

## A New Record of the *Abludomelita rotundactyla* (Crustacea, Amphipoda, Melitidae) from Korean Waters

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### ABSTRACT

*Abludomelita rotundactyla* (Ren, 2012), belonging to the family Melitidae Bousfield, 1973 has been collected from Baengnyeongdo Island and Yangyang in Korea. This species was previously known from Yellow Sea, China and Sakhalin Island, Russia. *Abludomelita rotundactyla* is morphologically distinguished from congeners by gnathopod 2, palm excavate, defined by midventral acute process; gnathopod 2 with prominently plump dactylus; pleonites and urosomites dorsal formulae 7-9-9-5-4; and epimeron 3 with posterior serrations. The newly recorded species in Korea, *A. rotundactyla* is well accorded with the original description except for the number of pleonites dorsal teeth. The newly recorded species is described and fully illustrated in the present study. A key to the *Abludomelita* species in Korea is also provided. This additional record now brings the total recorded number of abludomelitid species to three in Korea.

**Keywords:** *Abludomelita*, amphipod, Crustacea, Korea, Melitidae, new record

### INTRODUCTION

The genus *Abludomelita* was established by Karaman (1981) with *A. gladiosa* as its type species. Karaman described the genus *Abludomelita* as distinguished from the closely related genus *Melita* by the following characteristics: (1) maxilla 2, inner lobe with an oblique row of setae; (2) uropod 3, outer ramus usually biarticulated. Additionally, all species have posterodorsal processes on the abdomen (Barnard, 1955; Ren, 2012; Labay, 2016). Currently, 16 species have been recorded worldwide (Horton et al., 2024). Among them, nine species of the genus *Abludomelita* have been discovered in Northwest Pacific and seven species in the North Atlantic (Labay, 2016). Labay also suggested that *A. machaea* (Barnard, 1955) from South Africa is incertae sedis (Labay, 2016). Two species (*A. japonica* and *A. okhotensis*) have been recently recorded in Korea by Choi et al. (2022). Ecologically, *Abludomelita japonica* lives in both the intertidal and subtidal zones in eastern and southern Korean waters and associates with various invertebrates, such as ascidians, mussels, and seaweed. *Abludomelita okhotensis* inhabits the subtidal zones of western and

eastern muddy sand/sandy bottoms at depths of around 30 meters in Korea.

Specimens of the newly recorded species in Korea, *A. rotundactyla* (Ren, 2012), were collected by SCUBA diving in the subtidal zones of Baengnyeongdo Island and Yangyang, Korea. We added a new record of *Abludomelita rotundactyla* (Ren, 2012) to Korean melitid amphipod fauna with illustrations and descriptions. They were deposited at the National Institute of Biological Resources (NIBR), Incheon, Korea and the Department of Biological Science, Dankook University (DKU), Cheonan, Korea.

### SYSTEMATIC ACCOUNTS

Order Amphipoda Latreille, 1816  
Family Melitidae Bousfield, 1973  
Genus *Abludomelita* Karaman, 1981

<sup>1</sup>\* *Abludomelita rotundactyla* (Ren, 2012) (Figs. 1–3)  
*Melita rotundactyla* Ren, 2012: 289, fig. 127.

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**Fig. 1.** *Abludomelita rotundactyla* (Ren, 2012), male, 8.7 mm, Scale bar = 1.0 mm.

*Megamoera aequidentatum* Labay, 2013: 94, figs. 23–26.

*Abludomelita rotundactyla*: Labay, 2016: 21, figs. 3–7.

**Material examined.** 3♂♂, Korea: Incheon, Ongjin-gun, Baengnyeong-myeon, Gaeul-ri, 37°58'16.33"N, 124°38'18.06"E, 12 Aug 2020, Kim YH; 2♂♂, DKUAMP202401, Gangwon-do, Yangyang-gun, Hyeonnam-myeon, Maebawigil, 37°56'46.33"N, 128°47'27.49"E, 24 Jun 2021, Kim YH.

**Description. Male** (cat no. NIBRIV0000901003): Body (Figs. 1, 2A) smooth, 8.7 mm long. Head subquadrate, subequal to pereonites 1, 2 combined; rostrum not elongated; cephalic lobe rounded; eye medium, ovate; epimeron 3 with posteroventral tooth, posterior margin serrate.

