

Anteriorly it is devoid of any well-defined boundary other than the attachment of the pillar of the great buccal shield, and leads directly upwards into the alimentary canal (Pl. III. fig. 1, *m*). Moreover, as Mr. Harmer first noticed in his sections, a solid diverticulum proceeds upwards dorsally into the stalk of the buccal shield, and this may fairly be held to be the homologue of the notochord of *Balanoglossus*. In transverse section it is nearly circular and presents a somewhat regular arrangement of its cells, so that a concentric appearance is frequently present. In longitudinal section, on the other hand, the process, which is small, has a slightly bent clavate outline, a dotted axis indicating the lumen continued from the alimentary canal. The mucous membrane of the buccal chamber and gullet are thrown into many prominent rugæ, from the dense glandular nature of the tissue. The latter is especially thick on the ventral side of the mouth (the region lying in front of the post-oral lamella), and a strong layer of muscular fibres passes to the basement-tissue of this region, which must thus possess considerable mobility. The surface of the mucous membrane is apparently richly ciliated, the cylindrical epithelium of which it is composed being so closely arranged as to give a finely striated character to the tissue. In some preparations a thin film occurs on the surface of this glandular layer, but this is evidently due to mucus, and not to the separation of a superficial or cuticular coat.

Pharyngeal Region.—Beneath the post-oral lamella and immediately behind the pores of the second region are a pair of gill-slits, which were first clearly recognised as such by Mr. Harmer, who has kindly interested himself in the structure of this form, and whose very thin sections enabled him to unravel certain points which would otherwise have been obscure. The folds leading to these in transverse section are shown in Pl. VI. fig. 2, *gs*. Immediately behind the collar-pores the ordinary hypodermic coating of the body becomes continuous with the translucent wall of the slits, which seems to be a modified continuation of the pharyngeal mucous membrane. The granules are finer, and the whole tissue is more translucent. It also does not stain so well as either the collar-pores or the pharyngeal lining proper. In connection with this structure it is interesting to note that Bateson¹ mentions that the gill-slits in *Balanoglossus* arise as dorso-lateral evaginations. As soon as the posterior boundary of the mouth is completed, and this is easily recognised in the preparations by the appearance of the pigment-cells in the dorsal layer of the hypoderm of the post-oral lamella as it now stretches right across the ventral surface, the spacious pharynx presents a thickly folded wall of the same kind of minutely glandular tissue. The projection of some of these thick folds of glandular tissue under the post-oral lamella, sometimes causes peculiar appearances in transverse section, as if special diverticula existed. Bounding this thick glandular wall externally is a firm basement-layer, probably of a highly elastic nature, and it is to this coat that the muscular fibres formerly alluded to are attached.

¹ *Op. cit.*, p. 14.