

PLATE LXVIII.

- Fig. 1. Diagrammatic sketch of the head of *Ipnops* to show the relation of the various structures. *S*, crest of cartilaginous median septum of skull; *B*, pigmented margin of phosphorescent organ; *T*, bony longitudinal canal; *a*, orbital (?) convex area of skull-roof; *b*, flattened concentrically striate area of same; *d*, posterior region of phosphorescent organ lying over the cranial roof; *e*, region of phosphorescent organ lying between the bony longitudinal canal and the septum.
- Fig. 2. Vertical transverse section across the snout of *Ipnops*, about on a level with the point indicated by the letter *T* in fig. 1. Lower jaw removed. *S*, horizontal plate and median septum of hyaline cartilage, shaded dark; *P*, transparent roof of skull; *T*, longitudinal canal on surface of skull-roof in section; *M*, its contained mucous canal; *N*, nasal branch of fifth nerve in section; *O*, plate of connective tissue completing the median septum; *R*, phosphorescent organ; *X*, connective tissue layer beneath the organ; *W*, section of internal margin of phosphorescent organ; *V*, section of external margin of the same. Each margin shows a thickening of pigment.
- Fig. 3. A portion of the phosphorescent organ viewed from above by reflected light. Ten of the hexagonal columns remain *in situ*.
- Fig. 4. A portion of the same viewed by transmitted light. *a*, ramifications of capillary blood-vessels.
- Fig. 5. Vertical section of the phosphorescent organ, showing the rounded bases of the hexagonal columns. The under surface is partly seen in perspective; *e*, surface layer of cells; *b*, rods; *c*, hexagonal pigment-cells.
- Fig. 6. Vertical section of phosphorescent organ through three hexagonal columns, very highly magnified. *a*, blood-corpuscles in a small blood-vessel seen in section. The blood-vessel is held *in situ* by part of the connective tissue layer lying beneath the phosphorescent organ, in which lies a large ramified pigment-cell, *b*; *c*, hexagonal pigment-cell forming base of a hexagonal column seen in section; *d*, its nucleus; *e*, superficial cells of phosphorescent organ; *f*, rods; *h*, bracket embracing the rods belonging to a single hexagonal column; *g*, pigmented ramifying string seen in section.
- Fig. 7. Two of the rods with their corresponding cells, very highly magnified. Only about two-thirds of the length of the rods is shown.
- Fig. 8. Two rods, less magnified, with nuclei near their inferior extremities.
- Fig. 9. The cells of the superficial cell-layer of the phosphorescent organ viewed from above.
- Fig. 10. Hexagonal pigment-cells viewed from the under surface of the phosphorescent organ. Also one of these from above, showing its cup-like form.
- Fig. 11. One of the hexagonal columns viewed from above, so that the component rods are seen in optical section.
- Fig. 12. View of the phosphorescent organ from above by transmitted light, showing the ramified network of pigmented strings.
- Fig. 13. The pigmented network much more enlarged.
- Fig. 14. The same still more enlarged, showing its relation to the hexagonal pigmented cells. *g*, pigmented strings; *c*, hexagonal pigmented cells.
- Fig. 15. Ramified pigment-cell from the connective tissue layer beneath the phosphorescent organ.
- Fig. 16. Structure of the connective tissue layer beneath the phosphorescent organ; *a*, a few hexagonal columns left standing on the layer; *b*, connective tissue and other elements; *c*, nerve; *d*, blood-vessel; *e*, ramified pigment-cells. For purpose of clearness the other elements are omitted where the pigment-cells are represented.
- Fig. 17. Special arrangement of pigment at the margin of the phosphorescent organ.