

## A Report of *Lauridromia intermedia* (Decapoda: Brachyura: Dromiidae) from Korea

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### ABSTRACT

Dromiidae De Haan, 1833, known as sponge crabs, carry sponges or colonial tunicates, using the specially adapted dactylus of the fourth ambulatory legs. The genus *Lauridromia* represents the dromiid crabs. Previously, only one species, *L. dehaani*, has been reported in Korean waters. A single specimen of *L. intermedia* was collected from Jeju-do Island, Korea. *Lauridromia intermedia* differs from *L. dehaani* by 5–8 minute spines on the dactyli of the first and second ambulatory legs, spines on the outer propodal margins of the third and fourth ambulatory legs, and a spine on the outer margin of the dactylus on the fourth ambulatory leg. The dromiid fauna of Korea now includes six genera and seven species, with two species in the genus *Lauridromia*.

**Keywords:** new report, Decapoda, Dromiidae, *Lauridromia intermedia*, Korean fauna

### INTRODUCTION

Crabs inhabit a variety of environments, ranging from high-altitude terrestrial valleys to the deep sea. Among these, dromiid crabs, which use sponges and colonial tunicates for camouflage, represent primitive forms characterized by the placement of the gonopore (Ahyong et al., 2007) and comprise 182 species across 52 genera (WoRMS Editorial Board, 2024). Large numbers of the genera *Dromia* Weber, 1795 and *Lauridromia* McLay, 1993 are frequently collected by trawls and traps and sold in local markets (Ng, 1998). Currently, only two species, *Lauridromia intermedia* (Laurie, 1906) and *L. dehaani* (Rathbun, 1923), in the genus *Lauridromia* are recognized globally. In Korea, only *L. dehaani* has been recorded (Kamita, 1941). We report another species, *L. intermedia*, newly collected at a depth of 27 m in the subtidal zone of Seopseom Islet, Jeju-do Is., Korea.

A stereomicroscope (Leica M205C; Wetzlar, Germany) facilitated the examination of microscopic parts. Measurements were taken with a digital slide caliper to the nearest 0.01 mm. Carapace length (cl) was measured along the midline from the anterior to the posterior dorsal margin of the carapace. Carapace width (cw) was defined as the widest point of the

carapace. The examined voucher specimen has been deposited in the National Marine Biodiversity Institute of Korea (MABIK, Seocheon, South Korea).

### SYSTEMATIC ACCOUNTS

Superfamily Dromioidea De Haan, 1833

Family Dromiidae De Haan, 1833

Genus *Lauridromia* McLay, 1993

<sup>1</sup>\**Lauridromia intermedia* (Laurie, 1906) (Fig. 1)

*Dromia intermedia* Laurie, 1906: 351 [type locality: Galle, Sri Lanka]; Ihle, 1913: 23, pl. 1, figs. 1–3; Sakai, 1936: 10, pl. 6, fig. 1; 1976: 8, pl. 1, fig. 3; Campbell, 1971: 29; Lewinsohn, 1984: 92, pl. 1B; Yang and Dai, 1994: 125, fig. 1, pl. 1, fig. 1.

*Lauridromia intermedia*: McLay, 1993: 145; 1998: 345; Ng et al., 2000: 162, fig. 2d; 2001: 6; 2017: 25; McLay and Ng, 2005: 14; Ahyong et al., 2009: 51, figs. 25–27.

**Material examined.** Korea: 1♀ (cl 26.24 mm, cw 28.14 mm) (MABIK CR00257813), Jeju-do: Seogwipo-si, Bomok-dong,

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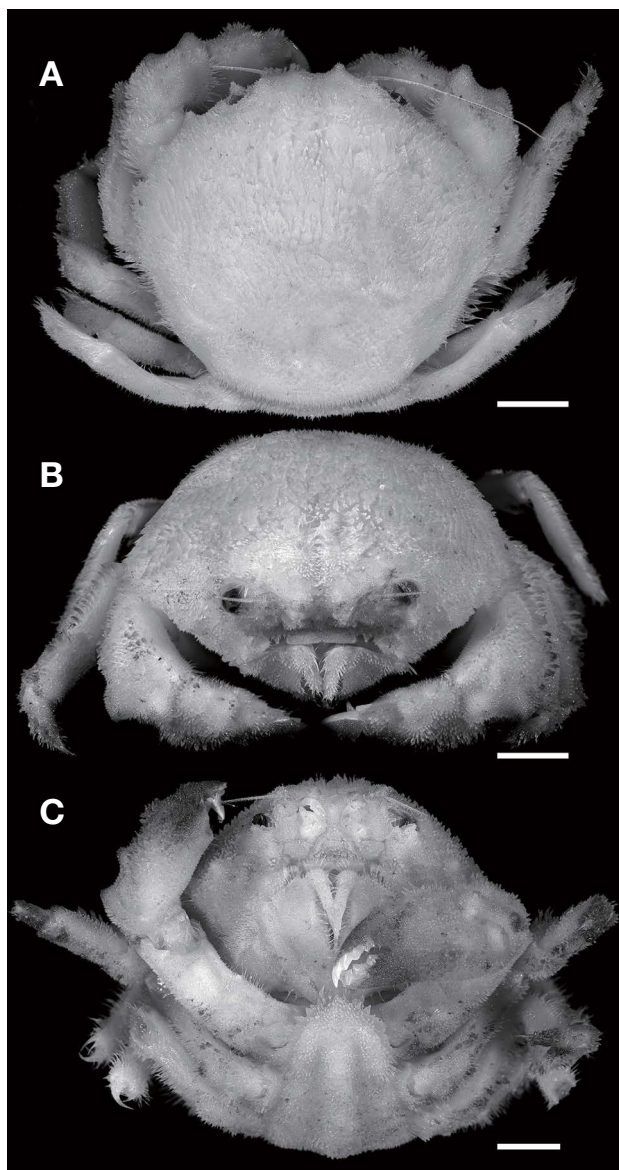
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**Fig. 1.** *Lauridromia intermedia* (Laurie, 1906), whole animal, female (cl 26.4 mm, cw 28.14 mm) (MABIK CR00257813). A, Dorsal view; B, Frontal view; C, Ventral view. Scale bars: A–C=5 mm.

