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# Two new records of gastropods *Melanella flexuosa* (A. Adams, 1854) and *Similiphora similior* (Bouchet & Guillemot, 1978) from Dokdo, Korea

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## ABSTRACT

Two species of gastropods, *Melanella flexuosa* (A. Adams) and *Similiphora similior* (Bouchet & Guillemot) from Dokdo, are marking the new Korean molluscan fauna. *M. flexuosa* is characterized by round and swollen whorls with slightly leftward curvature near the apex and the aperture's ventrally thickened and raised outer lip. *S. similior* features uniformly sized longitudinal granules and evenly spaced intercostals with a two-tone coloration. Diagnoses and color plates are provided in this study.

**Keywords:** *Melanella flexuosa*, *Similiphora similior*, Eulimidae, Triphoridae, Korea

## INTRODUCTION

We conducted the MABIK (National Marine Biodiversity Institute of Korea)'s "Basic Survey for Securing and Excavating Marine Life from Dokdo" project from May to October 2024. Marine gastropods of Dokdo have been recorded a total of 240 species across 159 genera in 89 families so far (Hwang *et al*., 2023). Still, two species of *Melanella flexuosa* (A. Adams) from Eulimidae and *Similiphora similior* (Bouchet & Guillemot) of Triphoridae are unrecorded in Korea. The Eulimidae are small-sized endo or ectoparasitic marine gastropods but occasionally free-living (Okutani, 2000). Min *et al*. (2004) and MBRIS (2024) recorded 27 species of 15 genera in Korea. The Triphoridae is found worldwide and is one of the five most diverse marine molluscan families, with at least 958 species and 75 genera. It will likely host a few thousand species worldwide (Baker and Albano, 2022). Lee and Min (2002), Kil and Lee (2012), and Kil *et al*., (2013) reported 18 triphorid species of 14 genera in Korea. *Similiphora* comprises five species, mainly reported from the Atlantic and Mediterranean Sea.

*Melanella flexuosa* (A. Adams, 1854) and *Similiphora similior* (Bouchet & Guillemot, 1978) are described with diagnoses and color plates.

## MATERIALS AND METHODS

From June 2024 to October 2024, specimens were collected from the intertidal zone of Dokdo to the

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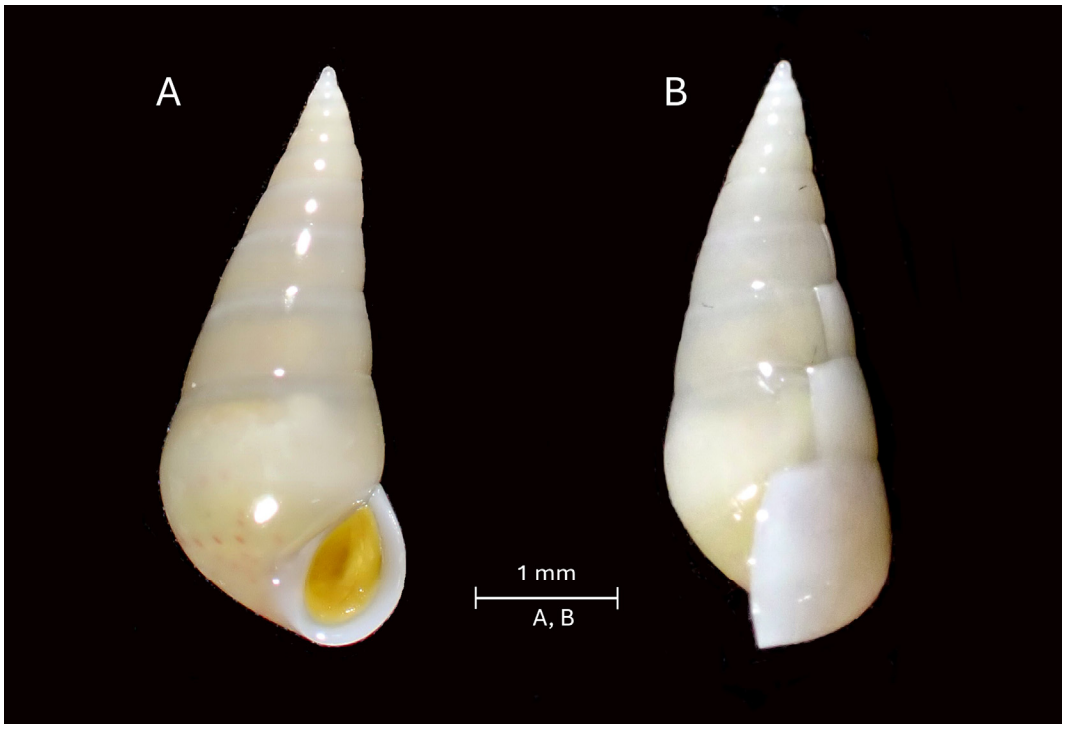


