

As I intend to have further excavations made for the discovery of other portions of this unique species, I hope soon to be able to offer some additional information on the same subject.

DESCRIPTION OF PLATES X. AND XI.

Plate X.—Fig. 1. Femur of *Harpagornis Moorei*, back view of left leg. Fig. 2, Femur of *Polioaëtus leucogaster*, back view of left leg. Fig. 3. Femur of *Circus assimilis*, back view of left leg. Fig. 4. Proximal end of femur of *Harpagornis Moorei*, left leg. Fig. 5. Distal end of femur of *Harpagornis Moorei*, left leg.

Plate XI.—Fig. 1. Ungual phalanx (of hallux, left leg) of *Harpagornis Moorei*. Fig. 1a. Proximal articular surface of fig. 1. Fig. 2. Ungual phalanx, probably of second toe of right foot. Fig. 3. Ungual phalanx of hallux, left leg of *Aquila audax*. Fig. 3a. Proximal articular surface of fig. 3. Fig. 4. Ungual phalanx of hallux, left leg of *Circus assimilis*. Fig. 5. Third rib right side of *Harpagornis Moorei*.

NOTE.—All these figures are of the natural size.

ART. XXIX.—*Notes on the Fur Seal of New Zealand, Arctocephalus cinereus, Gray (?)* By JAMES HECTOR, M.D., F.R.S.

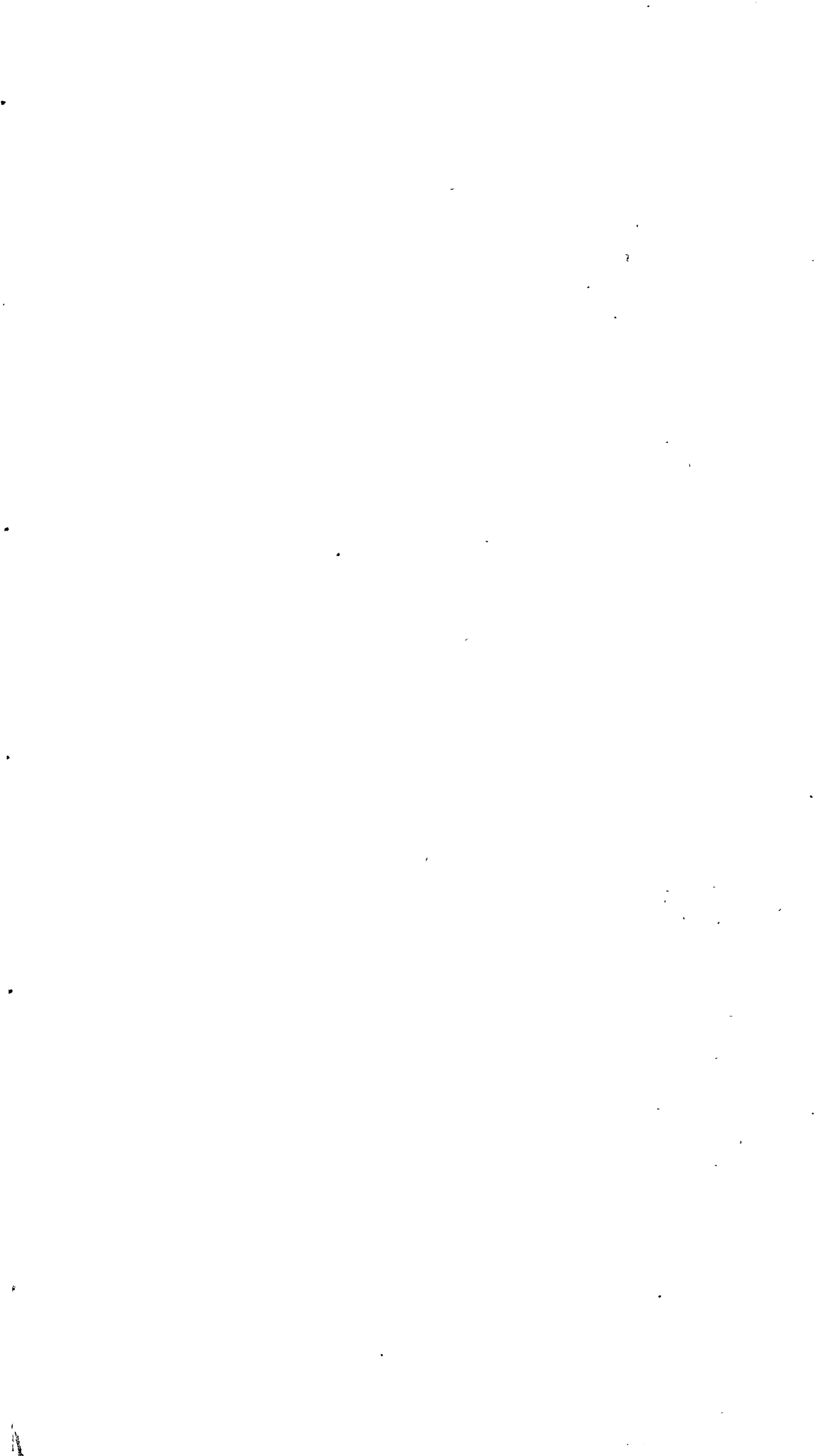
(With Illustrations.)

