

SOME HITHERTO UNPUBLISHED PHOTOGRAPHS AND MEASUREMENTS OF THE BLUE WHALE.

By GERRIT S. MILLER, Jr.,

Curator, Division of Mammals, United States National Museum.

Two noteworthy specimens of the blue whale were collected for the National Museum in Newfoundland during the summer of 1903 by Dr. F. A. Lucas assisted by Mr. J. W. Scollick and Mr. William Palmer. Both were taken in the vicinity of Balena Station, Hermitage Bay. One is the cast of an adult female, 79 feet in length (No. 237567), obtained through the courtesy of the Cabot Steam Whaling Co. The other is the skeleton of an adult male 75 feet long (No. 49757), a gift from the Colonial Manufacturing Co. of St. Johns. They were received in Washington too late to be mentioned in Dr. F. W. True's monograph of the Whalebone Whales of the Western North Atlantic.¹ Before the skeleton was placed on exhibition in the Museum nine photographs were made by Mr. T. W. Smillie under the direction of Doctor True. None of these has yet appeared in print. Figures of the skull and other bones of *Sibbaldus musculus* are not easy to find, a fact which is particularly emphasized by their absence from the important work to which allusion has just been made. It has therefore seemed desirable to publish Mr. Smillie's remarkably fine photographs together with some measurements found among the MS. notes left by Doctor True.

Table of measurements of Sibbaldus musculus, No. 49757 U. S. National Museum.

	Measurements.	Per cent of greatest length.
<i>Skull.</i>		
Tip of beak to condyles (straight) -----meters--	5. 79	100
Greatest breadth at orbital processes of temporal.....do---	2. 74	47. 4
Diameter of foramen magnum.....millimeters--	110	-----
Length of rostrum.....meters--	3. 99	68. 9
Breadth of rostrum at middle (curved).....do---	1. 63	28. 2
Breadth of rostrum at base (curved).....do---	2. 06	35. 6
Breadth of skull at summit.....millimeters--	570	10. 0
Height of occipital from top of foramen magnum.....meters--	1. 16	20. 0
Length of maxilla from tip to end of nasal process.....do---	4. 57	78. 9
Length of maxilla from tip to end of malar process..do---	4. 20	72. 5

¹ Smithsonian Contributions to Knowledge, vol. 33. August 29, 1904.

Table of measurements of *Sibbaldus musculus*, No. 49757 U. S. National Museum—
Continued.

	Measurements.	Per cent of greatest length.
<i>Skull—Continued.</i>		
Distance between condyles inferiorly..... millimeters	30	-----
Distance between outer borders of condyles..... do	430	-----
Distance between zygomatic and glenoid processes of temporal..... meters	1. 18	20. 4
Breadth of orbital margin of frontal above..... millimeters	500	8. 6
Breadth of orbital process of frontal at base..... meters	1. 27	21. 9
Small diameter of orbit..... millimeters	280	5. 0
Length of anterior border of orbital plate of frontal..... meters	1. 19	-----
Length of posterior border of orbital plate of frontal..... do	1. 02	-----
Length of orbital portion of jugal..... millimeters	250	-----
Breadth of orbital portion of jugal..... do	64	-----
Length of upper surface of nasal (straight)..... do	280	5. 0
Breadth of 2 nasals anteriorly..... do	250	4. 3
Breadth of 2 nasals posteriorly..... do	250	4. 3
Distance between outer margins of intermaxillæ, 1.20 meters from extremity..... millimeters	700	12. 0
Distance between outer margins of intermaxillæ, 2.02 meters from extremity..... millimeters	690	12. 1
Distance between outer margins of intermaxillæ, 4.04 meters from extremity..... millimeters	580	10. 0
Breadth of upper surface of intermaxillæ, 1.20 meters from extremity..... meters	1. 23	-----
Breadth of upper surface of intermaxillæ, 2.02 meters from extremity..... meters	1. 64	-----
Length of intermaxilla..... do	4. 78	82. 6
Breadth of intermaxilla at middle..... millimeters	320	5. 5
Greatest breadth between inner margins of intermaxillæ..... millimeters	360	6. 2
Length of inferior margin of palatine..... meters	1. 22	21. 1
Length of inferior margin of maxilla..... do	3. 68	63. 6
Breadth of maxilla at base..... millimeters	710	12. 3
Breadth of nasal process of maxilla at extremity..... do	150	2. 6
Distance from tip of nasal process of maxilla to tip of malar process of maxilla..... meters	1. 19	20. 6
<i>Mandible.</i>		
Length, straight..... meters	5. 68	98. 0
Length on curve..... do	6. 12	105. 7
Height at symphysis..... millimeters	330	-----
Height at middle..... do	390	6. 8
Height at coronoid (to summit)..... do	850	14. 7
<i>Radius.</i>		
Length along middle (without inferior epiphysis)..... meters	1. 02	17. 6
Breadth at proximal end..... millimeters	220	-----
Breadth in middle..... do	216	-----
Breadth at distal end..... do	290	5. 0
<i>Ulna.</i>		
Length above middle (without inferior epiphysis)..... do	950	16. 4
Breadth at proximal end (with olecranon)..... do	340	-----
Breadth at middle..... do	170	-----
Breadth at distal end..... do	250	4. 3
Length of insertion of olecranon cartilage..... do	190	-----