Pleonites and urosomites (Fig. 2B) characteristic in form; pleonite 1 to urosomite 2, dorsodistal margins with 7-7-7-5-4 tooth formulae accompanied by setae.

Antenna 1 (Fig. 2C) slightly longer than half of body length; peduncular article 1 subrectangular, with row of 6 robust setae on posterior margin; peduncular article 2 slender, rectangular, length ratio of peduncular articles 1–3 = 1.00 : 1.09 : 0.36; flagellum 29-articulate; accessory flagellum present, 6-articulate.

Antenna 2 (Fig. 2D) slender, shorter than antenna 1, setose, gland cone well developed; peduncular article 4 with 5 transverse rows of ventral setae; length ratio of peduncular articles 3–5 = 1.00 : 2.48 : 2.32; flagellum 14-articulate.

Gnathopod 1 (Fig. 2E) subchelate; coxa widening ventrally, posteroventral corner notched; basis subrectangular, narrowing proximally, with 8 simple setae anteriorly, 3 simple setae

posteriorly; merus with pubescence and simple setae posteriorly; carpus posteriorly convex, length 2.31 times width, longer than propodus, with anterodistal pubescence and 7 clusters of ventral setae; propodus ovate, palm rounded, oblique; dactylus falcate, fitting palm.

Gnathopod 2 (Fig. 2F) characteristic in form, large, subchelate; coxa subrectangular, posteroventral corner notched; basis and ischium subsimilar to those of gnathopod 1; merus acutely produced posterodistally; carpus short, posterior lobe narrowing distally; propodus massive, subrectangular, distal margin transverse with denticulate projections, midventral portion with acute process; palm excavate, inner margin with row of short robust setae, defined by midventral acute process; dactylus massive, blunt, club-shaped, shorter than palm, 0.59 times as long as propodus.

Pereopod 3 (Fig. 2G), coxa similar to that of gnathopod 2; basis subrectangular, slightly curved anteriorly; merus to propodus subrectangular; dactylus falcate, acute nail exist; length ratio of articles 2–7 = 1.00 : 0.22 : 0.65 : 0.54 : 0.56 : 0.24.

Pereopod 4 (Fig. 2H) similar to pereopod 3, except coxa broader and posterodistally produced.

Pereopod 5 (Fig. 3A), coxa wider than long, bilobate; basis subovate, anterior margin with row of robust setae, posterior margin weakly serrulate; merus broad; propodus subrectangular, anterior margin with 2 rows of robust setae; dactylus falcate, with acute nail.

Pereopod 6 (Fig. 3B) similar to pereopod 5, slightly elongated.

Pereopod 7 (Fig. 3C) similar to pereopod 6, but coxa unlobed and basis posteriorly produced, broader than that of pereopod 6.

Uropod 1 (Fig. 3D), peduncle subrectangular, with 6 dorsolateral, 7 dorsomedial, 1 basofacial, and 1 distoventral robust setae; outer ramus slightly shorter than inner one; rami with row of robust setae on both margins.

