

Communication

***Ergaea* H. Adams & A. Adams, 1854, the correct genus for *Crepidula walshi* Reeve, 1859, with nomenclatural notes on *Syphopatella* Lesson, 1831, *Siphonipatella* L. Agassiz, 1846, and the incorrect subsequent spelling “*Siphopatella*” of authors (Gastropoda: Calyptraeidea: Calyptraeidae)**Martyn E. Y. Low<sup>1,2,4</sup> and Siong Kiat Tan<sup>1,3</sup><sup>1</sup>Lee Kong Chian Natural History Museum  
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Block S6, Science Drive 2, Singapore 117546, Republic of Singapore<sup>2</sup>m.low@me.com<sup>3</sup>nhmtsk@nus.edu.sg<sup>4</sup>Corresponding author**Abstract**

The widespread calyptraeid *Crepidula walshi* Reeve, 1859, is currently assigned by most authors to the genus *Syphopatella* Lesson, 1831 (also incorrectly spelt as “*Siphopatella*”). An analysis of the type species of *Syphopatella* Lesson, 1831, shows that this species should be assigned to the genus *Ergaea* H. Adams & A. Adams, 1854, instead. The original description, authorship, spelling, and two synonyms of *Crepidula walshi* Reeve, 1859, are also discussed.

<http://zoobank.org/urn:lsid:zoobank.org:pub:DABC77A1-67D0-4FE9-B53B-147170A891A2>**Introduction**

The species now known as *Crepidula walshi* is currently assigned to the genus “*Siphopatella*” or *Syphopatella* is a widespread calyptraeid species that is distributed throughout the Indo-West Pacific east to Oman and west to Japan and the Arafura Sea off Australia (Taki, 1933; 1935; Hoagland, 1977: 393; Collin, 2003a: 544, 551; 2003b: 639; Tanaka *et al.*, 2008: 117, 118). The animals are often found living on other shelled marine organisms such as horseshoe crabs (limulids), and very commonly inside the aperture of gastropod shells inhabited by hermit crabs (Wang *et al.*, 2011). They are usually stacked atop each other, with the bottom-most and largest individual being female (Fig. 1).

*Crepidula walshi* Reeve, 1859, has been universally regarded as a valid species (e.g. Tryon, 1886: 130; von Martens, 1887: 193; Schepman, 1909: 201; Taki, 1933: 88, 89; 1938: 139; Hoagland, 1977: 393, 394; Swennen *et al.*, 2001: 117; Hylleberg & Kilburn, 2003: 47; Tanaka *et al.*, 2008: 117, 118), and the validity of this species and its placement in its own genus has been confirmed by the

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Fig. 1. *Ergaea walshi* (Reeve, 1859): at least five living individuals attached to the inside surface of the outer lip of a *Melo melo* ([Lightfoot], 1786), inhabited by a hermit crab; the bottom-most and largest individuals are females (Singapore, Changi Ferry Terminal, 26 June 2005) (Photograph: S.K. Tan).

morphological and molecular work of Collin (2003a: 551, 557–564, 566–572; 2003b: 623–628, 630, 639).

Herein, the correct authorship of and generic assignment for *Crepidula walshi* are discussed.

### The original description and authorship of *Crepidula walshi*

The species-group name *Crepidula walshi* has been attributed to an unpublished manuscript name proposed by August Nicolaus Herrmannsen for material in the collection of Hugh Cuming (see H. Adams & A. Adams, 1854: 370; Reeve, 1859: *Crepidula* pl. 3, fig. 17, unnumbered caption to figure).

**Original description and authorship.** The name was first used in a publication by H. Adams & A. Adams (1854: 370) who included it along with *Calyptrea plana* A. Adams & Reeve, 1850, in a new subgenus-group, *Crypta (Ergaea)*. The name *Crypta (Ergaea) walshi* as used by H. Adams & A. Adams (1854: 370) was not accompanied by a description, diagnosis or figure and is a *nomen nudum*. The name *Crepidula walshi* was first made available by Reeve (1859: *Crepidula* pl. 3, fig. 17, unnumbered caption to figure) who based his description on material from “Singapore” and “Ceylon” (now Sri Lanka).

