

## A NEW RECORD OF *CYMOVULA SEGALIANA* CATE, 1973 (MOLLUSCA: GASTROPODA: OVULIDAE) IN SINGAPORE

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### INTRODUCTION

The family *Ovulidae* is represented by several species in Singapore (Lim, 1969; Way & Purchon, 1981; Wee & Ng, 1994; Goh et al., 1999; Fehse, 2002). Of the locally recorded *Ovulidae* members, only *Cymbovula deflexa* (see Cate, 1973) is of the genus *Cymbovula*, which is diagnosed by a broadly looped adapical canal and a well developed columella ridge (Cate, 1974). *Cymbovula segaliana* was originally described from Penang Island, Peninsular Malaysia and named in honour of Dr. Earl Segal. Its holotype is deposited into the Natural History Museum of Los Angeles County, USA (LACM 1770).

### DETAILS OF COLLECTION

Several specimens of *Cymbovula segaliana* (Fig. 1) were obtained from various localities along East Coast Park, Singapore at 0600 hrs on 13 Jun. 2006. The specimens were found on gorgonians of various colours appearing to be *Enchinogorgia* species (Goh & Chou, 1996), exposed on muddy sand flats at very low tide, among wave-breaker rocks, dislodged and washed up on shore at low tide, or pulled on shore by entangled fishing lines. The specimens were deposited in the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity and Research, Department of Biological Sciences, National University of Singapore under the catalogue number, ZRC.MOL.2840.

### SPECIMEN DETAILS

Cate (1976) described in detail the conchological features of *Cymbovula segaliana*. The collected specimens (Figs. 1–2) are narrow, elongately ovate and solid with the terminals bluntly square in front and sub-spatulate posteriorly. The surface of the shell is glossy and the dorsum is transversely striate while the base is generally smooth. The outer-lip is smooth, broad, and thickly formed in mature specimens. The shell colour varies between specimens from light orange to dark red when alive, except for the margins which appear light brown to white in some shells. *Cymbovula segaliana* is most closely allied with *C. queenslandica* (Cate, 1974), and work is in progress to determine if the two species should be synonymised (F. Lorenz, pers. comm.). Based on the original descriptions and figures of Cate (1974, 1976), the most obvious conchological difference between the two species seems to be that *Cymbovula queenslandica* has a number of weak denticles at the posterior of the outer lip, and more pronounced posterior terminal extremities that form dual (dextral and sinstral) posterior canal openings.

The shell length of specimens obtained from East Coast Park range from 8.3–11.8 mm. Even though the dark red colouration was more common, lighter coloured gorgonians often had animals with orange shells. The colours of ovulids do depend on the colour of their host (Wilson, 1993), but it is interesting to note that there were many consistencies in the soft-body appearance of *Cymbovula segaliana* despite the fact that they were found on gorgonians of different colours. The mantle of the living animal is translucent and covered with small, closely spaced maroon dots. The papillae are large, spaced out and are always white. The white colouration extends to the areas around the papillae giving a mottled appearance to the mantle. The siphon tentacles, head, body and foot are maroon to purple, although a few were observed to have an orange foot. Tentacles are always white at the tips. To the naked eye, the siphon appears to be distinct with a smooth edge (Fig. 2).

This species has a rather patchy distribution along Singapore Island's east coast from the Tanah Merah Ferry Terminal to Bedok Jetty, but can be very locally common. *Cymbovula segaliana* has also been observed along Changi Beach Park and Pulau Ubin. The worldwide geographical distribution of this species is unknown, but it has been collected in the Kangean Islands, Indonesia, by Lorenz (F. Lorenz, pers. comm.).



Fig. 1. Dorsal, lateral and ventral aspects of *Cymbovula segaliana*. Length = 11.8 mm; Width = 3.8 mm; Height = 3.0 mm.