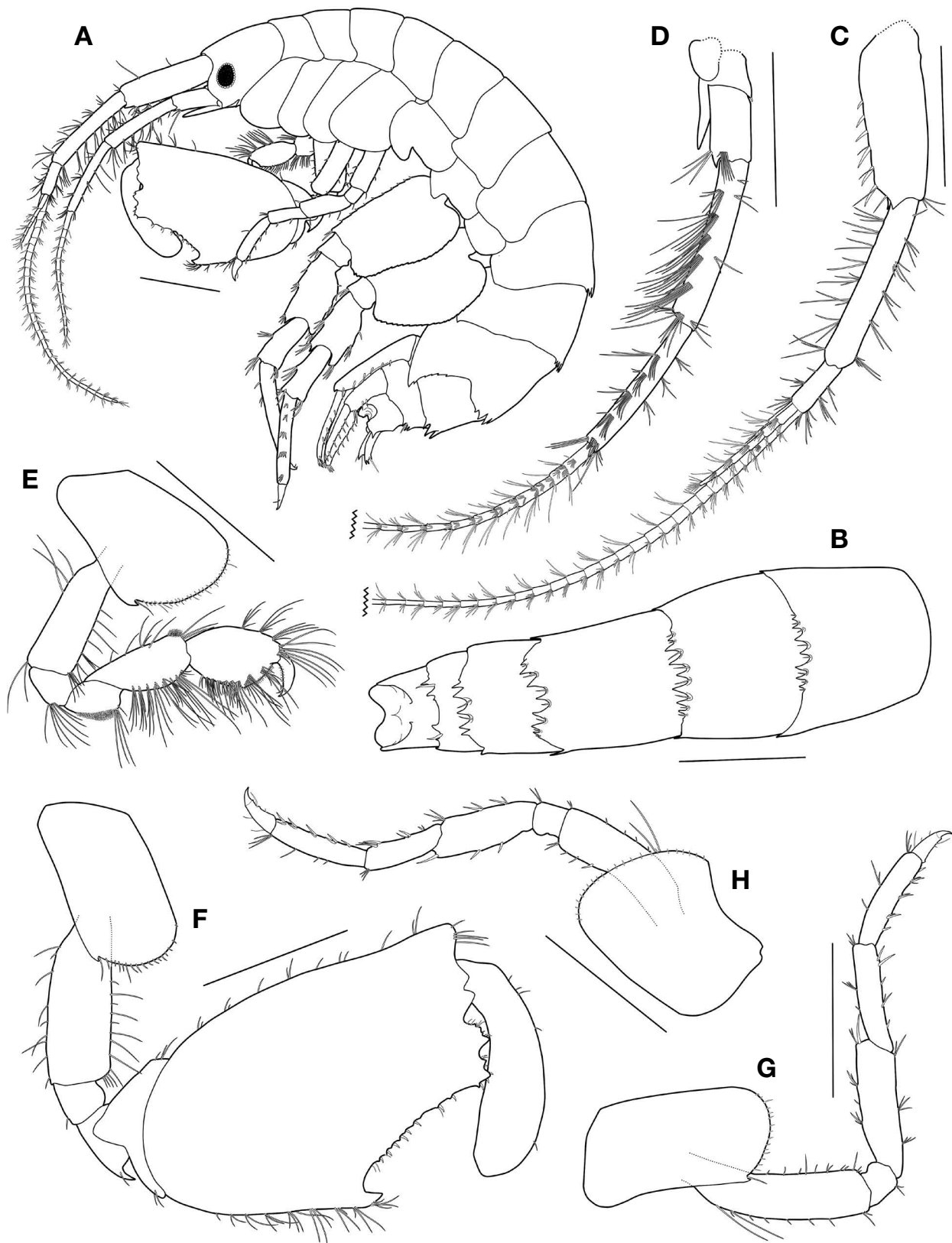
Uropod 2 (Fig. 3E), peduncle short, subequal in length to outer ramus, with 2 rows of dorsolateral and dorsomedial robust setae, acute protrusion at the distal margin; inner ramus slightly longer than outer ramus.

Uropod 3 missing.