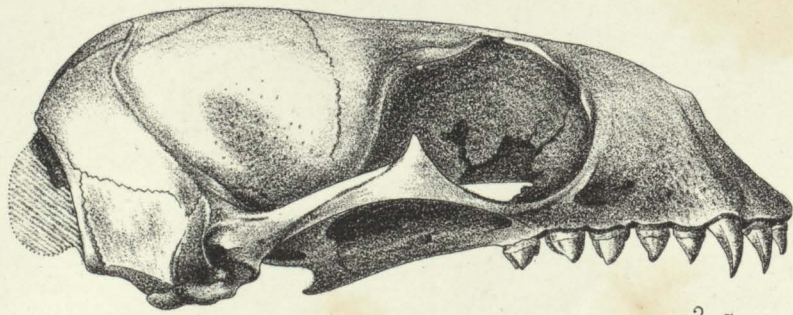
[Read before the Otago Institute, 31st October, 1871.]

ON 13th February last, during the visit of H.M.S. 'Clio,' to Milford Sound, on the west coast of the South Island, several seals were shot by His Excellency Sir George Bowen, which proved to be the Eared Seal or Fur Seal of New Zealand, as it is termed by the traders. They were shot from a boat while basking on ledges of rock, and although several were mortally wounded, their great activity enabled them to scramble into deep water, so that only three were secured. I took the following measurements of the two largest, which were male and female adults.

Both had the same form, colour, and general appearance, the male being the larger in every respect, except the length of the hind flippers and tail, which were of slightly greater proportional dimensions in the female. The male weighed 258 pounds, and the female 208 pounds.

In both the snout was obliquely truncate, the upper surface being prolonged so as to overhang the mouth; nostrils vertical elongated slits; nose jet black; a few stout black bristles on the snout, which is short and not separated from the head. Head round; the eyes lateral. Ears with slender pointed tubular





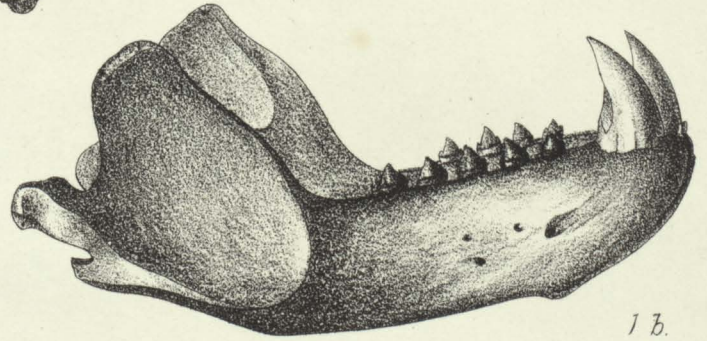
2.a.



