

## PLATE VII.

- Fig. 1. *Eupolia australis*, n. sp. Diagram of a section through the posterior part of the oesophageal region. *Ps*, proboscidian sheath with underlying dorsal blood-vessel; *bs*, lateral blood-spaces, continued backwards, but not much further than the oesophageal region; *bv*, ventral blood-vessels; *Oe*, cavity of the oesophagus; *Nst*, lateral nerve-stems; *E*, outer integumentary layer.
- Fig. 2. *Eupolia australis*, n. sp. Section of the body-wall about in the same region as the diagram of fig. 1, and in the vicinity of the left ventral blood-vessel. *E*, outer epithelial layer with unicellular glands; *B*, its (secondary) basement membrane; *ef*, scattered longitudinal and circular fibres beneath this; *gi*, subepithelial glandular layer; *olm*, outer longitudinal muscles, as yet very far from being a compact layer; *cm*, circular muscular layer; *ilm*, inner layer of longitudinal muscles; *ct*, cellular coating of the circumoesophageal blood-space. (Between *olm* and *gi* the reference letter *Bet*, indicating the primary basement tissue (*cf.* figs. 3, 5), should be inserted.)
- Fig. 3. *Eupolia australis*, n. sp. Section of body-wall of the same specimen, very much further back. Lettering as in fig. 2. Moreover, *Bet*, fibrous connective tissue (primary basement membrane) between *gi* and *olm*; *Je*, epithelium of the intestine; *bv*, left ventral blood-vessel. The outer longitudinal muscular layer is thinner, but at the same time much more compact than it was in the section of fig. 2. The blood-vessel and its surroundings, as well as the intestinal epithelium, are only represented diagrammatically.
- Fig. 4. *Eupolia giardii*, n. sp. A transverse section through the dorso-median (medullary) nerve-stem (*dmN*). The nerve-fibres are transversely cut; the nuclei are distinct. *Nl*, the nervous layer, continuous with the median stem; *olm*, outer longitudinal muscular layer with a considerable amount of gelatinous connective tissue (*ct*) between the separate bundles.
- Fig. 5. *Eupolia giardii*, n. sp. Portion of a transverse section through the body-wall (*cf.* Pl. VI. fig. 9). Only a small portion of the very thick circular muscular layer *cm* is here represented. Lettering as in figs. 2 and 3. *Nst*, longitudinal nerve-stem; *Nep*, two radial ducts of the nephridia leading outwards, one of them opening to the exterior at *ne.o*. The outer longitudinal muscular layer is far from compact, the secretion of the sub-epithelial glands *gi* can be traced piercing the layers, *ef*, *B* and *E*.
- Fig. 6. *Eupolia nipponensis*, n. sp. The outer ciliated epithelium (*E*) and unicellular glands ("Schleimstäbchenzellen") secreting their product (*u.g*) to the exterior, supported by the basement membrane *B*.
- Fig. 7. *Eupolia australis*, n. sp. Longitudinal section in the posterior region of the body-wall, to show the generative ducts (*gd*) leading from the generative sacs (*gon*) outwards and piercing the muscular layers (*ilm* and *cm*) above the nerve-stem (*Nst*).
- Fig. 8. *Eupolia giardii*, n. sp. The sub-anal nervous commissures in a horizontal section. *J*, cavity of intestine; *Je*, epithelium of the same; *N*, *N'*, the right and left longitudinal nerve-stem communicating by the transverse commissure; *E*, external epithelium.
- Fig. 9. *Eupolia delineata*, n. sp. Longitudinal section through the body-wall. Lettering as in figs. 2 and 3. *efp*, the external longitudinal and circular fibres that belong to the integument and have the pigment between them.
- Fig. 10. *Eupolia delineata*, n. sp. Section of the proboscidian sheath. *Ps*, the cavity of the sheath lined by cells which are again encircled by a very attenuated circular layer; *bl*, blood-spaces outside of the proboscidian sheath; *cts*, strings of connective tissue by which the proboscidian sheath is suspended to the body-wall.
- Fig. 11. *Eupolia nipponensis*, n. sp. Transverse section through the nervous layer (*Nl*). Nuclei are found imbedded in the nerve-substance and fibrous nerve strings stretch out from it radially at different points. *olm* and *cm*, the muscular layers.
- Fig. 12. *Eupolia nipponensis*, n. sp. The oesophageal wall, in transverse section. *cm* and *ilm*, muscular layers of body-wall; *bs*, blood-space inside of these. The wall of the oesophagus is constituted of an inner ciliated epithelium *Je*, a basement layer *B*, and a thick layer of glandular cells *Jm*.