

	SKULL,— <i>continued.</i>	inches.
Width at notch	.	3·5
„ at orbit	.	6
„ of intermaxillary at blow-hole	.	2·7
„ at middle of beak	.	2·5
Height of occiput	.	5·7
Length of flappers	.	12
Scapula, longitudinal	.	6·5
„ transverse	.	4·5

This specimen was harpooned outside Wellington Harbour, and appears to be the common Dolphin of the Coast.

Lower jaws of two others.

Three skulls of *Delphinus* sp. (?).

#### 4. GLOBIOCEPHALUS MACRORHYNCHUS. (Gray.)

Black-fish of South Seas. Two skulls, one showing longitudinal section.

One lower jaw, six cervical vertebrae.

Four lumbar, thirteen caudal, two scapulae.

Two hyoids.

Both skulls are of the same dimensions.

	inches.
Length	26
„ of nose	15
„ of tooth series	8
„ of a lower jaw of a different individual	15
Width at notch	11
„ at orbit	17
„ of intermaxillary at blow-hole	7·5
„ at middle of nose	9·5
Height at occiput	14
Scapula, transverse diameter	15
„ longitudinal diameter	12

Hyoid arch, 11 inches wide, by 7 inches high : Sternum, 10 × 7 inches, with three sternal ribs, each 7 inches long.

First rib is 10 inches from head to tip, but is bent, with an arch of 5 inches.

Atlas, axis, and three other cervicals are anchylosed. The combined cervicals have a conjoined length of four inches.

Vertical diameter of Foramen magnum, 2½ inches ; conjoined length of the four Lumbar, 8 inches ; height, including spinous processes, 8·5 inches ; caudal appendage, 16 inches, of thirteen segments, two of which are anchylosed ; teeth,  $\frac{9 \cdot 9}{88}$

This species is only known from two imperfect specimens in the British Museum and College of Surgeons' Museum.

#### ART. V.—*On Seals of the genus STENORHYNCHUS, captured on the East Coast of Otago.\** By J. S. WEBB.

[Read before the Wellington Philosophical Society, August 14, 1869.]

IN August, of last year, a very handsome seal was discovered on the Green Island beach, about a dozen miles to the southward of Otago Heads. It was

\* The seals, referred to in this paper, have, since it was written, been determined by Dr. Hector as specimens of *S. Leptonyx*. The descriptions of *S. Leptonyx*, accessible to the writer, were all transcripts of that given by M. F. Cuvier, from the first specimen

captured without much difficulty, and was purchased, and presented to the Museum, by Captain Fraser. This specimen proved to be a female. Shortly afterwards, a male of the same species was caught in our harbour, and was also secured for the Museum. These seals are of a species by no means common on any part of the coast of New Zealand. They belong to the genus *Stenorhyncus* of M. François Cuvier, a form restricted, so far as we know, to the Southern World. In the Museum they are labelled as *S. Weddellii*, the *Phoca Leopardina*, of Jameson, or Leopard Seal. The skins have, as I can vouch, been carefully stuffed by the Curator of the Museum, and I have secured for that Institution such portions of both skeletons as were not retained in the stuffed specimens. I am able to forward, for the use of the Society, good photographs of these seals, which Mr. Alfred Burton was kind enough to take for me, for this purpose.

The inappropriateness of the name Leopard Seal, cannot but strike any one on examining these specimens. This has led me to look up such information, as is procurable here, about the genus to which they belong, and I have been obliged to conclude that these seals are not the same as *Weddellii*, and that they remain up to the present time undescribed in works of Natural History. At the risk, therefore, of repeating what some one may have done before, I venture to send the following description of them to the Society, since, no doubt, the majority of naturalists in New Zealand have as little opportunity as myself of referring to any description that may have been published at home during the last few years.

