

The forgotten sponges of Singapore *

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I am a marine biologist, working on the taxonomy and biodiversity of sponges. Some ten years ago, this job gave me the opportunity to go around Singapore looking for sponges. Over 250 species of sponges were documented (Lim et al., 2009) in the surrounding waters of this small country (approximately 45 km by 25 km).

In the 1920s, my great-grandfather came to Singapore from China during a tumultuous period. Decades of civil war ensued after the Xinhai revolution (also known as the Chinese Revolution) overthrew the Qing dynasty in 1911. Many Chinese from the south of China (mostly from the Fujian and Guangdong Province) emigrated to Southeast Asia to search for a better life. During those days, Singaporeans seemed to know about sponges. Two of them in particular, the Neptune’s cup sponge (*Cliona patera*), and the bath sponges (*Spongia* and *Hippospongia* species).

In 1819, a Briton, Stamford Raffles, founded modern Singapore as a colony. In that same year, the Neptune’s cup sponge was discovered. It was discovered by Major-General Thomas Hardwicke. The sponge (Fig. 1), was presented at the Asiatic Society meeting on 13 November 1819 and was given the name *Spongia patera* (Hardwicke, 1820 & 1822).

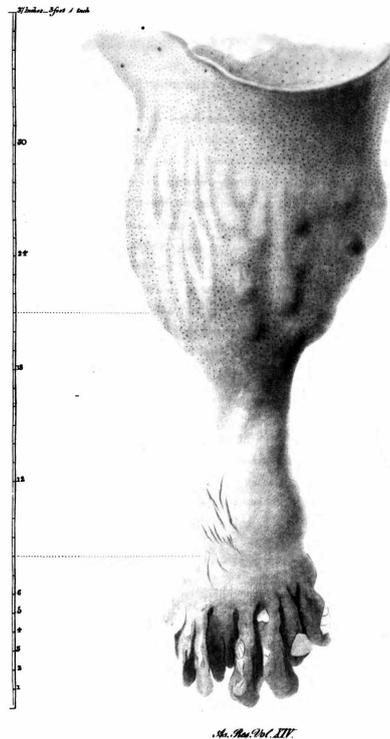


Figure 1: Neptune cup sponge

I do not know when the name “Neptune’s cup sponge” became widely used but it can be found in old literature way back to the 1860s (Gray, 1867; Pouchet, 1870). This common name presumably arose from the idea that Neptune, the Greek god, drinks from it, as it is gigantic and shaped like a wine glass.

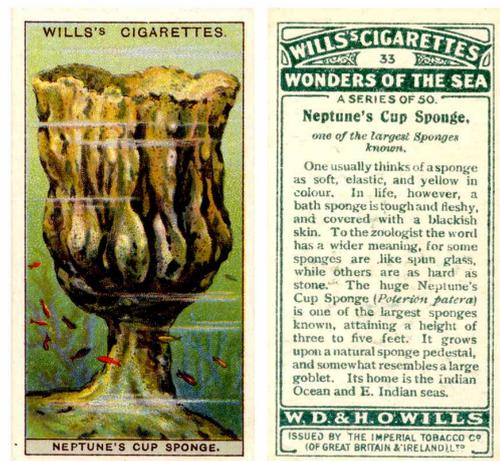
The second British resident of Singapore, Dr John Crawfurd, was fascinated by these gigantic sponges. He wrote in 1930: “These banks exhibit the strangest and most fantastic

forms of organic life that can be imagined, in the various shapes of corallines, madrepores, asteria and sponges. In still deeper water, and off the southern extremity of the island, there are found those gigantic sponges, which are peculiar to the coast of Singapore, and which Europeans have called Neptunean cups. The natives brought them to us in great numbers.” (Crawford, 1930)

These Neptune’s cup sponges became very popular and probably Singapore’s most famous export two hundred years ago. Many were brought back to Europe. Almost all the natural history museums in Europe would have at least one specimen – for instance London, Amsterdam, Leiden, Copenhagen and Genoa. The sponge was very popular with private collectors as well. Here’s a photograph of a child sitting in a gigantic Neptune’s cup sponge in Sumatra (Indonesia). (Fig. 2)



The Neptune’s cup sponge remained fascinating even after a hundred years; it was featured in a popular series of W.D. and H.O. Wills cigarette cards entitled “Wonders of the Sea”, produced in 1928. (Fig. 3) However, the Neptune’s cup sponge disappeared from the Singapore waters, probably as a result of over-harvesting. It was last recorded from Singapore in 1908.



During this period, the bath sponges were discovered in Singapore water by a Swiss PhD student, Pawla Dragnewitsch. He was the first person to report on the sponge fauna of Singapore, in a paper entitled “Spongien von Singapore”. (Dragenewitsch, 1905 & 1906) This study gave a glimpse of the sponge fauna at an inter-tidal habitat of Singapore during that time. Notably, Dragnewitsch mentioned that the Neptune’s cup sponge was not in the collection, and had not been recorded from Singapore waters for some time. However, he identified *Spongia zimocca* and *Spongia officinalis* in his collection, which are two of the best bath sponge species in the world. Dragnewitsch suggested the possibility of a bath sponge industry being developed, with reference to the flourishing trade existing in the Mediterranean.

