

scales; *sc* are the scales, which overlap each other only to a slight extent, the overlapping ends being closely adpressed (not apart as shown in the diagram for the sake of clearness). Each scale possesses a transverse ridge (*r*), behind which the gland-like white substance of the luminous organ (*l*) is lodged. A membrane (*i*) investing the greater part of the transverse ridge (*r*), and extends forwards covering the preceding scale until it

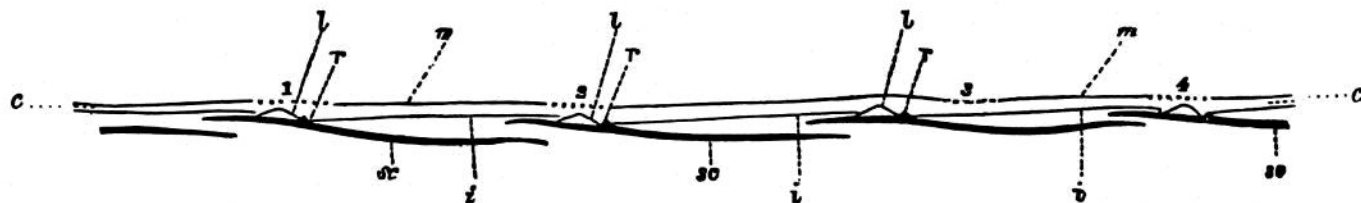


Fig. 7.

arrives at the luminous organ, where it terminates in a free margin closely surrounding the luminous organ. All these structures form the inner side of the canal (*c*), its outer wall being formed by the outer membrane (*m*), which is irregularly interrupted at the places marked 1, 2, 3, and 4.

There are twenty-six luminous spots between the gill-opening and the vent, and about as many behind the vent along the base of the anal fin. In order to show the arrangement of the luminous organs on the head, it is necessary to remove the integument which covers the muciferous bones. They then represent the disposition shown in figs. *a'* and *a''*. The organs are of the same shape and structure as on the lateral line, about nine in number in the infraorbital canal. In the continuation of this canal on the rostral process of the snout, three other pairs of luminous organs are developed, and visible on the lower side of the rostrum after removal of the skin.

The mandibular canal contains five luminous organs, and is continued along the lower portion of the much enlarged suboperculum. A large patch of a white substance, which does not differ from that of the luminous organs described, is deposited in this as well as the other species (with the exception of *Halosaurus owenii*) in the upper part of the gill-cavity, between the gills and the upper part of the supraclavicle. When this substance is detached from the skin, the surface of the latter is seen to be covered with a great number of minute papillæ.<sup>1</sup>

*Halosaurus mediorostris*, n. sp. (Pl. LIX. fig. C).

B. 11. D. 11. V. 8. P. 8. L. transv. 11 | ?.

Allied to *Halosaurus macrochir* and with the same comparatively short snout, but with a shorter pectoral fin. The length of the præoral portion is not quite one-third

<sup>1</sup> An account of the histology of these luminous organs will be found in Appendix B.