



Two new genera in the family Podospongiidae (Demospongiae: Poecilosclerida) with eight new Western Pacific species

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Abstract

New material collected from the Western Pacific has necessitated a revision of family Podospongiidae and the establishment of two new genera, *Neopodospongia* **gen. nov.** and *Diplopodospongia* **gen. nov.** *Neopodospongia* **gen. nov.** was established for a group of sponges characterised by a leathery ectosome, stronglyloxeas, aciculospinothabds, and sigmoidal protospinothabds. *Diplopodospongia* **gen. nov.**, was established for a group of thinly encrusting deep-water sponges that have anisoxeas and dumbbell-shaped spinothabds. Eight new species of Podospongiidae are described here: two species of *Podospongia* du Bocage, 1869; *P. virga* **sp. nov.**, from northern New Zealand and *P. colini* **sp. nov.**, from Indonesia, three species of *Neopodospongia* from New Zealand; *N. pagei* **gen. nov. sp. nov.**, *N. bergquistae* **gen. nov. sp. nov.**, and *N. exilis* **gen. nov. sp. nov.**, and three species of *Diplopodospongia*; *D. rara* **gen. nov. sp. nov.** and *D. teliformis* **gen. nov. sp. nov.** from New Zealand, and *D. macquariensis* **gen. nov. sp. nov.** from the Australian Exclusive Economic Zone surrounding Macquarie Island in the Southern Ocean. In addition, the Irish encrusting sponge *P. normani* (Stephens 1915) has been reassigned to *Neopodospongia* **gen. nov.** An updated identification key to Podospongiidae genera is included.

Key words: Porifera, *Podospongia*, *Neopodospongia* **gen. nov.**, *Diplopodospongia* **gen. nov.**, new genus, new species, Macquarie Ridge, Campbell Plateau, Australian EEZ, New Zealand EEZ, Indonesian EEZ

Introduction

Family Podospongiidae de Laubenfels, 1936 currently contains four genera: *Diacarnus* Burton, 1934, *Negombata* de Laubenfels, 1936, *Sigmosceptrella* Dendy, 1922, and *Podospongia* du Bocage, 1869. The family was reviewed as a group in Kelly-Borges & Vacelet (1995) and formally re-established in 2002 (Kelly & Samaai 2002). *Negombata* is a relatively small genus whose species are tropical and generally restricted to the Red Sea and Western Indian Ocean. *Podospongia* was first described from the North Atlantic, but has since been found in deep waters of most major oceans, albeit rarely. Although *Diacarnus* is dominated by tropical Indo-west Pacific species (Kelly-Borges & Vacelet 1995), the type species *D. spiniopoculum* (Carter 1879) was first described from temperate southeast Australia (Port Jackson, Sydney). The type species of *Sigmosceptrella*, (*S. fibrosa* (Dendy, 1897), was also described from temperate South Australia (Port Phillip Heads, Melbourne), but species are dispersed widely, from tropical, to temperate, and cold water locations within the Southern Hemisphere (*S. quadrilobata* Dendy, 1922, from the Western Indian Ocean; *S. hospitalis* Desqueyroux-Faundez & van Soest, 1997 from the Galápagos Islands; *S. carlinae* Boury-Esnault & van Bevern, 1982, from Kerguelen Island in the Southern Ocean).

Prior to this work no species of family Podospongiidae have been formally described from New Zealand waters, but they were known to exist; several of the microfossil spicules collected from the Oamaru Diatomite in southern New Zealand strongly resemble spicules found in members of this family (Hinde & Holmes 1892). Bergquist (1978 pl. 7, fig. b) also figured the unique diplospinothabds of *Diplopodospongia* **gen. nov.**, described herein, but assigned them to *Sigmosceptrella* with no additional comment. Similarly, in her list of New Zealand species, Kelly *et al.* (2009) listed an undescribed species of *Podospongia* (now *P. virga* **sp. nov.** described herein), and an undescribed species of *Sigmosceptrella* (= *Diplopodospongia* **gen. nov.**, described herein) as recorded by Bergquist (1978).