

# Three Unrecorded Triphorid Snails of Genus *Triphora* (Caenogastropoda, Triphoridae) from Korea

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## ABSTRACT

The specimens of three unrecorded triphorid snails, *Mastonia millepunctata*, *Monophorus testaceus*, and *Obesula turricula* were collected from Jeju-do, Korea and diagnostic characters were analysed. As a result, the family Triphoridae in Korea turned out to be 18 species revised species catalogue are listed.

**Key words:** Triphoridae, *Mastonia millepunctata*, *Monophorus testaceus*, *Obesula turricula*

## INTRODUCTION

The triphorid snails usually live in the intertidal zone of rocky shores or coral reefs of tropical to temperate regions, but some are known to live on the ocean bottom up to depths of 1,000 m, or in arctic seas and all species apparently normally feed on sponges. The family Triphoridae is the only typically sinistral group among the marine gastropoda, and the arrangement of the organs in the mantle cavity and of the nervous system is a reversal of that occurring in the dextral gastropods (Kosuge, 1966).

More than 1,000 extant species of the family Triphoridae have been proposed (Marshall, 1983). Lee and Min (2002) and Kil and Lee (2012) have been reported 15 species of 10 genera in Korea.

In this study, the three unrecorded triphorid species sampled from Jeju-do at the subtidal zone are redescribed and the revised 18 species of 14 genera of

the family Triphoridae in Korea are listed with previous records.

## RESULT

Throughout this study, 18 species of 14 genera including previous records were identified. Among them, *Mastonia millepunctata*, *Monophorus testaceus*, and *Obesula turricula* are new to the Korean malaco fauna and marked with asterisks in the list.

## LIST OF SPECIES

- Class Gastropoda Cuvier, 1791 복족강  
Superorder Caenogastropoda Cox, 1959 신생복족상목  
Order Sorbeoconcha Ponder and Lindberg, 1997 흡강목  
Family Triphoridae Gray, 1847 띠줄고등과
1. *Bouchettriphora* cf. *otsuensis* (Yokoyama, 1922) 좁쌀 띠줄고등
  2. *Bouchettriphora confersa* (E. A. Smith, 1875) 분홍염주 송곳띠줄고등
  3. *Bouchettriphora confusa* (Kosuge, 1963) 흰색띠줄고등
  4. *Cautor macmichaeli* Kosuge, 1962 쇠늑반점띠줄고등
  5. *Inella sagamiensis* (Kuroda & Habe, 1971) 담갈색띠줄고등
  6. *Inella japonica* Kuroda & Kosuge, 1963 흐린반점띠줄고등
  7. *Inforis fusiformis* (Kosuge, 1961) 뽕족띠줄고등

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8. *Latitriphora multigrata* (Yokoyama, 1922) 흰누렁띠줄고둥
9. *Litharium kurodai* (Kosuge, 1962) 농갈색띠줄고둥
10. *Mastonia cingulifera* (Pease, 1860) 이색고리띠줄고둥
- \*11. *Mastonia millepunctata* (Kosuge, 1962) 빨강꼭지두줄쭈삿띠줄고둥 (신칭)
12. *Mesophora fusca* (Dunker, 1860) 갈색두띠줄고둥
- \*13. *Monophorus testaceus* (Kosuge, 1963) 흐린띠쭈삿띠줄고둥 (신칭)
14. *Nototriphora alba* 흰바탕띠줄고둥
- \*15. *Obesula turricula* (Hervier, 1898) 갈색반점띠줄고둥 (신칭)
16. *Tetrastoma iniqua* (Jousseaume, 1898) 적색띠줄고둥
17. *Triphora thetis* (Hedley, 1884) 두줄쭈삿띠줄고둥
18. *Viriola (Viriola) tricineta* (Dunker, 1860) 띠줄고둥

## DESCRIPTION OF SPECIES

Class Gastropoda Cuvier, 1791 복족강  
 Superorder Caenogastropoda Cox, 1959 신생복족상목  
 Order Sorbeoconcha Ponder and Lindberg, 1997 흡강목  
 Family Triphoridae Gray, 1847 띠줄고둥과  
 Genus *Mastonia* Hinds, 1843 병띠줄고둥속 (신칭)

***Mastonia millepunctata* (Kosuge, 1963) 빨강꼭지두줄쭈삿띠줄고둥(신칭) (Fig. 1A, B).**

*Notosinister millepunctatus* Kosuge, 1963, p. 243, pl. 16, fig. 29.

