

Biodiversity Record: The palmate oyster, *Planostrea pestigris*, in Singapore

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Subjects: Palmate oyster, *Planostrea pestigris* (Mollusca: Bivalvia: Ostreidae).

Subjects identified by: Chan Sow-Yan and Lau Wing Lup.

Location, date and time: Singapore Island, Changi Beach Park; 27 July 2021; around 0900 hrs.

Habitat: Estuarine shore during low tide.

Observer: Lau Wing Lup.

Observation: Six dead, articulate shells with minimal erosion and encrustations (Figs. 1, 2) were found on the shoreline. The left valve of two of the shells were attached to the surfaces of a cerith shell and a pen shell. The area of attachment is small and restricted to the region around the umbo. All six examples are different in appearance. They vary in colours that range from cream and yellow to lavender and dark purple. One of the smaller specimens has black irregular bands radiating from the umbo of one valve, but not on the opposite valve. The largest specimen measures about 45 mm antero-posteriorly.

The shells have a subquadrate or circular shape. Both valves are compressed and nearly flat. The smaller right valve is smoother, and fits within the left valve margin. The left valve has low ribs distributed widely throughout its shell with occasional obsolete hyote spines noted at growth increments. The left valve's marginal commissural shelf is flat, wide and clearly demarcated with an inner edge. The chomata are closely and regularly spaced in a single straight line on the shell margins flanking the short and straight hinge. The kidney-shaped adductor muscle scar is situated around the centre. The valve margin is fragile, especially so on the right valve.



Fig. 1. Dorsal views of the exterior surfaces of the valves of six examples of *Planostrea pestigris*, with the right valves in the left picture, and the left valves in the right picture. Note the variation in colour, the right valve being smoother and smaller, and the widely-spaced low radiating ribs. Space between bars = 1 mm. (Photographs by: Lau Wing Lup).



Fig. 2. Dorsal views of the interior surfaces of both left and right valves of three examples of *Planostrea pestigris*. Note the shell interior is flat, wide and clearly demarcated with an inner edge, and that the valve margins are fragile. Also note the elongate kidney-shaped adductor muscle scar in the centre of the shells. (Photographs by: Lau Wing Lup).

Remarks: *Planostrea pestigris* was described from Luzon in the Philippines by Hanley (1846, as *Ostrea pestigris*), and is considered a monotypic species (Harry, 1985). Known synonyms include *Ostrea palmipes* and *Crassostrea paulucciae* (e.g., Lam & Morton, 2009). *Planostrea pestigris* is widely distributed in the Indo-West Pacific (Poutiers, 1998; Lam & Morton, 2009) and occurs both in the mangroves (Yahya et al., 2020) and on corals and rocks (Lam & Morton, 2009; Tan & Yeo, 2010), from the intertidal zone to depths of 20 m (Huber, 2010). It is also known as an invasive species in the Mediterranean Sea (Mienis, 2004).

In a recent review of mangrove-associated bivalves in Southeast Asia, Yahya et al. (2020) did not indicate the occurrence of *Planostrea pestigris* in Singapore. The species is known from Singapore (see Tan & Woo, 2010), but is referred to as *Crassostrea rivularis* by Lim (1970) and as *Ostrea rivularis* by Chuang (1973). The featured specimens from Changi match the illustrations and descriptions of *Planostrea pestigris* in Poutiers (1998), Lam & Morton (2004, 2009), Huber (2010) and Bussarawit et al. (2011). The featured photographs (Figs. 1, 2) are possibly the first of *Planostrea pestigris* from Singapore in published literature.

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