

**THE DATE OF PUBLICATION OF *CLIONA PATERA* (HARDWICKE),
THE ‘SPONGE PLANT FROM THE SHORES OF SINGAPORE’
(PORIFERA: HADRIMERIDA: CLIONAIDAE)**

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ABSTRACT. — *Spongia patera* (now *Cliona patera*) was the first species of sponge to be described (and recorded) from Singapore. The 1822 paper by Major-General Thomas Hardwicke in the 14th volume of the journal *Asiatick Researches* is conventionally cited as the first description of this species. During the Asiatic Society’s meeting of 13 Nov.1819, the name *Spongia patera* was first used and an accompanying description by Hardwicke was read. The proceedings of this meeting were published in 1820, thereby making the name available from this date. Other nomenclatural aspects related to *Cliona patera* (Hardwicke, 1820), are also discussed.

KEY WORDS. — *Spongia patera*, Hardwicke, Porifera, Singapore, date of publication, nomenclature

INTRODUCTION

Major-General Thomas Hardwicke (1756–1835) collected and described many species of animals while serving with the Bengal Army of the Honourable East India Company and is best known for the *Illustrations of Indian Zoology* (see Dawson, 1946; Beolens et al., 2009: 176). The eponymous Hardwicke’s crab (*Myomenippe hardwickii*) is commonly found in Singapore (see Tan & Ng, 1988). In a paper entitled ‘Description of a Zoophyte, commonly found about the Coasts of Singapore Island,—with a Plate’, Hardwicke (1822) described the sponge *Spongia patera* (now *Cliona patera*). This description by Hardwicke (1822: 180, 181, pl. 1) has been universally accepted as being the first description of *Cliona patera* (e.g., Harting, 1870: 3; Vosmaer, 1908a: 16, 1908b: 37; Topsent, 1909: lxix; Annandale, 1915: 15; Rützler, 2002: 178; Lim et al., 2009: 42, 2012: 55). Hardwicke (1822) is also credited with publishing the first description of a species of sponge from Singapore, which is also the Republic’s first published record of a species of sponge (Lim et al., 2008: 66, 2009: 42, 2012: 55). Recently, two overlooked publications that appeared in 1820 in which the name *Spongia patera* was made available have been located (Hardwicke, 1820a, 1820b). In terms of content, the descriptions of Hardwicke (1820a: 586, 587, 1820b: 59, 60) are identical to Hardwicke (1822: 180, 181), although the latter included a figure of *Spongia patera* (reproduced as Fig. 1). The date of publication of the name *Spongia patera* is thus two years earlier than previously recognised. As discussed in Alonso-Zarazaga & Krell (2011: 67), in taxonomy, ‘increasing the age of established names is advantageous for reasons of priority’—an earlier date of publication of the name *Spongia patera* (i.e., 1820 instead of 1822) decreases the likelihood that it will become a junior synonym of a hypothetical undiscovered synonym.

FIRST DESCRIPTION OF *SPONGIA PATERA*

On the evening of Saturday, 13 Nov.1819, Hardwicke described the particulars of a ‘sponge plant’ from Singapore to the meeting of the Asiatic Society in Calcutta (Hardwicke, 1820a: 586, 587, 1820b: 59, 60).

The description of Hardwicke (1820a: 586, 587, 1820b: 59, 60) is here reproduced in full:

‘At the last meeting, Mr. Palmer presented to the Society a marine production, called the Soonge [sic; recte Sponge] plant, obtained on the coast of the newly acquired island of Singapore. Colonel Hardwicke, one of the most distinguished naturalists of this country, has favoured the Society with a description of it. He observes, that in the *Systema Naturae* of Linnaeus, it belongs to the natural class Vermes, and to the genus *Spongia*. In its form it resembles that kind of drinking-cup called a goblet, with a well[-]defined base or root, a cylindrical stem, and a capacious bowl or cup. Its texture is non-elastic, composed of numerous tubes or anastomosing cells; the external surface or epidermis not thicker than the coats of the tubes, and covered with innumerable stellated pores, which under a lens appear to be the mouths of as many vessels, and ramifications of the internal structure. The root is formed of several irregular perpendicular shoots, in their origin apparently cellular, but enlarged by an accumulation of earthy, sandy particles, and broken in shells, and of rather a fragile texture. The bowl is

circular or sub-conical, with several nodes or protuberances, and covered both within and without with circular pores of various diameter, the mouths of which are closed with fine cottony fibres radiating from the circumference to the centre; and the same fibrous substance extends over the surface of the bowl, giving to it, when viewed under a lens of common powers, a tomentous appearance. The stem is cylindrical, of proportional height and thickness, and of the same cellular substance as the bowl.

