



Seven new species of *Grania* (Annelida: Clitellata: Enchytraeidae) from New Caledonia, South Pacific Ocean

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Abstract

In meiofauna of the intertidal and subtidal zones (to 20 m depth) of New Caledonia seven species of the marine enchytraeid genus *Grania* were found, all of which were previously undescribed: *G. novacaledonia* sp.n., *G. cinctura* sp.n., *G. galbina* sp.n., *G. curta* sp.n., *G. fustata* sp.n., *G. papillata* sp.n. and *G. fiscellata* sp.n. On the basis of morphology, these new species seem to have a phylogenetic affinity to congeners in Australia and possibly Antarctica, although little is known about the enchytraeid fauna of the surrounding areas.

Key words: *Grania*, Enchytraeidae, New Caledonia, meiofauna, new species, taxonomy

Introduction

Grania Southern, 1913, is without doubt the enchytraeid genus most adapted to marine life, with species living from the intertidal zone to the deep-sea floor, either in heterogeneous sand, most often with coarse particles (e.g. Erséus & Diaz, 1995; Coates & Stacey, 1997; Locke & Coates, 2000; Rota & Erséus, 2003), or in fine sediments (Erséus & Lasserre, 1976; Coates & Erséus, 1980). A few species, such as *Grania postclitellochaeta* (Knöllner, 1935) and *G. dolichura* Rota & Erséus, 2000, have also been encountered in brackish-water environments. The genus is cosmopolitan, although the distribution of individual species seems fairly limited to specific geographic regions; one exception is the deep-sea *G. atlantica* Coates & Erséus, 1985, which is widely distributed in the Atlantic Ocean (Coates & Erséus, 1985). To date, 57 species have been described, mostly from the Atlantic coasts of Europe and North America, as well as Western and Southern Australia (e.g. Lasserre, 1971; Erséus, 1977; Coates & Erséus, 1985; Coates, 1990; Rota & Erséus, 2000, 2003). These mostly temperate regions reflect where the scientific efforts have been concentrated, and it is safe to assume that there is a high number of yet undescribed species inhabiting tropical waters, especially in the Indo-Pacific which generally is accredited with the highest degree of marine biodiversity and endemism in the world. Little has been done, however, in this region with regard to the study of the marine enchytraeid fauna. Efforts have been concentrated to Hong Kong (Erséus, 1990; Erséus & Diaz, 1997), the Great Barrier Reef (Jamieson, 1977), north and north-western Australia (Coates & Stacey, 1997; Rota, Erséus & Wang, 2003), while the immense regions between Australia and continental Asia, as well as eastwards throughout the oceanic islands of the South Pacific, remain unexplored.

This paper attempts to chart the *Grania* species of the archipelago of New Caledonia, which is situated in the southern part of the tropical Indo-Pacific, bordering to temperate waters. Seven new species are described from localities both on the main island (Grande Terre) of New Caledonia and in the Loyalty Islands, and all taxa are unknown from any other part of the world.