



Article

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New genus and new species of Cumacea (Crustacea: Peracarida) from the mesophotic coral ecosystem of SW Puerto Rico, Caribbean Sea

IORGU PETRESCU¹, TAPAS CHATTERJEE^{2*} & NIKOLAOS V. SCHIZAS³

¹*Grigore Antipa' National Museum of Natural History, Kiseleff I, Bucharest 011341, Romania, Email: iorgup@antipa.ro*

²*Department of Biology, Indian School of Learning, ISM Annexe, P.O. – ISM, Dhanbad 826004, Jharkhand, India, E-mail: drtchatterjee@yahoo.co.in*

³*Department of Marine Sciences, University of Puerto Rico, Mayagüez, Call Box 9000, Mayagüez, PR 00681, USA, E-mail: nschizas@gmail.com*

*Corresponding author

Abstract

Recent collections of the benthic macro- and meiofauna associated with the mesophotic coral ecosystems of Puerto Rico have revealed two new Cumacea from the family Nannastacidae. A new genus *Cumellana* and two new species, *Cumellana caribbica* and *Cumella alexandrinae* are described herein. The new genus *Cumellana* can be distinguished from the other genera of the family Nannastacidae by having a long antennule and pereopod 2 with short terminal setae, equal in length.

Key words: Cumacea, Nannastacidae, new genus, new species, Puerto Rico, mesophotic reefs.

Introduction

Beyond the easily accessible shallow water coral reefs of the Caribbean Sea, there are thriving, deeper coral ecosystems, still depending on photosynthesis. These ecosystems are called Mesophotic Coral Ecosystems (MCEs) and are found between depths of 30–40 m and 100 m in the tropics (Locker et al., 2010). They are usually found on the insular and continental slopes of islands and are visually dominated by scleractinian corals, sponge and macroalgae (Sherman et al., 2010). These habitat-forming species house a highly diverse and specialized benthic fauna, which is relatively unexplored because MCEs are beyond the limits of safe SCUBA and too shallow for oceanographic ship sampling. New diving technology that combines Tri-Mix Diving and Rebreathers allows divers to safely collect from these depths. We promote this method because it offers an alternative approach to benthic collections compared to the more destructive method of dredging.

Up until now, only one paper has been dedicated to Cumacea from Puerto Rico in which a single new species *Ceratocuma amoena* Jones, 1969 was described. This species was collected from the Puerto Rico Trench, 2,840 m depth, during the second *Galathea* expedition on 05/30/1952 (Jones, 1969). No taxa are known from shallower waters. There are several other contributions to the knowledge of the Cumacea fauna from other Caribbean islands such as Cuba (Petrescu, 2004, Zimmer, 1944), Jamaica (Petrescu et al., 1994), Martinique (Zimmer, 1944) and Bahamas (Petrescu, 1996, 2003, Petrescu & Iliffe, 1992).

Materials and methods

Materials studied in this paper were collected from two locations, near the shelf edge of southwest Puerto Rico: Hole-in-the-Wall, 10/21/2008, 73 m and from El Hoyo, (80–90 m), 6/04/2010. Divers equipped with Tri-Mix Rebreathers collected substrata (loose rubble, corals, sponges, algae). The loose rubble was placed over 1 mm and 0.125 mm sieves and washed with filtered seawater; the materials retained on the 0.125 mm sieve were examined