

A report of three unrecorded Ovulid species (Gastropoda, Heterodonta) from Korea

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ABSTRACT

Three Ovulid species collected from Jeju Island were identified as *Habuprionovolva aenigma* (Azuma & Cate, 1971), *Habuprionovolva basilia* (Cate, 1978) and *Diminovula kosugei* (Cate, 1973). This is the first record from the Korean waters, providing a description of the species with illustration for the shell morphology.

Keywords: Ovulid, *Habuprionovolva aenigma*, *Habuprionovolva basilia*, *Diminovula kosugei*, first record

INTRODUCTION

The ovulidae species are found in tropical and temperate sea. Most species are found at 10 to 50 m in depth. The shell is ovate, pyriform, cylindrical or lanceolate, sometimes with long anterior and posterior canals; the outer lip may be weakly ridged, but the inner lip is edentulous and smooth, or has a few small posterior denticles. The spire may be involute. Ovulids are carnivorous cypraeoideans that feed on polyps of cnidarians.

There are more than 100 ovulid species in about 16 genera worldwide (Wilson, 1993). Higo *et al.*, (1997) are divided into one family and 4 subfamily (Eocypraeinae, Ovulinae, Volvinae, Pediculariinae). Recently, Lorenz & Fehse (2009) are divided into three families (Ovulidae, Pediculariidae, Eocypraeidae) and seven subfamilies (Prionovolviniae, Simniinae, Ovulinae, Aclivolvinae, Pediculariinae, Cypraediinae, Sulcocypraeinae).

The Koreans, Lee (1958; one species), Choe (1992; three species, 1997; four species), Lee and Min (2002; four species), Lee *et al.*, (2004; 27 species), have been recorded Korean species.

Specimens were collected by hand, using SCUBA. Morphological characters for identification follows original articles of Cate (1973, 1978), Azuma & Cate (1971) and encyclopedias of Okutani *et al.*, (2000), Lorenz & Fehse (2009).

SYSTEMATIC ACCOUNTS

Family Ovulidae Fleming, 1882 개오지불이과
Genus *Habuprionovolva* Azuma, 1970 구슬개오지불이속
***Habuprionovolva aenigma* (Azuma & Cate, 1971)**
일록구슬개오지불이 (신칭)

Prionovolva (*Prionovolva*) *aenigma* Azuma & Cate, 1971: p. 261, text fig. 1; Higo *et al.*, 1999, p. 130.

Habuprionovolva aenigma: Lorenz & Fehse, 2009, p. 38, pl. 9, Figs 1-8. A16, A17.

Type locality: Off Kirimezaki, Kii Peninsula, Japan.

Material examined: Four specimens, Munseom Jeju-do, depth 6 m, May 12, 2002 (D.B. Koh).

Measurements: Length 11.5 mm; width 6.5 mm

Description: Shell small to medium size. Roundly-pyriform, rounded dorsal side. Both terminals produced, nearly equal projection, slightly recurved in front. Dorsum glossy, smooth, with fine concentric

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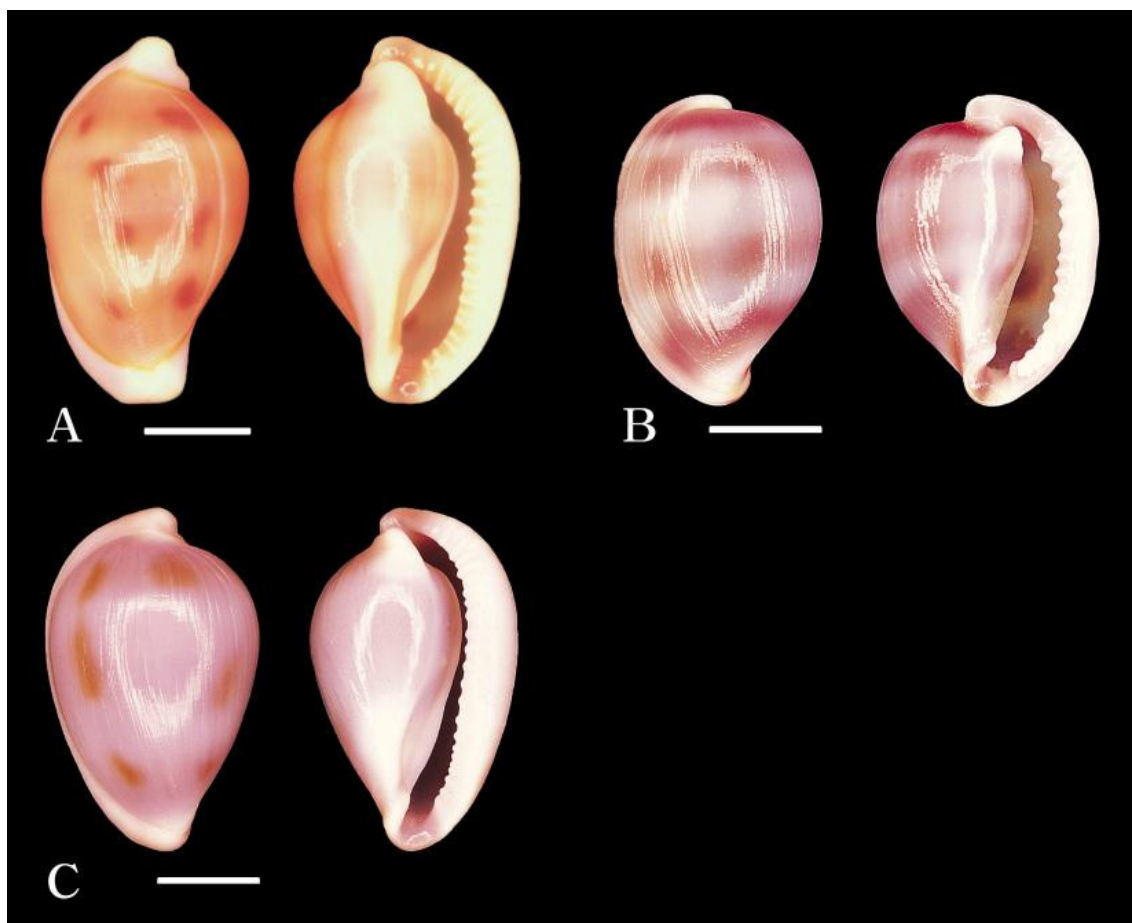


