

Frog shell, *Bufonaria perelegans*, at Changi

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chansowyan@gmail.com (Chan), suiseki1984@yahoo.com.sg (Lau)**Subject:** Near-elegant frog shell, *Bufonaria perelegans* (Mollusca: Gastropoda: Bursidae).**Subject identified by:** Chan Sow-Yan and Lau Wing Lup.**Location, date and time:** Johor Strait, Changi Beach in front of carpark 6; 3 October 2020, around 1800 hrs.**Habitat:** Estuarine shore. In intertidal zone, exposed during evening low tide.**Observers:** Chan Sow-Yan, Lau Wing Lup and Leo Nguang Hock Seng.**Observation:** A dead shell of about 6.5 cm shell height (Fig. 1) worn by a hermit crab, was found exposed during the evening low tide.**Remarks:** *Bufonaria perelegans* appears to be uncommon in Singapore where the authors and their colleagues have encountered only dead shells worn by hermit crabs. It is presumed that the live animals inhabit the sublittoral zones and that shells were brought to the inter-tidal areas from deeper waters by the crustaceans that had taken over the shells after the animals have died. In addition to the featured record, the authors have found shells of *Bufonaria perelegans* at the intertidal shore of Changi Coast North in February 1992; and in cage fish traps set off Changi near Red Cliff Shoal in February 2007.*Bufonaria perelegans* is the largest species in its genus that grows up to 110 mm in shell height. It inhabits depths between 28 and 53 m, and is distributed in the Indo-west Pacific from India eastwards to Thailand, Philippines, Taiwan and New Caledonia (Beu, 1987 & 1998). In Singapore, it appears to be less common than *Bufonaria rana* with which it may be confused (see Chuang, 1973; Tan & Chou, 2000; Tan & Woo, 2010; Sanpanich & Tan 2016). Comparative images of *Bufonaria perelegans* and *Bufonaria rana* are presented in Fig. 1 & 2, and their differences summarized in the table below.Table. Comparison between *Bufonaria perelegans* and *Bufonaria rana* (based largely on Beu, 1987).

Species	<i>Bufonaria perelegans</i> (Fig.1)	<i>Bufonaria rana</i> (Fig. 2)
Shell height	Up to 110 mm.	Up to 90 mm.
Shell surface	Finely & evenly gemmate.	Coarsely gemmate.
Shell nodules	Long.	Short.
Spiral cords	Thin.	Thick and ridge-like.
Shell colour	Uniform pale yellow-brown to tan.	White with large dark red-brown areas, or almost uniform reddish brown to dark brown.
Anterior canal	Long and curving slightly to the left.	Short and straight.

References

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- Chuang SH (1973) Sea shells. In: Chuang SH (ed.), *Animal Life and Nature in Singapore*. Singapore University Press, Singapore. Pp. 175–201.

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Fig. 1 & 2. Comparative views of *Bufonaria perelegans* and *Bufonaria rana* shells of similar sizes from Changi. Space between black bars = 1mm. Specimens wetted to enhance colour. Photographs by Lau Wing Lup



1A. Dorsal view

1B. Apertural view



2A. Dorsal view

2B. Apertural view



1C. Dorsolateral view



2C. Dorsolateral view



1D. Apical view

1E. Siphonal view



2D. Apical view

2E. Siphonal view

Fig. 1. *Bufonaria perelegans*

Fig. 2. *Bufonaria rana*