Table of measurements of *Sibbaldus musculus*, No. 49757 U. S. National Museum—Continued.

	Measurements.	Per cent of greatest length.
<i>Phalanges.</i>		
Second digit:		
First phalanx..... millimeters	230	-----
Second phalanx..... do	180	-----
Third phalanx..... do	100	-----
Third digit		
First phalanx..... do	250	-----
Second phalanx..... do	170	-----
Third phalanx..... do	100	-----
Fourth phalanx..... do	80	-----
Fifth phalanx..... do	60	-----
Fourth digit:		
First phalanx..... do	230	-----
Second phalanx..... do	170	-----
Third phalanx..... do	100	-----
Fourth phalanx..... do	80	-----
Fifth phalanx..... do	50	-----
Sixth phalanx..... do	25	-----
Fifth digit:		
First phalanx..... do	130	-----
Second phalanx..... do	114	-----
Third phalanx..... do	60	-----
<i>Metacarpals (length).</i>		
Second..... do	240	-----
Third..... do	320	-----
Fourth..... do	250	-----
Fifth..... do	150	-----
<i>Sternum.</i>		
Height..... do	480	8.3
Breadth..... do	560	9.5
<i>Ribs.</i>		
Length, straight:		
First..... meters	1.75	-----
Second..... do	1.78	-----
Third..... do	2.13	-----
Fourth..... do	2.24	-----
Fifth..... do	2.41	-----
Sixth..... do	2.39	-----
Seventh..... do	2.39	-----
Eighth..... do	2.29	-----
Ninth..... do	2.24	-----
Tenth..... do	2.22	-----
Eleventh..... do	2.15	-----
Twelfth..... do	2.07	-----
Thirteenth..... do	1.99	-----
Fourteenth..... do	1.89	-----
Fifteenth..... do	1.80	-----
<i>Vertebrae.</i>		
Atlas:		
Height..... mm	480	8.3
Breadth..... do	490	15.4
Axis:		
Breadth..... meters	1.23	21.2
First dorsal (8), height of neural spine..... mm	160	-----

Table of measurements of *Sibbaldus musculus*, No. 49757 U. S. National Museum—
Continued.

	Measurements.	Per cent of greatest length.
<i>Vertebrae</i> —Continued.		
Axis:		
First dorsal (8), length of transverse process..... mm..	420	-----
First lumbar (22), neural spine..... meters..	1. 31	-----
First lumbar (22), length transverse process..... mm..	480	-----
First caudal (36), height of neural spine..... do..	670	-----
First caudal (36), length of transverse process..... do..	300	-----
<i>Chevrons</i> (height).		
First..... do..	90	-----
Seventh..... do..	360	-----
<i>Scapula</i> .		
Height from middle of glenoid margin..... do..	940	16. 2
Breadth, greatest..... meters..	1. 45	25. 0
Length of acromion..... mm..	480	-----
Breadth of acromion at distal end..... do..	250	-----
Length of coracoid..... do..	200	-----
<i>Humerus</i> .		
Total length..... do..	580	-----
Breadth at distal extremity..... do..	330	-----

EXPLANATION OF PLATES.

PLATE 1.

Skull, dorsal aspect.

PLATE 2.

Skull, ventral aspect.

PLATE 3.

Skull, lateral aspect.

PLATE 4.

Atlas, anterior aspect.

PLATE 5.

Axis, anterior aspect.

PLATE 6.

Sternum, outer aspect.

PLATE 7.

