

# A New Record of *Iasis zonaria* (Salpida: Salpidae) in Korean Waters

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## ABSTRACT

One species of the family Salpidae in Korean waters, *Iasis zonaria* (Pallas, 1774), was identified and redescribed. This species is newly added in the Korean fauna.

**Keywords:** Urochordata, Salpida, Salpidae, Korea, new record

## INTRODUCTION

The species in the family Salpidae are free-swimming marine holoplanktons. Most of these are warm water cosmopolites (Esnal and Daponte, 1999). Salps identification is based mainly on the arrangement of the body muscles. Forty species in 13 genera are currently known in the family worldwide (Chihara and Murano, 1997; Esnal and Daponte, 1999). In a series of our taxonomic studies on planktonic tunicate, *Iasis zonaria* in the family Salpidae is newly identified from Korean waters.

## MATERIALS AND METHODS

The specimens were collected with IKMT net of 417 µm mesh. These were fixed and stored in 4% buffered formalin or 80% ethyl alcohol, and examined with a stereoscopic microscope (Leica MZ16 with AxioCam HRc). The body length was measured by using objective and ocular micrometers. Solitary zooids were measured from the terminal of oral aperture to the tip of posterior projection, while aggregate zooids were measured from the tip of anterior projection to the tip of posterior projection. The specimens examined in this study were deposited in the Seodaemun Museum of Natural History. M indicates the muscle band.

## SYSTEMATIC ACCOUNTS

Phylum Chordata  
Subphylum Tunicata

Class Thaliacea  
Order Salpida  
Family Salpidae  
Subfamily Salpinae

<sup>1</sup>\*Genus *Iasis* Savigny, 1816

<sup>2</sup>\**Iasis zonaria* (Pallas, 1774) (Fig. 1A-E)

*Holothurium zonarium* Pallas, 1774, pt. 10 (cited from Berrill, 1950)

*Salpa (Iasis) zonaria*: Berrill, 1950, p. 295, fig. 107.

*Iasis zonaria*: Tokioka, 1937, p. 223; Thompson, 1948, p. 132, pl. 51, figs. 1-3, pl. 52, figs. 1-5, pl. 53, figs. 1, 2; Yount, 1954, p. 326, fig. 30; Tokioka, 1967, p. 230; Gosner, 1971, p. 611, fig. 24.10; Yamaji, 1984, p. 447, pl. 139, figs. 5a-c; Zheng et al., 1989, p. 389; Madin, 1991, p. 109, fig. T-9; Chihara and Murano, 1997, p. 1367; Esnal and Daponte, 1999, p. 1434, fig. 3.22.

