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In my paper of 1953 on the zoogeography and evolution in the octocorallian family Gorgoniidae, I advanced the proposition that the closely related group of gorgoniid genera characterized by scaphoid spicules is an adaptive offshoot of the mainstream of gorgoniid development produced in response to altered environmental conditions resulting from cessation of interoceanic communication across the Isthmus of Panama toward the end of the Miocene time. One of the premises upon which this theory depends was that the “scaphoid genera” of gorgonians are endemic in the Caribbean region. Except for Pterogorgia peruana Stiasny, said to be from Callao, and four species of Pseudopterogorgia from the East Indies and Australia, no species have been reported outside the West Indian area, and I disposed of these exceptions by considering P. peruana to be a West Indian species with incorrect locality data, and the species of Pseudopterogorgia to be species of Leptogorgia with somewhat bent spindles erroneously interpreted as seaphoids. I had seen neither P. peruana nor any Pseudopterogorgia, and the collections of gorgonians in the U.S. National Museum contained no “scaphoid species” from the west coast of the Americas nor from the East Indies.

During the course of studies conducted in European museums, made possible by the assistance of the Biology Branch of the Office of Naval Research through a program with the American Institute of Biological Sciences, I was able to examine part of Stiasny’s type of Pterogorgia peruana and a specimen of Pseudopterogorgia oppositipinna parvispiculata Bielschowsky from Ambon, contained in the collections of the Rijksmuseum van Natuurlijke Historie at Leiden. Even though the locality datum of P. peruana is still open to question—the species has not turned up in subsequent collections from South America—it is certainly not identical with any of the known West Indian species; it agrees in most particulars with Pseudopterogorgia australiensis (Ridley). Moreover, the spicules of Pseudopterogorgia, as revealed by a specimen from Ambon, are without doubt genuine seaphoids and not bent spindles as the literature once led me to believe.

These observations mean that (1) “seaphoid species” of Gorgoniidae do occur in the Indo-Pacific; (2) “seaphoid genera” are not restricted to the Caribbean region and probably came into being while Atlantic-Pacific intercommunication still existed; and (3) the Indo-Pacific species of Pseudopterogorgia are generically inseparable from the West Indian Pterogorgia, a name that I replaced with Antillogorgia for reasons stated in 1951 (p. 97). The generic name Pseudopterogorgia obviously takes precedence over Antillogorgia, which is a junior subjective synonym.

I will now show by means of a few figures that the seaphoid spicules are not sufficiently different in Atlantic and Indo-Pacific species to warrant generic separation. In Fig. 1 is shown a typical seaphoid of Gorgonia acerosa Pallas, type species of Antillogorgia; in Fig. 2, a seaphoid typical of Gorgonia americana Gmelin; in Fig. 3, a blunt seaphoid characteristic of Pterogorgia rigida Bielschowsky; in Fig. 4, a blunt, undulated seaphoid of Pterogorgia blanquillensis Stiasny; in Fig. 5, a similar blunt, undulated seaphoid from Pseudopterogorgia oppositipinna parvispiculata Bielschowsky; in Fig. 6, a seaphoid of Pterogorgia peruana Stiasny; and in Fig. 7, an acute, strongly undulated seaphoid of Pterogorgia bipinnata Verrill.

It is quite clear that the only distinguishing characteristic of Pseudopterogorgia—the 2-4 belted seaphoids “deren zugespitzte Enden mit ähnlchen, nicht regelmassig angeordneten Warzen besetzt sind” (Kükenenthal 1924, p. 355)—is found also in West Indian Antillogorgia. From this it is clear that the correct generic name for the plumose, seaphoid-bearing gorgonians of both Atlantic and Indo-Pacific is Pseudo-
pterogorgia Kükenthal, 1919, with the following synonymy:


**Diagnosis.**—Plumose, pinnate gorgonids with no trace of anastomosis of the branchlets. Cortical spicules predominately seaphoids in the outer layer and straight, belted spindles in the axial sheath. Anthocodial armature strong, weak, or absent, when present consisting of flat rods with scalloped edges.

**Remarks.**—It will be noted in the seven figures given herewith that four of the seaphoids, those belonging to *bipinnata*, *blanquillensis*, *oppositipinna parvispiculata*, and *peruana*, are sculptured with broad, rounded ridges across the convex side, whereas such ridges are absent from the seaphoids of *acerosa*, *americana* and *rigida*, in which the ornamentation of the convex side is reduced to a few prickles or suppressed entirely. This character of smooth or slightly prickly seaphoids is shared by all Caribbean species of *Pseudopterogorgia* except *P. bipinnata* (Verrill), the closely related and perhaps identical *kallos* (Bielschowsky), and *blanquillensis* (Stiasny). Unfortunately, the examination of a large number of specimens of various species discloses intergradation between these seaphoid types. Occasionally, some of the blunt seaphoids of *P. rigida* have low ridges across the convex side, and in *P. blanquillensis* a few are practically smooth. It appears that all of these variations are simply progressive phases in the development of a trend begun with the unilaterally spinose spindles of *Leptogorgia*.

If the ornamentation of the convex side of the seaphoids is used as a basis for dividing *Pseudopterogorgia* into two subgenera, then the original zoogeographic proposition may retain some degree of validity since no species with smooth seaphoids has yet been discovered outside the West Indian region. The subgenus with ridged seaphoids, found chiefly in the Indo-Pacific, is represented in the Atlantic by two or three rather uncommon species.

For the convenience of those who may wish to extend recognition to these two groups of species, subgenera are defined for them as follows:

Genus *Pseudopterogorgia* Kükenthal, 1919

Subgenus *Pseudopterogorgia* Kükenthal, s.s.

**Diagnosis.**—The transverse girdles of tubercles on the seaphoids are developed across the

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**Figs. 1–7.**—Seaphoid spicules of *Pseudopterogorgia* species: 1, *Pseudopterogorgia acerosa* (Pallas); 2, *P. americana* (Gmelin); 3, *P. rigida* (Bielschowsky); 4, *P. blanquillensis* (Stiasny); 5, *P. oppositipinna parvispiculata* Bielschowsky; 6, *P. cervana* (Stiasny); 7, *P. bipinnata* (Verrill).

0.1 mm.
convex side of the selerites as blunt, rounded ridges.

Distribution.—Four species and one subspecies in the East Indies, Philippine Islands and Australia; two, possibly three, in the tropical western Atlantic.

Subgenus Antillogorgia Bayer, 1951

Diagnosis.—Transverse girdles entirely suppressed on the convex side of the scaphoids, which may be completely smooth or somewhat prickly.

Distribution.—Nine species in the tropical western Atlantic.

REFERENCES


