmoneus* unreported from Korea. *Salmoneus gracilipes* is redescribed and reported for the first time from Korea.

Key words: Alpheidae, *Salmoneus gracilipes*, Korea

INTRODUCTION

In Korea, 14 species belonging to 5 genera (9 in *Alpheus*, 1 in *Betaeus*, 1 in *Synalpheus*, 1 in *Stenalpheops* as *Chelomalpheus*, 2 in *Athanas*) in the family Alpheidae have been reported (The Korean Society of Systematic Zoology, 1997; Miya, 1997; Kim, 1998; Yang, 1999, 2003; National Fisheries Research and Development Institute, 2001; Yang and Anker, 2003). Of these, two species of *Athanas* were reported through the larval studies without description of adult morphology. In recent taxonomic study on shrimps collected Korean waters, it is revealed that one species collected from Supseom, Jeju-do belongs to the genus *Salmoneus* unreported from Korea. Therefore, the present *Salmoneus gracilipes* increases Korean Alpheidae fauna to 15 species of 6 genera. A provisional key to the known alpheid genera reported from Korean waters is prepared.

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MATERIAL AND METHODS

The specimen was collected by scuba diving. The abbreviation "cl" refers to carapace length from tip of rostrum to the posterior dorsal margin. Drawings were made with the aid of a camera lucida.

SYSTEMATIC ACCOUNTS

Family Alpheidae Rafinesque, 1815

Key to the genera of Korean Alpheidae

1. No epipods on pereopods *Synalpheus*
Epipods present on at least first two pairs of pereopods 2
2. Notch on inferior margin of carapace *Stenalpheops*
No notch on inferior margin of carapace 3
3. Sixth abdominal somite with a movable articulated plate at posterior ventral margin 4
No articulated plate at posterior ventral margin of sixth somite 5
4. Rostrum absent. An arthrobranch on third maxilliped *Betaeus*
Rostrum prominent. No arthrobranch on third maxilliped *Athanas*
5. Eyes always visible in anterior view. Movable finger of large chela without a large molar-shaped tooth *Salmoneus*
Eyes more or less completely covered with carapace anteriorly as well as dorsally. Movable finger of large chela with a large molar-shaped tooth *Alpheus*

Genus *Salmoneus* Holthuis, 1955 가는손가락딱총새우속 (신칭)

***Salmoneus gracilipes* Miya, 1972** 가는손가락딱총새우 (신칭) (**Fig. 1**)

Salmoneus gracilipes Miya, 1972, p. 38, pl. 3; Miyake, 1982, p. 182; Hayashi, 1995, p. 522, figs. 287b, 288c-f.

Material examined. Supseom, Jeju-do: 1 ovig. (cl 6 mm), 29 July 1997, S. H. Kim.

Description. Rostrum (Fig. 1A, B) about 1.4 times as long as broad at its base, slightly exceeding distal end of second antennular segment; dorsal carina very weak.

Orbital teeth acute, 1/4 times as long as rostrum. Orbitorostral margin deeply concave. Cornea partly exposed dorsally and laterally.

First antennular segment bearing hook-like carina extending from ventral inner margin. Second segment as long as broad, almost as long as visible part of first segment and as long as third segment. Stylocerite elongate, reaching to distal margin of second antennular segment.

Scaplocerite with lateral margin very slightly convex, about 1.8 times as long as broad and without cleft between inner blade and distal spine. Distal spine almost reaching to distal end of antennular peduncle. Inner blade broad distally, slightly overreaching tip of distal spine.

Carpocerite robust, reaching to middle of second antennular segment. Basicerite with sharp