*Triphora millepunctata* Higo et al., 1999, p. 168.

*Mastonia millepunctata* Okutani, 2000, p. 309, fig. 45; Poppe, 2008, p. 726, pl. 308, fig. 10.

**Type locality.** Ankyaba, Setouchi-machi, Amami Island, Japan.

**Materials examined.** 2 individuals, 9 Aug. 2003. Saekki Island, Seogwipo-si, Jeju-do.

**Measurement.** 8.5 mm in height; 2.0 mm in width.

**Description.** Shell medium in size, sinistral, solid, subulate conical, lower spire inflated, body whorl narrowed. Suture deep and distinct. Whorls consist of 3 protoconch and 14 teloconch. Protoconch reddish brown, fragile, and bearing single spiral keel crossed by fine axial threads. Teloconch stout, light yellow with irregular dark yellow specks, and sculptured with 3 rows of granules except body whorl of 5 rows. All granules white. Granules of upper and lower lows round, big, sharp, and heading to top, median row flat

and distinct. Size of granule is diminished as it ascends the spire from penultimate whorl. Aperture round. Posterior canal short, rather deep, and folded but not fused.

**Habitat.** Gravel and sand bottom in intertidal and subtidal zone about 20 m deep.

**Distribution.** Korea, Japan, Philippines.

Genus *Monophorus* Grillo, 1877 이은염주띠줄고둥속(신칭)  
***Monophorus testaceus* (Kosuge, 1963) 흐린띠쭈삿띠줄고둥(신칭) (Fig. 1C, D).**

*Notosinister testaceus* Kosuge, 1963, p. 245, pl. 16, fig. 21.

*Triphora testacea* Higo et al., 1999, p. 169.

*Monophorus testaceus* Okutani, 2000, p. 305.

**Type locality.** Ankyaba, Amami Island, Japan.

**Materials examined.** 4 individuals, 12 March 2000, Hwasun beach, Seogwipo-si, Jeju-do.

**Measurement.** 6.0 mm in height; 2.0 mm in width.

**Description.** Shell small, solid, sinistral, strongly inflated spindle shape. Suture deeply excavated, form a prominent channel. Body yellow, getting darker to higher spire. Whorls consist of 3 protoconch and 7 teloconch. Protoconch white, broad conical, bearing 2 spiral keels, nucleus dome shape. Teloconch stout, sculptured with 3 rows of granules. Granule of median row flat, inflated, and dark brown in color. Size of granule is diminished as it ascends the spire. Interspaces between granules and rows connected with axial and horizontal columns. Aperture and outer lip round. Posterior canal deep, folded and opened.

**Habitat.** Rocky gravel bottom about 20 m deep.

**Distribution.** Korea, China, Japan, Taiwan, Philippines.

Genus *Obesula* Jousseaume, 1884 뽕뽕이띠줄고둥속(신칭)  
***Obesula turricula* (Hervier, 1898) 갈색반점띠줄고둥(신칭) (Fig. 1E, F).**

*Triforis (Mastonia) turricula* Hervier, 1898, p. 305, pl. 17, fig. 9.

*Notosinister turriculus* Kosuge, 1963, p. 242, pl. 15, fig. 11.

*Triphora turricula* Higo et al., 1999, p. 168.

*Obesula turricula* Okutani, 2000, p. 315.

