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Ovalidota milleri, a new genus and species of bathyal sea cucumber from the Caribbean Sea (Echinodermata: Holothuroidea: Apodida)

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Abstract

Ovalidota milleri new genus, new species, is a chiridotid holothurian with an egg-shaped body, a broad oral field surrounded by 18–19 (?20) tentacles, and body wall ossicles in the form of typical *Chiridota* wheels gathered into papillae and also scattered among the papillae. It is known from two localities in the Caribbean, near St. Vincent and at Grand Cayman Island, in bathyal depths of 366-414 metres. The egg-shaped body of this new genus is unique in the Order Apodida. When more material becomes available for study, *Ovalidota milleri* may be referred to a new family.

Key words: *Ovalidota milleri*, Holothuroidea, Apodida, Bathyal, Caribbean

Introduction

The apodous holothurians are typically worm-like, cylindrical animals (Clark, 1908), moving sinuously by using body contractions aided by the tentacles. Although the approximately 215 species of apodids have been described from some unusual habitats (see Smirnov et al., 2000; Pawson & Vance, 2004), their body shape remains conservatively worm-like. In the course of a study of bathyal echinoderms in the Bahama Islands and Lesser Antilles using manned submersibles, a team of scientists (J. Miller, G. Hendler, P. Kier, D. Pawson) was able to photograph, videotape, and collect approximately 200 species of echinoderms from hard and soft substrates. When feasible, a suction device was used to collect soft sediments in hopes of finding young stages of known species, or small species not normally visible to the naked eye of the observer in a submersible.

We were astonished to find in one of these sediment samples a single specimen of a bizarre holothurian which, upon further study, turned out to be an apodous form (Order Apodida) equipped with typical *Chiridota*-type wheel ossicles in the body wall. The specimen was photographed in the laboratory (Figure 1), then set aside in the hope that further

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