



***Isozoanthus antumbrosus*, a new species of zoanthid (Cnidaria: Anthozoa: Zoanthidea) symbiotic with Hydrozoa from the Caribbean, with a key to hydroid and sponge-symbiotic zoanthid species**

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Abstract

Isozoanthus antumbrosus, a new species of zooxanthellate zoanthid, is described. Colonies associate with the arborescent hydroid *Dentitheca dendritica* in the Caribbean Sea at 1–60 m. The coenenchyme, column, and oral disk are seal brown. The tentacles are golden brown and number 30–38. The coloration of the oral disk and tentacles recalls an annular solar eclipse. Polyps are 4.1–8.9 mm long and 2.2–4.3 mm in diameter. Genetic, morphological, and ecological characters differentiate this species from other hydroid-symbiotic zoanthids. Assignment to the genus *Isozoanthus* is based on morphology, with the acknowledgment that the currently accepted genera may not reflect evolutionary relationships.

Key words: cryptic species, Coelenterata, Macrocnemina, Parazoanthidae, symbiosis

Introduction

Zoanthids are cnidarians belonging to class Anthozoa and order Zoanthidea (also referred to as Zoantharia or Zoanthiniaria). Members of the zoanthid suborder Macrocnemina form symbioses (*sensu* Saffo 1992) with members of at least five invertebrate phyla in most major benthic habitats from the sublittoral to the deep sea. Caribbean macrocnemic zoanthids living shallower than 60 m include six sponge-symbiotic and two hydroid-symbiotic species delineated by phylogenetic analysis of nuclear DNA sequences (Swain *in press*). Nuclear DNA data indicating two hydroid-symbiotic species are consistent with analyses of mitochondrial DNA (16S, Swain *in press*; combined 12S and 16S, Sinniger *et al.* 2005) and morphological characters (Swain *in press*). The morphology of one hydroid-symbiotic species is consistent with the original description of *Parazoanthus tunicans* Duerden, 1900 (Swain *in press*). That of the second is consistent with one specimen (USNM 50878), but not five others (USNM 17218, 50354, 50777, 50778, 52526), in the United States National Museum labeled with a *nomen nudum* (Swain *in press*). In the absence of a valid description, a new species, *Isozoanthus antumbrosus*, is described here.

Material and methods

Zoanthid colonies associated with the arborescent hydroid *Dentitheca dendritica* (Nutting 1900) were observed and photographed on coral reefs of Panamá (Bocas del Toro), Dominica, Tobago, and Curaçao. Standardized photographs for morphological measurements were taken in Panamá and Tobago. Specimens for histological and molecular analysis were collected manually in Dominica and Curaçao. Each specimen was split into two fragments and preserved in 100% ethanol for molecular analysis or 4% zinc formalin followed by 70% ethanol for histological study.