

# New Record of *Columbarium pagoda pagoda* (Lesson, 1834, Gastropoda, Turbinellidae) in Korean water

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## ABSTRACT

The Turbinellidae shell *Columbarium pagoda pagoda* (Lesson, 1834), from the southern coast of Korea was recorded as new to the Korean molluscan fauna. The shell is typically solid and fusiform, with a well elongated spire and long anterior canal, and keel with a row developed spine. The protoconch is small, planorboid to depressed dome-shaped. The family Turbinellidae is reported from Korea for the first time.

**Key words:** *Columbarium pagoda pagoda*, Turbinellidae, new record, Korean water

## INTRODUCTION

The Turbinellidae is one of the most ancient of neogastropod families, contains five recent subfamilies, the Turbinellinae, Vasininae, Columbariinae, Ptychactractinae and Tudicliinae (Ponder & Warén, 1988). The shell of subfamily Columbariinae, known as Pagoda shells, are mostly strongly keeled at the shoulder, delicately sculptured, and have a long, straight siphonal canal like that of *Fusinus*. The Columbariinae, is contains about 50 species in 6 genera, the best known of which is *Columbarium*. They are found especially in the New Zealand and Australian region. The Turbinellidae shell was reported from Korea for the first time and collected a depth of approximately 30 m by fishing nets in the port of Dadaepo.

## SYSTEMATICS ACCOUNTS

Class Gastropoda Cuvier, 1797 복족강

Order Sorbeoconcha Ponder & Lindberg, 1997 흡강목

Family Turbinellidae Swainson, 1835 잣송이고둥과

Genus *Columbarium* Martens, 1881 잣송이고둥속 (신칭)

\* *Columbarium pagoda pagoda* (Lesson, 1834 in 1832-35) 잣송이탑고둥 (신칭) (Fig. 1.)

*Fusus pagoda* Lesson, 1834, 12-14.

*Columbarium pagoda pagoda* Habe & Okutani, 1975, p.103; Higo *et al*, 1993, p.274; Higo *et al*, 1999, p.223; Okutani *et al*, 2000, p. 423, pl. 210, 9; Wu & Lee, 2005, p.163, fig. 690.

*Columbarium pagoda* Kira, 1977, p.59, pl.23, fig. 19; Okada *et al*, 1967, p.127

**Type locality.** Japan

**Material examined.** 7 individuals, Dadaepo, Saha-gu Busan Metropolitan City (35°3' 30.75"N, 128°58' 57.33"E, depth of 30 m by fishing net), 20 Oct. 2010.

**Measurement.** 80 mm in shell height; 26 mm in shell width.

**Description.** Shell moderate in size, 80 mm in height, 26 mm in width, solid, narrowly fusiform in out line and markedly longer than wide. 10 to 12 trigonal shoulder spines direct upward on body whorl, each spire. Protoconch is small, a bulbous and deflected of one and a half to two whorls, a columella without folds; spine or keel on the shoulder; and pronounced. Siphonal canal is open and long, and several strong columellar plaits. Opercular elongated

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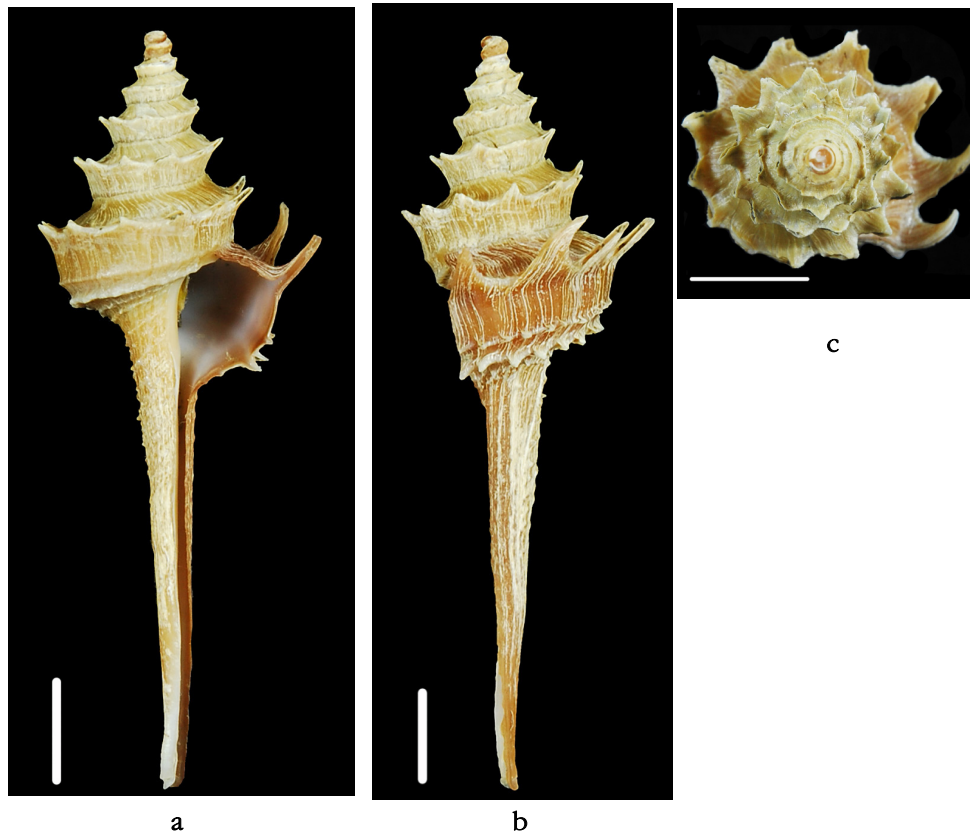


Fig. 1. *Columbarium pagoda pagoda*.: a, ventral view; b, later view; c, apical view. scale bar = 20mm.

with terminal nuclei, and often a thick periostracum.

**Habitat.** fine sand bottom in 20-300 m deep.

**Distribution.** East Sea, East China Sea.

**Remark.** The three *Columbarium* species reported in Japan, but *C. pagoda pagoda* is the only one species in Korean water.

#### ACKNOWLEDGEMENTS

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