It is possible to distinguish two main groups:—

(*a*) Those in which the polyps are distributed over the basal membrane at nearly equal distances. The retractile portion can be more or less withdrawn into the calycine portion, the spicules are smooth, lenticular, circular, or spindle-shaped bodies.

Tropical Species.—This group is closely allied to *Anthelia*, and includes *Sympodium cæruleum*, Ehrbg., *Sympodium fulvum*, Forsk., *Sympodium fuliginosum*, Ehrbg., and *Sympodium purpurascens*, Ehrbg.

(*b*). Those in which the polyps have a tendency to form elevated Alcyonium-like groups. The calyces are comparatively large, and are beset with prickly or spinose spindles and clubs. The tentacles also contain spicules. These lead on to the forms belonging to the Alcyonidæ.

Northern and deep-sea forms, including *Sympodium abyssorum*, Danielssen, *Sympodium norvegicum*, Kor. and Dan., *Sympodium coralloides*, Pall., and the following new species.

Sympodium verrilli, n. sp. (Pl. XLII. fig. 12).

The membranous basis of the colony grows over a fragment of dead coral, and from it rise polyps, standing close together. Their calyx portions protrude but little beyond the surface of the membrane, and the anterior portion can be entirely retracted into the calyx. The calyces are never associated in groups. The margin of the colony is smooth, and bears no polyps. The polyps stand at distances of 1 to 2 mm. from each other. The calyces have a diameter of 2 to 4 mm., and a height of 1 to 1·2 mm., their walls exhibit eight distinct longitudinal ridges separated by deep furrows. When the retractile portion is withdrawn, the calyx is reduced to a low wart forming an eight-rayed star. The retractile portion of the polyp includes the crown of tentacles, which, when at rest, is folded together over the oral-disc, and the œsophagus. It is 5 mm. long, and its walls have elevated ridges. The wall of the basal membrane, like that of the calyx, contains numerous spicules.

The spicules are straight spindles, which bear two or three circlets of spine-like, rectangular projections, and are surrounded at the ends with spines and dentations. Sometimes one end is broadened out and more thickly beset with spines so as to produce a club-shaped spicule; sometimes the longitudinal axis is shortened, and a wheel-shaped spicule is the result. In length and breadth they vary respectively as follows:—0·16 and 0·05; 0·1 and 0·04; 0·13 and 0·04; 0·13 and 0·05 mm.

The retractile portion of the polyp is also richly provided with spicules. These are