

A new species of *Strongylodesma* Lévi, 1969 (Porifera; Demospongiae; Poecilosclerida; Latrunculiidae) from Aliwal Shoal on the east coast of South Africa

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Abstract

Strongylodesma aliwaliensis, a new species of *Strongylodesma* Lévi, 1969 (Porifera; Demospongiae; Poecilosclerida; Latrunculiidae) is described from the subtropical waters along the east coast of South Africa. This species differs from both the type species, *Strongylodesma areolata* Lévi (1969) and the two known South African species, *S. tsitsikammaensis* Samaai and Kelly (2003) and *S. algoensis* Samaai and Kelly (2003), in the structures of the choanosome, length and morphology of the strongyles and colouration. The choanosome of *S. aliwaliensis* sp. nov. is divided into thick convoluted tracts, which may or may not form discrete chambers, the latter character first observed in *Tsitsikamma favus* Samaai and Kelly (2002). This structure however, is not unique for *Tsitsikamma* (Family Latrunculiidae), as evidence also shows that species of *Zyzya* (Acanthidae) have a choanosomal structure reminiscent of that of *Tsitsikamma* (Samaai and Kelly, 2002). The choanosomal architecture of *S. aliwaliensis* sp. nov. however, differs considerably from *Tsitsikamma favus* Samaai and Kelly (2002) in that the choanosome lacks the discrete honey comb-like chambers as found in *T. favus* Samaai and Kelly (2002). Thus, the “convoluted tract” morphological character as observed in *Strongylodesma aliwaliensis* sp. nov., *Tsitsikamma* and *Zyzya* holds no phylogenetic weight; it is “cross taxon” — like the axial compression of Axinellidae, Raspailiidae, and the desmas of Lithistids and therefore cannot be used as a character for inclusion of this new species within either *Tsitsikamma* or *Zyzya*. The inclusion of the new taxon within *Strongylodesma* is strongly supported based on the presence of strongyles, the fungiform areolate pore-fields and structure of the ectosomal layer. Preliminary chemical analysis of the sponge has confirmed the presence of several pyrroloiminoquinone products, including makaluvamine I.

Key words: Porifera; Demospongiae; Latrunculiidae; *Strongylodesma*; South Africa; new species