

The polyps when extended consist of three portions, a basal portion armed with spicules, the calyx; an intermediate portion containing chiefly the œsophagus; and a tentacular portion which contains the oral disk and the eight pinnate tentacles.

When the polyp is retracted, the œsophageal portion, which contains no spicules, folds itself inwards, the tentacles bend together inwards over the oral disk, and the tentacular portion eventually assumes a position covering over the body; the margin of the oral disk sometimes completely withdraws itself, carrying in with it the basal portion of the tentacles.

The spicules of the cœnenchyma consist of spiny needles, sometimes with dentate prominences, which are sometimes straight, sometimes curved, or even bent at an angle. At the base of the calyx they are arranged in the form of a ring, and are furnished with spiny prominences, some of which become expanded, thus gradually taking the form called "Stachelplatten" by Kœlliker. On the calyx itself they form converging series, which are arranged in eight longitudinal rows *en chevron*. The œsophageal portion has no spicules; they first appear under the base of the tentacles and form there a collar of horizontally placed spicules. The base of the tentacles contains spicules placed in a longitudinal direction, but they only appear on the portion of the tentacle turned away from the mouth. These are elongated, spine-like; often a little bent, and mutually converging from either side. When the polyp is retracted, the collar lies exactly around the upper edge of the calyx, and the spicules of the base of the tentacles form a covering over the calyx-opening, while the unarmed œsophageal portion is completely folded inwards.

There are three species in the collection of the Challenger, from the Atlantic Ocean and from the south-west coast of South America.

1. *Paramuricea æquatorialis*, n. sp. (Pl. XXII. fig. 6; Pl. XXVI. fig. 3).

The stem is branched in one plane, and is vertical. The branches are bent and curved in various directions. The principal stem has a length of 140 mm., its thickness at the base is about 3 mm., and it is somewhat compressed. The branches, of which some are equal in thickness to the principal stem, arise forming with it an obtuse angle, and opposite to each other. The larger ones develop lateral branches, which arise only on the side turned away from the stem. Branches of a third order are rarely developed, and are then but short. The stem and its ramifications form long unbranched tendril-like twigs, which are a little thickened at their terminal points; these latter are from 30 to 35 mm. long. The longest branch arising from the lower third of the stem has a length of 100 mm., and at its base it is 2 mm. in diameter; it gives off branches which also produce side twigs.

The polyps arise irregularly from the stem and branches in two or three rows but