

PLATE XV.

- Fig. 1. *Cerebratulus longifissus*, n. sp. Transverse section through the proboscidian sheath. *a*, the inner longitudinal muscular layer of the body wall; *pr.sn*, the proboscidian sheath nerve; *Pr.S*, the lumen of the proboscidian sheath; *e*, its inner epithelial lining; *b*, the homogeneous basement membrane of this epithelium, traversed by radial fibres and separating the aforesaid epithelium from the muscular layers (an inner longitudinal, and an outer circular) of the proboscidian sheath; *Gt*, the gelatinous tissue between the proboscidian sheath, the intestine and the body wall; *dv*, the dorsal blood-vessel.
- Fig. 2. *Cerebratulus macroren*, n. sp. Transverse section of the proboscis. *b*, the ensheathing membrane; *a'* and *γ'*, the two layers of longitudinal, *β'*, the layer of circular muscular fibres, the latter connected crossways at two diametrically opposite points with the membrane *b*; *n.pl*, the nerve-plexus between *β'* and *γ'*; *E*, the very high inner epithelium with smaller (*c*) and larger (*C*) batteries of nematocysts.
- Fig. 3. *Cerebratulus macroren*, n. sp. Transverse section of the proboscis much further backwards; the proboscis is thinner, the muscular fibres (*a*) only longitudinal, the epithelium (*E*) flattened, the nervous plexus replaced by two longitudinal nerve-stems *N*.
- Fig. 4. *Cerebratulus angusticeps*, n. sp. Head. *a*, from below; *b*, side view.
- Fig. 5. *Cerebratulus parkeri*, n. sp. Head. *a*, side view; *b*, from below. $\times 1\frac{1}{2}$.
- Fig. 6. *Cerebratulus* sp. inc. Two fragments from Japan. $\times 2$. *a*, dorsal view; *b*, ventral view.
- Fig. 7. *Cerebratulus* sp. inc. Transverse section of one of the fragments of fig. 6. *I*, the integument; *a*, *β*, and *γ*, the much reduced muscular layers; *N*, the lateral nerve-stems; *Int*, the intestinal canal and caeca, suspended in the gelatinous ground tissue *Gt*; *Gt'*, the same tissue expanded between the very sparse external fibres of the muscular layer *γ*; *Pr.S*, the proboscidian sheath; *bv*, the blood-vessels.
- Fig. 8. *Cerebratulus* sp. inc. Lateral view of the head of another specimen from Japan (Kobe).
- Fig. 9. *Cerebratulus longifissus*, n. sp. Longitudinal section of the tail end. *I*, the integument; *Int*, the intestinal epithelium; *a*, *β*, *γ*, the muscular layers; *npl*, the nerve plexus. This figure is meant to show the general aspect of the muscular layer *a*, more highly magnified in fig. 10.
- Fig. 10. *Cerebratulus longifissus*, n. sp. The muscle-fibres of the layer *a* are seen to present a more considerable diameter in successive vertical planes, forming rings round the intestine and alternating with others in which this increase in diameter is not visible. Nuclei are also more numerous in the former portions than in the latter; *Ep*, the intestinal epithelium; *Gt*, the gelatinous tissue between this and the body musculature, with bundles of radial fibres.
- Fig. 11. *Amphiporus moseleyi*, n. sp. Transverse section of the lateral region with glandular cavities (*gl*), arranged along the lateral line between the dorsal and ventral musculature *a*, piercing the circular muscular layer *β* at *e*, and suspended by the gelatinous tissue *gt*. *I*, integument; *B*, basement membrane.
- Fig. 12. *Amphiporus moseleyi*, n. sp. One of the glandular caeca, more considerably magnified, with granular epithelium and flattened nuclei exteriorly, the latter belonging to the surrounding gelatinous tissue.
- Fig. 13. *Drepanophorus lankesteri*, n. sp. A section of similar glandular caeca in the dorso-median region of the head.
- Fig. 14. *Amphiporus marioni*, n. sp. A very unripe generative caecum, not yet opening to the exterior. *β*, Circular, *a*, longitudinal muscular layer. The caecum reaches down into the gelatinous tissue, *gt*.
- Fig. 15. *Amphiporus marioni*, n. sp. Ova in different stages of development.
- Fig. 16. *Cerebratulus parkeri*, n. sp. An ovum.
- Fig. 17. *Drepanophorus serraticollis*, Hubr. An ovum.
- Fig. 18. *Cerebratulus* sp. inc. A batch of ova from a ripe generative caecum of a specimen from Station 321. The ova are surrounded by a hyaline membrane (which has erroneously been dotted by the lithographer) and pressed into polygonal shapes.
- Fig. 19. *Cerebratulus macroren*, n. sp. Part of a transverse section, in outline. *Prs*, The cavity of the proboscidian sheath; *I*, integument; *γ*, *β*, the muscular layers; *N*, the longitudinal nerve-stem; *ge.c*, the generative caecum; *o*, its exterior opening. The duct to this opening, where it pierces the layer *γ*, is considerably extended in bulk.
- Fig. 20. *Amphiporus moseleyi*, n. sp. A longitudinal section through the greater part of the compressed oesophagus *Oe*, and subjacent intestinal caeca (*co*).