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Checklist of genus- and species-group names of the false limpets *Siphonaria* (Mollusca: Gastropoda: Euthyneura)

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Abstract

Not since Hubendick's 1946 *Systematic Monograph of the Patelliformia* has a comprehensive taxonomic work been completed on the genus of false-limpets *Siphonaria*, distributed worldwide, except in the northern Atlantic. A checklist of all supra-specific names associated with *Siphonaria* is established. A checklist of all species-group names is provided as well and their nomenclatural status is discussed (available, not available, permanently invalid). Of the 270 species-group names included in the checklist, 205 are available and not permanently invalid. All other names are either not available or available but permanently invalid. The geographic distribution of the type localities is also presented; of the 205 species-group names that are available and not permanently invalid, 62 are from the tropical and subtropical Indo-West Pacific.

Key words: Alpha taxonomy, biodiversity, nomenclature

Introduction

Snails and slugs with a pulmonary cavity have traditionally been referred to as pulmonate gastropods (Pulmonata). The species richness of the Pulmonata is largely dominated by the Stylommatophora, which include at least 25,000 species of land snails and slugs. However, the Pulmonata also include about ten other higher taxa which are much less diverse with respect to species richness but constitute most of the phylogenetic, morphological, and ecological diversity of the pulmonates, such as the Otinidae (a single tiny, marine limpet species), the Veronicellidae (about 200 species of terrestrial, tropical slugs), the Hygrophila (about 1,000 species of freshwater snails), and, the focus of the present contribution, the Siphonariidae, more specifically the genus *Siphonaria*.

Siphonaria species are marine limpets that live intertidally on rocky shores. Where present, they are typically abundant (Vermeij 1973; Hubendick 1946, 1978; Hodgson 1999). They are often called false limpets to distinguish them from the Patellogastropoda, or true limpets, one of the most basal branches of the gastropod tree. Shells of true and false limpets may seem difficult to separate but they actually differ in several ways. In particular, the pulmonary cavity of *Siphonaria* opens through a siphon located on the right side, often marked externally by a lateral siphonal expansion and marked internally by a gap in the right arm of the horseshoe-shaped muscle scar. The dorsal lining of the pulmonary cavity is folded into a series of triangular branchial leaflets (Yonge 1952; Dayrat & Tillier 2003). Because *Siphonaria* has traditionally been regarded as a pulmonate, most authors assumed that its gill was a secondary structure acquired through convergence (e.g., Hubendick 1946, 1978). However, recent molecular data suggest that *Siphonaria* might actually be nested within opisthobranchs instead of pulmonates (Grande *et al.* 2008; White *et al.* 2011) or be the most basal lineage of pulmonates (Klussmann-Kolb *et al.* 2008; Dayrat *et al.* 2011), supporting the opposite idea that its gill could actually be homologous to the gill found in cephalaspideans (Pelseneer 1894; Plate 1894; Dayrat & Tillier 2003). In any case, the combination of a gill and a pulmonary cavity enables *Siphonaria* to respire both in and out of water.

Siphonaria is distributed worldwide, with the exception of the northern Atlantic and with the richest diversity in the tropical Indo-West Pacific. Some species have a broad distribution, such as *Siphonaria pectinata* which inhabits the Mediterranean and the eastern and western Atlantic. Others have a more restricted distribution, such as

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