

walls appear thick and the mucous membrane laid into deep folds. Pyloric appendages present, short, and in small number. Air-bladder long, thick-walled dorsally, but thin and elastic along its ventral aspect. Towards the posterior extremity of the bladder, which is subcylindrical and pointed, its wall is very thick, and of an almost cartilaginous consistency behind; its end is open, the circular aperture being thickened and closed by what appears as a conical muscular mass, which, after it has penetrated into the interior of the bladder, spreads out and forms a layer on the inside of its posterior portion. An examination of fresh specimens will show the real condition of this singular apparatus, the function of which is most likely connected with the compression or expansion of the gas contained in the bladder.

*Photichthys argenteus* (Pl. XLV. fig. A).

*Phosichthys argenteus*, Hutton, *loc. cit.*, p. 56; and vol. v., pl. xv. fig. 90.

B. 21. D. 13. A. 26. P. 9. V. 7. L. lat. 50?

The height of the body is contained six and a half times in the total length, without caudal, the length of the head four and a half times. The vent is nearly twice as distant from the eye as from the root of the caudal. Eye of moderate size, one-fifth of the length of the head, a little shorter than the snout, but as wide as the interorbital space. Cleft of the mouth exceedingly wide, the maxillary extending to the posterior angle of the præoperculum; lower jaw somewhat projecting beyond the upper. There is only one infraorbital bone, but it is succeeded behind by two long and very thin supplementary bones, which are attached along the upper margin of the maxillary. Cheek uncovered either by scales or by bone.

The branchiostegals are very short, shorter than the eye. Four branchial arches, which bear extremely short gill-laminae, much shorter than the opposite gill-rakers. On the outer branchial arch there are eleven of these slender, needle-shaped, and distantly placed gill-rakers in its lower portion, and five in its upper. Pseudobranchiæ absent.

The origin of the dorsal fin is somewhat nearer to the root of the caudal than to the extremity of the snout, and the fin is nearer to the ventrals than to the anal. The adipose fin is a very small and narrow lobe, which may be easily overlooked, or it may be entirely absent. Anal fin much higher in front than behind, and terminating at some distance from the caudal, the peduncle being long and deep. Caudal fin forked. Pectorals narrow. Ventrals well developed, their root being equidistant from the vent and the base of the pectorals; they terminate at a long distance from the vent.

I am unable to state anything about the scales, as only the traces of some of the scale-pouches on the tail have been preserved. The isthmus is deep and much compressed, and the scales on each side are so arranged that one corresponds to and covers each of the luminous organs of this region.