

(5) *The slime-canal and its branches.*

Below the lateral line the slime-canal is situated, and it extends in the usual way from the head to the tail. It is about 0.75 mm. wide and regularly cylindrical, with a more or less circular transverse section. Below the base of each scale it is widened, the upper side of it forming a low conical extension, from the summit of which a branch, which extends along the upper surface of the proximal part of the scale, originates. The lumen of the slime-canal is more or less circular in transverse section, and lies excentrically very close to the outer surface of the cylindrical structure. It is about one-third to one-half as wide as the whole organ (Pl. LXXIII. fig. 55, *e*); at the bases of the scales where the canal is extended, the lumen also extends (Pl. LXXIII. fig. 61, *d*). I have not observed a continuation of the lumen into the branches. The lumen of the slime-canal is more or less filled with a granular mucin-precipitate, produced by the action of the spirit, and it is surrounded by the cells of the slime-canal. Here two distinct kinds of cells are met with. Firstly, irregular, granular bi-, tri-, or multi-polar cells with large, readily stainable nuclei (Pl. LXXIII. figs. 56, 57), and secondly, short cylindrical elements, with a regularly circular transverse section, transparent contents, a thick and conspicuous cell-wall, and a small shining nucleus. The former are particularly abundant in close proximity to the lumen, whilst the latter, which form by far the greater bulk of the whole structure, do not exclusively occur towards the surface, but are also met with close to the lumen, intermixed with the granular cells (Pl. LXXIII. figs. 58, 62, *g*). I consider the former to be nervous and the latter glandular. No such structures as those described by F. E. Schulze¹ were observed by me, probably because the specimens at my disposal were not sufficiently well preserved.

The branches which extend along the scales (Pl. LXXIII. figs. 61, *e*, 62, *g*) are composed of both these kinds of cells, the glandular elements being apparently very prevalent. The branches extend tangentially and coalesce to form a *flat expanded continuous layer just above the light-reflecting membrane* over the base of each scale (Pl. LXXIII. fig. 62, *g*).

(6) *The tissue overlying the slime-canal.*

The whole of the space between the slime-canal and the scales is occupied (Pl. LXXIII. figs. 61, *f*, *g*, 55, *a*, 63, *c*, 60, 62, *a*, *h*, *i*) by a peculiar structure, which consists of lenticular bodies of varying size but of uniform shape, interwoven with a tissue composed of very fine threads. These lenticular bodies are very large and numerous; they extend tangentially and appear spindle-shaped in section (Pl. LXXIII. figs. 55, 60, 61) because their margin is very thin and tangentially extended. They attain a width

¹ F. E. Schulze, Ueber die Sinnesorgane der Seitenlinie bei Fischen und Amphibien, *Archiv f. mikrosk. Anat.*, Bd. vi., 1870.