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Revision of the genus *Synelmis* Chamberlin, 1919 (Annelida: Phyllodocida: Pilargidae) in Australia

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Abstract

We provide accounts of four species of *Synelmis* Chamberlin, 1919 (Annelida: Phyllodocida: Pilargidae) from Australian and adjacent seas, including one new species, *S. sergi* **sp. nov.** The only previous, positively identified, record of a *Synelmis* species in the region, *S. gibbsi* Salazar-Vallejo, 2003, has been checked and the specimens re-identified here as *S. knoxi* Glasby, 2003, which extends the known range of this species to include Australia as well as New Zealand. Newly collected material of *S. gibbsi* is described from the Joseph Bonaparte Gulf, NW Australia. Specimens collected from NE Australia are identified here as *S. rigida* (Fauvel, 1919). *Synelmis knoxi*, *S. gibbsi* and *S. rigida* are all new records for Australia. A key to Australian species of *Synelmis* is provided and we tabulate information on the distinguishing features of all 17 species in the genus.

Key words: polychaete, taxonomy, systematics, new species

Introduction

Synelmis Chamberlin, 1919 is a genus of nematode-like pilargid polychaetes (Annelida) distributed around the world from intertidal to deep ocean substrata. The taxonomy of the genus *Synelmis* was revised by Salazar-Vallejo (2003). He recognised 15 species worldwide, and established that the type species, *S. albini* (Langerhans, 1881), previously thought to be cosmopolitan, had a much more restricted distribution in the eastern subtropical Atlantic. In the same year a neotype was designated for *S. albini*, which clarified the concept of the genus and a new species was described from New Zealand, *S. knoxi* Glasby, 2003. Since 2003, only one more species has been added to the genus, *S. urgorrii* Moreira & Parapar, 2007, from the continental slope off NW Spain.

Only two species are currently known from Australia, *S. gibbsi* Salazar-Vallejo, 2003 and *S.* cf. *rigida*, both from the Arafura Sea, northern Australia (Hocknull & Glasby 2009; Hutchings & Yerman 2010); the latter species is also reported from the Gulf of Carpentaria (Hocknull & Glasby 2009). The present study is based on a morphological examination of all available preserved collections from Australian museums, and is part of an ongoing systematic revision of the Pilargidae of Australia.

Material and methods

Study specimens have been sourced from the following institutions: AM, Australian Museum, Sydney; MV, Museum Victoria, Melbourne; NTM, Museum & Art Gallery of the Northern Territory, Darwin; QM, Queensland Museum, Brisbane.

Light microscopy observations were made using a Nikon SMZ 1500 stereomicroscope and a Nikon Eclipse 80i compound microscope with Nomarsky optics; photographs of parapodia and chaetae were made on the latter using a Qimaging Micropublisher 5.0 RTV digital camera, and digitally rendered using a Intuos drawing tablet. Macro-

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