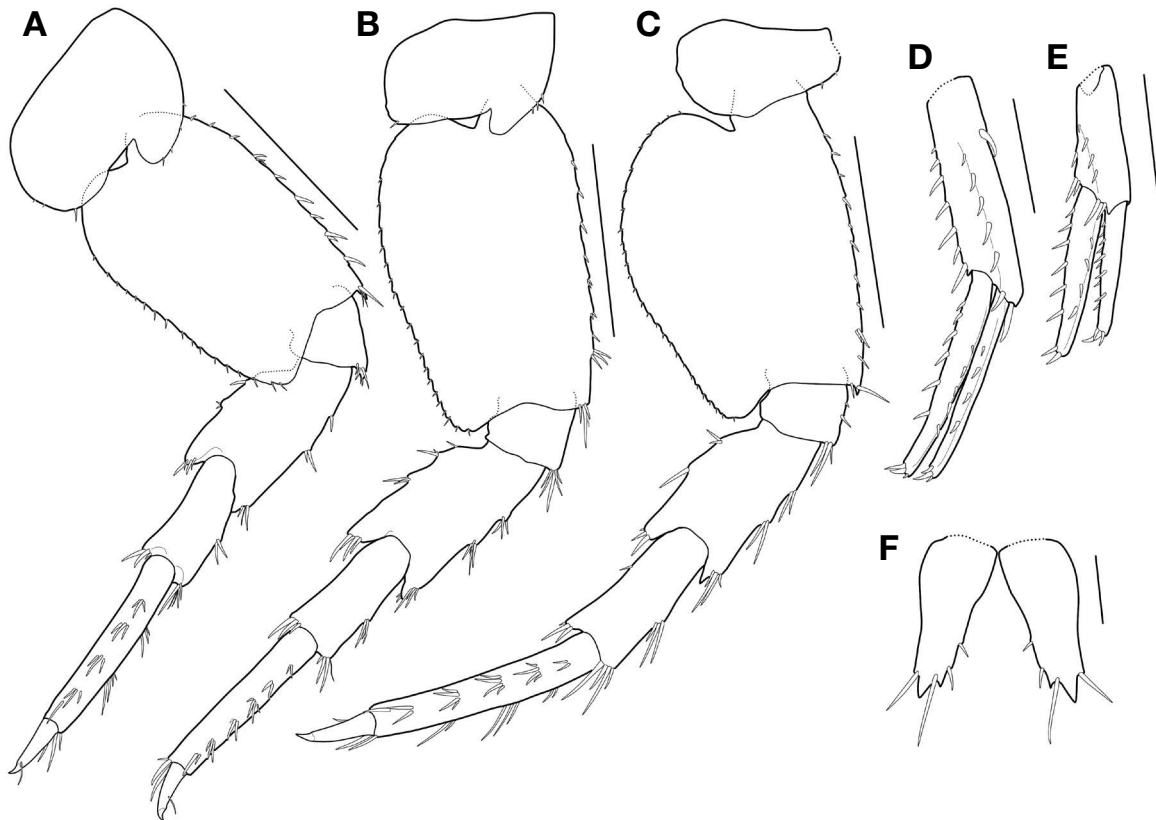
Telson (Fig. 3F) fully cleft; each lobe with 2 short inner robust setae and 2 subdistal robust setae.

**Habitat.** The newly recorded species is found in the subtidal zone at a depth of 15–22 m, among rock-attached organisms.

**Remarks.** *Abludomelita rotundactyla* is characterized by (1) gnathopod 2, palm excavate, defined by acute process midventrally; (2) gnathopod 2, dactylus stubby, distally swelled; and (3) epimeron 3, posteroventral corner acutely produced and serrated posteromarginally. Our Korean specimens closely



**Fig. 2.** *Abludomelita rotundactyla* (Ren, 2012), male, 8.7 mm, A, Habitus; B, Pleonites and urosomites; C, Antenna 1; D, Antenna 2; E, Gnathopod 1; F, Gnathopod 2; G, Pereopod 3; H, Pereopod 4. Scale bars: A-H=1.0 mm.



**Fig. 3.** *Abludomelita rotundactyla* (Ren, 2012). A, Pereopod 5; B, Pereopod 6; C, Pereopod 7; D, Uropod 1; E, Uropod 2; F, Telson. Scale bars: A–C=1.0 mm, D, E=0.5 mm, F=0.2 mm.

agree with the previous descriptions by Ren (2012) and Labay (2016). However, a morphological difference was found between our materials and previous descriptions: pleonites 1 to urosomite 2 with 7-7-7-5-4 laterally reduced posterodorsal teeth (vs. 7-9-9-5-4 subequal posterodorsal teeth). This difference appears to be due to our specimens being smaller than those described in the previous descriptions.

**Type locality.** Yellow Sea, China (Ren, 2012).

**Distribution.** China, Russia, Korea (Baengnyeongdo Island, Yangyang).

#### Key to the species of *Abludomelita* in Korean waters

1. Gnathopod 2, propodus elongate-ovate, lacking palmar process; pleonites lacking dorsodistal serration .....  
..... *A. japonica* (Nagata, 1965)
- Gnathopod 2, propodus subquadrate, with palmar process; pleonites with dorsodistal serration ..... 2
2. Gnathopod 2, palm excavate, dactylus falcate .....  
..... *A. okhotensis* Labay, 2016
- Gnathopod 2, palm oblique, dactylus blunt, club-shaped .....  
..... *A. rotundactyla* (Ren, 2012)

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#### CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

#### ACKNOWLEDGMENTS

This work was supported by a grant from the National Institute of Biological Resources (NIBR), funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR No. 202203202 and NIBRE202402).

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Received April 16, 2024  
Revised April 30, 2024  
Accepted June 14, 2024