



First Lanuginellinae (Porifera, Hexactinellida, Rossellidae) from the NE Pacific and first species of *Doconesthes* from the Pacific Ocean

HENRY M. REISWIG

Department of Biology, University of Victoria and Natural History Section, Royal British Columbia Museum, Victoria, British Columbia, V8W 3N5, Canada. E-mail: hmreiswig@shaw.ca

Abstract

A new sac-shaped hexactinellid collected from western Canada bearing long lateral prostral spicules was first thought to be a typical Rossellinae. Subsequent examination of its spiculation proved it to have distinctive strobiloplumicomes, typical of the subfamily Lanuginellinae. Other spicules showed it to be a member of the monospecific genus *Doconesthes*, known previously only from the North Atlantic Ocean. The new species described here as *Doconesthes dustinchiversi* is only the second known species of the genus and the first to be found in the Pacific Ocean.

Key words: new species, Lyssacinosa, dustinchiversi

Introduction

The Lanuginellinae Gray, 1872, are a small subfamily of the large hexactinellid family Rossellidae Schulze, 1885, distinguished by strobiloplumicome microscleres. Although molecular data from its members are still very limited, evidence shows that the group is paraphyletic unless *Caulophacus*, a genus of Rossellinae lacking strobiloplumicomes, is transferred into Lanuginellinae (Dohrmann *et al.* 2012); the supposition is that strobiloplumicomes have been lost in the *Caulophacus* ancestor. The transfer of *Caulophacus* to Lanuginellinae has recently been formally proposed by Boury-Esnault *et al.* 2014. Records of its 27 recognized Lanuginellinae species (before inclusion of *Caulophacus* show the subfamily nucleus to be fairly world-wide in distribution (Fig. 1) but it remains notably absent from the NE Pacific Ocean and only one species is known from the entire Western Pacific. Within the Lanuginellinae, the genus *Doconesthes* Topsent, 1928, is presently monospecific, its single member, *D. sessilis* Topsent, 1928, is known only from the mid north Atlantic (Fig. 1) from two reports as that species (Topsent 1928, Tabachnick & Menshenina 2013) and one report as *D. aff. sessilis* (Tabachnick & Collins 2008; Fig. 1). Here I describe a new species of *Doconesthes* from off British Columbia, Canada. It represents the second species of the genus *Doconesthes*, the first report of the genus outside the N Atlantic and the first member of Lanuginellinae from the NE Pacific Ocean.

Material and methods

The single specimen concerned here was collected by the long-line fishing vessel “Pacific Viking” during commercial operation at Bowie Seamount off British Columbia, Canada, selected by bycatch monitor Matt Murphy (Archipelago Marine Research, Victoria, B.C., Canada) and immediately deep frozen on board. The bycatch was transferred frozen to the Royal British Columbia Museum (RBCM) where thawed specimens were transferred to either 50% isopropyl or 70% ethyl alcohol (this case) and distributed to specialists for identification.

Spicule preparations for description and measurement were performed following the method reported in Reiswig & Stone (2013). Tissue samples from various locations of the specimen were digested in hot nitric acid to free the spicules from their organic matrix. Clean suspended spicules were either 1) picked individually by forceps

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