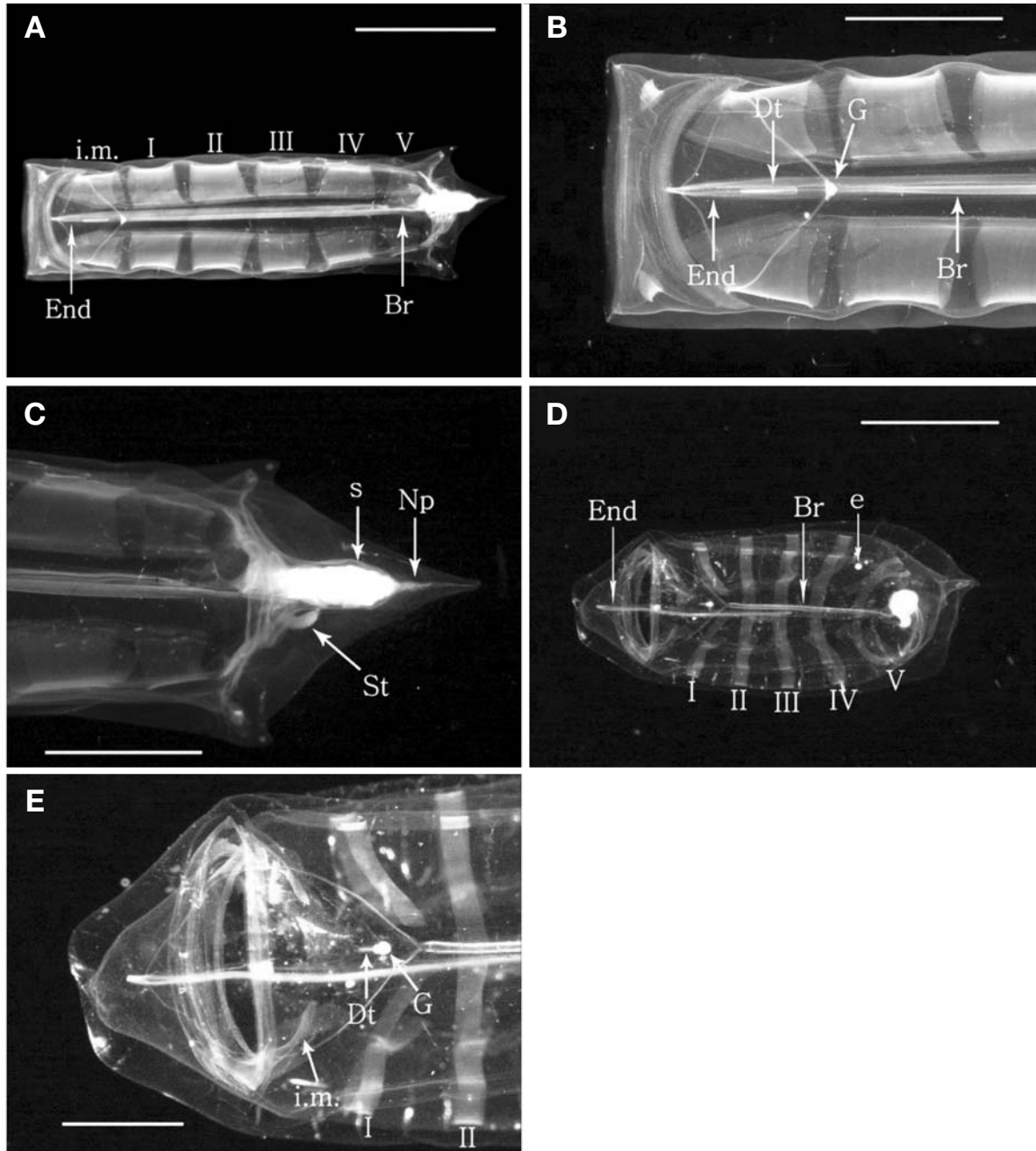
*Material examined.* 2 solitary zooids; and 2 aggregate zooids, East Sea, 35° 14'N 129° 47'E, 24 Apr. 2001; 1 solitary zooid, East Sea, 37° 33'N 129° 15'E, 24 Apr. 2001; 7 aggregate zooids, South Sea, 33° 00'N 127° 30'E, 5 May 2001.

*Description.* Solitary zooid: 30-35 mm long, prismatic, and elongated bodied, with nearly uniform diameter throughout (Fig. 1A). Anterior part of body terminating squarely (Fig. 1A, B). Test stiff, with longer postero-median projection and shorter pair of dorso-lateral projections (Fig. 1A, C). Oral aperture terminal (Fig. 1B) and atrial opening postero-dorsal (Fig. 1C). Five body muscles and intermediate muscle broad and interrupted dorsally and ventrally (Fig. 1A). MV relatively narrow, short (Fig. 1A, C). Dorsal tubercle elongated, separated from ganglion with short distance (Fig. 1B). Branchial septum slender, extending from ganglion to gut (Fig. 1A, B). Endostyle thin, extending from behind oral to beginning of gut (Fig. 1A, B). In postero-median projection,

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**Fig. 1.** *Iasis zonaria*. A-C, solitary zooid. A, dorsal view; B, anterior part; C, posterior part. D-E, aggregate zooid. D, dorsal view; E, anterior part. (Br, branchial septum; Dt, dorsal tubercle; e, embryo; End, endostyle; G, ganglion; i.m., intermediate muscle; Np, nucleus projection; s, stomach; St, stolon; I-V, body muscles). Scale bars=10 mm (A), 5 mm (B-D), 2 mm (E).

gut with tight circular loop, nucleus projection at tip (Fig. 1C). Stolon small, not circle around gut nucleus (Fig. 1C).

Aggregate zooid (Fig. 1D, E): 6-25 mm long, body elongated oval, asymmetrical, with posterior projection on its right side and atrial opening left side (Fig. 1D). Test thick, with groove on each side (Fig. 1D). Atrial projection oblique and

short (Fig. 1E). Both openings dorsal (Fig. 1D). Five muscles, interrupted ventrally, MI interrupted dorsally as well (Fig. 1D). MV divided into two branches on right side (Fig. 1D). Intermediate muscle relatively small (Fig. 1E). Dorsal tubercle short and straight, located in front of ganglion (Fig. 1E). Endostyle short (Fig. 1D). Branchial septum extending from MI

to gut (Fig. 1D). Gut with tight circular loop (Fig. 1D). Embryos between MIV and MV (Fig. 1D).

*Remarks.* This is the only species belonging to the genus *Iasis*. Mature specimens of the species showed the stolon circling around the gut nucleus (Thompson, 1948; Berrill, 1950; Yount, 1954; Esnal and Daponte, 1999).

*Distribution.* Atlantic, Indian, Pacific, Antarctic, Mediterranean, China, Japan.

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