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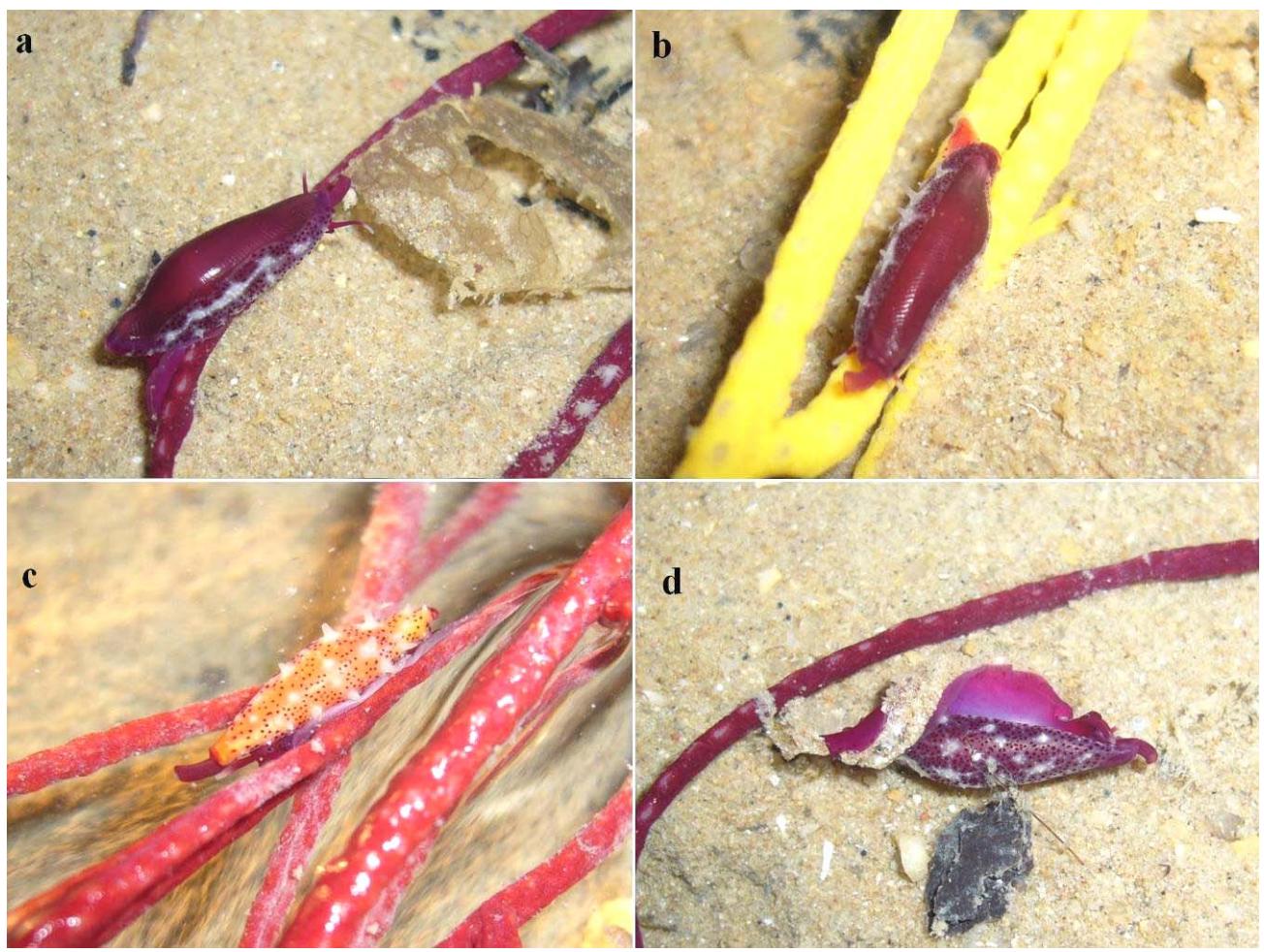


Fig. 2. a-c: *Cymbovula segaliana* on gorgonian hosts in East Coast Park; d: *Cymbovula segaliana* showing foot and body colouration.