

# PLATE I.

## Explanation of the letters used in the Plates.

<p><i>al</i> Alimentary canal.  <i>an</i> Anus.  <i>bc<sup>1</sup></i> Body-cavity of præoral lobe.  <i>bc<sup>2</sup></i> Body-cavity of second region.  <i>bc<sup>3</sup></i> Body-cavity of trunk.  <i>bp</i> Branchial plumes.  <i>bt</i> Basement-tissue.  <i>cb</i> Ciliated hypodermic organ.  <i>cm</i> Circular muscular coat.  <i>cos</i> Peculiar ciliated folds (sensory ?).</p>	<p><i>gbs</i> Glandular organ at posterior end.  <i>hp</i> Hypoderm.  <i>int</i> Intestine.  <i>lm</i> Longitudinal muscular fibres.  <i>lpm</i> Longitudinal muscular coat  (somewhat pennate).  <i>m</i> Mouth.  <i>msv</i> Ventral mesentery.  <i>msd</i> Dorsal mesentery.  <i>np</i> Nephridia.</p>	<p><i>ns</i> Nerve-centre.  <i>nl</i> Nerve-cords.  <i>æ</i> Esophagus.  <i>ov</i> Ova.  <i>r</i> Rectum.  <i>rm</i> Radiate muscles.  <i>vb</i> Blood-vessels.  <i>vc</i> Vascular spaces in region behind  tentacles.  <i>vt</i> Stomach.</p>
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Fig. 1. Outline of *Phoronis buskii* from the posterior aspect, that is, with the split between the branchial fans and the anal region facing the observer. Enlarged about four times.

Fig. 2. Opposite aspect of the anterior end of the same form, which in this case shows two longitudinal grooves. Similarly enlarged.

Fig. 3. Transverse section of the anterior region of the body—in the region of the rectum, and with the lateral vascular spaces, *vc*, which may represent the collar-cavities, still present. The ciliated thickenings on the mesenterial wall are seen at *cos*, and the nephridial channel just before it ceases at *np*. x 40 diam.

Fig. 4. Transverse section of the anterior region of the body behind the former, and after the parts have assumed the typical condition, with the somewhat pennate longitudinal muscular bands. The intestine at this part is empty, and has assumed its usual triradiate aspect, the mesentery, *msd*, fixing it dorsally and ventrally and also on the right. The peculiar ciliated fold of the other (left) mesentery is seen at *cos*. The large median and lateral (right) blood-vessels are cut at *vb*; and one of the anastomatic branches at *vb<sup>1</sup>*; *msv*, the ventral mesentery. x 40 diam.

Fig. 5. More highly magnified view of a portion of the body-wall in the same region. The hypoderm, *hp*, has a pale cuticular margin, and abuts on the basement-tissue, *bt*; *cm*, circular muscular coat; *lpm*, foliate or penniform arrangement of the longitudinal muscular fasciculi, with basal processes, and intermediate connective-tissue and radiate muscular strands, *rm*. x 350.

Fig. 6. Transverse section of the body-wall near the posterior end. The peculiar arrangement of the longitudinal fibres just inside the basement-tissue is shown at *lm*, spaces, moreover, occurring within these, apparently from contraction of the circular fibres and basement-tissue. Within the circular coat (*cm*) is a granular endothelium or a modification of this coat.

Fig. 7. Section of a branchial tentacle with the hypoderm less developed than in the following.

Fig. 8. Section of a branchial tentacle in which the hypoderm completely surrounds the basement-tissue, and has long cilia on its broad edge.