

## Newly Recorded Lysianassid Species, *Orchomene japonicus* (Crustacea: Amphipoda) from Korea

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### ABSTRACT

A lysianassid species, *Orchomene japonicus* (Gurjanova, 1962) associated with sea squirts collected from Geojedo Island located in the South Sea of Korea, is described and illustrated. Present specimens conform to that of Gurjanova's except some morphological variation in mandibular palp.

**Key words:** *Orchomene japonicus*, Amphipoda, Lysianassidae, South sea of Korea

### INTRODUCTION

Many species belonging to the family Lysianassidae which is one of the most speciose family of gammaridean Amphipoda have been recorded from the neighboring waters of Korea (Gurjanova, 1951, 1962; Ishimaru, 1994). One species, *Orchomene obtusus* (Sars, 1895), however, was recorded from Korea (Kim, 1991). Here we add another one species, *Orchomene japonicus* (Gurjanova, 1962) to Korean amphipod fauna. This species is one of lysianassid species associated with sea squirts collected from Wahyeon, Geojedo Island in 1999.

### MATERIALS AND METHODS

Samples were collected by sieving the washings of sea squirts. In sampling location, specimens were initially fixed and preserved in 5% formaldehyde solution, then they were preserved in 80% ethyl alcohol in the laboratory. Identification were facilitated by dissection of specimens under a stereomicroscope (Leica MZ8), and mounting the dissected parts on temporary or permanent slide. In dissection and measurement, we followed the methods of Barnard and Karaman (1991). Temporary mounts were made using glycerine or lactic acid. Semi-permanent mounts were made using polyvinyl lactophenol solution. Illustration was made with a compound microscope (Olympus BX-50) fitted with drawing tube.

### SYSTEMATIC ACCOUNTS

Order Amphipoda Latreille, 1816  
Suborder Gammaridea Dana, 1852  
Family Lysianassidae Dana, 1849  
Genus *Orchomene* Boeck, 1871

#### <sup>1</sup>*\*Orchomene japonicus* (Gurjanova, 1962)

*Orchomenella japonica* Gurjanova, 1962, p. 177, figs. 54-55; Kudrjaschov, 1972, p. 197.

*Orchomene japonicus*: Barnard and Karaman, 1991, p. 508.

*Material examined.* 2 ♀ ♀ (sea squirt colony, subtidal zone), Wahyeon-ri, Ilwoon-myeon (Geojedo Island) (N34° 48'42" E128° 42'38"), 4 Jul. 1999 (J. Jung).

*Description.* Female (body length=6.4 mm).

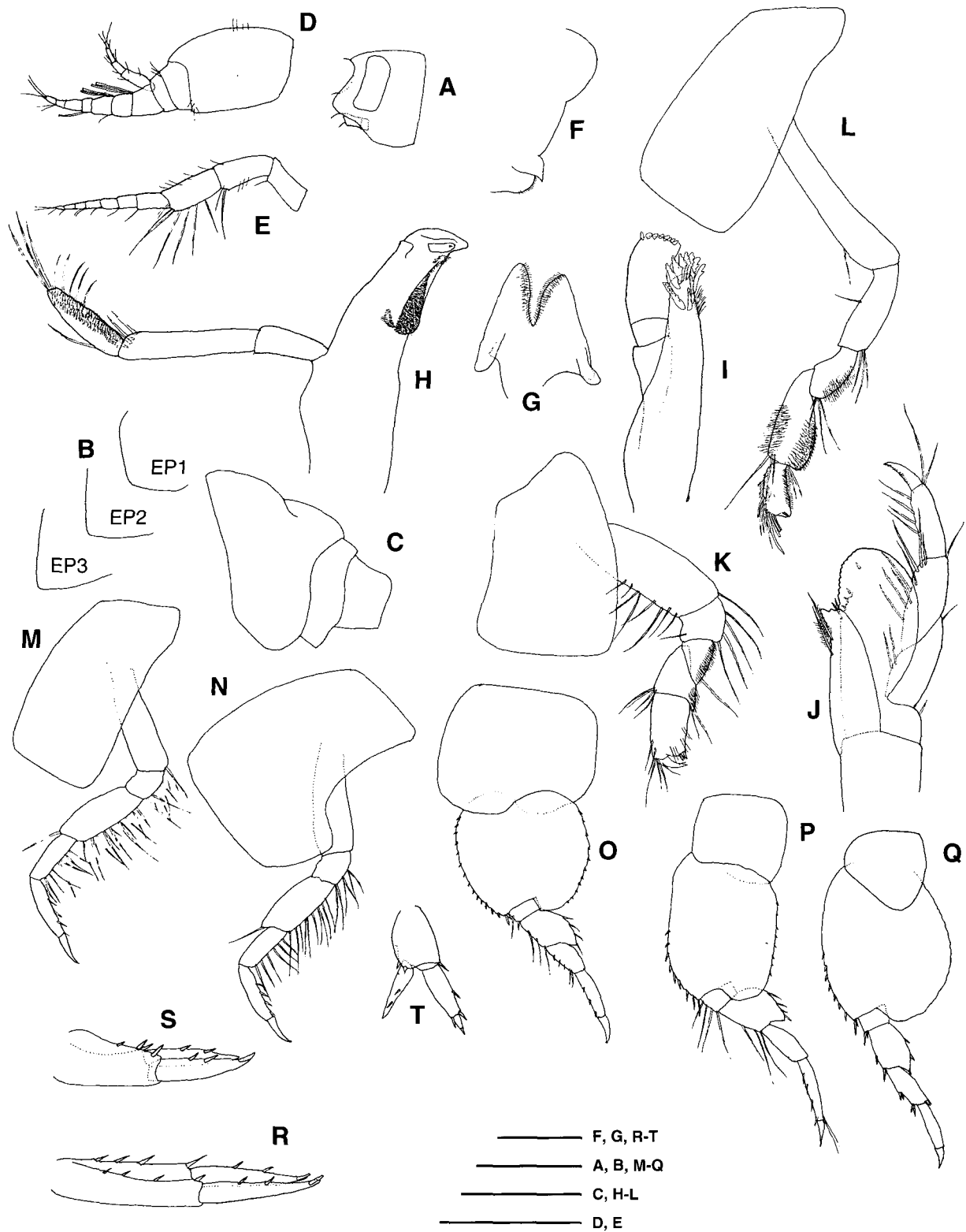
Body: Rostrum not produced, round, anterior head lobe extending to about half of peduncular segment 1 of antenna 1. Eyes large, long (Fig. 1A). Coxae developed. Margins of pleonal epimera (Fig. 1B) smooth; pleonal epimeron 3 obliquely expanded posteriorly. Urosomite 1 (Fig. 1C) dorsally concave.

