

as wide as the length of the adjacent stigmata, are produced inwards to form series of hollow papillæ of various sizes and shapes. These papillæ are arranged with a certain amount of regularity. They form a single row only on each transverse vessel, and they are placed at equidistant points, but they are much more developed in some parts of the sac than in others, while in some regions they are altogether absent (Pl. XXII. fig. 8). Where they are large their free ends show a tendency to split into two or three branches (Pl. XXII. figs. 7, 10, *p.*), and this as well as their equidistant arrangement gives them very much the appearance of the connecting ducts and rudimentary internal longitudinal bars often seen on the transverse vessels of some Simple Ascidiæ (*e.g.*, *Corella parallelogramma*, *Corella japonica*, and *Ascidia triangularis*¹). In some parts of the sac where the papillæ are rather wide, flattened, and triangular in shape, with the ends unbranched, they resemble the large triangular connecting ducts of some Clavelinidæ (*Ecteinascidia crassa* and *Ecteinascidia fusca*),² and I think there can be no doubt that they really are connecting ducts in a rudimentary condition. The only question is whether this species should be regarded as a form in which internal longitudinal bars are beginning to develop, or one in which, as the result of degeneration, these structures have been lost, with the exception of the papillæ representing the rudimentary connecting ducts. The answer to this question involves a discussion of the probable phylogeny of the Compound Ascidiæ, and may therefore be deferred to the general summary at the conclusion of this Report.

The languets representing the dorsal lamina are long and narrow, and are not flattened antero-posteriorly. They have much more of the shape of a tentacle than is usual, and closely resemble the languets of *Ecteinascidia turbinata*³ amongst Simple Ascidiæ. They obviously correspond to the papillæ on the transverse vessels with which they are in series (Pl. XXII. fig. 12, *l.*), and from which they only differ in size. This adds to the arguments which I have already brought forward⁴ in favour of the languets being homologous with the connecting ducts, and not with the papillæ which project from the internal longitudinal bars in many Simple Ascidiæ.

The tentacles are numerous and closely placed (Pl. XXII. fig. 13, *tr.*). Most of them are long. Some are shorter, but they do not occur in any definite order. The endostyle undulates considerably from side to side (Pl. XXII. fig. 6).

The peripharyngeal band is well marked (Pl. XXII. fig. 13, *p.p.*). It curves posteriorly in the dorsal region to form a moderately deep peritubercular area in which the large but simple dorsal tubercle lies. The opening of this organ is a narrow ovate slit, with the wider end posterior (Pl. XXII. fig. 13, *d.t.*). The margin is broad and conspicuous. The tubercle touches the peripharyngeal band with its posterior

¹ See Herdman, part i. of this Report (vol. vi. 1882), p. 192, pl. xxvi. fig. 8; and Notes on British Tunicata, *Journ. Linn. Soc. Zool.*, vol. xv. p. 283, 1880.

² Part i. of this Report (vol. vi. 1882), pp. 240, 242, pl. xxxvi. figs. 8, 13, 14.

³ *Loc. cit.*, p. 243, pl. xxxvi. fig. 6.

⁴ *Loc. cit.*, p. 284.