



## Two new species of *Chondrocladia* (Demospongiae: Cladorhizidae) with a new spicule type from the deep south Pacific, and a discussion of the genus *Meliiderma*

JEAN VACELET<sup>1,4</sup>, MICHELLE KELLY<sup>2</sup> & MONIKA SCHLACHER-HOENLINGER<sup>3</sup>

<sup>1</sup>Centre d'Océanologie de Marseille, Aix-Marseille Université, CNRS UMR 6540 DIMAR, Station Marine d'Endoume, rue Batterie des Lions, 13007 Marseille, France. E-mail: jean.vacelet@univmed.fr

<sup>2</sup>National Centre for Aquatic Biodiversity and Biosecurity, National Institute of Water & Atmospheric Research Ltd, Private Bag 99940, Auckland 1149, New Zealand. E-mail: m.kelly@niwa.co.nz

<sup>3</sup>Biodiversity Program, Queensland Museum, PO Box 3300, South Brisbane, Queensland 4101, Australia. E-mail: MonikaS@qm.qld.gov.au

<sup>4</sup>Corresponding author

### Abstract

Two new species of *Chondrocladia* are described from the deep Pacific, off New Zealand and South Australia. These presumably carnivorous sponges are characterized by the presence of a sheath of special spicules along the stalk, for which the new term 'trochirhabd' is coined. Similar spicules were known from fossil strata of the Early Jurassic, suggesting that Cladorhizidae were already present in the Mesozoic. The arrangement of the trochirhabds along the stalk is similar to that described in the genus *Meliiderma*, which has been synonymized with *Chondrocladia*. We propose here the revival of *Meliiderma* as a subgenus of *Chondrocladia*, for *Chondrocladia stipitata* Ridley & Dendy, 1887, from the subantarctic Indian Ocean, *C. occulta* (Lehnert et al., 2006), described from the North Pacific as a species of *Latrunculia*, and for *C. turbiformis* **sp.nov.** and *C. tasmaniensis* **sp.nov.** from New Zealand's Chatham Rise and several Tasmanian seamounts, respectively, described herein.

**Key words:** Porifera; carnivorous sponges; seamounts; New Zealand, Tasmania; Cladorhizidae; *Chondrocladia*; *Meliiderma*; new species

### Introduction

The genus *Chondrocladia* is rather special among carnivorous sponges in that species have a modified aquiferous system absent in other Cladorhizidae and allied families of carnivorous sponges. The genus presently includes 31 described species and is well characterised by a pedunculate body bearing diverse appendages, and the presence of anchorate unguiferous isochelae. Evidence of an aquiferous system with choanocyte chambers has only been fully documented in one species (Kübler & Barthel 1999) belonging to a group of species bearing lateral appendages that terminate in turgescient spheres, inflated when alive, at the top of their stalk-like bodies. Many species do not display such a morphology, and it is possible that other types of organization are present.

Here we describe two new species which present a special arrangement of the skeleton, with a type of spicule (trochirhabd) that was previously known only from Early Jurassic and Miocene sediments, with a reduced form in *Chondrocladia stipitata* (Ridley & Dendy, 1887). This type of skeleton is present in four species of Recent *Chondrocladia*, for which we propose to revive *Meliiderma* Ridley & Dendy, 1887 as a subgenus.