The foregoing description is taken from a specimen something larger than the one in the Society's museum, the dimensions being: as follow: the greatest diameter of the bowl is at its brim 17 inches; the smallest at the bottom 7½, in the middle 12½; the circumference of the stem 17, but near the root is a tumescence increasing it to a larger dimension. The cavity is capable of containing 36 quarts.

Colonel Hardwicke further observes, that in an essay on British sponges by George Montague, Esq., published in the 2d volume of the Transactions of the Wernerian Society, is described a sponge, under this specific denomination of *Scypha*, and this sponge in its characters has affinity to the subject here mentioned. The Indian species, however, is gigantic in all its parts, compared with *Spongia scypha*, and a more appropriate specific distinction may perhaps be given to this, in denominating it *Spongia patera*, the goblet sponge.'

The name *Spongia patera* as used in Hardwicke (1820a: 587, 1820b: 60) is an available name as it is 'accompanied by a description or a definition of the taxon it denotes' (Article 12.1 of the International Code of Zoological Nomenclature, hereafter the Code; ICZN, 1999: 16). Furthermore, Article 50.2 of the Code (ICZN, 1999: 52, 53) states that '[i]f the name of a taxon is made available by publication in a report or minutes of a meeting, the person responsible for the name, not the Secretary or other reporter of the meeting, is the author the name'. Therefore, the name, author and date of publication of the first sponge species to have been described from Singapore waters should be cited as *Spongia patera* Hardwicke, 1820.

No objective evidence demonstrating the relative priority between Hardwicke (1820a) and Hardwicke (1820b) has been found. Hardwicke (1820a) was published in the June issue of *The Asiatic Journal and Monthly Register for British India and its Dependencies*, while Hardwicke (1820b) was published in the July issue of *The Philosophical Magazine and Journal*. The exact date when these issues were circulated is not known. An article by Cary (1820: 8) giving the meteorological data up to 26 Jul.1820 also appears in the same issue as Hardwicke (1820b), and it is unlikely that the issue was published before this date. As the descriptions in Hardwicke (1820a, 1820b) are identical, there is no need to take First Reviser action (Article 24.2 of the Code; ICZN, 1999: 30) at this time to select the description in one publication over the other.

Topsent (1909: lxx) first transferred *Spongia patera* Hardwicke, 1820, to the genus *Cliona* Grant, 1826, which is still the currently accepted generic placement (see Rützler, 2002: 178; Lim et al., 2008: 66, 2009: 42, 2012: 55). The family-group name encompassing the genus *Cliona* Grant, 1826, is 'Clionidae' but this name is a homonym of the family-group name based on the genus *Clione* (see ICZN, 2006: 51–53). To ensure that both families have distinct and unambiguous names, the International Commission on Zoological Nomenclature ruled that the spelling of the family-group name based on the genus *Cliona* Grant, 1826, should be Clionidae (ICZN, 2006: 51).

The status and whereabouts of the specimen on which Hardwicke (1820a, 1820b, 1822) based his description is not known, and Annandale (1915: 16) noted that '[t]here is a fine series of dried specimens from Singapore, the original locality, in the Indian Museum [at Kolkata]; but they do not include the type'. It should also be noted that Hardwicke (1822: 181) stated that the specimen on which the descriptions of Hardwicke (1820a, 1820b, 1822) were based upon (reproduced as Fig. 1), was 37 inches (94 cm) in height and is not the specimen that was presented to the Asiatic Society by a Mr Palmer on 5 Sep.1819 (Anonymous, 1820a: 483). Lim et al. (2008: 67) are of the opinion that the type is probably lost.

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Lim et al. (2008: 66) discussed that since it was first described, specimens of *Cliona patera* were much sought after by museums and collectors. Possibly due to this over-collecting, *Cliona patera* was thought to have gone extinct in 1912 (see Sawangwong et al., 2008). Although it was rediscovered in Australian waters in 1990 and in Thailand in 2000, it was not recorded in Singapore waters for over a century until Mar.2011 when an individual was found off St. John's Island (Chua, 2011: A4; Tun & Goh, 2011). The Singapore rediscovery is important as it is only the second time a live individual has been observed in situ (Chua, 2011: A4; Tun & Goh, 2011). As several recent publications show (e.g., Lee & Ng, 2012; Low & Tan, 2011; Ng, 2012a, 2012b), the habitats in and around Singapore waters continue to yield many natural history surprises. The year 1819, when the 'sponge plant from the shores of Singapore', *Cliona patera*, was first 'unveiled' to the world at the Asiatic Society's meeting holds other significance—it was the year of the founding of the modern state of Singapore (Corlett, 1992: 411).

