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A new species and record of Serpulidae (Annelida: Polychaeta) from Cross Seamount in the Hawaiian Chain

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Abstract

A new species of the serpulid genus *Metavermilia* Bush, 1905 and a new record of the genus *Omphalopomopsis* Saint-Joseph, 1894 are described from deep-sea lava rocks collected from 2,013 m at Cross Seamount, southwest of the Hawaii archipelago. *Metavermilia zibrowii* **sp. nov.**, differs from its congeners mostly by the presence of a simple and concave operculum, extent of the thoracic membrane and tube morphology. *Omphalopomopsis langerhansii* (Marenzeller, 1885) is the type species of the genus and it is only known through its type specimen. This species is characterized by a simple operculum with a shallow convex calcareous endplate, cylindrical peduncle, presence of *Apomatus* chaetae and high number of teeth in the thoracic uncini. This is the first record of this species outside the type locality and both genera are newly recorded for the Hawaiian Islands.

Key words: serpulids, *Metavermilia zibrowii* **sp. nov.**, *Omphalopomopsis langerhansii*, deep-sea, seamount, lava rocks

Introduction

Deep-sea collections of hard materials such as rock, scleractinian corals, and manganese nodules are yielding new species of serpulid tubeworms (Nishi *et al*., 2007; Kupriyanova & Nishi, 2011; Kupriyanova *et al*., 2010, 2011). The deep water serpulids from the Hawaiian Islands have received little attention and few records have been made by Bailey-Brock (1972, 1991). Up to now, only four serpulid species, *Filogranula gracilis* Langerhans, 1884, *Pileolaria* (*Duplicaria*) *levensteinae* Bailey-Brock & Knight-Jones, 1977, *Spirobranchus latiscapus* (Marenzeller, 1885), and *Vermiliopsis infundibulum* (Philippi, 1844), are known to occur below 200 m depth.

Here we report on two species, a new species belonging to the genus *Metavermilia* and a new record for *Omphalopomopsis langerhansii* (Marenzeller, 1885) collected by dredging at Cross Seamount, SW of the Hawaiian Islands from a depth of 2,013 m. The status of species in both genera is discussed and distinguishing features entered in the template presented by serpulid specialists ten Hove and Kupriyanova (2009). Both species are illustrated with line drawings, color, and SEM photographs.

Material and methods

The two serpulids were collected by dredging at Cross Seamount, a Cretaceous guyot SW of the Hawaiian Islands as part of the Hawaii Undersea Research Laboratory program (HURL), University of Hawaii at Manoa. The HURL program has collected geological data and biological samples over the last three decades using manned submersibles, remote sampling gear and dredges to study the Hawaiian fauna, fisheries resources, hot spots, flexure of the oceanic lithosphere around the islands, plate tectonics, and seamount geology (Wessel & Keating, 1994).

Material from Cross Seamount was obtained during “Moana Wave” cruise leg 13, dredge haul 2 (18°47.52’N, 158°13.73’W). Rocks were stored in tubs of isopropyl alcohol, and serpulids were carefully chipped from the rocks. Preserved specimens were examined with light microscopy, sketched, and prepared for Scanning Electron

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