

ART. XIX.—*Short Notice of a remarkable Tooth of a Cetacean.*

By F. J. KNOX, L.R.C.S.E.

[Read before the Wellington Philosophical Society, November 12, 1870]

The tooth now exhibited before the Society is the property of a friend, and in the course of a conversation with him, was kindly shown to me. I observed numerous points of difference from the specimens in my possession—unmistakably recognized as those of the Cachalot, or sperm whale; and, by the kind permission of my friend, had a section made of it, carrying the saw as nearly as possible in a curved line, following the axis of the tooth. This truly magnificent section, for the cutting of which I am indebted to my friend, Mr. Kebbell, displays a surface at once of the most artistic beauty, and, to me, perfectly novel. The nearly total absence of a dental cavity for the nervous pulp, found in all the teeth of the Cachalot I have had an opportunity of examining, and, indeed, the general form of the tooth, viewed externally, suggests to me the probability of its having been the tooth of a dolphin, allied to the Ziphid family of Dr. Gray; and looking over Dr. Gray's Catalogue, my attention was forcibly drawn to that of the *Ziphius Sowerbii*, of which an engraving is given (Table 37).

It appears that the specimen of the skull from which the engraving is taken is in the Oxford Museum, and the engraving appeared when first seen by me so unnatural as to create a doubt in my mind as to its history, and consequent value to science. It would be most interesting to obtain the history of the cranium, however meagre, more especially as to the external appearance of the animal previous to dissection. Did the teeth protrude through the gum? This is a most important point, as in the case of Hunter's Bottle-nose, the animal has evidently been christened under different names by succeeding naturalists not less than six or eight times.

ART. XX.—*Observations on Coriododax pullus.* By F. J. KNOX, L.R.C.S.E.

(With Illustrations.)

[Read before the Wellington Philosophical Society, October 22, 1870.]

THE specimen forming the subject of this brief notice was of medium size, and gave the following weight and measurements:—

Weight 4 lbs. 4 ozs.

Measurements.

	ft.	in.	lines.
From tip of snout to tip of tail (straight)	1	8	6
Greatest girth behind ventral fin	1	0	0

On placing in the Museum the skeleton of a species of fish familiarly known to the practical fisherman as the Kelp-fish, I shall confine my observations to the remarkable circumstance of the skeleton presenting a bright or bluish green colour, which is so permanent as to resist the process of prolonged maceration and subsequent bleaching, and even boiling. The question arises, whether the food is the cause of this. Careful dissection and enquiry into the habitat, and consequently feeding ground, has, I presume to think, at least to a great extent determined this.

On the second day of August last (1870), a large quantity of the Kelp-fish were offered for sale in and about Wellington, and although by no means prepossessing in external appearance, being of a dingy black colour and covered with a slimy mucus, a few were purchased. My first enquiry was, when, where, and how they were captured. I found that the fish frequent Cook's Strait, more especially off and around the Island of Mana; they are very rarely taken with a bait, but are fished for by means of a net in the form of a bag with a hoop round the mouth, and secured with a rope to a branch of the kelp, which grows of vast dimensions around the Island of Mana. The net is set amongst the kelp, where the rise and fall of the tide produces a kind of free run, which the fishermen avail themselves of in setting their net, and upon returning they find it full of the fish, of all sizes. The kelp in this locality may be viewed as a vast submerged forest, growing from stems two or more feet in circumference, fixed to the bottom of the sea, and is often used by the Cook's Strait fishermen and captains of small coasting vessels to secure their crafts to in a gale of wind. The fish, I have said, are covered with a slimy mucus, like that of the eel, and gives a feeling to the hand similar to that of the kelp, so that the movements of the fish (provided, as it is, with ample fins) must bear a strong resemblance in its gliding amongst the branches of the submarine forest to that of the *Athene Novæ Zelandiæ*, in his nightly silent flight amongst the surpassingly beautiful terrestrial forest.

Ovaria resembling in size and number that of the trout. The ova were vascular, and many floating free, indicating that the fish were spawning, and consequently ought to be in the very best condition.

As an accurate drawing of the external appearance of the fish has been made by Mr. Buchanan (see Plate XVIII., fig. 2), I shall merely add a few notes on the anatomy.

Stomach, a simple sac; diameter $1\frac{1}{2}$ inches, diminishing in calibre gradually to 6 lines, (no pancreatic cœca); tunics of the stomach thin, distended, with a green semi-fluid mass; peritoneal tunic bright silvery. Intestine 3 feet 4 inches in length. Liver pale yellow colour, friable, no oil; composed of four irregularly-shaped lobes; gall-bladder not observed. Spleen comparatively small, dark, like a clot of blood. Kidneys placed near the head, extending along the spine for about $4\frac{1}{2}$ inches; concealed by the swimming bladder,

5 inches long, attached to the transverse processes ; the swimming bladder was very fully distended ; the tunics strong opaque.

