



New species of *Poecilochaetus* Claparède, 1875 (Polychaeta, Spionida, Poecilochaetidae) from Paranaguá Bay, southeastern Brazil

CINTHYA S. G. SANTOS¹ & ANDREW S. Y. MACKIE²

Correspondence author: Instituto de Biologia - Depto. de Biologia Marinha - UFF Outeiro São João Batista, s/nº, Niterói - Rio de Janeiro, Brazil, CP: 100.644 - CEP: 24001-970. E-mail: csgomes@vm.uff.br

² Marine Biodiversity, Department of Biodiversity & Systematic Biology, Amgueddfa Cymru — National Museum Wales, Cathays Park, Cardiff 10 3NP, Wales, UK. E-mail: Andrew.Mackie@museumwales.ac.uk

Abstract

Two new species, *Poecilochaetus polycirratu*s and *Poecilochaetus perequensis*, are described from Paranaguá Bay, southeastern Brazil. This contribution triples the number of *Poecilochaetus* species known from Brazil and adds to our knowledge of the genus worldwide. A comparative table for all species is provided and characters within the genus discussed.

Key words: *Poecilochaetus*, new species, Brazil

Introduction

Poecilochaetus is a widely recorded taxon and has around 30 nominal species (Table 1). Species have been recorded in sediments at depths ranging from the intertidal to more than 10000 m, though most have been found in shallow waters (Mackie 1990). Members live in poorly strengthened branching or U-shaped tubes. Collected specimens are fragile and fragment easily. The taxon is morphologically very distinctive. Key features include an anteriorly projecting chaetal cage surrounding the head, prominent distally free trilobed nuchal organs (sometimes reduced or vestigial), ampullaceous postchaetal lobes on a number of anterior segments, and a posterior region with specialized notochaetae (Rouse & Pleijel 2001).

As for the systematic status, Rouse & Pleijel (2001) considered the name Poecilochaetidae essentially redundant since it contains only *Poecilochaetus*. Blake & Arnofsky (1999) found that *Poecilochaetus* fell within Spionidae in their cladistic analysis of spioniform taxa. However, despite its monogeneric condition, Mackie (1990) assigned the known species to six groups, based on presence or absence of papillae on body surface, degree of development of nuchal organ, distribution of ampullaceous postchaetal lobes, and types of chaetae in the posterior parapodia. In a cladistic analysis of *Poecilochaetus*, Eibye-Jacobsen (2006) identified 2 major clades. One included Mackie's group 1; comprising forms with papillate or tuberculate body surfaces, vestigial nuchal organs, and lacking dorsal postchaetal lobes on chaetiger 1. The other accounted for species with smooth anterior dorsal surfaces and comprised two minor clades. The first of these consisted of species with barbed posterior notochaetae and included the 3 species of Mackie's group 4, but his remaining groups were not supported within the second. Therefore at this stage we prefer to retain the family status.

The Poecilochaetidae from Brazilian waters is poorly known with only one species recorded to date, *Poecilochaetus australis* Nonato, 1963. A further 2 species from Paranaguá Bay are described herein as new taxa.