

## PLATE X.

- Fig. 1. *Amphiporus marioni*, n. sp. Part of a transverse section through the oesophageal region, indicating the relative importance of the musculature with respect to the integument and the gelatinous tissue. *Prs*, proboscidian sheath in contracted state, the outline only partly worked up to show the interlacement of muscular fibres, the basement layer and the internal epithelium; *dv*, dorsal blood-vessel surrounded by gelatinous tissue, as is the proboscidian sheath, and *Oe*, the oesophagus with its cellular epithelium. Outside of this there is a layer of darker fusiform bodies, which are most probably unicellular parasitic organisms. *Gt*, the gelatinous tissue;  $\alpha$ , the longitudinal,  $\beta$ , the circular muscular coat; *at ne*, a bundle of nerve-fibres spreads between  $\alpha$  and  $\beta$  after having traversed the musculature between two of the larger bundles of  $\alpha$ ; *B*, thick basement membrane with only a few nuclei; *J*, integument; *LN*, longitudinal nerve; *Nep*, nephridial tubules; *Nep.d*, part of the communicating duct of the nephridia with the exterior; *inc*, peculiar crystalloid inclosures of a greenish colour, irregularly distributed in the gelatinous tissue.
- Fig. 2. *Drepanophorus lankesteri*, n. sp. Part of a section through the tail end. *J*, the integument, with an outer layer of sense-cells and supporting cells; granular glands leading to the exterior, a layer of nuclei and one of deep lying cells with fainter nuclei; *B*, basement membrane with imbedded nuclei;  $\alpha$ , the longitudinal,  $\beta$ , the circular muscular layer; *Gt*, the gelatinous tissue with nuclei and cells inclosed, certain of these being on their way of transformation into fibres; *LN*, longitudinal nerve-stem.
- Fig. 3. *Amphiporus moseleyi*, n. sp. Horizontal section through the tip of the snout. *Pr*, proboscis and its musculature passing into and being the direct continuation of  $\alpha$ , the longitudinal muscular layer; *Prs*, the proboscidian sheath; *Sp.Pr*, muscular arrangement in the wall of the rhynchodæum constituting a sphincter; *Rh*, external opening of the rhynchodæum, which is internally clothed by a layer of cells very gradually passing into the proboscidian epithelium, and externally into *J*, the integument; *B*, basement membrane;  $\beta$ , circular muscular layer, obliquely cut; *Gt*, gelatinous tissue; *Br*, *Br'*, left and right brain-lobes; *E*, eyes; *gls*, lateral glands, continued along both sides of the animal (cf. Pl. XV. figs. 11, 12).
- Fig. 4. *Drepanophorus lankesteri*, n. sp. Proboscidian sheath with diverticula (*div.Pr*s). *Prs.ep*, epithelium of the sheath, separated by folded basement tissue from the muscular wall.
- Fig. 5. *Drepanophorus serraticollis*, Hubr. Proboscidian sheath with thicker muscular walls and thinner walled diverticula (*div. Pr*s.).
- Fig. 6. *Eupolia giardii*, n. sp. The boundary line between integument and body musculature. *Jdv*, deeper layer of vacuolated cells of the integument; *B*, reduced and folded primary basement membrane;  $\gamma.vl$ , outer longitudinal muscular layer with large vacuolated cells and rare muscle fibres. The vacuolated cells have larger nuclei than those of the integument (cf. Pl. VII. fig. 5).
- Fig. 7. *Cerebratulus* sp. inc. (*medullatus*?). Transverse section of medio-dorsal region. *J*, integument; *b*, secondary basement membrane;  $\gamma$ , outer,  $\alpha$ , inner longitudinal,  $\beta$ , circular muscular layer; *Prs.ep*, epithelium of the proboscidian sheath; *PrsN*, longitudinal nerve of proboscidian sheath; *ne*, nervous layer with median medullary thickening.
- Figs. 8, 9. *Cerebratulus macroren*, n. sp. The proboscidian sheath wall and intestinal epithelium wholly (fig. 9) and half (fig. 8) distended by the proboscis. *dv*, dorsal blood-vessel (in fig. 8 still within the proboscidian sheath cavity); *Prs.ep*, the epithelium of the proboscidian sheath, supported by a homogeneous membrane, *b*, and surrounded by muscular layers *m.Pr*s. *Oe.ep*, epithelium of the oesophagus.