**Correct spelling.** Some authors (e.g., von Martens, 1887: 193; Schepman, 1909: 201; Sowerby, 1923: 27) have considered the correct spelling of the species-group name to be “*walchi*” as the name was given by Herrmannsen after Johann Ernst Immanuel Walch (see von Martens, 1887: 193). Walch (1777) published his observations of taxa that would eventually be placed in the genus *Calyptrea* Lamarck, 1799. As the species-group name was first made available by Reeve (1859: *Crepidula* pl. 3, fig. 17, unnumbered caption to figure), as “*Crepidula Walshi*”, and there is no evidence that there was any error in the derivation of the spelling of the name, the spelling *walshi* as used by Reeve (1859: *Crepidula* pl. 3, fig. 17, unnumbered caption to figure) should be maintained (Article 32.3 of the *International Code of Zoological Nomenclature*, hereafter the Code, ICZN, 1999: 39, 40). Also, authorship of the name *Crepidula walshi* should be attributed to only to Reeve (1859: *Crepidula* pl. 3, fig. 17, unnumbered caption to figure) as he was using only the manuscript name of Herrmannsen.

### The correct genus for *Crepidula walshi*

The prevailing opinion has been that the correct genus for *Crepidula walshi* Reeve, 1859, is *Syphopatella* Lesson, 1831, incorrectly spelt as “*Siphopatella*” by almost all authors (see Swennen *et al.*, 2001: 117; Collin, 2003a: 551, 557–564, 566–572; 2003b: 623–628, 630, 639; Hylleberg & Kilburn, 2003: 47; Tanaka *et al.*, 2008: 117, 118).

**Identity, type species and correct spelling of *Syphopatella*.** Christiaens (1991: 57) stated that Tryon (1886: 130) designated *Crepidula walshi* Reeve, 1859 (as “*walshii*”) as the type species of *Syphopatella* Lesson, 1831 (as “*Siphopatella*”). Tryon (1886: 130) did not designate a type species for *Syphopatella* Lesson, 1831, and simply listed *Crepidula walshi* Reeve, 1859, under this genus. Tanaka *et al.* (2008: 117, 118) in turn cited the designation of *Crepidula walshi* Reeve, 1859, as type species of *Syphopatella* Lesson, 1831, by Thiele (1929: 248). Two additional type species designations for *Syphopatella* Lesson, 1831, have also been located: Cossmann & Peyrot (1919: 285) designated *Calyptrea plana* A. Adams & Reeve, 1850, while Wenz (1940: 904) designated *Crepidula walshi* Reeve, 1859.

The genus-group name *Syphopatella* was first established by Lesson (1831: 390) as a subgenus of *Calyptrea* Lamarck, 1799. *Siphonipatella* is an unjustified emendation of *Syphopatella* Lesson, 1831, proposed by L. Agassiz (1846: 342) (Article 33.2 of the Code, ICZN, 1999: 42). *Siphonipatella* L. Agassiz, 1846, is thus an available name and a junior objective synonym of *Syphopatella* Lesson, 1831. “*Siphopatella*” is an incorrect subsequent spelling of *Syphopatella* Lesson, 1831, and is not an available name (Article 33.3 of the Code, ICZN, 1999: 42, 43). The earliest use of the incorrect spelling “*Siphopatella*” appears to be in Reeve (1842: 319).

Lesson (1831: 390) included a single new species, *Crepidula (Syphopatella) navicella* under *Syphopatella*, and this is the type species by monotypy (Article 68.3 of the Code, ICZN, 1999: 71). All subsequent type species designations for the genus-group name *Syphopatella* Lesson, 1831 (viz., Cossmann & Peyrot, 1919: 285; Thiele, 1929: 248; Wenz, 1940: 904) are thus invalid.

*Crepidula navicella* Lesson, 1831, is currently considered to a species of *Crepidula* Lamarck, 1799 (see Christiaens 1991: 56). As the type species of *Syphopatella* Lesson, 1831, is considered to be a species of *Crepidula* Lamarck, 1799, the former becomes a junior subjective synonym of the latter. *Syphopatella* Lesson, 1831, thus cannot be used for *Crepidula walshi* Reeve, 1859, which is clearly not congeneric with *Crepidula* Lamarck, 1799, and needs to be placed in its own genus (as discussed above).

