

Cirripathes propinqua.

The type specimen of *Cirripathes propinqua* is not sufficiently well preserved to show the general histological structure, but the muscular system is unusually well developed, and the arrangement of the fibres has a closer resemblance to that of Actiniaria than has yet been observed in any other Antipatharia. In the tentacles the ectoderm is about 0.06 mm. in thickness, and the mesogloea 0.03 mm. The entoderm is considerably folded, and fills up the lumen of the tentacle. It varies in thickness from 29 to 87 μ . Nematocysts occupy almost the whole surface of the tentacles, which are apparently not folded or papillose. On the body-wall the nematocysts are not numerous, and their place appears to be taken by elongate tapering epithelial cells (Stützzellen). The mesogloea is apparently dentate on both its ectodermal and entodermal surfaces, and bears on each side a well-developed row of muscular fibres, which follow the irregular outline of the mesogloea. The ectodermal layer of muscular fibres appears to be more than usually developed in the curve by which the peristome passes into the body-wall. The entodermal muscular layer has a greater development than that of any other species studied. This is the only species in which undoubted muscular fibres have been observed in the mesenteries. A sagittal section of a zooid, cutting the transverse mesenteries at right angles, shows a delicate row of muscular fibres applied to each side of the mesogloea. The mesogloea is, however, not dentate as in other parts. Better preserved material is necessary before one can decide whether there is any relation between the direction of the muscular bands of the mesenteries in *Cirripathes* and those of other Zoantharia.

The interzooidal areas bear a large number of slender mesogloéal ridges, clothed on each side by entoderm, which have a direction chiefly transverse to that of the skeletal axis. The appearance of these ridges in transverse section is shown in Pl. XIV. fig. 7 *sep.* They vary considerably in length, the longest being situated at the lateral margins of each zooid. In the interzooidal regions (Pl. XIV. fig. 7, c) the majority are very short, but longer ones occur at irregular intervals. A delicate row of muscular fibres is applied to the surface of the mesogloea on each side. The floor of each zooid consists of a delicate membrane, formed by a layer of mesogloea, lined internally by entoderm and externally by the axis epithelium. The cells of the latter are very irregular and sometimes columnar. The membrane is folded inwards towards the zooid at intervals, each fold corresponding to the position of a spine.

All the specimens examined have the coelenteron almost completely filled with ova, but the intermediate tissue is granular. In horizontal sections the ova are seen to be contained in very large semicircular dilations of the transverse mesenteries. They also fill up the lower portion of the lumen of the tentacles and extend more or less into the interzooidal areas; they sometimes, too, form relatively large rounded masses between the interzooidal septa.