



New Polygordiidae (Polychaeta) from the Australian region

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Abstract

The interstitial polychaete family Polygordiidae is recorded from Australia for the first time, based on two new species: *Polygordius arafura* **sp. nov.** from continental shelf depths in the Arafura Sea, northern Australia, and *Polygordius kiarama* **sp. nov.** from the continental shelf and slope off southeastern Australia. *Polygordius kiarama* **sp. nov.**, found at slope depths up to 1650 m, is the deepest record to date for the family, which has previously been recorded from intertidal habitats, shallow coastal waters and continental shelf depths.

Keywords: *Polygordius arafura* **sp. nov.**, *Polygordius kiarama* **sp. nov.**, Australia, continental shelf, continental slope

Introduction

Polygordiidae are interstitial polychaetes best known from continental shelf depths in the northeast Atlantic Ocean but are also recorded from shallow seas in many regions world wide (Rota & Carchini, 1999). Polygordiidae, however, have not previously been recorded from Australian waters (Paxton, 2000), although they are known from elsewhere in the Pacific region: New Caledonia (Jouin, 1970), Japan (Izuka, 1903; Uchida, 1935) and the Galapagos (Schmidt & Westheide, 1977). The Polygordiidae comprises a single genus, *Polygordius*, with 16 species (Ramey *et al.*, 2006). A second genus, *Chaetogordius*, for *Chaetogordius canaliculatus* Moore, 1904 is based on fragments and is regarded as an invalid taxon (Rota & Carchini, 1999; Westheide, 1990).

Polygordiidae are distinguished from other interstitial Polychaeta by the following combination of characters: buccal organ absent; paired prostomial antennae present; indistinct external segmentation; ventral groove present; chaetae absent; pygidium cylindrical or inflated (not bilobed), pygidial cirri if present may be terminal or subterminal and number from 2 or 3 to 15. If inflated, the pygidium often has adhesive glands. The nuchal organs are conspicuous. More complete descriptions of the family are Rouse & Pleijel (2001) and Glasby & Fauchald, (2002). The most current taxonomic reviews of species of Polygordiidae are Rota and Carchini (1999) and Ramey *et al.* (2006).

Materials and methods

The first Australian Polygordiidae were initially discovered and identified by the senior author from material collected from central New South Wales, Australia as a part of environmental surveys. Subsequently, additional Polygordiidae specimens were located among collections from shelf depths in southeastern