

## Pogonophora in the Western Atlantic Ocean

**Abstract.** The occurrence of pogonophoran worms of the genus *Siboglinum* off the east coast of Florida is reported. Their presence in association with pennatulids is noted, and compared with a similar instance in the Bering Sea. This association is probably due to similar ecological requirements.

In the course of examining octocorals collected by U.S. Fish and Wildlife Service vessels off the southeastern United States (1), some examples of pogonophoran tubes were observed which are believed to be the first record of the phylum Pogonophora from the Western Atlantic. The Pogonophora, or beard worms, are peculiar wormlike deuterostomes (2). The collection was made at 28°23' N, 79°56' W, off the east coast of Florida in 94 fathoms of water, by the M/V *Silver Bay*, 1 February 1961 (station 2725). Ivanov (3) reports no finds from the east coast of North America.

Some fragments of extremely fine

tubes with a diameter of 0.13 mm (Fig. 1, left), containing only macerated remains of the animals, seem to fall near *Siboglinum minutum* Ivanov as defined in Ivanov's key to pogonophoran tubes (3), although the latter is known from the Bering Sea and very probably is different from the present material. The slender tubes were associated with larger annulated tubes 2 mm in diameter, consisting of segments with widely spaced funnel-like expansions suggestive of certain pogonophores but which probably belong to polychaete worms of the family Chaetopteridae.

This pogonophoran material was associated with the pennatulid *Stylatula elegans* (Danielssen), around the polyp leaves of which the slender tubes of the beard worms were entangled. In this connection, it is interesting to note that pogonophores collected in the Bering Sea by the U.S. Fish Commission steamer *Albatross* were similarly associated with pennatulids and were represented by an extremely slender species of *Siboglinum* (Fig. 1, right), possibly

*S. pusillum* Ivanov, which was also found associated with chaetopterid polychaetes inhabiting tubes strikingly similar to those of certain pogonophores. The fact that a soft substrate is required both by pennatulids and by pogonophores, together with the natural tangle provided by the spicules and polyp leaves of the sea pens, no doubt accounts for the close association of these animals in dredge hauls.

Historically, these *Albatross* pogonophores are of interest because they were collected 4 August 1890 (station 3308), several years earlier than the original specimens of *Siboglinum* taken by the *Siboga* expedition. As Hyman (2) suggests, it is likely that these animals have frequently been overlooked, hence they may be represented in even earlier *Albatross* dredgings that remain unstudied in the U.S. National Museum (4).

FREDERICK M. BAYER

*Institute of Marine Science,  
University of Miami, Miami, Florida*

### References and Notes

1. I am indebted to Harvey R. Bullis, base director, Gulf and South Atlantic Exploration and Gear Research Base, U.S. Fish and Wildlife Service, Pascagoula, Miss., for the opportunity to study this material.
2. L. H. Hyman, *The Invertebrates* (McGraw-Hill, New York, 1959), vol. 5.
3. A. V. Ivanov, *Pogonophora* (Zool. Inst., Acad. Sci. U.S.S.R., Fauna U.S.S.R., n.s. 75, 1960).
4. This report is contribution No. 397 from the Marine Laboratory, University of Miami.

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## Intercellular Connection between Smooth Muscle Cells: the Nexus

**Abstract.** High-resolution electron microscopy has revealed that the regions of contact between smooth muscle cells from dog intestine are areas of fusion of adjacent cell membranes. For morphological and functional reasons this type of contact between excitable cells has been termed a nexus.

The question of the discreteness of smooth muscle cells has been revived with the advent of modern electrophysiological recording techniques and electron microscopy. Electrically, smooth muscle cells behave as if their interiors were connected (1). Mark described two kinds of bridges between uterine smooth muscle cells (2): those with protoplasmic continuity and those traversed by membranes. Thaemert found only the former type in rat stomach and proposed calling them "anastomotic intercellular bridges" (3). Mark's second type of bridge has been described by Bergman (4) as occurring in rat ureter

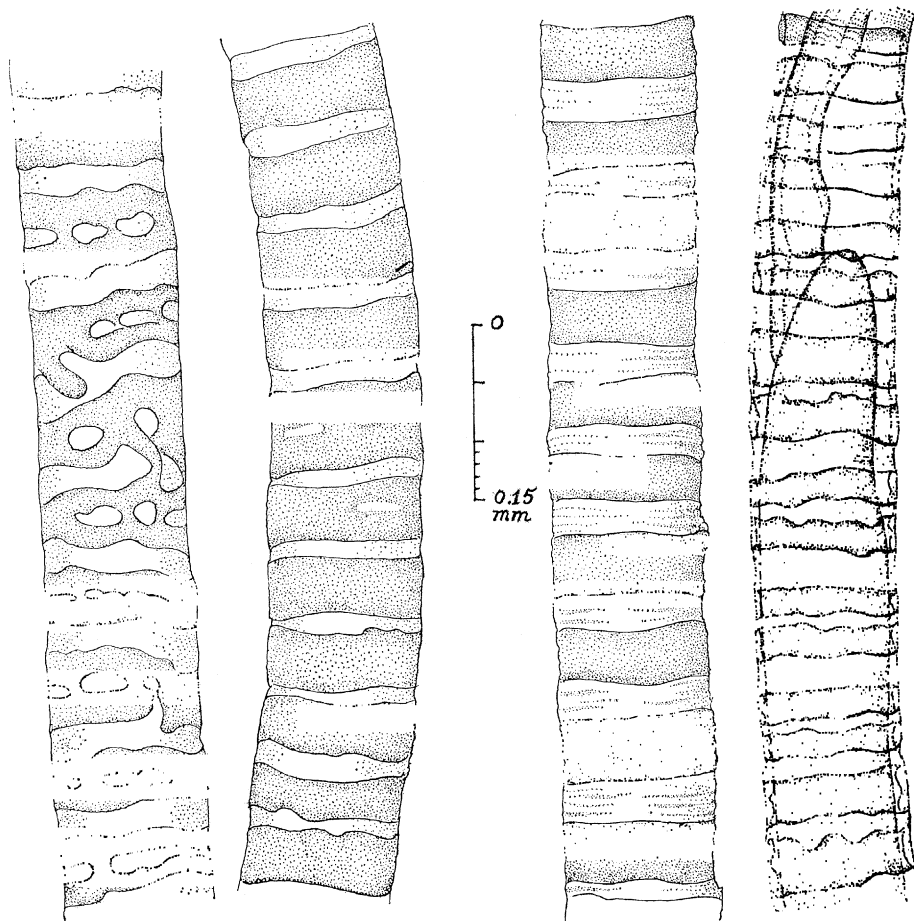


Fig. 1. The two tubes on the left are *Siboglinum* from Florida. The two on the right are from the Bering Sea. The tubes on the far left and far right are the proximal parts, the right one showing the protosome and base of the tentacle of the contained worm. The two center tubes are the distal parts.