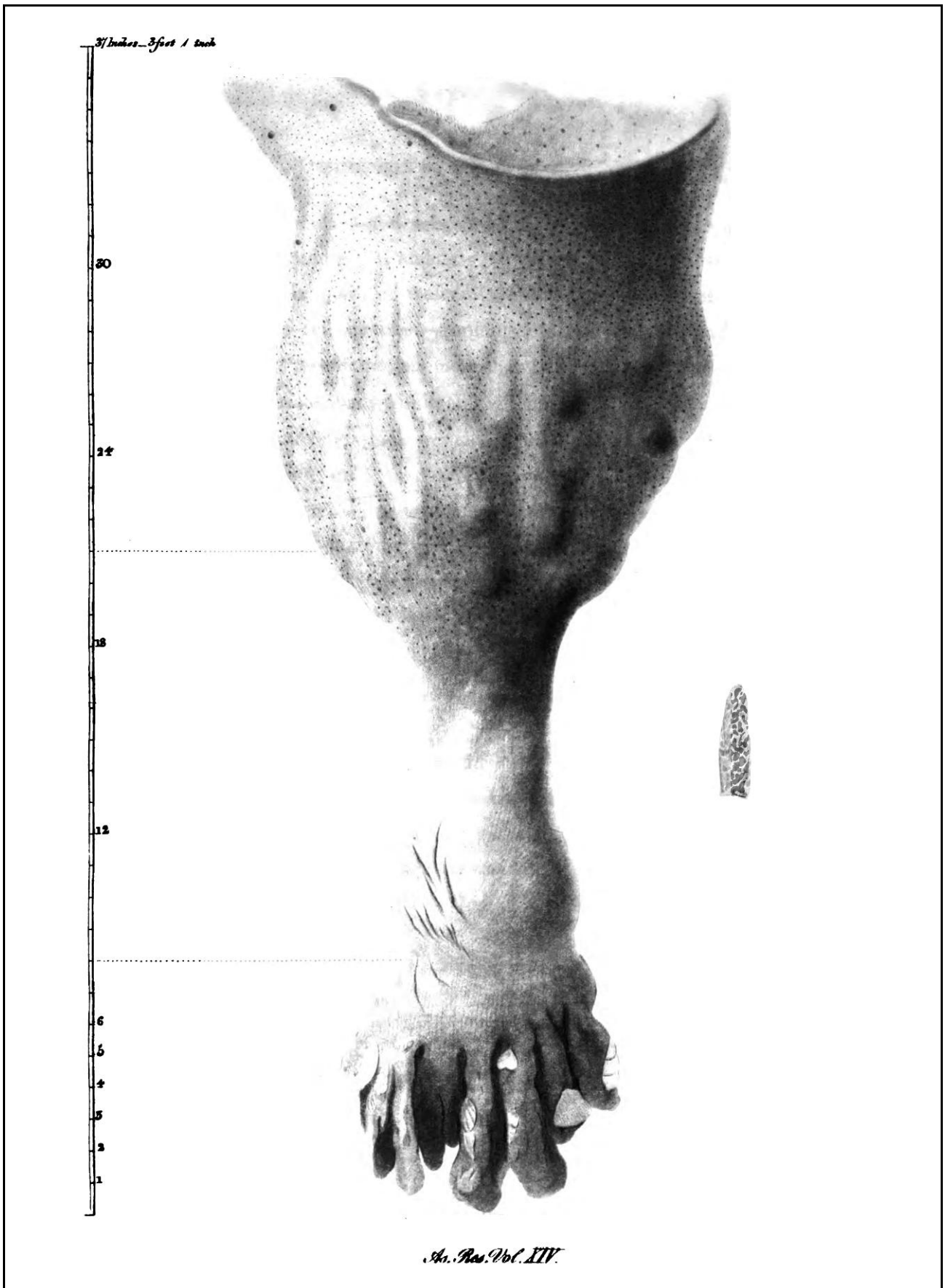


Fig. 1. The plate accompanying the description of *Spongia patera* (now *Cliona patera*) by Hardwicke (1822: 180, 181, pl. 1). This plate and the accompanying diagnosis have hitherto been cited as the first description of *Cliona patera* (Hardwicke), but this name was made available in 1820 (see discussion in the text). Scale-bar on left is in inches (1 inch = 2.54 cm), and the label at the top reads “37 inches – 3 feet 1 inch”. Source: from a work no longer in copyright and digitised by Google Books (www.books.google.com).

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