**Fig. 1**. Photographs of *Melanella flexuosa*. **A**. Ventral view; **B**. Lateral view.

subtidal zone at a depth of approximately 40 m. The identification of the collected specimens was based on Adams (1854), Sowerby (1834), Pilsbry (1917), Bouchet (1984), Okutani (2000), and Min *et al*. (2004). The classification system and scientific name were based on MolluscanBase ed. (2024A; 2024B). The specimens were observed under a dissecting microscope (Nikkon SMZ 745T), and the species photographs were taken using Olympus TG5. The specimens were deposited at the National Marine Biodiversity Institute of Korea (MABIK).

Phylum Mollusca Linnaeus, 1758 연체동물문
Class Gastropoda Cuvier, 1797 복족강
Order Littorinimorpha, A. N. Golikov & Starobogatov, 1975 총알고둥목
Family Eulimidae R. A. Philippi, 1853 바늘고둥과
Genus *Melanella* Bowdich, 1822 사기바늘고둥속

***Melanella flexuosa* (A. Adams, 1854) 입술사기바늘고둥 (신칭) (Figs. 1A-B)**

*Eulima flexuosa* A. Adams, 1854: 277
*Melanella flexuosa*: Okutani, 2000: 345

**Distribution**. Mauritius, Japan (Amami Islands).

**Specimen examined**. South Korea: 1 specimen, Gyeongsangbuk-do, Ulleung-gun, Ulleung-eup, Dokdo-ri, Dongdo wharf, 06 VIII 2024, J. Lee (MABIK MO00186636).

**Measurement**. Shell length 4 mm; width 1.5 mm.

**Diagnosis**. Shell glossy dark ivory enamel, conical, thick and hard. Spire with ten whorls and round periphery, very slightly bent leftward only near apex. Apex round, brighter white and more shiny than whorls. Sutures shallow but clear with greyish band on sutural ramp. Whorls having regularly incremental outer lip scars. Base smooth with pink dots of soft body visible inside. Aperture oval, milky white: inner lip smooth, widely developed; outer lip wide and thick, round, gently raised in center ventrally. Operculum light brown.

**Remark**. The present specimen matches well with *M. flexuosa* in the following characteristics: each whorl is slightly inflated, the spire does not curve to the right but slightly bends to the left near the apex, and the outer lip margin spreads outward and bulges in the middle portion. Okutani (2000) mentioned “a strongly flared morphology in the middle of the

