

PLATE III.

- Fig. 1. *Carinina grata*, n. gen. et sp. Longitudinal section through a loop of the proboscis. In the upper section the proboscidian epithelium (*Pe*) is much more columnar, in the lower one it is thrown into folds and much more loosely applied against the musculature.
- Fig. 2. *Carinina grata*, n. gen. et sp. A part of the last mentioned region, more considerably enlarged.
- Fig. 3. *Carinina grata*, n. gen. et sp. A longitudinal section through the body-wall. *Cm*, the inner circular muscular layer (δ of Pl. XI.); *LM*, the longitudinal muscles (α of Pl. XI.); *ec*, the outer circular muscular layer (β of Pl. XI.); *B*, the homogeneous basement membrane; *Nl*, the deepest layer of the integument, with plexiform nerve tissue (the lithographer has given too stellate an appearance to these histological elements); *Gi*, the deeper glandular stratum; *E*, the outer stratum of the integument.
- Fig. 4. *Carinina grata*, n. gen. et sp. The same, in a region where the gland-cells of the glandular stratum are all considerably reduced and the basement membrane contracted into waves. The nervous plexus is not indicated in this figure. Lettering as in fig. 3.
- Fig. 5. *Carinina grata*, n. gen. et sp. A horizontal section through the point of insertion of the proboscis in the head. The cellular integument is coloured red. *M*, the musculature, chiefly longitudinal, from which fibres emerge to pass backwards into the musculature of the proboscis, the epithelium of which is marked *Pe*. Other radial fibres attach the rhynchodæum in the head, the cellular coating of which (*APe*) is thicker and more vacuolated than that of the proboscis. *Bl* (upper), blood-space in the head; *Bl* (lower), space of proboscidian sheath; *cf*, cephalic furrow.
- Fig. 6. *Carinina grata*, n. gen. et sp. More enlarged figure of a transverse section of the body-musculature. Lettering as in fig. 3. Moreover, *ct*, hyaline gelatinous tissue between the muscular bundles, carrying nuclei. Other nuclei are detected in the centre of the muscle bundles. To the left of the layer *Cm* there is a faint indication of what is possibly a second internal layer of plexiform nerve-tissue.
- Fig. 7. *Carinina grata*, n. gen. et sp. Enlarged figure of a transverse section of the lateral nerve-stem. *Nst*, the fibrous core with sparse nuclei; *Ngc*, the cellular investment of the stem, continued into *Nl*, the nerve plexus, all three still forming part of the deeper layers of the integument, which by the basement layer *B* (not passing over the nerve-stem) is separated from the subjacent muscular layers (*ec*); *Gi*, the deeper gland-cells of the integument. The nerve-trunk is attached by fibres binding it down to the muscular layers.
- Fig. 8. *Carinina grata*, n. gen. et sp. The same in tangential section. Lettering as in the preceding figure. The attaching fibres are seen to be not continuous but arranged in closely set bundles. The integumentary gland-cells show different colours in the left and in the right half of the section; in the intervening region they are not developed; this would thus correspond to such a region as is represented in fig. 4 in longitudinal section.