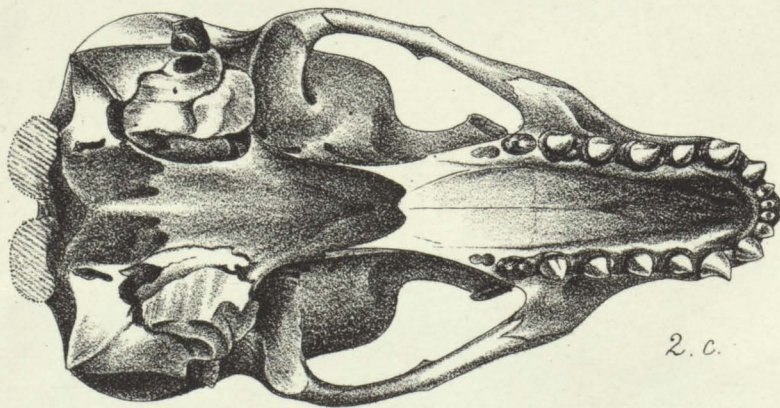
1.a.



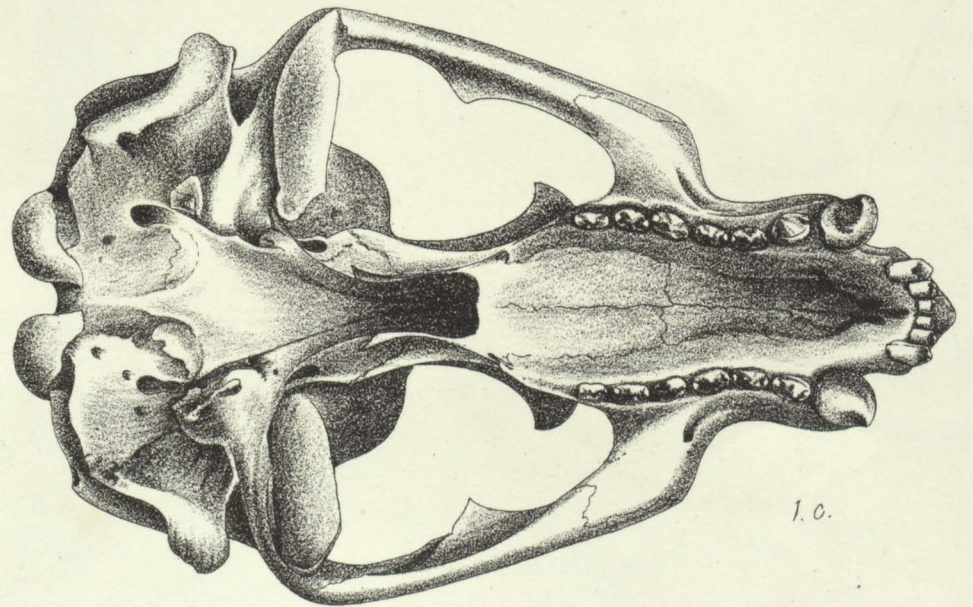
2.b.



1.b.



2.c.



