The gonophores are composed of a spadix, which is extremely conspicuous in the fresh condition of the tissues, because it is full of red endodermal cells and thus deeply pigmented, and a mass of testis cells or spermatozoa. The spadix is cylindrical in form, with a rounded extremity. It occupies the axis of the deeper region of each gonophore. It thus forms the core of the spheroidal body, the remainder of the mass of which is composed of spermatozoa or the cells from which they are developed in various stages of advancement. These cells and spermatozoa are contained within a fine and transparent but tough membrane which invests the whole body of the testis, being derived from the ectoderm. I believe that a layer of the ectoderm invests the spadix within the testis, but am not certain. I could not determine from which layer the spermatic cells are developed.

The spermatozoa are developed in the same manner as in other Hydroids. In Plate III. G, is figured the usual mass of small spermatic cells in an unripe testis. Above this is a ripe testis which is shown as not cut right through its axis, it being bent over a little from the perpendicular to the surface. Hence the spadix is not seen in the section.

The ripe spermatozoa (Pl. X. fig. 12) have conspicuous heads which are elongate bodies curved into a bow shape. They are compressed and flattened in the plane of the curve, so that though broad and conspicuous when viewed on the flattened sides they appear almost linear when seen on edge. At the extremity of the head where the tail is attached, a small rounded vesicle was observed in all cases to be present.

The bases of the gonophores are continuous with large canals of the cœnosarcal meshwork, the endoderm of the spadix being continuous with that of these canals.

Pliobothrus, Pourtalès.

The genus *Pliobothrus* was formed by Pourtalès (Bull. Mus. Comp. Zool., Cambridge, Mass., No. 7) to include specimens dredged by the United States' Coast Survey off the coast of Florida, in from 100 to 150 fathoms. Pourtalès rightly placed the new genus amongst the Hydroids, but, judging from the structure of the hard parts alone, associated it with *Millepora*. He most kindly placed at my disposal specimens of *Pliobothrus symmetricus* preserved in spirit, and in excellent condition; and these have yielded tolerably complete evidence as to the structure of the soft parts. Moreover, the two small specimens transmitted to me proved to be of opposite sexes. I have observed both sexes only in the case of three other genera of the Stylasteridæ, namely, *Cryptohelia*, *Stylaster*, and *Distichopora*. The structure of the soft parts of *Pliobothrus* proves the coral to belong undoubtedly to the Stylasteridæ. The specimens of *Pliobothrus symmetricus* examined by me were dredged off Florida Reef, in 100 to 300 fathoms.