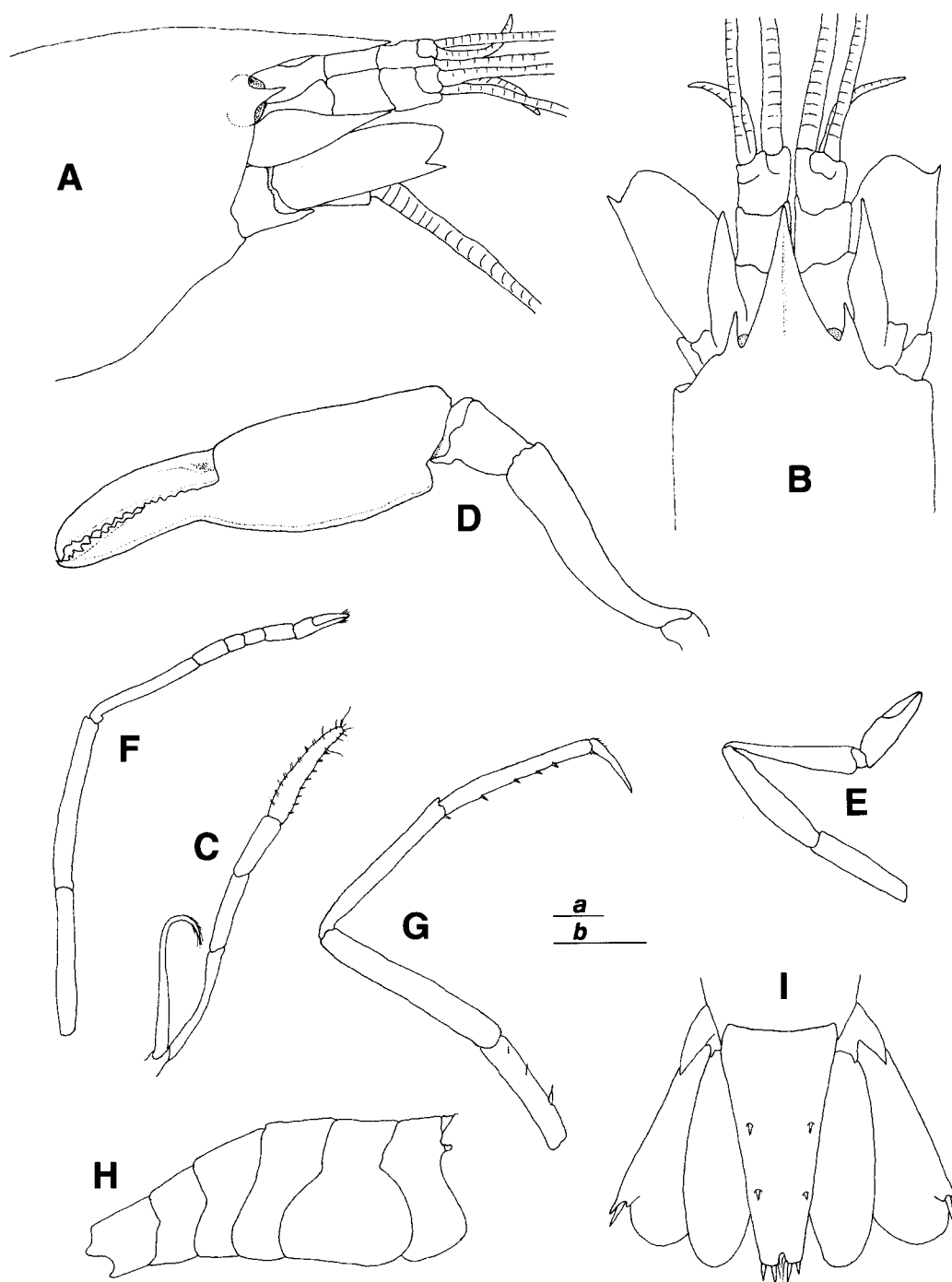


Fig. 1. *Salmoneus gracilipes*, ovigerous female, cl 6 mm: A, anterior region, lateral view; B, same, dorsal view; C, right third maxilliped; D, large (right) first pereopod, outer face; E, small (left) first pereopod, outer face; F, right second pereopod; G, right third pereopod; H, abdomen; I, telson and uropods (Scale bar, a = 1 mm: H; scale bar, b = 1 mm: A-G, I).

lateral spine.

Third maxiliped (Fig. 1C) overreaching distal end of carapocerite by proximal 1/5 of ultimate segment. Ultimate segment very narrowly elongate, about 5.2 times as long as broad near proximal end, and slightly tapering distally. Penultimate rather elongate, 3.6 times as long as broad near distal end and 0.6 times as long as ultimate. Exopod falling far short of distal end of antepenultimate segment.

Large cheliped (right) (Fig. 1D) overreaching distal end of antennular peduncle by distal end of merus. Chela about 3.5 times as long as broad. Palm swollen laterally, almost 2 times as long as high, and with dorsal surface somewhat flattened. Fingers strongly compressed, bent inwardly and with sharp hooked tips; cutting edges bearing 15 small interlocking teeth. Merus sinuous, strongly depressed, and somewhat longer than palm.

Chela of small cheliped (left) (Fig. 1E) about 2.9 times as long as broad with fingers as long as palm, and their cutting edges smooth. Carpus and merus subequal in length, and longer than ischium.

Second pereopod (Fig. 1F) reaching distal end of carapocerite beyond part of merus. Fingers of chela about as long as palm. First segment of carpus about 3.6 times as long as second; second segment 2 times as long as third; third segment subequal to fourth; fifth segment 1.5 times as long as fourth.

Dactylus of third pereopod (Fig. 1G) simple, slender, and about 2/5 length of propodus. Propodus bearing 4 weak movable spines on inferior margin and one pair at distal end. Carpus with one movable spine on inferior distal end. Merus slightly less than 6.7 times as long as broad. Ischium with one movable spine and two strong setae on inferior outer margin.

Fourth pereopod almost same as third pereopod. Ischium with no movable spine.

Ischium of fifth pereopod with no movable spine.

Pleura (Fig. 1H) of first three abdominal somites broadly rounded; pleura of fourth and fifth somites pointed on posterior ventral margin.

Telson (Fig. 1I) about 2.1 times as long as broad at anterior end, armed with two pairs of rather stout dorsal spines. Posterior margin with deep furrow at middle, armed with one long seta and a pair of spines at each divided margin; inner spine longer than outer one.

Uropodal exopod with lateral margin terminating in acute immovable tooth flanking movable spine.

Habitat. Under rock in the sand bottom. Shore to 10 m deep (Miya, 1972).

Type locality. Shimo-shima Island, Amakusa Islands, Tomioka, Japan

Distribution. Japan, Korea.

Remark. The present specimen differs from the original description of *Salmones gracilipes* in the following features. (1) According to the original description, the carapace is sparsely hairy on the dorsal surface and bears inconspicuous suture, but not hairy and without inconspicuous suture in the present specimen. (2) Posterior inferior margin of pleuron of third abdominal somite is pointed, but rounded in the present specimen. (3) There are three spines on the ischium of third pereopod, but in the present specimen, there are three spines on the ischium in left third pereopod, and one movable spine and two setae in right third pereopod.

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한국미기록 가는손가락딱총새우 (*Salmoneus gracilipes*)
(십각목: 생이절: 딱총새우과)의 보고

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최근의 새우류 분류학적 연구 결과 딱총새우류 1종이 국내에서는 처음 보고 되는 가는손가락딱총새우속 (*Salmoneus*)에 속하는 것으로 밝혀졌다. 가는손가락딱총새우 (*Salmoneus gracilipes*)를 재기재하고 국내에서 처음 보고한다.