

Plate XIX. ; it forms a quadrangle with rounded angles. The delicate, thin membranous margin of the mouth (oral margin) is contracted inside like a narrow velum, and appears swollen and thickened at the four interradial angles by the crescentic oral ends of the buccal columns which are concave inside. Each of the latter bears two thin oral filaments two cm. long at the end of the horns of the crescent ("barbulæ, filamenta oralia," figs. 9-11, *af*). These may probably be considered as the last oral branches of the limbs of the *tæniola* (see below). They are thickened conically at the base, and run out to the point in a very thin long filament (or in a pencil-shaped bunch of filaments); they are amply furnished with large bean-shaped nematocysts, whose urticating threads are twisted spirally and armed with bristles.

The oral cavity ("cavitas buccalis") is divided by the four interradial buccal columns into four perradial peripheric buccal pouches (*bb*), which only communicate with the central cavity of the mouth (*ax*) by four narrow œsophageal clefts. The four oral columns ("columnæ buccales," *ac*, figs. 9-11, 19) are nearly rectangular ridges or plates, 5 cm. high and 2-3 cm. broad, projecting inwards in the interradial meridian plane into the oral cavity. They are supported by a visible layer of gelatinous substance, several millimetres thick, which is thickest at the two lateral margins and in the middle of each plate, so that each plate is also traversed on its gastral surface by a pair of shallow, parallel, longitudinal grooves (transverse section, fig. 19, *ac*). The lateral parts of the buccal columns project like wings on the two sides of the groove (adradial oral wings, "alæ buccales," *ad*). In this respect they resemble the *tæniola* of the *Scyphostoma*, and, in fact, I consider them homologous with the peristome part of the latter. In *Periphylla mirabilis*, moreover, they are much less strongly developed than in the following species:—*Periphylla regina* (Pl. XXIV. fig. 3) and *Periphylla hyacinthina* (System, 1879, taf. xxiv. fig. 14). The four perradial egg-shaped buccal pouches ("bursæ buccales," *bb*, figs. 9-11, 19) project arching out externally between the buccal columns. The central spaces only of each buccal pouch opens freely into the oral cavity, their peripheric spaces have dilatations or horns which are covered for the most part by projections of the enclosing wall. Each buccal pouch is therefore divided by the projecting wings of the buccal columns into the open central space, and the lateral horns or wing pouches ("ventriculi laterales, bursæ alares," *bd*) covered by the buccal columns. Each side pouch passes above into a larger and deeper aboral corner horn, below into a smaller and shallower oral corner horn; the former ends cæcally in the upper thickened end of the wing of the buccal column (fig. 11, *ad*). The corner horns are not so depressed in this species as in the following one. The four perradial buccal clefts ("fissuræ buccales," *ae*), by which the four buccal pouches communicate with the central space of the oral cavity, are narrowed in the middle. The buccal pouches are inflated ovally out from them (figs. 9, 10, *bb*). The perradial wall of the buccal pouches is very much thinned, and is traversed by parallel longitudinal streaks, which are divided by fine transverse streaks into darker cubes (oral glands, fig. 10, *ag*). This wall