

The principal distinctive feature of this species is that it possesses not only the long detached upper pectoral ray, but also an equally long lower ray, which, however, is not removed from the remainder of the fin. The upper ray becomes bifid in its proximate third, and is accompanied by an extremely short rudimentary second ray; it scarcely reaches to the caudal fin and is shorter than the lowermost ray, which may reach to the end of the caudal and is split only at its very extremity.

The structure of the ventral fins is the same as in *Bathypterois longipes*, but the strong outer rays are somewhat curved and do not reach the end of the anal.

The scales are cycloid as in the other species, but those behind the basal portion of the pectoral fin are deeply pectinated, provided with from five to ten long and narrow teeth, of which the middle ones are the longest (see figures).

Colour blackish or black; pectoral filaments whitish.

Ipnops.

Ipnops, Günth., Ann. and Mag. Nat. Hist., 1878, vol. ii. p. 187.

Body elongate, subcylindrical, covered with large thin deciduous scales, and without luminous organs. Head depressed, with broad, long, spatulate snout, the whole upper surface of which is occupied by a pair of large transparent lamelliform membrane bones which cover a luminous organ longitudinally divided into two symmetrical halves. Eyes absent; nostril reduced to a minute opening in front of each lamina. Bones of the lower and lateral parts of the head well ossified. Mouth wide, with the lower jaw projecting; maxillary dilated behind. Both jaws with narrow bands of villiform teeth; palate toothless. Pectoral and ventral fins well developed, and, owing to the shortness of the trunk, close together. Dorsal fin at a short distance behind the vent; adipose fin absent; anal fin moderately long; caudal subtruncated. Pseudobranchiæ absent; air-bladder absent; pyloric appendages absent.

This genus is closely allied to *Bathypterois*, not only in its external characters, but also in the structure of its abdominal organs. Professor Moseley has kindly acceded to my request to make a histological examination of the remarkable organ on the upper surface of the head. The results of his examination are given in Appendix A and Pls. LXVII., LXVIII.

Ever since the discovery of this fish much uncertainty has prevailed with regard to the nature and function of the extraordinary apparatus on the upper side of the head; but from Professor Moseley's examination it seems to be almost beyond doubt, that it is a special form of phosphorescent organ. The power of producing light, and thereby attracting other creatures, must be of great use to a fish, which, deprived of organs of sight and touch, would be unable to procure its food.