

PLATE LXXIII.

Figs. 45-48. *Halosaurus macrochir*.

- Fig. 45. Transverse vertical section of the glandular phosphorescent organ below the gill-cover. $\times 15$.
a, Granular substance; *b*, vertical threads; *c*, structureless reflecting cuticular membrane; *d*, pigment-layer.
- Fig. 46. Transverse vertical section of the same organ. $\times 250$.
a, Granular substance; *b*, vertical threads, consisting of blood-vessels, nerves, and a cartilaginous support; *c*, structureless reflecting cuticular basal membrane; *d*, pigment-layer; *e*, outer pavement epithelium.
- Fig. 47. Tripolar cell from the granular substance. $\times 600$.
- Fig. 48. Bipolar cell from the same. $\times 600$.

Figs. 49-53. *Xenodermichthys nodulosus*.

- Fig. 49. Transverse vertical section of the ducts of the slime-glands in the sides of the body. $\times 100$.
a, Outer pavement epithelium with scattered pigment; *b*, proximal end of efferent duct; *c*, thick pigment-layer of the dermis; *d*, transparent fibrous tissue.
- Fig. 50. Axial section of a projecting ocellar phosphorescent organ, from the side of the body. $\times 100$.
a, Thick pigment-layer of the dermis; *b*, outer pavement epithelium, with scattered pigment; *c*, thick pigment-layer covering the upper proximal portion of the organ; *d*, internal crest dividing the organ into a proximal and a distal portion; *e*, limit of the pigment cover; *f*, nerve passing into the organ; *g*, thick pigment-layer on the proximal side; *h*, proximal granular portion, with large nuclei; *i*, typical phosphorescent clavate cells; *k*, pigment patches; *l*, transparent epithelium.
- Fig. 51. Bipolar cell from the distal portion of the same organ. $\times 800$.
- Fig. 52. Typical phosphorescent clavate cells, from the same. $\times 800$.
a, Light-refracting vesicle; *b*, nucleus; *c*, peduncle.
- Fig. 53. A similar clavate cell with abnormal refractive vesicle, from the same. $\times 800$.
a, Two light-refracting vesicles; *b*, nucleus; *c*, peduncle.

Figs. 54-64. *Halosaurus macrochir*.

- Fig. 54. Surface view of the reflecting membrane, clothing the spaces between the modified scales of the lateral line. $\times 1400$.
- Fig. 55. Transverse section of the large lateral slime-canal. $\times 150$.
a, Phosphorescent tissue overlying the slime-canal; *b*, gland-tubes; *c*, short cylindrical longitudinally situated cells, with well-defined cell-wall, occupying the lower portions of the slime-canal; *d*, irregular cells surrounding the lumen of the slime-canal; *e*, lumen of the slime-canal; *f*, muscular fibres.
- Fig. 56. Tripolar cell, from the slime-canal; adjacent to the lumen. $\times 400$.
- Fig. 57. Bipolar cell, from the same situation. $\times 400$.
- Fig. 58. Group of cells, from the slime-canal; adjacent to the outer wall, in transverse section. $\times 500$.
- Fig. 59. Coiled gland-tubes, from the vicinity of the slime-canal. $\times 300$.
- Fig. 60. Longitudinal section of the tissue occupying the spaces below the large modified scales of the lateral line. $\times 500$.
a, Lenticular yellow bodies; *b*, intervening fibrous tissue.
- Fig. 61. Longitudinal section through the slime-canal, showing the phosphorescent organs, in the modified lateral line. $\times 150$.
a, Muscular fibres; *b*, inner portion of the tissue filling the slime-canal; *c*, lumen of the slime-canal; *d*, extensions of the lumen below the inner margin of each scale; *e*, extension of the roof of the slime-canal along the outer side of the proximal portion of each modified scale; *f*, tissue covering the slime-canal; *g*, tissue between the modified scales of the lateral line; *h*, roof of the slime-canal; *i*, modified scales of the lateral line; *k*, posterior margin of the scale; *l*, pigmented membrane covering the outer surface of the modified scales; *m*, pigmented membrane covering the inner surface of the modified scales; *n*, reflecting membrane on the inner side of the modified scales; *o*, reflecting membrane on the outer side of the modified scales; *p*, phosphorescent organ on the outer side of the scale; *q*, transverse ridge of the scale; *r*, inner membrane; *s*, outer membrane; *t*, canal passing through the scale and leading to the phosphorescent organ.
- Fig. 62. Longitudinal section of a portion of the lateral line, near the proximal end of one of the modified scales. $\times 400$.
a, Phosphorescent tissue overlying the slime-canal; *b*, reflecting membrane; *c*, pigmented membrane below the scale; *d*, scale; *e*, pigmented membrane; *f*, reflecting membrane above the scale; *g*, extension of the roof of the slime-canal along the outer side of the proximal portion of the scale; *h*, fibrous tissue; *i*, lenticular yellow bodies of the tissue between the scales.
- Fig. 63. Longitudinal section of the slime-canal, showing the phosphorescent organs in the modified lateral line. $\times 60$.
a, Lumen of the slime-canal; *b*, tissue of the slime-canal; *c*, tissue between adjacent modified scales; *d*, scales and their membranes (compare fig. 62).
- Fig. 64. Transverse section of a phosphorescent organ attached to the outer side of the scale. $\times 400$.
a, Blood-vessels; *b*, ganglion cells; *c*, phosphorescent spindle cells; *d*, granular superficial layer.