The genus *Stenorhyncus* was first defined by M. Fr. Cuvier, and is most readily distinguished by the very peculiar character of the teeth. Of these "the molars are deeply divided into three long points, which are conical, and somewhat hooked," the central process in each being considerably longer than the others. Compared with the typical *Phoca*, the narrowness, and comparative length of the snout, is very noticeable, and it is on account of this feature that the generic name *Stenorhyncus* (narrow-muzzle) has been given. Only two species have hitherto been described, both found in the southern hemisphere. *S. Leptonyx* (the Small-nailed Seal of Cuvier) has been taken in South Georgia, and the Falkland Isles. *S. Weddellii* (Leopard Seal of Weddell) appears to come from localities still further to the South, in the same region of the globe. Captain Weddell, in his "Voyage towards the South Pole," speaks of its occurrence at the South Orkneys, and on the mainland of South Shetland. Of this species, a specimen in the Edinburgh Museum is the only one recorded as having reached Europe. It has been figured and described in the "Naturalist's Library," in a monograph on the Amphibious Carnivora, which forms the twenty-fifth volume of that collection. It is from the comparison of this drawing, and Captain Weddell's description of his Leopard Seal, with the seals captured here, that I have concluded that the latter belong to a new species. The shape of the head is, I think, conclusive on this point; our New Zealand seals being by no means so typically narrow-muzzled as the Leopard Seal. The following table of measurements (attached) shows very clearly the divided differences between *Weddellii*, and the species which I presume to be new to science. Whilst the length of the Edinburgh specimen is nearly one-half greater than that of the largest of ours, and its greatest girth almost double,

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brought to Europe, and did not lead to the idea that the seals, in question, could belong to that species. There is reason to believe that the measurements of the head of *Weddellii*, given by Dr. Hamilton, from the stuffed specimen in the Edinburgh Museum, under-rate its width. In the seals caught here, the mass of fat, etc., between the skin of the head, and the skull, was very considerable.—J.S.W.

The skeleton of a specimen of this seal, captured in Wellington Harbour, in 1840, was sent to England, accompanied by full anatomical notes by Dr. F. Knox.—*Catalogue of Whales and Seals in the British Museum.* J. E. GRAY, F.R.S., page 16.—ED.

the distance between the inner angles of the eyes is one-half greater in the New Zealand seal, than in *Weddellii*, and the circumference at the upper part of the neck about the same. The distance from the angle of the mouth to the tip of the lower jaw, is also much greater in our specimens, than in the other. Whatever hesitation we may have in relying on the measurements taken from a stuffed specimen, those about the head and jaws are not likely to be inaccurate. In this case, they show that the New Zealand seal is much longer in the jaw, and generally broader in the muzzle than that from South Shetland. It will be noticed that the fore-paw is proportionately larger. This, and the posterior extremity, differ much in shape from those of *Weddellii*, the toes being connected throughout by membrane. They are, respectively, extremely like the fin and tail of a fish, whilst those of the Leopard Seal are very similar to the limbs of a true *Phoca*. The presence of nails on the posterior extremity, is also a distinguishing mark.

The general differences of appearance are also very noticeable, although, as all seals seem to vary much in colour and markings, at different ages, I should not have ventured to think them specific, in the absence of more important ones. Captain Weddell has given but a meagre description of the Leopard Seal, speaking of it as if it were already known. He gives the colours as "pale-greyish above, yellowish beneath, the back spotted with pale white," an expression which probably means "dull white." The plate in the "Naturalist's Library" (in which, by the way, the colouring has evidently been taken by the artist, not from Weddell's description, but from the highly discoloured Museum specimen), shows large oval spots, all nearly even in size, and pretty uniformly distributed. The seals, I am describing, are of a slatey grey, above, a medium shade, the female being a little lighter coloured than the male. The spots are both white and black, the latter being most numerous; none, strictly speaking, on the back, whilst those on the upper part of the sides are small, and distributed very differently from those on the Leopard Seal. The spots and markings will be best understood by a reference to the photographs. Though the grey on the back has come out very dark in these, the black spots remain distinguishable. It is proper to mention, also, that all the whites appear as much too bright in the photographs, as the greys are too dark. An accurate idea of the colouring cannot be had from them. The large patches of black on the under parts of the male, are probably only signs of youth, as in the Fur Seal. The black is pure in the male, nearly so in the female. There was no trace of a yellow tinge on the under portion of the body when the animals were alive, though there are now some slight signs of that discolouration to which all stuffed specimens of seals are subject, from the impossibility of entirely freeing the skin from oily matter. The general colour beneath, when the seals were newly killed, and wet, may be described as that of sea ice, a dull white, with faint bluish-grey tinge. I append more particular descriptions of each specimen, sufficient, I think, when taken in conjunction with the measurements, to enable any one to identify the species in case of future capture.