Antennae: Antenna 1 (Fig. 1D) stout; peduncular segment 1 about 2/3 as long as head, length ratio of peduncular segment 1-3, 6 : 1 : 1; accessory flagellum 4-articulated, first article as long as distal three articles combined; primary flagellum 7-articulated. Peduncular segment 4 of antenna 2 (Fig. 1E) longer than segment 3, segment 5 as long as segment 4, provided with six long setae on ventral side; flagellum 7-articulated.

Mouthparts: Epistome (Fig. 1F) developed, blunt, slightly extending beyond the upper margin of labrum. Lower lip (Fig. 1G) lacking inner lobes. Left mandible (Fig. 1H), incisor smooth; lacinia mobilis blunt; molar weakly tritulative,

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**Fig. 1.** *Orchomene japonicus* (Gurjanova, 1962), female. A, head; B, pleonal epimera 1-3; C, urosomites 1-3; D, antenna 1; E, antenna 2; F, epistome and labrum; G, lower lip; H, left mandible; I, maxilla 1; J, maxilliped; K, gnathopod 1; L, gnathopod 2; M, pereopod 3; N, pereopod 4; O, pereopod 5; P, pereopod 6; Q, pereopod 7; R, uropod 1; S, uropod 2; T, uropod 3. Scale bars=0.5 mm (A-E, K-Q), 0.2 mm (F-J, R-T).

broad and long, densely pubescent; palp slender, 3-articulated, strongly proximal to molar, segment 2 provided with four long setae on apical margin, segment 3 7/10 as long as segment 2, with eight long setae. Outer plate of maxilla 1 (Fig. 1I) armed with 10 pectinate teeth; palp bi-articulated, segment 2 armed with eight obtuse teeth. Inner plate of maxilliped subrectangular (Fig. 1J), gradually narrowing to apical end, inner margin provided with two plumose setae; apical margin of outer plate rounded; palp exceeding outer plate; dactylus strong and falcate.

Gnathopod 1 (Fig. 1K): Subchelate. Length of segments from coxa to dactylus 5 : 4 : 1 : 1 : 1 : 2 : 0.8. Coxa 1 subrectangular, slightly expanded toward ventral margin. Basis provided with eight long setae on anterior margin and one long seta on posterodistal margin. Posterior margin of ischium with four long setae; anterior margin with one long seta. Posterior margin of merus pubescent, provided with one long seta. Anterodistal margin of carpus with three long setae; ventral lobe thick, pubescent, provided with two long setae on distal margin. Propodus rectangular, gradually narrowing toward apical end; anterodistal margin with five long setae; posterior margin with a few of short setae; palm tranverse, provided with three columnar spines on posterior end; dactylus stout, grasping margin medially provided with one seta.