Food, a species of zoophyte, or animal-plant of naturalists.

The dentition is very peculiar, more especially the pharyngeal ; the upper and lower pharyngeal bones are of a deep green colour, and present together a complete system of minutely serrated edges, and being acted upon by powerful muscles, typify all the forms of straight and circular saws at present in use in the most completely furnished saw mills.

SKELETON.

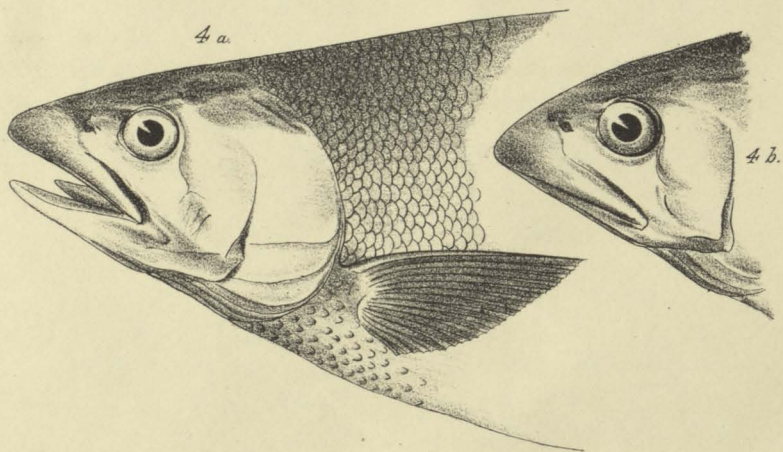
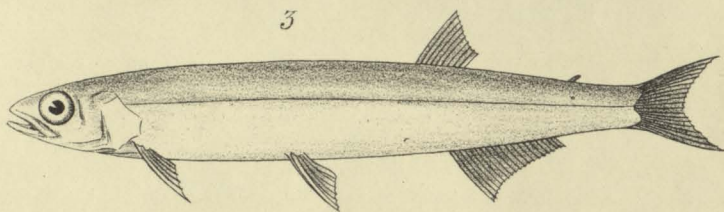
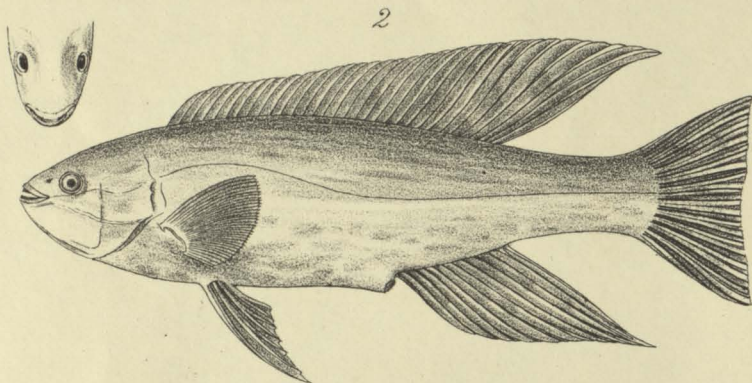
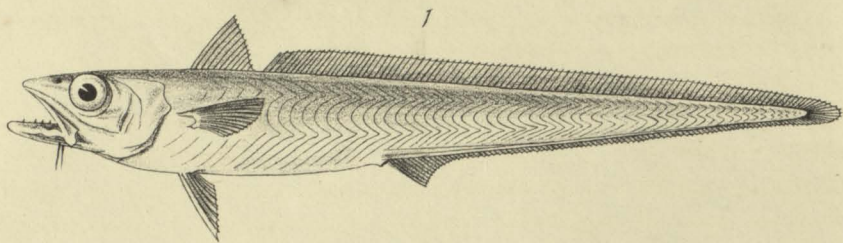
	oz.	grs.
Head	1	0
Spine, with dorsal and caudal fins	2	0
Pectoral extremities	0	200
Pelvic „	0	80
Hyoid and bronchial arches	0	120
Pharyngeal bones	0	46
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Total weight	3	446

VERTEBRA.

	No.
Body	27
Caudal	21
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Total	48
Ribs	27

ABSTRACT.

	lbs.	oz.	grs.
Weight of entire fish	4	4	0
Weight of skeleton	0	3	446
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Weight of soft parts	4	0	34



1. *CORYPHÆOIDES NOVÆ ZELANDIÆ*, Hector, n. s. 2. *CORIDODAX PULLUS*, Günther.
3. *RETROPINNA RICHARDSONII*, Gill. 4. *COREGONUS UPOKORORO*, Hector, n. s.
J. Buchanan, del. et lith. Printed at the Government Press by J. Barrie.