I am informed (at second hand) from several quarters, that, though very rare on the New Zealand coast, these seals are common at the Auckland Islands, where they have been seen from sixteen to twenty feet long.

Statements made by the Maoris to Mr. Beverly, when he accompanied Dr. Hector on an expedition to the West Coast of this Province, agree with these reports as to the large size attained by these seals. The Maoris speak of them as much larger than the *Wigs*, as they call the full-grown Brown Seal of our coasts. One of the latter was killed during the expedition referred to, which weighed 3 cwt., but I have not been able to ascertain its dimensions. I hope this notice may lead to further information on the subject being made

known. There must be many persons in New Zealand who have had opportunities of seeing these seals alive.

With regard to the time at which the seals made their appearance here, I may remark, that Captain Weddell, when describing the habits of the Fur Seal, says, that herds of small young seals come on shore in August, for about five or six weeks, and then retire to the water. Of the habits of the Leopard Seal, he has not given any account. The seals caught here are young ones, if I may judge by their size, as compared with that of others described by visitors to the Auckland Islands. Mr. Arthur Beverly, who examined them immediately after their capture, is of opinion that the female had never been pregnant. The time of parturition amongst seals of the southern seas appears to vary considerably. With the Fur Seal, it is in November and December, and the animal is not adult until nearly two years old. Probably this may be about the age of the specimens under consideration.

I shall add, that there is a skin of a *Stenorhyncus*, which appears to be of the same species as that I am describing, in possession of the Dunedin Athenæum. It was lying in the Government Offices here, for many years, before it was handed over to its present custodians. It is imperfect, and very roughly stuffed, and is now of an almost uniform dingy brown. Markings may, however, be traced on the belly, similar to those on the female specimen in the Museum. I have included in the appended table such measurements of this seal as could be fairly depended upon, as representing something like the original size. These, it will be seen, correspond, pretty well, with those of the seals in the Museum. The specimen is smaller, but the teeth are perfect, and I have no doubt that the skin is that of an adult.

In conclusion, I may express the hope that the partial revival of whaling enterprise in this part of the world, may enable us to add something to the scanty store of facts, hitherto published, in regard to the seals, and other living forms, of the Southern Seas. Except in the case of the Fur Seal, very little indeed, is known about any of the seals that frequent Antarctic shores. No doubt there are many new species to be discovered, and with regard to their habits, and economy, the field is all but untouched.

Should the opinion I have expressed, as to these seals being hitherto undescribed, prove correct, perhaps I may be allowed to claim the usual privilege, and suggest a specific name; *Crassicollus* will recall the feature which most readily distinguishes this seal from others of the genus, and will not excruciate the ears of a scholar, more than the majority of scientific names must do.

DESCRIPTION OF SEALS CAUGHT NEAR DUNEDIN, NEW ZEALAND, AUGUST, 1868.  
*Stenorhyncus*, ———?—*Male*.

(For measurements of both specimens see table annexed.)

