

Externally the organ in its dorsal portion is, as mentioned above, covered by a thickly pigmented shell, which possesses a crest, projecting inwards and dividing the contents of the organ into a proximal and distal portion. In this respect this organ appears as a transition between the simple and composite ocellar organs. The side which touches the fish below the base of attachment likewise possesses a thick layer of pigment (Pl. LXXIII. fig. 50, *g*). In the lower end a few superficially situated patches of pigment are found (Pl. LXXIII. fig. 50, *k*). The proximal portion, which corresponds to the sac-shaped part of the composite ocellar organs, is occupied by a mass, which is readily stained, and which contains numerous conspicuous nuclei. The distal portion is filled with elongated cells, which extend parallel to the long axis of the organ, and accordingly point downwards; these cells are very similar to those of the cup-shaped portion of the composite ocellar organs described above. We find, namely, slender spindle-shaped cells (Pl. LXXIII. fig. 51), and the typical phosphorescent clavate cells (Pl. LXXIII. figs. 52, 53, 50, *i*), the club-shaped ends of which are situated distally. They do not form one single regular layer, but are scattered throughout the whole of the distal portion of the organ. The vesicle which reflects the light sometimes appears to be divided into two portions (Pl. LXXIII. fig. 53), but generally it is simple and oval, like the vesicles described above.

c. Innervation.

A very stout nerve enters the organ at the base of attachment and extends into the proximal portion (Pl. LXXIII. fig. 50, *f, h*). A direct connection of this nerve with the typical clavate cells is highly probable.

d. Function.

Within this organ no glandular portion can be discerned, but it seems not improbable that the secretion of the slime-canal system may pass into the organ. There can be no doubt that the typical clavate phosphorescent cells are the light-producing elements of the organ.

e. Development.

It appears that these organs are developed in a similar manner to those sunk in the body, which have been described above. The peculiar structures of the same fish, which are described below, may throw some light on the origin of these organs from the slime-canal system.

f. Doubtful structures in the skin.

On the sides of the body, in close proximity to the organs described above, we find thickenings of the fibrous dermal layer, which lies outside the thick pigment-stratum