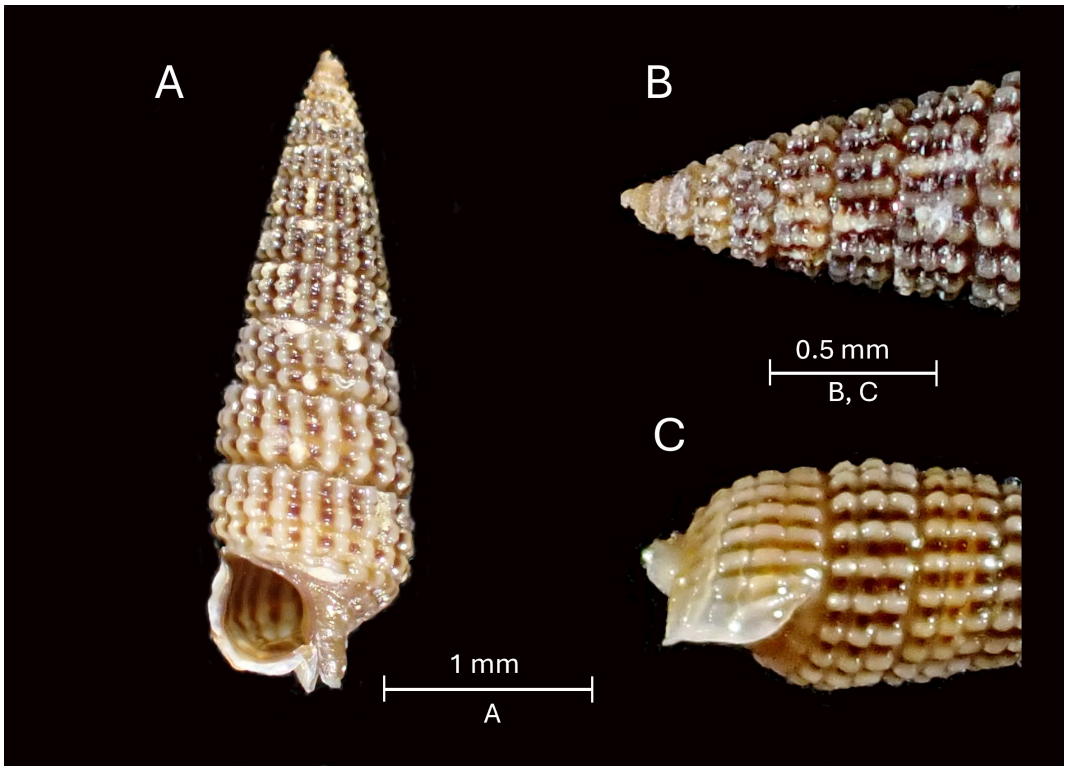


**Fig. 2**. Photographs of *Similiphora similior*. **A**. Ventral view; **B**. Protoconch; **C**. Lateral view outer lip.

outer lip" as the important diagnostic characteristic that distinguishes *M. flexuosa* and *M. major* from Japan. However, looking at the original description (A. Adams, 1854) and other reports (Sowerby, 1834; Pilsbry, 1917) of *M. major*, the degree of that bending differed slightly in each individual. This species resembles previously recorded *Melanella major* of Korea (Min *et al.*, 2004); however, compared to the pictures of Sowerby, G. B. I. (1834) and Pilsbry (1917), it differs in having a swollen spire, is not curved to the rightward, and has a raised outer lip of the aperture ventrally. *Melanella bovicornu* is similar in having a greyish band under the suture and a thick outer margin of the aperture (Pilsbry, 1905; Okutani, 2000). It differs in that the spire is not thinner nor consistently curved rightward from the body whorl to the apex. The specimen was attached to the bottom of a stone when it was alive.

Phylum Mollusca Linnaeus, 1758 연체동물문
Class Gastropoda Cuvier, 1797 복족강
Order Caenogastropoda *incertae sedis*
Triphoridae J. E. Gray, 1847 띠줄고둥과
*Similiphora* Bouchet, 1985 이색조띠줄고둥속(신칭)

***Similiphora similior* (Bouchet & Guillemot, 1978) 이색조띠줄고둥 (신칭) (Figs. 2A-C)**

*Triphora similior* Bouchet & Guillemot, 1978: 344-356, figs 4, 13, 33, 35
*Similiphora similior*: Bouchet, 1984: 49-51, figs 13, 33, 35

**Type locality**. Locmiquel, France
**Distribution**. Cape Verde, North Atlantic Ocean, Mediterranean Sea (MolluscaBase eds., 2024)
**Specimen examined**. South Korea: 1 specimen, Gyeongsangbuk-do, Ulleung-gun, Ulleung-eup, Dokdo-ri, TTongyeo, 05 VIII 2024, J. Lee (MABIK MO00186637).
**Measurement**. Shell length 3 mm; width 1 mm.
**Diagnosis**. Shell awl-shaped, relatively hard. Spire with two-tone color; light brown longitudinal granules and evenly spaced thick brown intercostals. Apex observed three whorls excluding protoconch, with regular longitudinal riblet and one micro-sculpture spiral cord. Whorls of 11 layers,

excluding the apex; sutures are deep and distinct. Second one among three spiral ribs weakened from eighth whorl, showing as two rows. Base with two rows of spiral ribs. Aperture nearly oval; outer lip thin; inner surface visible brown band of outside. Columella straight; siphonal canal enclosed and open backward; posterior canal deeply notched.

**Remark**. This species described in the original description as fine granules arranged on the embryonic protoconch, however, the embryonic protoconch of the specimen could not be confirmed. Still, the two-tone coloration is the only characters of *Similiphora similior* among triphorid species (Bouchet, 1984).

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