Head proportionately larger than the *Weddellii*, and neck less tapering. Body largest immediately before the fore-arm, tapering very gradually to the base of the posterior extremities. Fore paw very fin-like, first finger (or thumb) much the largest; fingers united by membrane, which extends from half an inch to an inch beyond the nails; nails black, not sharp, or much curved, about half an inch long. Hind paws furnished with membrane to the extremities of the toes, making the paw, when expanded, look very like the symmetrical tails of the pilchard, and some other *Clupeadæ*; nails well developed on three middle toes, less so on the others, brownish-black, tipped with yellowish-white. The external aperture of the ear is easily distinguishable. The ear-tube was found fine as a medium sized pin (about the No. 19 trade-gauge of wire). Hair soft, and moderately thick-set, a medium shade of slaty-grey on the upper half of the body, dull-white below. The dividing line between these colours is rather

distinctly marked, passing from the nostrils immediately under the eye, and dividing the surface of the body into nearly equal parts throughout. (In the photograph the head of the male shows wholly dark, from some accidental circumstance). The upper part of the head is slightly darker than the back. Numerous spots and patches of black, especially on the hinder part of the belly, where the black becomes predominant; small white spots are also intermingled with the black ones, especially over the hind ribs. Some of the smaller spots are grey.

*Female.*

Considerably larger than the male, but proportionately shorter in the neck, which is also thicker, giving a marked difference of figure to the fore-part of the animal. External aperture of the ear distinguishable, but not so readily as in the male. Colour rather lighter than in the male, with very few traces of the black patches, so prevalent on the lower part of the body of the latter.

In both *male and female* the teeth are perfect: and the dentition normal,  $\frac{2 \cdot 1 \cdot 5}{2 \cdot 1 \cdot 5} = 32$ . The description given by Dr. Hamilton of the teeth of the *Weddellii*, answers exactly for those of these seals, and I, therefore, copy it: "The incisors are conical in their form, and somewhat curved inwards; those in the upper jaw are by much the longest, and the two middle ones are placed further within the mouth than the other two, and are also much smaller" (this latter peculiarity is shared by those of the lower jaw); "the canines are conical, very much developed at the base, and slightly grooved; the body of the molars is composed of three parts, the central conical part by much the longest and largest, with a small tubercle on each side."

TABLE OF MEASUREMENTS.

	S. Weddellu.	Specimens in the Otago Museum.		Specimens in the Dunedin Athenæum
	Sex unknown.	Male.	Female.	Sex unknown.
1. Total length (over the back) from tip of snout to tip of tail ... ..	ft. in. Ins. 9 10 0	ft. in. Ins. 5 11 8	ft. in. Ins. 7 1 6	ft. in. Ins. 4 10 6
2. Length of tail ... ..	0 2 6	0 3 0	0 3 6	0 2 0
3. From snout to anterior edge of the base of the fore paw ... ..	3 5 0	2 5 0	2 3 6	1 9 8
4. From base of posterior margin of fore paw to tip of tail ... ..	6 4 0	3 2 6	4 5 9	3 0 0
5. From base of one fore paw to base of another, across the back ... ..	3 1 0	1 8 5	1 8 0	1 8 2
5. Circumference, greatest round body	6 4 0	3 6 0	3 6 11	2 9 11
7. Ditto at upper part of neck	1 11 0	1 10 10	2 3 7	1 5 10
8. Ditto above the tail ... ..	2 3 0	1 10 8	2 0 0	1 5 6
9. Length of fore paw round anterior margin ... ..	1 1 0	1 1 9	1 3 8	Damaged
10. Length round posterior margin ...	0 8 0	0 9 8	1 0 3	Ditto
11. Greatest breadth of forepaw ...	0 4 10	0 4 6	0 5 6	Ditto
12. Ditto length of posterior extremity	1 5 6	1 1 0	1 3 0	0 10 6
13. Ditto breadth, toes being extended	1 4 0	1 2 5	1 2 10	not ascertainable.
14. Breadth at base of the foot ..	0 4 6	0 4 3	0 4 7	Ditto
15. Distance between inner angles of eyes	0 3 6	0 5 6	0 6 2	{ 0 3 6
16. Ditto angle of mouth and tip of lower jaw	0 4 0	0 5 5	0 5 9	{ Doubtful
				0 5 3

NOTE.—In Nos 5 and 12, it is uncertain whether my measurements correspond with Dr Hamilton's as to the points chosen to measure from. I take No. 12 from angle between tail and flipper.