

## APPENDIX A.

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REPORT on the STRUCTURE of the PECULIAR ORGANS on the HEAD of IPNOPS. By  
Professor H. N. MOSELEY, F.R.S. (Pls. LXVII., LXVIII.).

IN the General Report on the Scientific Results of the Voyage of H.M.S. Challenger,<sup>1</sup> some account is given of the structure of the peculiar organs existing on the head of *Ipnops murrayi*. As there stated, Mr. John Murray was the first to examine these organs by means of sections, and point out their remarkable peculiarities. He concluded that the organs were organs of luminosity, and Dr. Günther formed the same opinion from his examinations of the specimens. Mr. Murray kindly placed his sections at my disposal; they did not show any structure very clearly, and being misled by an unlabelled slide placed with the rest and containing a section of the retina of some ordinary teleostean fish, and which I attributed to *Ipnops*, I formed the opinion that the peculiar organs of that fish were essentially retinal in structure, and hence arrived at the conclusion that the organs must be regarded as modified organs of vision.

Mr. Murray's preparations not being sufficient for any definite conclusions as to the structure and relations of the peculiar organs, Dr. Günther kindly placed a perfect specimen of *Ipnops* at my disposal for a detailed examination, and on making a complete series of sections of the head I found no trace of any retina-like organ and soon realised my mistake. The peculiar organs have in reality no connection with organs of vision. The eyes, as well as the optic nerves, are entirely aborted in the fish, and the organs are apparently not sensory at all, but most probably phosphorescent, as Dr. Günther and Mr. Murray at first concluded. I have to express my thanks to Sir Henry Acland, K.C.B., Librarian of the Radcliffe Library, for permitting me to publish the drawing reproduced on Pl. LXVII. by the artist of the Library.

I shall term the organs the phosphorescent organs, for the purposes of description here.

The organs are paired expanses completely symmetrical in outline, placed on either side of the median line of the upper flattened surface of the head of the fish, and extending from a line a little posterior to the nasal capsules nearly to a point above the posterior extremity of the cranial cavity. They are covered by the upper wall of the

<sup>1</sup> Narr. Chall. Exp., vol. i., part i., p. 239.