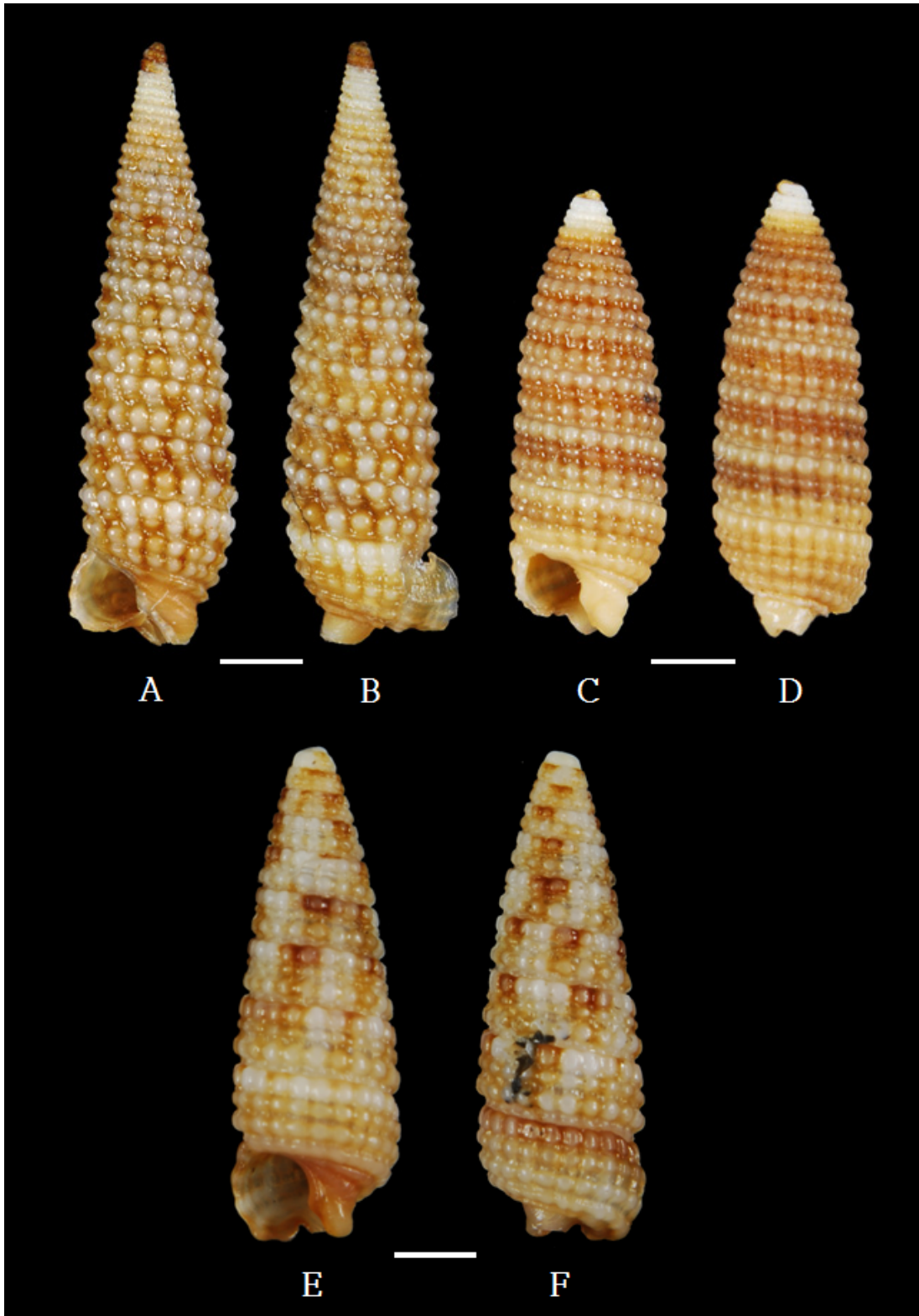


Fig.1. *Mastonia millepunctata*. A. ventral view; B. dorsal view, *Monophorus testaceus*. C. ventral view; D. dorsal view, *Obesula turricula*. E. ventral view; F. dorsal view. Scale bars: 1 mm.

**Type locality.** Lifou, New Caledonia.

**Materials examined.** 4 individuals, 12 March 2000, Hwasun beach, Seogwipo-si, Jeju-do.

**Measurement.** 5.7 mm in height; 2.0 mm in width.

**Description.** Shell small, solid, sinistral, spindle shape, and weakly inflated. Suture form shallow groove, with small flat granules. Body light yellow with 3-4 columns of regular dark yellow specks from penultimate whorl. Whorls consist of protoconch and 8 teleconch. Protoconch white, lacked. Teleconch stout, sculptured with 3 rows of granules. Granules of body whorl equal in size but granules of median row flat from penultimate whorl. Size of granule is diminished as it ascends the spire. Aperture round, outer lip wave. Posterior canal deep, folded but not fused, and shorter than aperture basal lip.

**Habitat.** Rocky gravel bottom in intertidal and subtidal zone about 20 m deep.

**Distribution.** Korean, Japan, Philippines, Tropical Pacific.

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