Family HALOSAURIDÆ.

Halosaurus, Johns.

Body elongate, compressed, terminating in an exceedingly long tapering tail; abdomen rounded. Snout much projecting beyond the mouth, which is inferior, of moderate width. Facial bones with large muciferous cavities; a series of luminous organs is generally developed in the course of the mucous canal system. Suboperculum large; præoperculum rudimentary; interoperculum membranous. Eye large. Teeth in villiform bands in the jaws, on the rudimentary palatines, and pterygoids; none on the vomer. A band of hyoid teeth. Dorsal fin short, opposite to the space between ventrals and vent. Anal fin exceedingly long, occupying the entire length of the tail; no caudal fin. Lateral line running near to the lower profile, and composed of larger scales which bear the luminous organs. Gill-membranes entirely separate, with numerous branchiostegals.

Of this family which hitherto was known from a single example only, four species were discovered by the Challenger, showing that it is widely and abundantly represented in the deep sea.

The following observations have been made on a specimen of *Halosaurus macrochir*.

The œsophagus, the inside of which is longitudinally folded, passes into the short pear-shaped stomach, which is cæcal, rather thin walled, and beset with short villi in its interior. The pyloric portion of the intestine is provided with a series of ten appendages which are not longer than the stomach. The intestine is nearly straight but wide, its mucous membrane being raised in numerous low annular folds which become distinct at a short distance behind the last pyloric appendage.

The liver embraces the lower part of the œsophagus; it possesses only one lobe, that on the left side, which does not extend so far backwards as the stomach.

The air-bladder is nearly destroyed. It is simple, occupying the posterior half of the abdominal cavity. A thick nacreous stratum intervenes between the thin inner and outer membranes. At its anterior extremity it is suddenly contracted into a narrow tapering tube, which ends in a thread-like ligament attached to the dorsal side of the lower part of the œsophagus. An open communication between the œsophagus and the air-bladder does not seem to exist. The tube is surrounded by a muscular ring at the place where it enters the air-bladder, and a thick muscular fascicle starts from this ring to each side of the body of the bladder, gradually losing itself on its surface.

The ovaries are two bands extending forwards beyond the stomach. They are