

strength from above downward (*op. cit.*, pl. xv. fig. 4, one from the middle of the latter series).

The proboscis forms a laterally compressed tube occupying the middle line of the anterior third of the animal. The mouth leads by a wide muscular gullet into this chamber. When extruded there are nine papillæ superiorly, and nine inferiorly. Four short teeth guard the aperture.

Externally the organ is invested by a transparent finely fibrous layer, which, after reaching half way backward on each side, converges to a muscular slip which is inserted into the middle of the posterior boss. Such a slip would pull on the latter, probably in connection with the passage of a bolus. The whole canal is marked by evident transverse striæ, caused by intersecting fibrous bands which enclose the vertical muscular fibres as it were with a loose parallel network, and which run continuously round the organ, intersected, however, at each lateral region by a line of the same nature running from front to back. These transverse bands are highly elastic, the fibres adhering together much more closely than the vertical fibres forming the main mass of the proboscis. This adhesion appears to be due to the granular sarcolemma. The function of this peculiar arrangement seems to be analogous to that of the reticulated layer in the Nemertean proboscis.

In transverse section the proboscis shows externally the well-marked fibrous investment, which is densest at the two poles; then a series of radiate fibres which make up the bulk of the organ, and pass from without inward to the thin basement-layer beneath. These elastic fibres, as ordinarily seen, are parallel, and readily separated from each other. They are also smooth throughout, when isolated. In mass, however, they often present a peculiar wavy appearance, a feature most marked externally. Circular fibres occur here and there externally in the sections, so that they would appear to be present in most forms, though much more largely developed in some than others. The cap or external investment of each pole is formed of a layer differentiated from the rest. Externally is a coat of elastic tissue, then a stratum of thick zig-zag and probably elastic fibres which in thin transverse sections are continuous from side to side. In dilatation of the proboscis this elastic coat will probably be quite straight; in the ordinary position in retraction it assumes a zig-zag condition. Beneath the basement-layer just mentioned is a considerable glandular and fibrous covering, apparently the homologue of the hypoderm. It is composed for the most part of fan-shaped groups of fibres spreading from a granular and glandular base toward the innermost coat of the organ. This forms a small conical fold, projecting inward, at each pole. The inner layer is firm, chitinous, and translucent.

The ventral area is large and well defined, and the nerve-cords are rounded or ovoid. The hypodermic area is somewhat spindle-shaped, beginning by a narrow end under each longitudinal ventral muscle, and assuming considerable depth in the median line. The cuticle is of moderate thickness.