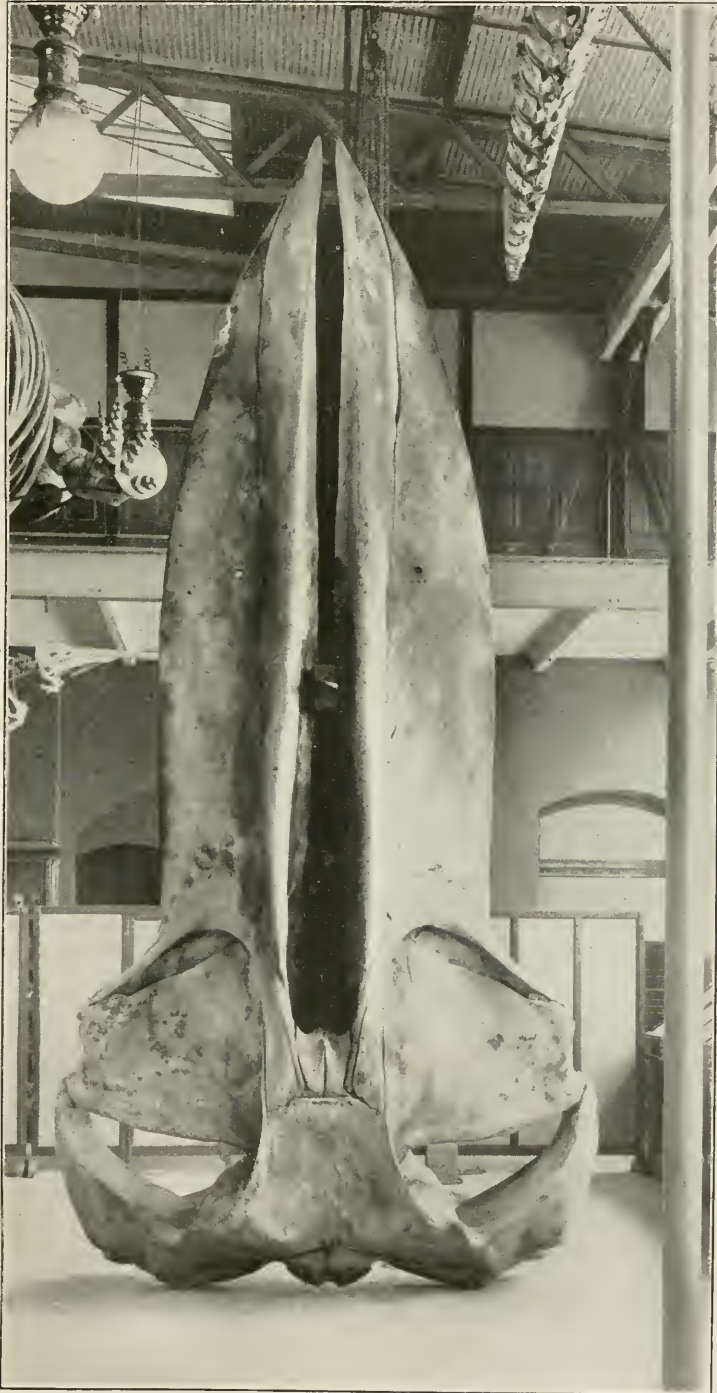
Right scapula, outer aspect.

PLATE 8.

Left fore limb, inner aspect.