Fig. 1. Three new recorded ovulid species. **A**, *Habuprionovolva aenigma*; **B**, *Habuprionovolva basilia*; **C**, *Diminovula kosugei*. Scale bars: A = 3 mm, B = 2 mm, C = 4 mm.

striation. Aperture gently curving, relatively narrow at back, increasing in width from posterior to anterior. Carinal basal ridge within which define columella fossula. Columella smooth, very broad hardly curve. Fossula long, narrow, rather shallow depressed. One or two knobble funiculum isolated, mostly ivory colored. Labrum rounded, calloused, somewhat thickened, with inward plane of lip flattened and with well crenulated teeth. Basic shell color a honey-ivory color with discontinuously (or continuously) 4 broad bands of deep rose color. The bands are different breath, broadest towards either terminal.

Habitate: From 10 to 50 m on various species of *Dendronephtha*.

Distribution: Widespread in the western Pacific, the Indian Ocean and Red Sea.

Remark: *H. aenigma* was regarded as synonyms of *H.*

hervieri (Hedley, 1899) by Higo *et al.*, (1999). But, Lorenz & Fehse (2009) were considered different species differ from *H. hervieri* and *H. basilia* (Cate, 1978) by the lack of blotches overlaying the transverse bands. Moreover, usually more light weight and elongate.

***Habuprionovolva basilia* (Cate, 1978)**

작은구슬개오지불이 (신칭)

Galervolva basilia Cate, 1978: p. 191, pl. 1. fig. 1; Higo *et al.*, 1999, p. 130.

Habuprionovolva basilia: Lorenz & Fehse, 2009: p. 38, pl. 10, Figs 1-5, A18, A20.

Type locality: Off Wakayama, Kii Channel, Japan.

Material examined: Two specimens, Munseom Jeju-do, depth 8 m, May 12, 2002 (D.B. Koh).

Measurements: Length 6.6 mm; width 4.5 mm.

Description: Shell small, ovate-pyriform in shape, roundly humped dorsal side. Both terminals distinctly produced, nearly equal projection posterior and anterior tips. Dorsum glossy, smooth, with sometimes 4-5 concentric striation over front terminal collar. Aperture gently curving, narrow at back, increasing in width from posterior to anterior. Carinal basal ridge within which define columella fossula. Columella smooth, hardly curve. Fossula long, narrow, rather deeply depressed. Two knobble funiculum isolated, ivory colored. Labrum rounded, calloused, somewhat narrow, poorly thickened, irregularly and coarsely crenulated. Basic shell color a white to beige. Four diffuse bands of mauve connect large, evenly spaced, and thick transverse blotches of rose mauve. The bands are of more less different breadth and broadest towards the anterior terminal.

Habitate: At 40-80 m on various species of *Dendronephtha*.

Distribution: Wide spread in the Indo-Pacific.

Remark: *H. basilia* is very similar to *H. aenigma* Azuma & Cate, 1971 but differ by the diffuse colour blotches fused to transverse bands.

Genus *Diminovula* Iredale, 1930 반점개오지불이속 (신칭)
Diminovula kosugei (Cate, 1973) 코수게반점개오지불이 (신칭)

Margovula kosugei Cate, 1973: p. 17-18, text fig. 31; Higo *et al.*, 1999, p. 132.

Diminovula kosugei: Lorenz & Fehse, 2009: p. 53, pl. 45, A40.

Type locality: Off Jogashima, Sagami Bay, Japan.

Material examined: Three specimens, Munseom Jeju-do, depth 15 m, May 10, 2002 (D.B. Koh).

Measurements: Length 14 mm; width 8 mm.

Description: Shell moderately large, inflated pyriform, humped mid-dorsally. Both terminals produced, especially with posterior spatulate. Dorsum smooth, though finely incised striate overall. Base glossy, smooth, inflated ovate. A sharp and longitudinal ridge to the front, with oblique terminal ridge. Columella broad, concavely depressed, forming a fossula. Aperture wide and almost straight. Outer lip ventral surface broad, irregularly and coarsely crenulated.

Color light pink over all dorsally, with six red brown spots in two longitudinal rows. Outer lip, terminal tips, base off white and terminal canals pale pink in color.

Habitate: From 10 to 50 m on various species of *Dendronephtha*.

Distribution: Japan, China, Indonesia, Malaysia.

Remark: *D. kosugei* was regarded as synonyms of *D. punctata* Duclos, 1831 by Okutani *et al.*, (2000). But, Lorenz & Fehse (2009) were considered different species differ from *D. kosugei* and *D. whitworthi* by the more produced, long labral teeth, a moderately wide aperture and the pink dorsal colour.

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