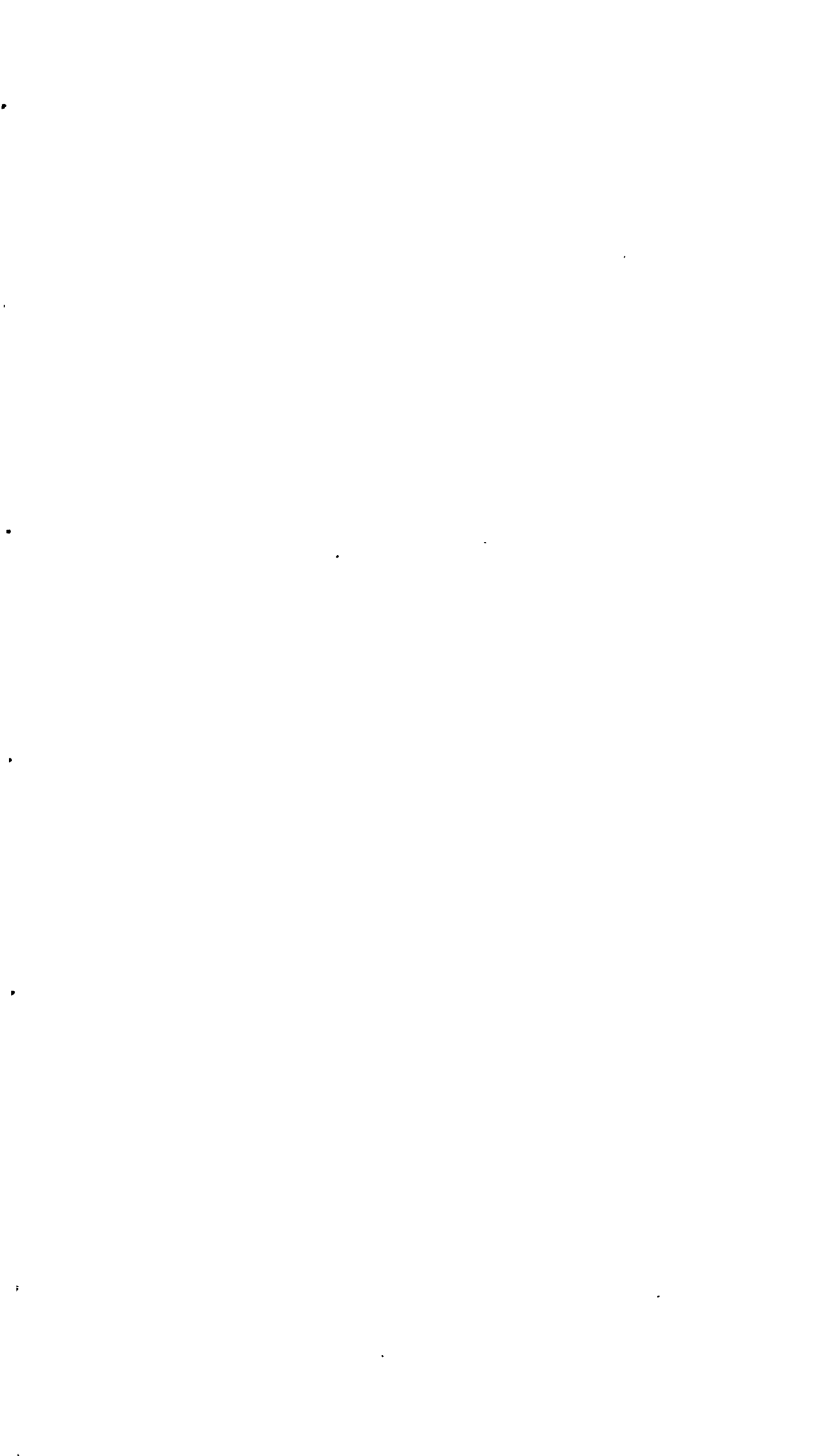
1.c.

Young. Auckland I^s.

Adult. Milford Sound.

ARCTOCEPHALUS CINEREUS. Gray.

$\frac{1}{2}$ size.



conch. Colour uniform, black when wet, but when dry rusty in the male, and grizzle in the female. Fur of two layers, the upper part being formed of scattered hairs rising from the under fur. These hairs, which are longest on the back, where they are three-quarters of an inch, have a flatted form, generally with white tips, but frequently altogether white. The under fur is confined to the back, and is almost wanting on the flanks and belly. It is formed of a very fine woolly layer, close, dense, and about half an inch deep on those parts where most abundant. Tips of the whole fur, as laid open by the hand, black; middle parts chestnut brown, and pure white at base.*

Flippers naked, with a few chaffy scales. The anterior flippers with small nails, immersed on the first four digits, and only a faint mark on the fifth. Posterior flippers with strong nails immersed on the three central digits, the first and fifth being feeble. Toe flaps rather longer than the toes.

TABLE OF MEASUREMENT IN INCHES.

	Male.	Female.
Total length	82·0	80·0
Nose to ear	9·0	8·5
„ angle of mouth	8·0	7·8
„ eye	4·5	4·5
Length of ear	1·8	1·7
Width of nose	1·7	1·7
Anterior flipper—		
Length of exterior surface from shoulder joint	31·0	29·0
Length of interior surface from axilla	17·0	16·0
Posterior flipper—		
Length from hip joint	15·0	16·0
Length of tail	4·0	4·0

The skull of the third specimen, which was a male, weighing 270lbs, was preserved for examination, and is figured in Pl. XII., fig. 1, *a*, *b*, and *c*.

Incisor teeth $\frac{6}{4}$, the external in upper jaw being much stronger than the others, which are small and feebly implanted in the jaw. Canines very strong, and locking, 1·7 inches long. Molars $\frac{6}{5}$ simple, conical, compressed, with slightly lobed crown.

