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Bryozoans from RV *Sonne* deep-sea cruises SO 167 ‘Louisville’ and SO 205 ‘Mangan’

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Abstract

The German research vessel *Sonne* is operating in the Pacific, Southern and Indian Oceans. In the current stage of development in Pacific deep-sea mining projects, prior understanding of biodiversity patterns in the affected regions is one of the major research goals of the *RV Sonne* cruises. In the present study, nine bryozoan species are reported from the Equatorial East Pacific and the Kermadec–Tonga Ridge, collected during *RV Sonne* cruises SO 167 “Louisville” and SO 205 “Mangan”, from 356–4007 m. Two new species, *Raxifabia oligopora* n. sp. and *Opaeophora triangula* n. sp., are described.

Key words: new species, Equatorial East Pacific, Clarion Clipperton Fracture Zone, Kermadec-Tonga Ridge, South Tonga Volcanic Arc

Introduction

Records of bryozoans in the deep sea of the Indo-Pacific are scarce relative to the area of seafloor covered by these oceans. Notable historic publications include the reports of the *Challenger* Expedition (Busk 1884), the *Siboga* Expedition (Harmer 1915, 1926, 1934, 1957) and the *Galathea* Expedition (Hayward 1981). In the 1970s increased deep-sea sampling was mostly confined to the north-east Atlantic (e.g. d’Hondt 1973; Hayward & Ryland 1978; Hayward 1979), before expanding more widely in the 1980s in the North Atlantic and to the South Atlantic and mid-Atlantic Ridge (e.g. d’Hondt 1981, 1985a; d’Hondt & Schopf 1984). Reports on deep Indo-Pacific bryozoa started around this time (e.g. d’Hondt 1987; David & Pouyet 1986), with particular focus on the New Zealand region (Gordon 1984, 1985, 1986, 1987, 1989), followed by the New Caledonian region in the 1990s (Gordon & d’Hondt 1991, 1997; Gordon 1993; Gordon & Braga 1994; d’Hondt & Gordon 1996, 1999). Gordon & Taylor (2010) and Gordon (2014) subsequently investigated additional seamount- and ridge-associated cyclostome and cheilostome bryozoans from New Zealand. Deep-sea bryozoans from north-western (e.g. d’Hondt & Mawatari 1987; Grischenko 2013) and south-eastern (e.g. Moyano 1991) areas of the Pacific have also been partly investigated. Nevertheless, large parts of the Pacific, especially in oceanic regions, still lack thorough investigation, as most stations are associated with islands or submarine ridges. The present collection, although small, contributes towards further understanding of deep-sea bryozoans in the remote Pacific.

The bryozoans described herein were sampled during two cruises of *RV Sonne*—SO 167 “Louisville” (15 October–25 November 2002) in the Southern Tonga Arc, and SO 205 “Mangan” (25 April–17 May 2010) in the Equatorial East Pacific.

Cruise SO 167 “Louisville” investigated the Louisville Seamount Trail, the Osburn Trough, the South Fiji

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