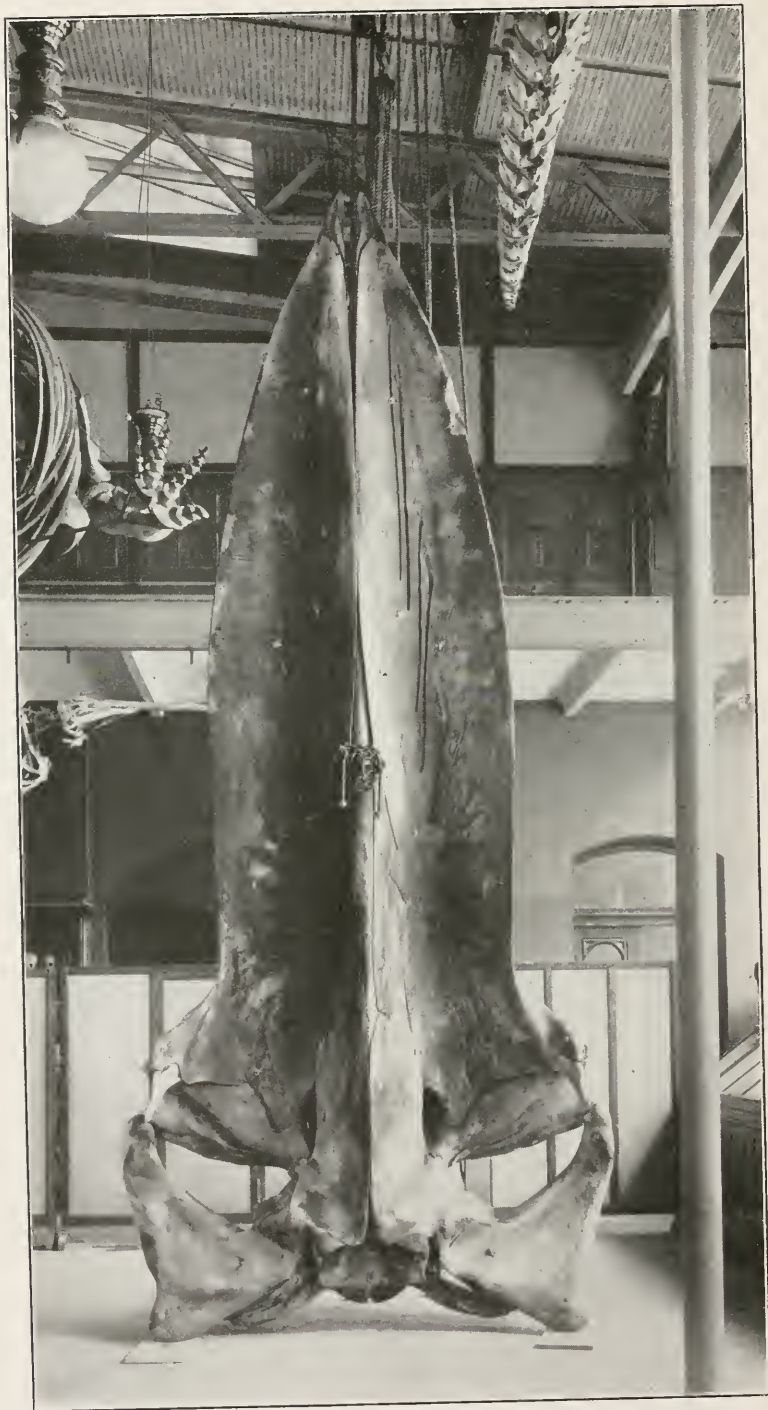
PLATE 9.

Pelvic elements.