Palate moderately concave, narrowed in front, most expanded opposite the last molars, and again contracted to a deep posterior aperture bounded by a truncate semicircular margin.

* In the tanned skin now in the Museum the under fur is red, but paler near the skin, having probably been stained in the tan-pit.

	Old.	Young.*
Extreme length of skull along the base	9·6	7·5
Length of palate	4·5	3·5
Width at first molar	1·2	·8
" fifth " 	1·6	—
" of posterior aperture	·6	·6
Breadth of face at ear bones	5·0	3·5
" at zygomatic arch	6·0	4·0
Length of lower jaw	6·8	—
Width across condyles	5·0	3·5

Lower jaw moderate, with a blunt hook-like process projecting on the inner side in front and below the condyle.

The short palate places this seal in the genus *Arctocephalus* (as distinguished from *Otaria*), of which genus ten species are mentioned in Dr. Gray's "Catalogue of Seals and Whales."

Of these it most nearly approaches, in some characters, *A. Hookeri*, such as in the form of the base of the skull, and white colour of the basal part of the fur. There are, however, several important points in which it does not agree with this seal, such as the pointed nose and general colour of the surface; and as there is no mention in Dr. Gray's work of an Eared Seal having reached Europe from New Zealand, it is possible that this may prove to be an undescribed species, or perhaps one of several that appear to be known very imperfectly from their skins alone. It is, however, now certain that it is a very different animal from the true Fur Seal of the Falkland Islands, *Otaria nigrescens*, with which it has been confounded by the sealers, according to Dieffenbach "New Zealand," Vol. II., p. 182. The difficulty of determining from descriptions the different eared seals may be judged of from the fact, that while Dr. Gray divides them into twelve species, he gives a list of more than 100 synonyms, under which the same animals have been described by different persons.

[The officers of H.M.S. 'Blanche' have presented to the Colonial Museum, since the above was written, the skull and skin of the head of a young Fur Seal which they shot in the month of October at the Auckland Islands. They described it as quite a small seal of a jet glossy black with very soft fur. The form of the muzzle and ear conch is identical with the young seals I have seen of the species above described, from the west coast of Otago, so that there is no reason to doubt its being the same species. The skull is therefore valuable for comparison, as it shows how well the essential characters are preserved. The chief difference is found, as might be anticipated, in the

* Specimen obtained in the Auckland Islands by officers of H.M.S. 'Blanche.'

absence of the crests on the skull, the greater proportional size of the brain cavity in the young animal, and the large canines in the old. All the other measurements are proportionally the same, with the exception of the width of the posterior aperture of the palate, which is the same as in the adult.

The measurements of this young seal's skull, which is also figured, (Pl. XII, fig. 2, *a*, *b*, and *c*) are given above, along with those of the adult.—J. HECTOR, Dec., 1871.]

ART. XXX.—*On the Fur Seal of New Zealand.* By J. S. WEBB.

[*Read before the Otago Institute, 31st October, 1871.*]

AT Dr. Hector's request I have examined two specimens of the Fur Seal which are now in the Otago Museum, in order to add to the paper just read any remarks which they may suggest. Mr. Purdie has obliged me with the measurements, which are as follows:—

TABLE OF MEASUREMENTS IN INCHES.

	Male.	Female.
Total length	64.5	51
Nose to ear	10	7
" to angle of mouth	6	4
" to centre of eye	5.75	4.6
Length of ear	1.75	1.8
Width of nose	1	1
Anterior flipper—		
Length of exterior surface from shoulder joint	23	16
Length of interior surface	15	10.25
Posterior flipper—		
Length from hip joint	15.75	11
Length of tail	4	2

Though these measurements do not show an exact correspondence, they are sufficiently like those of the seals described by Dr. Hector in their proportions for each specimen, to leave no doubt that they all belong to one species. The only large proportional difference is in the measurements from nose to ear, which are greater in our male specimen than in Dr. Hector's, although the latter is more than one fourth larger in general measurement. In other respects the differences are also slight. No proper comparison of the skulls can be made without destroying the stuffed specimens, but the general contour of the head in these corresponds with the proportions of the skulls which Dr. Hector measured. The general description given by him will also, in the main, serve for our specimens. The chief differences are:—1st. The general