

supporting lamella and the layer of nerve fibres of the ectoderm. It is necessary to employ a staining fluid (picro-carmin), which impregnates the supporting substance strongly, in order to distinguish a framework of connective tissue between the muscular fibres; and as this gives rise to extremely fine-walled meshes, it divides the muscular fibres into mesodermal bundles of fibrillæ. Numerous supporting layers run out from the surfaces of the supporting lamellæ, and these ramify and anastomose with one another. The anastomoses are wanting towards the ectoderm, so that the meshes open towards the layer of nerve fibres; the muscles are consequently partly mesodermal, partly ectodermal.

In *Calliactis parasitica* the boundary line between the mesodermal muscles and the ectoderm is also indistinct, but the bulk of the former is much smaller, so that sparse bundles only are enclosed in an abundant fundamental substance.

The tentacles of *Calliactis polypus* are long, slender, and end in a fine point. I made out about seventy in a twelfth part of the animal, so that altogether they amount in number to several hundreds, which decrease in size from within outwards, and are arranged in about ten circles. The first and second circles, beginning at the inside, each contain twelve tentacles placed somewhat apart, the third twenty-four tentacles, the fourth forty-eight, and so on.

If we take the well-developed septa only into consideration, there are altogether our cycles or forty-eight pairs, the first six pairs of which are perfect. The following six pairs are imperfect and sterile like the first six, so that the reproductive organs are confined to the septa of the third and fourth orders. The specimen examined by me was a male, and contained ripe testes.

Cereus, Oken.

Sagartidæ, with numerous tentacles and circular oral disk, without cinclides which can be anatomically demonstrated; wall rough, and covered with knobs.

Milne-Edwards (Hist. des Corall., tom. i. p. 263) included all the more typical representatives of his "Actinines verruqueuses" in Oken's genus *Cereus*. After it had been shown that acontia existed in *Cereus bellis*, which had been taken by Oken as the typical representative of the genus (Lehrbuch d. Naturgeschichte, Th. III. Abth. 1, p. 349, 1815), Verrill limited the name to forms of the family Sagartidæ. I agree with Verrill on this point, but wish to attach more importance in the diagnosis to the papillose nature of the wall, in order to establish a sharp distinction between this genus and *Sagartia*. I have therefore altered the description of the wall, which runs thus in Verrill: "upper part with small, inconspicuous contractile suckers; walls nearly smooth."

Cereus spinosus, n. sp. (Pl. I. figs. 3-5; Pl. VI. fig. 1; Pl. VIII. fig. 6; Pl. XII. fig. 10).

Papillæ of the wall unequal in size, with a tendency to arrangement in transverse and longitudinal rows; each papilla runs out into a fine point, which is placed on a hemi-