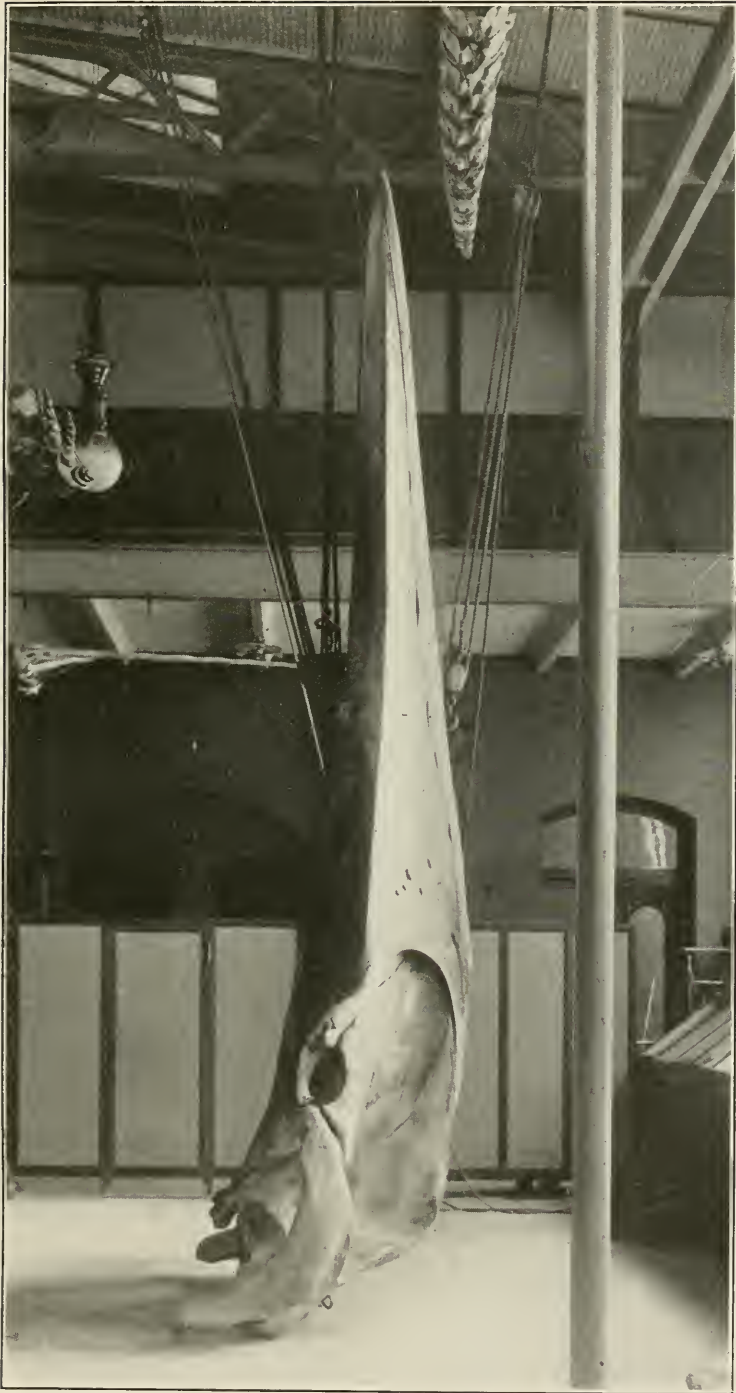
BLUE WHALE. DORSAL ASPECT OF SKULL

FOR EXPLANATION OF PLATE SEE PAGE 4



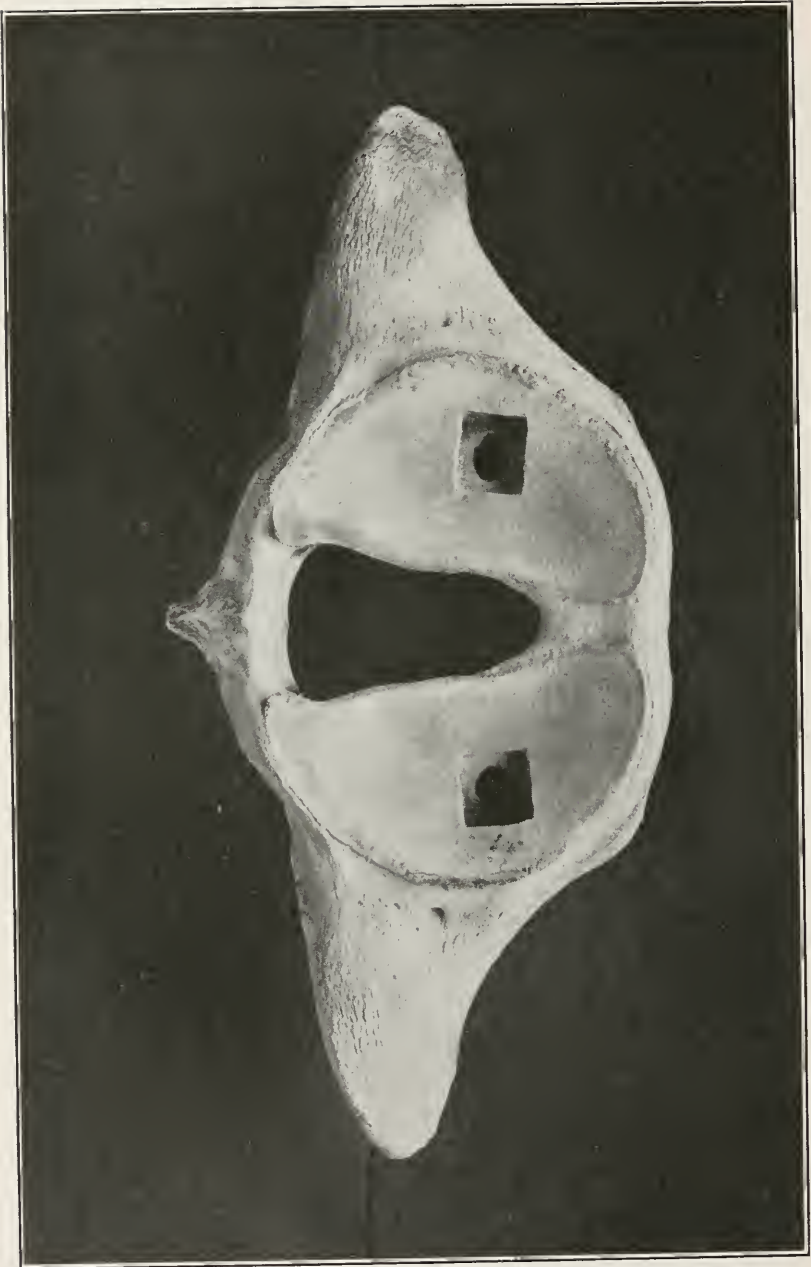
BLUE WHALE. VENTRAL ASPECT OF SKULL

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. LATERAL ASPECT OF SKULL

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. ANTERIOR ASPECT OF ATLAS

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. ANTERIOR ASPECT OF AXIS

