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A new genus of bamboo coral (*Octocorallia: Isididae*) from the Bahamas

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Abstract

A bamboo coral collected during a deep-sea expedition to the Bahamas in 2009 proved to have a unique combination of features for a member of the bamboo coral subfamily Keratoisidinae: the structure and shape of the polyps, the sclerites consisting entirely of rods, some of which extend the length of the polyp, the delicateness of the branches with solid internodes, and the deep funnel construction of the peristomal region into which the tentacles can contract. The specimens are described as a new genus and species.

Key words: bamboo coral, deep sea, Bahamas, ROV, Keratoisidinae

Introduction

The bamboo corals (Family Isididae, *sensu lato*) comprise a very diverse set of morphologies ranging from tall curly whips, broad fans or bushes, and small bramble-like forms, to candelabras and long, delicate, sparsely branched colonies (Watling et al. 2011). The most common deep-sea bamboo corals are in the subfamily Keratoisidinae, which contains at the present time, seven genera (Alderslade and McFadden 2012, Watling and France 2011): *Acanella* Gray, 1870, *Isidella* Gray, 1857, *Eknomis* Watling & France, 2011, *Jasonis* Alderslade & McFadden, 2012, *Keratois* Wright, 1869, *Lepidisis* Verrill, 1883, *Orstomis* Bayer, 1990.

An expedition to the Bahama Islands in 2009 produced an abundance of bamboo corals, which together with material collected along the New England and Corner Rise seamount chains, brings our complement of specimens in this group to 111 (L. Watling and S.C. France, unpublished observations). These specimens have been sampled for molecular genetic data and preserved for morphological analysis. The molecular data will be published in a subsequent paper, but overall it and the morphological analyses that are ongoing suggest that a number of new genera will need to be erected to accommodate the diversity of forms present. This paper describes one of the morphologically distinct species whose combined features are sufficiently unique among the known bamboo corals to warrant erection of a new genus.

Methods and material

Specimens were collected by means of the remotely operated vehicle (ROV) *Global Explorer* deployed from the R/V *F.G. Walton Smith* during an expedition in March, 2009. The ROV had a depth limitation of 2500 m, however, most collections were made between 1450 and 2350 m. Collected specimens were stored on the ROV in a moderately well insulated “biobox” for return to the surface. On the ship, all specimens were stored in 4° C water until they could be processed. From each specimen an approximately 6 cm long piece was removed and stored in 95% ethanol for later genetic analysis. The remainder of the specimen was soaked in a 4% formalin solution for 12 hours, then washed for about 30 minutes and stored in 70% ethanol.

Morphological examination was conducted by photographing the specimen *in situ* before collection, photographing the specimen as retrieved from the biobox, and then making detailed photo images of the polyps in the lab using a stereo microscope fitted with a digital camera. Internal details of the polyp were made visible by

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