33°13'45.80"N, 126°35'46.20"E, depth 27 m, 31 Jan 2016, Lee S-H.

**Diagnosis.** Carapace (Fig. 1A) approximately as wide as long, subcircular, convex, covered by tomentum with longer setae on anterior branchial region; surface having grooves distinct, also frontal groove which extends back from between lateral rostral teeth separating two prominent rounded protuberances; anterolateral margin armed with three acute, equidistant teeth; posterolateral tooth prominent, acute, directed anterolaterally; posterolateral margins slightly convergent and posterior margin slightly convex. Rostrum (Fig. 1B) tridentate

but median tooth very small, strongly deflexed and scarcely visible dorsally; lateral teeth prominent, acute, separated by a U-shaped sinus. Orbital margin extended back from lateral rostral tooth as straight line to strong, subacute supraorbital tooth upturned; suborbital lobe produced as strong, acute tooth visible dorsally, having narrow fissure separated. Subhepatic area smooth, convex. Chelipeds (Fig. 1C) fringed with longer setae; merus trigonal, borders armed with small tubercles; inner, outer, and superior margin near distal end of merus deeply incised. Carpus smooth and inflated on outer margin; distal margin with two very prominent acute tubercles; upper border of inner margin with two unequal, acute distal tubercles, most distal tubercle largest. Propodus smooth and inflated on outer margin; upper border armed with two unequal acute tubercles, most distal tubercle largest. Dactyl with prominent subacute tubercle at base region. Fingers white, curved, gaping and armed with seven teeth. Ambulatory legs fringed with longer setae. First two pairs as long as chelipeds; distal borders of carpi produced; dactyli slightly shorter than propodi; inner margins of dactyli bearing five small spines increasing in size distally. Last two pairs of legs smaller than first two pairs. Third leg shortest, dactyl opposed by a single propodal spine with two short propodal spines on outer margin. Dactyl of fourth leg opposed by two propodal spines with three smaller spines on outer propodal margin and prominent spine on outer margin of dactyl itself. Telson (Fig. 1C) of female abdomen wider than long, posterior margin rounded; median ridge as low rounded along length.

**Distribution.** This species has been reported in the widespread Indo-West Pacific Ocean as follows: Madagascar, the Seychelle Islands, Sri Lanka, the south coast of Timor, Japan, Taiwan, the Philippine Islands, South Queensland, New Caledonia, and Korea (McLay, 1993; Ng et al., 2000; present study).

**Remarks.** In Korea, only *Lauridromia dehaani* (Rathbun, 1923) has been reported among the genus *Lauridromia* (Kamita, 1941). We now report *L. intermedia* (Laurie, 1906), the second *Lauridromia* species collected from Korean waters. This species is distinguishable from *L. dehaani* by several key characteristics: (1) a carapace approximately as wide as it is long (vs. distinctly wider than long in *L. dehaani*); (2) a very small median rostral tooth that is not visible dorsally (vs. being visibly dorsal in *L. dehaani*); (3) the dactyli of the first and second ambulatory legs have 5–8 spines on their inner margins (vs. 16–20 spines in *L. dehaani*); (4) spines present on the outer margins of the propodi of the third and fourth ambulatory legs (vs. no spines in *L. dehaani*); and (5) the dactylus of the fourth ambulatory leg with outer margin bearing a spine (vs. spine absent in *L. dehaani*).

The examined specimen from Jeju Island closely matches to the previous descriptions (Laurie, 1906; Sakai, 1936; McLay, 1993; Yang and Dai, 1994; Ah Yong et al., 2009). How-

ever, we noted minor morphological differences from earlier records in our specimen. In the chelipeds, the superior, outer inferior, and inner inferior margins each have 5–6, 5–6, and 6 small tubercles, respectively, contrasting with McLay's (1993) observation of 4–5, 7–8, and 9–10 tubercles. We measured the ratios of the lengths of propodi and dactyli on the first and second ambulatory legs, finding the ratio of propodi to dactyli length to be approximately 1.6:1, indicating that the propodi are significantly longer than the dactyli. This contrasts with McLay (1993)'s description, which is of similar length but aligns with the descriptions of Japanese specimens by Sakai (1936).

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## CONFLICTS OF INTEREST

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

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