

## PLATE XII.

- Fig. 1. *Cerebratulus macroren*, n. sp. Transverse section through a part of the brain-lobes of the New Zealand specimen. The medullary nerve (*m*) is still in connection with the brain-lobes (*bl*); *prs*, the proboscis, passing between the nervous ring formed by the brain-lobes and their commissures. Superiorly two bundles of longitudinal muscle-fibres are enclosed by the brain-tissue.
- Fig. 2. *Cerebratulus macroren*, n. sp. Transverse section of the body-wall in the region of the lateral nerve-stem (Japanese specimen).  $\alpha\beta\gamma$ , the three muscular layers, the latter with the deeper integumentary glands embedded between the muscle-bundles (*cf.* Pl. XI. figs. 10, 11); *pl*, the nerve plexus; *b*, the secondary basement membrane with the thin layers of integumentary muscles just below it; *J*, the cellular integument; *N*, the lateral nerve-stem, into the fibrous core of which part of the fibres of the plexus may be seen to be interwoven.
- Fig. 3. *Cerebratulus corrugatus*, M'Int. Transverse section of the medullary nerve (*m*) at a point where a pair of transverse stems (*cf.* Pl. XIV. fig. 1) merge into it. *n*, these nerve-stems (being thickened tracts in the plexus, *pl*); *pf*, nerve fibres radially emerging from these tracts and having the significance of sensory or motor peripheral twigs; *fi*, radial fibres (not nervous) piercing the plexus (*cf.* Pl. XIII. figs. 3, 4, *rf*).
- Fig. 4. *Cerebratulus corrugatus*, M'Int. Transverse section of the medullary nerve of another specimen. Lettering as in the foregoing figure.
- Fig. 5. *Drepanophorus lankesteri*, n. sp. Transverse section of the lateral nerve stem (*N*), with two peripheral nerves, *pf*, springing from it. The fibres of the latter partly emerge from the ganglion cells, partly from the fibrous core of the lateral stem.
- Fig. 6. *Drepanophorus serraticollis*, Hubr. A portion of a transverse section through the proboscis. *ll'*, the longitudinal muscle-fibres, in two strata, between which lies the nerve-plexus *np*, of which *ln* is one of the longitudinal thickenings (nerve-stems); *o.c.*, the outer; *i.c.*, the inner layer of circular fibres; *b*, transparent basement tissue.
- Fig. 7. *Cerebratulus macroren*, n. sp. Transverse section of the superior nervous connection between the two brain-lobes (Japanese specimen). Nerve cellular elements predominate in this region whence the medullary nerve is continued both backwards and forwards. *nl*, the homogeneous layer forming an investment to the nerve-tissue; *prs*, the proboscidian sheath in outline.
- Fig. 8. *Cerebratulus macroren*, n. sp. A few sections further backwards. The medullary nerve *m* is here more distinct, its anterior continuation *m'* being on the point of coalescing with it. Lettering as in fig. 7. *pr*, outline of the proboscis; *Br*, fibrous core of the brain-lobe.
- Fig. 9. *Cerebratulus medullatus*, n. sp. Transverse section of the medullary nerve (*m*). *pl*, the plexus;  $\beta$  and  $\alpha$ , the circular and longitudinal muscular layers; (inner circular muscular fibres are seen to form the outer layer of the proboscidian sheath); *prn*, the proboscidian sheath nerve, receiving delicate fibres from the medullary nerve and situated just above the proboscidian sheath musculature.
- Fig. 10. *Cerebratulus medullatus*, n. sp. Integument and muscular body wall. Lettering as in fig. 2. *dgl*, the deeper glands of the integument enclosed in the musculature.