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The identity of the invasive fouling bryozoan *Watersipora subtorquata* (d'Orbigny) and some other congeneric species

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Abstract

Watersipora subtorquata (d'Orbigny, 1852) has been widely reported as a fouling species from tropical to temperate waters. The continued confusion over the correct name for this species led us to provide a redescription of d'Orbigny's type of *Cellepora subtorquata*, and to make comparisons with other species of *Watersipora*. We show that the majority of specimens assigned to *W. subovoidea* (d'Orbigny, 1852) are morphologically distinct from the recently erected neotype of *W. subovoidea*; these specimens are here reidentified as *Watersipora subtorquata*. Other specimens previously assigned to *W. subtorquata* belong to *W. subatra* (Ortmann, 1890), described originally from Japan. Owing these inconsistences, we suggest setting aside the neotype of *Watersipora subovoidea*, which is based on Busk's *Lepralia cucullata* and is not from the same locality as d'Orbigny's type. *Watersipora cucullata* is redescribed and figured using Busk's specimens; the species is known from the Mediterranean, including the Adriatic. Three other species—*Watersipora atrofusca* (Busk, 1856), *Watersipora aterrima* (Ortmann, 1890) and *Watersipora nigra* (Canu & Bassler, 1930)—are also refigured. *Watersipora edmondsoni* Soule & Soule, 1975 is synonymised with *W. subtorquata* (d'Orbigny). Two new species are described, *Watersipora mawatarii* n. sp. from Japan and *Watersipora souleorum* n. sp. from the Azores, Cape Verde, Naples and Indian Ocean. A key is given to the Recent species of *Watersipora*.

Key words: Bryozoa, Cheilostomata, Watersiporidae, fouling species, invasive species, new species, taxonomy, type specimens

Introduction

Watersipora subtorquata (d'Orbigny, 1852) and *Watersipora subovoidea* (d'Orbigny, 1852) have been widely reported as fouling species in harbour areas, from tropical to temperate waters (Harmer 1957; Ryland 1974; Soule & Soule 1975; Ryland *et al.* 2009; Mackie *et al.* 2012). Ryland *et al.* (2009) noted that these species are frequently confused owing to the absence of a modern taxonomic account comparing *W. subtorquata* with *W. subovoidea*. D'Orbigny (1842) first reported *Escharina torquata* (Lamouroux, 1825) from Rio de Janeiro, Brazil, later renaming the species *Cellepora subtorquata* d'Orbigny, 1852 because of homonymy (d'Orbigny 1852). Marcus (1937) described similarities between specimens from Santos and Rio de Janeiro that had been described by d'Orbigny, but adopted the name *Watersipora cucullata* (Busk, 1854), commonly used by contemporary taxonomists, for this Brazilian material. This name was still being used for specimens from São Paulo and Espírito Santo, Brazil (Marcus 1938, 1955) until Vieira *et al.* (2008) followed Taylor & Gordon (2002) in using the name *W. subtorquata* for the Brazilian specimens. Recently, Ramalho *et al.* (2011) compared the Rio de Janeiro specimens with recent descriptions given by Ryland *et al.* (2009) and applied the name *W. subovoidea* to Brazilian material, even though this species was originally introduced by d'Orbigny (1852) for material (Savigny 1817, pl. 8, fig. 1) from Egypt. These authors suggested that the specimens of Marcus (1937, 1938, 1955) required revision.

Molecular studies investigating introduced populations of *Watersipora* (Mackie *et al.* 2006, 2012; Geller *et al.* 2008) have suggested that a common haplotype of *W. subtorquata* is found in southern Australia, New Zealand and

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8	Poster with straight proximal border	9
	Poster with convex proximal border	11
9	Condyles bar-shaped; orifice wider than 0.270 mm	*bidentata*
	Condyles triangular; orifice narrower than 0.250 mm	10
10	Orifice up to 0.175 mm long and 0.185 mm wide; latero-oral intrazooidal septula absent	*atrofusca*
	Orifice more than 0.200 mm long and 0.220 mm wide; latero-oral intrazooidal septula present	*cucullata*
11	Sinus demarcated by triangular projections of the peristome and condyles	*nigra*
	Sinus only demarcated by condyles	12
12	Frontal wall with about 100 pseudopores; orifice more than 0.320 mm wide	*platypora*
	Frontal wall with about 150 pseudopores; orifice up to 0.225 mm wide	*arcuata*

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