

PLATE XIV.

- Fig. 1. *Cerebratulus angusticeps*, n. sp. The medullary nerve (*m*) and the transverse paired metameric nerve-stems (*trn*). Drawn with the camera. 1 mm. on the same scale is indicated on the left of the figure.
- Fig. 2. *Cerebratulus corrugatus*, M'Int. Transverse section of the lateral nerve-stem (*LN*) and body-wall. *a, β, γ*, the muscular layers; *B*, the primary basement membrane, and *J*, the integument in outline (cf. Pl. XIII. fig. 6); *rf*, radial fibres piercing the muscular layers; *n* and *pn*, nerve-tracts, of which one (*pn*) is seen to emerge directly from the lateral nerve-stem and to innervate the sensory layers of the integument; *npl*, nerve-plexus.
- Fig. 3. *Cerebratulus corrugatus*, M'Int. Diagrammatic figure of a transverse section in the mouth-region to show the innervation of the œsophagus and blood-lacunæ. *OeE*, the œsophageal epithelium; *Prs*, the proboscidian sheath; *co.l*, the circumœsophageal blood-lacuna. In the nerve-plexus, which is indicated by a black line, *m* marks the medullary nerve, and *nl*, the lateral nerve-stems; *vi.n*, the visceral branches springing from the plexus; *n.va*, the vagus ramifications transversely cut and intermixed with the branches *vi.n*.
- Fig. 4. *Cerebratulus corrugatus*, M'Int. Part of the same section as fig. 3, more considerably enlarged. Lettering as in fig. 3; *npl*, nerve-plexus; *rf*, radial, not nervous fibres; *a.β.γ*, the muscular layers; *c.o.l*, the blood-lacunæ with cellular coating. The œsophageal epithelium (*oe.E*) is not represented in its whole thickness.
- Fig. 5. *Cerebratulus parkeri*, n. sp. Diagram, drawn with camera, of the inferior brain-lobes, *Br*, and the vagus nerve (*va*) springing from them, the two stems being united by a series of transverse commissures *co* close to their origin. The brain-lobes merge into the lateral nerve-stem (*N*); the ventral metameric connections of the latter are indicated by dotted lines, *v.tr.n*, those of the brain-lobes being lettered *c.tr.n*; *Oe*, outline of the œsophageal epithelium.
- Fig. 6. *Cerebratulus angusticeps*, n. sp. Horizontal section of the left upper and posterior brain-lobes (*Br* and *PBr*); *c.ol.*, *cl*, the free blood-lacuna between the brain, the proboscidian sheath, and the œsophagus, the boundaries of these two latter being only indicated by dark shading; *a, β*, muscular layers; *ln*, anterior portion of lateral nerve-stem, the ganglion cells of the cellular investment being here cut; *cc*, the outwardly directed portion of the ciliated canal inside the posterior brain-lobes; *cc'*, *cc''*, the deeper portion of the same being cut in two places, because of the S-shaped curve which this canal makes inside the brain-lobe. The relatively large size of the posterior brain-lobe, and the preponderance of fibrous nerve-tissue in the upper lobe, are indicated in this figure.
- Figs. 7, 8. *Cerebratulus macroren*, n. sp. Two transverse sections (a few sections apart) through the posterior brain-lobe and its investment of large granular glandular cells (*g.cl*). *m*, the outer membranous investment of the lobe; *n.cl*, the ordinary ganglion cells with fibrous core in the centre of the lobe; *cc*, the ciliated canal with an epithelium of its own, more distinct in fig. 8 than in fig. 7.
- Fig. 9. *Drepanophorus lankesteri*, n. sp. Part of a horizontal section through the upper brain-lobe, with interior fibrous core (cf.) and outer layer of ganglion cells, *n.cl*; a few of which are much larger (*nCl*).
- Fig. 10. *Drepanophorus lankesteri*, n. sp. Part of a horizontal section through the posterior brain-lobe. *Bm*, the outer investment of the lobe; *n.cl*, the nerve-cells; *cc*, the ciliated canal with its epithelium; *g.cl*, the granular glandular cells; the anterior ones pouring their contents into the lumen of the ciliated canal.
- Fig. 11. *Cerebratulus macroren*, n. sp. Part of a transverse section through the head, showing the ciliated canal to the posterior brain-lobe in its course from that lobe (*PBr*) to the exterior. *g.cl*, the granular glandular cells; *cc*, the lumen of the canal, coated by an epithelium of varied histological character as we pass outwards towards *E*, the external layer of the integument. At *gl*, a sort of ring-shaped cushion of peculiar cells may be said to embrace the canal (cf., Pl. VI. figs. 1-3). Just behind this the epithelial cells are very closely set and provided with elongated nuclei, further backwards they are seen to pass without any sudden transition into those lining the canal, inside the brain-lobe.