

The abdominal organs are in all our specimens much decomposed, so that the following observations only could be made:—

The intestinal tract above the pylorus is distinguished from the remainder by its deep black colour, which is spread over the interior as well as the exterior surfaces; and in fact through the whole tissue of the œsophagus and stomach. The cardiac portion of the œsophagus is beset with rather long villi which are replaced by longitudinal folds in the stomach. Form of the stomach siphonal. Five pyloric appendages of moderate length. The remainder of the intestine very little convoluted and narrow. Liver not divided into lobes. Gall-bladder with rather firm walls.

The air-bladder is of an oval shape, and occupies the posterior half of the abdominal cavity; anteriorly it is divided into two short cornua. Its peritoneal coating is very firm; its proper membrane consists of a thick pearl-coloured substance, the inside of which is coated with a delicate vascular membrane which can easily be detached from the pearly portion. In one of the cornua this membrane passes into a pair of thick muscle-like pads, but the specimen is in too bad a condition to ascertain their nature. A pneumatic duct can be traced for a short distance from the end of the left cornu, but is soon lost, and does not appear to reach the œsophagus. The kidneys are confluent into one short body, the foremost portion of which extends into the abdominal cavity behind the thick peritoneal covering, whilst the larger portion is situated between the muscles of the tail.

The osseous framework of this fish is so much wanting in the characteristic peculiarities of bathybial fishes, as to throw serious doubts upon the statement that this species at least of *Notacanthus* lives at a great depth. The ossifications of the skull (Pl. LX. figs. 9–15) are very firm, so that the sutures between some of the cranial bones are obscure or have disappeared altogether. The cranium proper (figs. 10, 11, 12, 14) consists of the short and compressed brain-capsule, which is connected with the small and narrow facial portion by the extremely narrow frontal and basal bones; the orbit being a wide suboval vacuity, bordered in front by a vertical strip of the ethmoidal cartilage. The upper surface of the brain-capsule is smooth and rather convex; the sides slope inwards, with an uneven surface crossed by two subparallel ridges in the epiotic region, the articular facet for the hyomandibular being below the lower ridge; the basis cranii shows a projecting V-like ridge, open behind (fig. 12); the occipital region (fig. 14) is subvertical, bordered above with a slight ridge, with a low swelling above the foramen occipitale, and another on each side; the orbito-sphenoid region is entirely membranous.

The primordial cartilage has entirely disappeared in this part of the skull, and owing to the obscurity of the sutures the outlines of the following bones only can be distinguished. The basioccipital (figs. 12, 14, *bo*) is large, with a rather shallow