

the latter genus is absent, and the margin curves over and downward on the inside to a considerable distance at least, how far is yet unknown." Moreover, he erects a species with the name *Cyathophycus subsphaericus*, and adds that "each species preserves the rounded rim of the circular aperture at the summit."

*Character of the Genus.*—The more or less regularly disposed circular parietal gaps are surrounded by a soft membrane provided with circular muscle fibres. The tubular or slightly swollen body runs out into a tuft of siliceous fibres at the narrowed inferior extremity, while the upper, transversely truncated end is closed by a flat or outwardly convex sieve, and bounded by a thickened border, which is continued into a wreath of spicules, or into a cuff-like fringe. The larger parenchyma spicules have in the later age a tendency to fuse together, and in adult specimens may unite to form a continuous framework.

The groundwork of the whole skeleton is a system of intersecting longitudinal and circular siliceous strands, which consist of the prolonged rays of strong hexacts, pentacts, or tetracts, and of the apposed thread-like, thin, comital tetracts, triacts, and diacts. The intersections of the fibrous strands form quadrate meshes. The rosettes scattered in the parenchyma are oxyhexasters. The terminal plates of the typical protuberant floricoles have from six to eight teeth.

1. *Euplectella aspergillum*, R. Owen (Pls. I.–IV.).

In general form *Euplectella aspergillum* resembles a thin-walled tube of approximately circular section; the somewhat narrowed lower end is continued downwards into a bundle of longitudinally directed or slightly diverging siliceous fibres, while the superior transversely truncated extremity is closed by a watch-glass-shaped, outwardly convex sieve-plate. In its upper two-thirds the tube is straight or only slightly bent, while the inferior third usually exhibits a more marked, often almost semicircular curvature (Pl. I. figs. 1, 2). If there are two curves, they usually lie in the same plane, but run in opposite directions, so that a form resembling a slightly bent, S-shaped cornucopia results. The length of the full-grown specimens, exclusive of the root-tuft, which measures from 4 to 8 cm., is on an average 24 cm.; the breadth, in the upper portion, varies from 4 to 5 cm.; the lower portion, just above the basal tuft, measures from 2.5 to 3 cm. The dimensions of the individual specimens vary, however, very considerably.

The whole wall of the tube is perforated by numerous parietal gaps, circular apertures of tolerably regular form, and varying from 1 to 2 mm. in diameter. These gaps lie at the bottom of furrow-like grooves, and each gap is surrounded by a stretched, soft, iris-like, circular membrane, provided with a circular muscle. The arrangement of the parietal pores is such, that two intersecting systems of parallel right and left-handed spirals, ascending at an angle of 45°, may be readily recognised. This regularity,