The most detailed study of bath sponges was done by Willimott (1939). He mentions that cleaned and bleached sponges collected from local waters, cut into small pieces and packed in cellophane, were for sale in a number of Chinese shops in Singapore (Willimott, 1939). Some of the known uses were for bathing, domestic cleaning, and cleaning the slates of school children. There were also known industrial uses of bath sponges, for instance for the cleaning of railway carriages and motor-cars, and as filters for water (Willimott, 1939). Willimott also stated that “The existence of sponges has ‘long’ been known to Malayan fishermen but we have no idea of the timeline. There is no specific word in Malay for sponge, the term ‘gabus’ being used, which is also more commonly used for a cork or stopper”. (Willimott, 1939)

I was intrigued when I learned that bath sponges were apparently used quite widely in Singapore in the past. Nowadays nobody uses bath sponges from Singapore waters; they cannot be found in shops, and nobody collects them in the wild. In fact, prior to my studies, to my knowledge only a few people knew about the existence of bath sponges in Singapore waters. (Lim *et al.*, 2009)

It is both fascinating and a pity that the knowledge of both bath sponges and Neptune’s cup sponge was lost in just a couple of generations. My great grandfather might have had knowledge of these sponges, but that knowledge did not get passed down to my grandfather, my father or myself. That lack of knowledge extends to all people of my generation, and all the Singaporeans that I have interviewed or asked about the history of sponges.

Delving further into the history of bath sponges in Singapore, it seems that the natives and Malay fishermen only got knowledge of bath sponges, or got interested in them, after the arrival of the Europeans. Prior to that, to the best of my knowledge, there were no records of the Malays or natives in Southeast Asia using bath sponges, or collecting them. I think we can assume that there was no culture of people in Southeast Asia using bath sponges, unlike in the Mediterranean, where people have been using them widely for over three thousand years. (Pronzato & Manconi, 2008)

There are excellent bath sponges in Singapore waters (Fig. 4) and in this region (Seale, 1909; Moore, 1910), some of which are as good as *Spongia officinalis*, the best bath sponge species in the Mediterranean and worldwide (Pronzato & Manconi, 2008). It is hard to understand why the culture of using bath sponges did not exist in this part of the world.

The history of Singapore could be traced to the thirteen century, as revealed by the archaeological excavations pursued in Singapore over the last three decades by Miksic and his team. (Miksic, 2013) The earliest major find dates from the fourteenth century, indicating the first peak of Singapore (Miksic, 2013). Finds include ceramics, earthenware pots, copper and bronze fish hooks, but perishable materials such as cloth and wooden objects are rarely documented. Bath sponges, if were used in the past, would almost never be preserved.

Bath sponges have not been documented in trade prior to the arrival of the British, as revealed by extensive researches on Singapore history (see Hsu, 1973; Mills, 1974; Sopher,

1977; Turnbull, 2009; Miksic, 2013). There were probably individuals who had knowledge about bath sponges, but this knowledge or usage of bath sponges was definitely not widespread and did not get recorded in literature. Perhaps the absence of bath sponge culture was due to their low abundance in the wild (Stead, 1923; Chuang 1961 & 1973; Lim *et al.*, 2009 & 2012a) compared to those in the Mediterranean.



Figure 4: Sponges. Author's collection

It seems that the usage of bath sponges declined in Singapore during World War II and continued to decline, eventually ceasing entirely in recent times. The knowledge of bath sponges, together with the Neptune's cup sponge, seemed to slip away as Singapore was recovering from the war after 1945, trying to gain independence from the British, and struggling to survive as a poor and young country without any natural resources after independence post-1965.

In the year 2019, Singapore will be celebrating the bicentennial of its founding by Sir Stamford Raffles. Now a prosperous country, with one of the highest GDPs in the world, it has been through much urbanisation and has lost much of its forests and natural shores. However, Singapore may wear a concrete crown but it is laced with a beautiful blue necklace (to quote a fellow marine biologist). This "beautiful blue necklace" contains a wealth of diverse marine fauna. Singapore recognises this precious natural heritage and the importance of conserving it. One outcome of this recognition was that I was able to study the sponge fauna in Singapore waters. These studies paved the way to the discovery of bath sponges, and the exhilarating rediscovery of Neptune's cup sponge living in Singapore waters (**Fig. 5**) after more than 100 years. (Lim *et al.*, 2012b)



In order better to understand our history with these two important sponges, a call was put out through the *Straits Times* (Singapore's national newspaper) on 5 March 2018, for Singaporeans to contact me if they had stories about using local bath sponges in the past. Unfortunately, thus far I have not received much of a response. Do let me know if you know anything about the Neptune's cup sponge and bath sponges in Southeast Asia in the past.

Thank you.

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[* This is an edited transcription of an informal talk.]

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Illustrations

Figure 1. Drawing of *Cliona patera* (as *Spongia patera*) or the Neptune's cup sponge in Hardwicke (1822).

Figure 2. Photograph of a Dutch child sitting in a dried gigantic Neptune's cup sponge in Sumatra (Indonesia). Photograph taken by F. C. van Huern in 1925.

Figure 3. Drawing of the Neptune's cup sponge featured in a popular series of W. D. and H. O. Wills cigarette cards titled "Wonders of the Sea" produced in 1928.

Figure 4. Photograph of bath sponges (*Spongia* and *Hippospongia* species) collected from Singapore waters in recent years by the author.

Figure 5. Photograph of a Neptune's cup sponge living in Singapore waters in 2012 after an absence of over a century.