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. OUTER ASPECT OF STERNUM

FOR EXPLANATION OF PLATE SEE PAGE 4



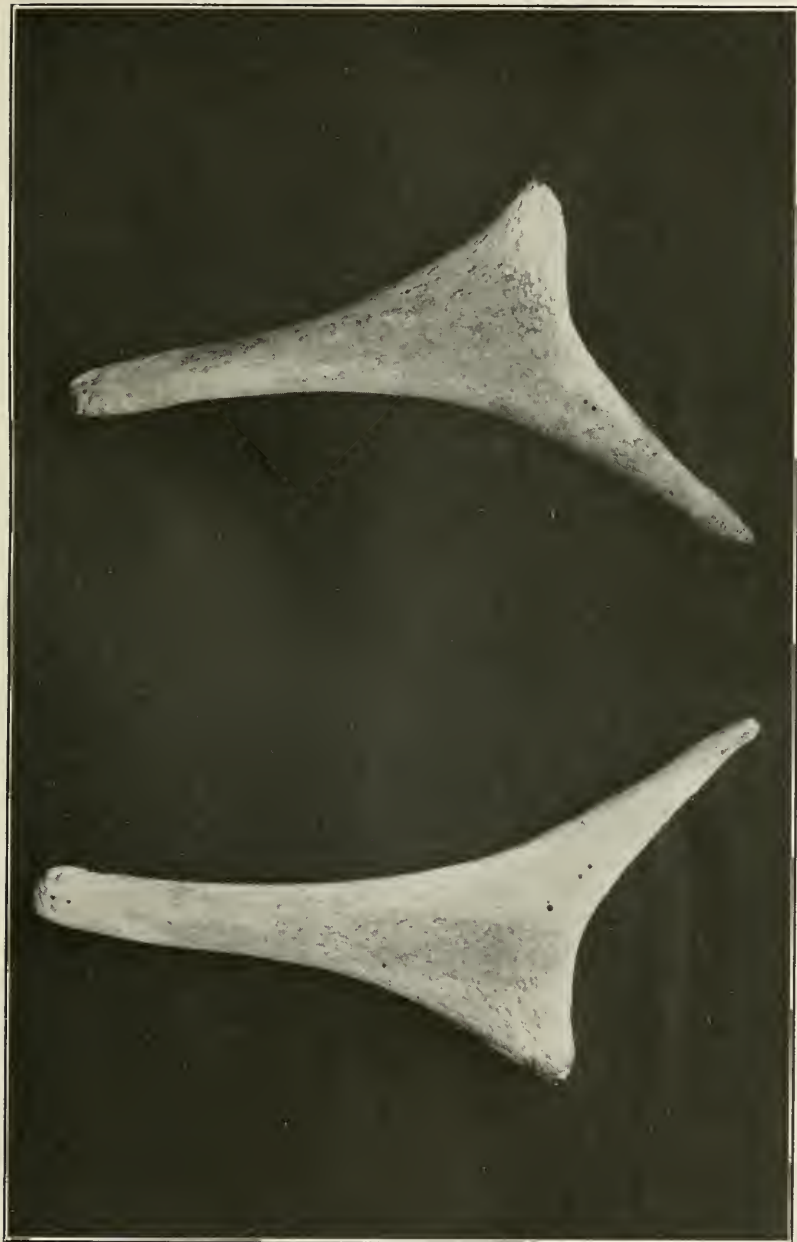
BLUE WHALE. OUTER ASPECT OF RIGHT SCAPULA

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. INNER ASPECT OF LEFT FORE LIMB

FOR EXPLANATION OF PLATE SEE PAGE 4



BLUE WHALE. PELVIC ELEMENTS

FOR EXPLANATION OF PLATE SEE PAGE 4

