

the sections being somewhat semicircular and of considerable thickness. These fibres pass backwards (causing the ridge on the ventral surface in contraction) towards the pedicle, which they enter, filling the central space. In transverse section the appearance of the latter varies, but in the best preparations a certain uniformity is observable (Pl. IV. fig. 5), viz., beneath the smoothly rounded hypoderm a median fold occurs in the basement-tissue dorsally, while a much larger and wider one occurs ventrally, and at each side of this an inner longer and an outer shorter process exist. The whole has a symmetrical appearance. Such an outline would indicate that the basement-tissue was elastic and that no circular muscular fibres existed, and indeed from the descriptions of Vogt and other authors similar elastic tissues subserve the function of circular fibres in *Loxosoma*. In some sections of unstained examples the thick basement-tissue had a somewhat different aspect (Pl. VII. fig. 2), probably from the condition after immersion in spirit; this, however, was exceptional. A layer of fine longitudinal fibres lies on the inner surface of this coat, and from it numerous transparent and somewhat gelatinous fibres of connective-tissue pass to the central area, which contains large structures deeply stained and almost resembling gland-cells, but which appear to be sections of the long mobile muscular fibres continued from the fundus of the body into the pedicle. The close approach made by these to the "muscular band of closely-set fusiform cells" described by Lankester in the stalk of *Rhabdopleura* is noteworthy; they probably represent a further development of that tissue—in which the cells have disappeared. A similar series of muscle-cells in the stalk is described by Harmer in his valuable paper on *Loxosoma*.¹ In contraction the transverse wrinkles of the basement-tissue are so close that they resemble a circular muscular coat.

No distinct canal is thus observed in the centre of the pedicle throughout its length. Towards the tip, however, certain spaces containing what appears to be a coagulable fluid occur, and also globules and granules, as explained in connection with the buds.

The pedicle in *Cephalodiscus* is thus evidently a development of the body-cavity, which in the young bud freely opens into its upper region. It differs, therefore, from the soft stalk of *Rhabdopleura*, first so clearly described by Professor Allman, for that has no connection with the body-cavity in the adult; yet as the development of both forms is unknown a little reservation is necessary, especially as it also contains muscular fibres in *Rhabdopleura*, and gives rise to the buds and branches. The fibres of the stalk in *Rhabdopleura*, according to Professor Sars, proceed "rather high up on the ventral side," and "over the skin which encloses the digestive apparatus. Its ventral fibrous part may still be traced (see fig. 15) a considerable distance forward in the form of a rather wide, clear, skin-border which gradually disappears in front of the cardia. In this skin-border the fine longitudinal fibres may still be distinctly observed diverging like radii, but I was not able to trace their course further."² The arrangement of the parts

¹ *Op. cit.*, p. 19.

² *Op. cit.*, p. 10.