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Resurrection of the octocorallian genus *Antillogorgia* for Caribbean species previously assigned to *Pseudopterogorgia*, and a taxonomic assessment of the relationship of these genera with *Leptogorgia* (Cnidaria, Anthozoa, Gorgoniidae)

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Abstract

The genus *Antillogorgia* Bayer, 1951 is resurrected for species of zooxanthellate, pinnately-branched gorgonians with sclerite complements that include well-developed scaphoids, and inhabit coral reefs of the western Atlantic, particularly from the Bahamas through the Caribbean. These species were previously assigned to the Indo-Pacific genus *Pseudopterogorgia* Kükenthal, 1919 by Bayer, 1958 (thus making *Antillogorgia* a junior synonym of *Pseudopterogorgia*), but are shown here to warrant generic separation. Both morphological as well as molecular evidence is provided to justify distinguishing the two genera. Taxonomic relationships to a third gorgoniid genus, *Leptogorgia*, are also discussed.

Key words: Gorgoniid octocorals, tropical western Atlantic, Indo-West Pacific, taxonomic assessment

Introduction

The gorgonian genus *Pseudopterogorgia* Kükenthal, 1919 as presently recognized, comprises two geographically distinct groups of species (Williams & Vennam, 2001: 71), and is comprised of at least twenty shallow-water species in tropical latitudes of the Indo-West Pacific and western Atlantic Oceans.

The genus was originally described by Kükenthal (1919: 854) and applied to four Indo-West Pacific gorgoniid species (from Sri Lanka, Indonesia, the Torres Straits, and the Philippines), with loosely-pinnate to irregular, non-anastomosing branches and with some sclerites that are curved, scaphoid-like spindles.

Since 1958, the name *Pseudopterogorigia* has frequently been used for a group of coral reef-inhabiting species of the tropical western Atlantic that have pinnate/plumose non-anastomosing branches, with some scaphoid sclerites (Bayer, 1961: 224), that show some superficial similarities to the Indo-Pacific species. This period of name application can be found in widespread and commonly used published works regarding octocoral systematics, marine ecology, and natural products biochemistry (among other fields in biology), as well as in field guides and popular publications. Examples include Bayer, 1958; Cadena and Sánchez, 2010; Human and DeLoach, 2002; and Rodríguez et al., 2009. In addition, the three genera (*Antillogorgia* Bayer, 1951, *Leptogorgia* Milne Edwards & Haime, 1857, and *Pseudopterogorgia* Kükenthal, 1919) have provided the sources of important chemical compounds regarding natural products biochemistry. Examples of such relevant research include Fenical, 1987 (*Antillogorgia*), Gerhart and Coll, 1993 (*Leptogorgia*), and Vanisree et al., 2001 (*Pseudopterogorgia*).

It is here considered that the Indo-Pacific and Western Atlantic species formerly allocated to *Pseudopterogorgia* actually represent two distinct genera, *Pseudopterogorgia* for azooxanthellate forms, invariably with colored sclerites, and with curved spindles having differentiated tuberculation on the convex vs. concave sides, which often represent more-or-less distinct scaphoids; and *Antillogorgia* for zooxanthellate species, mostly with colorless sclerites, but infrequently with some that are colored pale yellow or violet, and with conspicuous or well-developed scaphoids. Therefore, the genus *Antillogorgia* is here resurrected to encompass eleven presently-recognized species of the tropical western Atlantic, while *Pseudopterogorgia* is restricted to nine presently-recognized species of the Indo-West Pacific (Williams & Vennam, 2001: 87).

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