

and apparently alive in Canada balsam, having previously stained the tissues with carmine. All the details of its anatomy, consequently, are beautifully displayed. The polypide has about twenty-four tentacles, a rather wide œsophagus, and a simple saccular stomach, without any *diverticulum*, and the rectum opens very low down into the tentacular sheath. The retractor muscles consist of long, slender, non-striated fibres each of which presents a single nucleus at some part of its length (fig. 4*d*). Besides the muscular fibres, there is no appearance of a so-called *funiculus*.

The peculiar horse-shoe-shaped mark visible in a few of the zoœcia appears to represent a flattened cavity on the inner face of the anterior wall, and probably lying between the ectocyst and endocyst, if the calcareous wall be taken to represent the former. In the older zoœcia this cavity is quite empty and clear, but in one or two of the marginal, immature zoœcia, in which the polypide is still represented merely by an elongated mass of granular matter (fig. 4*b*), the faintly seen but distinct horse-shoe-shaped organ appears to contain a collection of extremely minute granules. There is no direct indication whatever that these organs are of an ovarian or testicular character, and in the whole zoarium I have been able to perceive their existence in not more than about six or seven cells.

The lateral and central apparent puncta in the anterior wall have all the characters of the ordinary form of interzoœcial pores or discs ("Rosettenplatten"), and like those structures may be described as perforations in the calcified wall or ectocyst, filled in, however, by a delicate membrane, or rather double membrane, between whose layers are lodged eight to ten minute spherical granules, deeply coloured with the carmine (fig. 4*c*). The outer layer is in this case formed apparently by a very delicate epitheca, and the inner by the equally delicate endocyst.

In several of the zoœcia the polypides appear to have been killed so suddenly that they have not had time to retract themselves wholly into the cell, so that the extremities of the tentacles have been caught by the sudden closure of the operculum.

#### (6) *Carbasea pisciformis*, Busk.

*Carbasea pisciformis*, Bk., Brit. Mus. Cat., vol. i. p. 50, pl. lv. figs. 1, 2; pl. lvi. fig. 6; Macgilliv., Nat. Hist. Vict., Dec. v. p. 30, pl. xlv. fig. 6.

*Character*.—Zoarium broadly lobate, lobes rounded, entire at the margin. Zoœcia elongated, pyriform, truncated at both ends, and much contracted near the bottom, which is again slightly expanded. Oœcia immersed, marked with radiating lines.

*Habitat*.—Station 162, off East Moncœur Island, Bass Strait, 38 fathoms, sand, shells. [Tasmania, Brit. Mus. Collect.; Queenscliff, Portland, Victoria, Maplestone.]

The polypide has about twenty-four tentacles, and the stomach a long diverticulum. The retractor muscular fibres are very numerous and slender, and neither nucleated nor