Gnathopod 2 (Fig. 1L): Minutely chelate, 1.5 times longer than gnathopod 1. Length of segments from coxa to dactylus 2.6 : 2 : 1 : 0.7 : 0.9 : 1 : 0.1. Coxa rectangular, long and slender. Basis long and slender, provided with one long medioapical seta on anterior margin. Ischium long, provided with one medial seta on anterior margin and three long setae on posteroapical margin. Posterior margin of merus pubescent, with three long and one short setae on posterodistal end. Anterior margin of carpus densely bristly from medial to apical margin, provided with one long seta on anterodistal margin; posterior margin densely covered by short conical spines. Propodus subrectangular.

Pereopod 3 (Fig. 1M): About 6/7 as long as gnathopod 2. Length of segments from coxa to dactylus 6 : 3.5 : 1 : 2.4 : 1.7 : 2 : 1. Coxa 3 similar to coxa 2, rectangular. Basis provided with three long setae on posterodistal end. Posterior margin of ischium six long setae. Merus provided with one long seta on anterodistal end; posterior margin with nine long and five short setae. Posterior margin of carpus with eight long setae. Propodus provided with four spines on posterior margin. Dactylus falcate.

Pereopod 4 (Fig. 1N): Similar to pereopod 3 except shape of coxa. Slightly shorter than pereopod 3. Length of segments from coxa to dactylus 7 : 3.5 : 1 : 2.3 : 1.7 : 2 : 1. Coxa deeply concave on posterodorsal margin; concave margin round.

Pereopod 5 (Fig. 1O): Slightly shorter than pereopod 4. Length of segments from coxa to dactylus 8 : 8 : 1 : 3 : 3 : 4 : 2. Coxa subrectangular, width slightly longer than depth. Basis most expanded proximally, provided with 15 short spines on anterior margin and 11 short spines on posterior margin. Ischium short and rectangular, provided with one long and one short setae on anterior margin. Merus expanded and extended posteriorly, provided with three long spines on anterior margin and four long setae on posterior margin. Carpus slightly expanded posteriorly, provided five setae. Propodus slender with three short spines on anterior margin.

Pereopod 6 (Fig. 1P): As long as pereopod 3. Length of segments from coxa to dactylus 4 : 6 : 1 : 2.2 : 2.4 : 3 : 1.3. Coxa rectangular; posteroventral margin not extended ventrally. Basis broad not expanding apically; anterior margin provided with nine spines; posterior margin with eight short spines. Ischium short and rectangular, provided with four long setae on anterior margin. Merus expanded and extended posteriorly, provided with three anterior setae and four posterior setae. Carpus without any armament. Propodus with four spines on anterior margin and two long setae on posterodistal end. Dactylus slightly falcate.

Pereopod 7 (Fig. 1Q): Shorter than pereopod 6, as long as gnathopod 1. Length of segments from coxa to dactylus 3 : 7 : 1 : 2 : 3 : 3 : 1. Coxa subtriangular. Basis expanded, provided with nine spines on anterior margin; posterior margin slightly indented. Ischium short and rectangular, with two spines on anterior distal end. Merus slightly expanded and extended posteriorly, with two spines on anterior and posterior margins, respectively. Carpus provided with four anterior and two posterodistal spines. Propodus with no armament. Dactylus a little falcate.

Uropods: Uropod 1 (Fig. 1R) the longest among uropods; peduncle slightly longer than both rami, provided eight dorsal spines; both rami subequal in length, provided three spines, respectively. Uropod 2 (Fig. 1S) about 7/10 as long as uropod 1; peduncle as long as rami, with four dorsal spines; outer ramus slightly longer than inner one, with three dorsal spines; inner ramus provided with two medio-dorsal spines, without notch. Uropod 3 (Fig. 1T) shortest among uropods; peduncle oval; outer ramus longer than inner ramus, 2-articulated; inner ramus provided with two dorsal spines.

Telson: Cleft two thirds.

*Distribution.* South Sea of Korea, East Sea (Sea of Japan), Okhotsk Sea.

*Remarks.* The present specimens, as a whole, conform to the description and figures of this species of Gurjanova (1962), judging from the morphological features such as subchelated gnathopod 1, slightly chelated gnathopod 2, and obliquely expanded and smooth pleonal epimeron 3.

However, there are some morphological differences between the present specimens and Gurjanova (1962)'s. The second segment of mandibular palp of our specimens is relatively slender and straight, but Gurjanova (1962)'s was slightly expanded in its medial margin. Differences in length ratio among the palpal segments of mandible and length of inner plate of maxilliped were also observed between the present specimens and Gurjanova (1962)'s, which, however, should be reexamined because the original description seems to be incomplete or obscure in these characters.

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