

little distance from them ; the thirty-six following still easily recognisable ; the wall traversed by reticulated furrows ; mesodermal muscle developed throughout the entire length of the wall.

Habitat.—Station 313. January 20, 1876. Lat. $52^{\circ} 20' S.$, long. $68^{\circ} 0' W.$ Depth, 55 fathoms. Three specimens.

Dimensions.—Diameter of the oral disk, 3.5–6.0 cm. ; height of the body column, 2.0–2.5 cm.

The three specimens of *Antholoba reticulata* included in the Challenger material were admirably adapted for examination, as the body was only slightly contracted. This applied especially to the largest specimen, which was 6 cm. broad and 2.5 cm. in height, and upon which the following observations have been principally made.

The pedal disk is very thin walled, so that the insertions of the septa shine through it as innumerable clear lines ; the margin is indistinctly lobed, probably five-lobed like the margin of the oral disk. The firm compact wall of the Actinia rises in a curve at an acute angle from the pedal disk, and is constricted more or less distinctly at a third of its height. The lower part of the wall is traversed by circular furrows, which are perhaps merely caused by the contraction of the muscles of the body, its upper part is covered with soft papillæ, about 0.5–1.5 mm. broad, which are not sharply separated, lie close together, and are very much flattened. Shallow furrows, which give the surface of the body its reticulate appearance, and which Couthouy had in view in naming the species, remain between the papillæ.

The mesodermal circular muscle is never very strong, but, on the other hand, it extends from the upper to the lower end of the wall, a formation which I have never found in any other Actinia. In longitudinal section it can be distinguished by the naked eye as a yellowish layer, situated close under the endoderm, which is 0.5 mm. broad in its upper third, but diminishes as it runs downward (Pl. XIII. fig. 9). Its bundles of fibrillæ (Pl. X. fig. 11) are all very small but thickly compacted, and only separated by a little connective substance ; they are all strongly flattened in the same direction in such a way that their edges lie perpendicular to the endodermal epithelium. They have an inclination to lie one behind the other in rows, which run outwards from the epithelium, and in this way they have the appearance of being produced by the breaking up of long thin muscular plates. The large bundles of fibrillæ are found on the outside, but the smaller ones inside, close under the endodermal layer of circular fibres, which is repeatedly pleated over them. From all this it seems probable that small bundles of fibrillæ are continuously detached by pleating from the endodermal layer, and are transformed by growth into larger bundles in the depth of the layer.

At the upper end the wall passes gradually into the oral disk, the margin of which is swollen like a pad. The limits of the disk are indicated by the appearance of the tentacles and the disappearance of the circular muscle.