**The genus *Ergaea*.** The genus-group name *Crypta (Ergaea)* was proposed by H. Adams & A. Adams (1854: 370) for *Calyptrea plana* A. Adams & Reeve, 1850, and “*Walshi*, Herm.”. As discussed above, the latter name was not accompanied by a description or figure and is a *nomen nudum*. As *Calyptrea plana* A. Adams & Reeve, 1850, was the only available species included in *Ergaea* H. Adams & A. Adams, 1854, it is the type species of *Ergaea* H. Adams & A. Adams, 1854, by monotypy (Article 68.3 of the Code, ICZN, 1999: 71).

*Calyptrea plana* A. Adams & Reeve, 1850, is considered to be a senior subjective synonym of *Crepidula walshi* Reeve, 1859 (see Reeve, 1859: *Crepidula* pl. 3, fig. 17,

unnumbered caption to figure; Tryon, 1886: 130; von Martens, 1887: 193; Taki, 1933: 89; Hoagland 1977: 393; Christiaens, 1991: 57; Hylleberg & Kilburn, 2003: 47; Tanaka *et al.*, 2008: 118), but is a junior secondary homonym of *Crepidula plana* Say, 1822 (Article 57 of the Code, ICZN, 1999: 59). Furthermore, *Calyptraea plana* A. Adams & Reeve, 1850, has been substituted by its junior synonym, *Crepidula walshi* Reeve, 1859, before 1961 by at least one author (i.e., Tryon, 1886: 130), and is not an available name (Articles 59.3 and 60.2 of the Code, ICZN, 1999: 61, 62).

The genus *Syphopatella* Lesson, 1831 (often as “*Siphopatella*”) has long been considered to be a senior subjective synonym of *Ergaea* H. Adams & A. Adams, 1854 (e.g., Hoagland, 1971: 399; Christiaens, 1991: 57; Collin, 2003a: 551, 557–564, 566–572; 2003b: 623–628, 630, 639; Tanaka *et al.*, 2008: 117, 118). As discussed above, *Syphopatella* Lesson, 1831, is a junior subjective synonym of *Crepidula* Lamarck, 1799, and recent studies have confirmed that *Crepidula walshi* Reeve, 1859, should be placed in its own separate genus.

The correct genus for *Crepidula walshi* Reeve, 1859, is *Ergaea* H. Adams & A. Adams, 1854.

### Nomenclatural comments on two synonyms of *Crepidula walshi*

In addition to the two synonyms discussed below, Hoagland (1971: 393, 394) listed two other names (and a possible third) that are conspecific with *Crepidula walshi* Reeve, 1859.

***Crepidula excisa*.** Two other species-group names that are considered to be conspecific with *Crepidula walshi* Reeve, 1859, require some discussion. The first name, *Crepidula excisa* Philippi, 1849, has been considered to be a subjective synonym of *Crepidula walshi* Reeve, 1859, by virtually all authors treating both names (e.g., von Martens, 1887: 193; Hoagland, 1977: 393; Swennen *et al.*, 2001: 117). *Crepidula excisa* Philippi, 1849, was declared a *nomen oblitum* by Hoagland (1977: 393) under Article 23(b) of the second edition of the *International Code of Zoological Nomenclature* (ICZN, 1964: 23) which was then in force (see also Article 23.12 of the Code, ICZN, 1999: 29, 30), and does not compete for priority with *Crepidula walshi* Reeve, 1859.

***Crepidula scabies*.** The second name, *Crepidula scabies*, was established by Reeve (1859: pl. 3, fig. 18, unnumbered caption to plate) in the same work as *Crepidula walshi*, and is also considered to be a subjective synonym of *Crepidula walshi* Reeve, 1859 (e.g., Tryon, 1886: 130; Taki, 1933: 89; Hoagland, 1977: 393; Swennen, 2001: 117; Hylleberg & Kilburn, 2003: 47). Tryon (1886: 130) is herein considered to have taken First Reviser action in selecting *Crepidula walshi* Reeve, 1859, over *Crepidula scabies* Reeve, 1859 (which are deemed to have been published simultaneously), as

the valid name for the taxon under consideration (Article 24.2 of the Code, ICZN, 1999: 30).

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