



Revision of *Aspidoscopulia* Reiswig, 2002 (Porifera: Hexactinellida: Farreidae) with description of two new species

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Abstract

The genus *Aspidoscopulia* previously known from a single Recent representative from the Indonesian Archipelago has been found to have wide West Pacific distribution, being present in large numbers in French and Russian collections. Two new Recent species of this genus, i.e. *A. bisymmetrica* sp. n. and *A. tetrasymmetrica* sp. n., are here described and illustrated. The genus is also found to have fossil record in the late Paleocene–early Eocene of the Chatham Islands, New Zealand. The generic diagnosis of *Aspidoscopulia* is emended due to new findings. Branching pattern and metamery occurring in these sponges are also discussed.

Key words: Porifera, West Pacific, new species, metamery, branching

Introduction

The genus *Aspidoscopulia* Reiswig, 2002 (Porifera, Hexactinellida, Hexasterophora, Hexactinosida, Farreidae) was known from a single specimen initially described as *Claviscopulia furcillata* Lévi, 1990 from the Indonesian Archipelago. Before then, numerous representatives of this genus (as it is established now) were described under the name of *Chonelasma* (Tabachnick, 1988, 1989, 1991). These sponges are characterized by huge sizes and peculiar body form. They are known as fragments only, with no loose spicules, important for the identification of most hexactinellid sponges after preservation. On the other hand the dictyonal skeleton is similar to that in true *Chonelasma*. Finding specimens similar in shape but smaller in size, in French collections from off New Caledonia, allowed emendation of the diagnosis of *Aspidoscopulia*. This paper considerably increases the number of known representatives of this genus, as well as enlarges its distribution (Fig. 1).

Material and methods

The investigated material has been collected over several years by numerous French (Biogeocal, Biocal, Halipro 2, Musorstom 4, 5, 6 and 7, Norfolk II, Volsmar, Zoneco), and Russian (Academic Mstyslav Keldysh 9, Academic Oparin 13, Vitjaz 48) expeditions by various methods. Most samples have been fixed with ethanol, some preserved dry. Some underwater photos taken by Russian (Academic Mstyslav Keldysh 9, submersible ‘Pisces’) and French (CALSUB, submersible ‘Cyana’) expeditions have also been used in the analysis.

For light microscopy, preparations of dissociated spicules were made using a solution of $K_2Cr_2O_7$, fresh water and H_2SO_4 (for details of the method developed by K.R. Tabachnick, see Janussen *et al.* 2004). For SEM, sponge sample has been boiled first in concentrated HNO_3 , than washed several times with distilled water. The obtained