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UNITED STATES OF AMERICA.

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CATALOGUE

OF THE

AQUATIC MAMMALS

EXHIBITED BY THE

UNITED STATES NATIONAL MUSEUM.

BY

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# AQUATIC MAMMALS OF THE UNITED STATES.

## INTRODUCTION.

### PINNIPEDIA.

#### THE FUR SEAL.

The following account of the Fur Seal and of the industry of which it is the basis has been condensed from the observations of Henry W. Elliott.\* The northern Fur Seal, *Callorhinus ursinus* (Linné), Gray, is confined almost exclusively in the breeding season to the Pribylovs, a group of small islands in Bering Sea, about 200 miles north of Unalashka and an equal distance from the mainland, and to the Commander Islands, Bering and Copper, 185 miles east of and off the Kamchatkan coast, under Russian order and control. They settle principally upon the two larger islands, Saint Paul and Saint George, being especially numerous on the former, where they have extensive breeding and sporting or "hauling" grounds. The aggregate area of these islands does not exceed 60 square miles. They are of volcanic origin, and have a surface diversified by sand beaches, high bluffs, and lava hills. The vegetation is scant, although the climate is quite mild. About 400 Aleutes and half-breeds live on the islands, and the able-bodied men attend to the fishery in the season. The Fur Seal also occurs (or until recently did occur) in small numbers at different points along the Californian coast.

The Fur Seal grounds of the Pribylovs, as already stated, are divided into breeding-grounds and hauling-grounds. The former, which are also termed "rookeries," are located at different points about the coast of the two islands, one of the largest being at the northeastern extremity of Saint Paul's. The adult males first arrive on these grounds in small numbers early in May, and are followed by the general throng at the beginning of June, when the foggy weather of summer sets in. There is much fighting among the males for favorable situations, increasing in violence with the arrival of the females, which occurs between the 12th and 14th of June. Families of from two or three to forty or more are then made up in the midst of much fighting and confusion, each male striving to add to the number of his wives and to his neighbor's discomfort. Very shortly after their arrival the females are delivered of young. The breeding season continues until the opening of August,

\* Elliott: A Monograph of the Seal Islands of Alaska. Washington, Feb. 21, 1881.

when the families show signs of breaking up, which condition becomes general by the middle of September, and the Seals are nearly all in the water. The young also begin their attempts at swimming early in August, and are ready to accompany the adults to sea during the two succeeding months. A few Seals remain late into the winter. The adult males eat nothing during the entire season, but the females go back and forth from the islands constantly. The "hauling-grounds" are frequented by the young or immature males. They are much more extensive than the breeding-grounds and of different character, principally covering level, smooth ground. The "Holluschickie," as the young males are termed, spend their time in sleeping, bathing, and procuring food, and in restless movements, hither and thither, over a large area. They show a playful and harmless disposition and do not indulge in combats with one another as do the old males on the breeding-grounds. It is from the Holluschickie that a selection is made for killing, as many of those of three and four years as possible being included. The fur in animals of this age is in the finest condition and most valuable commercially. There is apparently no diminution in the number of Seals frequenting the islands, and with a reasonable amount of watchfulness on the part of the Government there need be no fear of their extinction, unless from natural agencies at work in that part of the globe. In 1842 an unusually severe winter caused much havoc among them, and it is probable that similar conditions will produce a like effect at intervals in the future.

#### THE FUR SEAL FISHERY.

Shortly after the acquisition of Alaska from Russia in 1868, the Seal fishery was taken under the control of the Government of the United States and leased, August 7, 1870, to the highest bidder, the Alaska Commercial Company, at a rental of \$55,000 per annum, and a tax of \$2.62½ per skin for a period of twenty years, under the provision that only a hundred thousand pelts should be taken each year. The Seals killed, as already stated, are males of three and four years, from the great hordes of "Holluschickie" which swarm over the hauling-grounds.

The work of preparing the skins is done by about eighty of the resident Aleutes who are employed by the company. The Seals selected for killing are driven away from the coast a short distance and dispatched by well-directed blows on the head. The skinning is immediately done, since a delay of even two or three hours causes serious damage to the skins by the loosening of the hair. The natives have become very skillful in this work, so that the loss of skins from bad cutting and the like does not exceed one-fourth of one per cent. The sum of 40 cents is paid for each skin prepared, and at the close of the season, when the account is settled, the amount paid out aggregates about \$40,000. The fishery is at present confined to about 40 days in the earlier part of the

season, but formerly it occupied a much larger time and with a less favorable result, so far as the quality of the skins was concerned.

The annual catch of the Pribylov Islands since the opening of the American management is given by Elliott as follows:

	Number of skins.
1863 .....	242,000
1869 .....	87,000
1870 .....	9,965
1871 .....	63,000
1872 .....	99,000
1873 .....	99,630
1874 .....	99,820
1875 .....	99,500
1876 .....	99,000
1877 .....	85,500
1878 .....	95,000
1879 .....	99,968
1880 .....	99,950
1881 .....	85,000
1882 .....	99,800
1883 .....	78,000
Total .....	1,540,133

The catch of the Russian Islands is as follows:

	Number of skins.
1862 .....	4,000
1863 .....	4,500
1864 .....	5,000
1865 .....	4,000
1866 .....	4,000
1867 .....	4,000
1868 .....	12,000
1869 .....	24,000
1870 .....	24,000
1871 .....	3,614
1872 .....	29,319
1873 .....	30,396
1874 .....	31,272
1875 .....	36,274
1876 .....	26,960
1877 .....	21,532
1878 .....	31,340
1879 .....	42,752
1880 .....	48,504
1881 .....	42,640
1882 .....	46,000
1883 .....	25,000
Total .....	501,102

After the skins are stripped from the Seals they are packed in salt, and stowed in suitable buildings for about three weeks, after which they

are formed into packages of two skins each, the hair being out, and in this form are stowed in the company's steamers. They are counted by Government agents both at the islands and at San Francisco, after which they are shipped via New York to London, where they are plucked and dyed. The commercial value of a dyed skin varies from \$25 to \$75, the variation in price depending upon the fineness of the fur, and the evenness and indelibility of the dyeing.

It will be noticed that the same number of skins is not taken every season; this is due to the fact that the Alaska Commercial Company in sustaining the trade has to agree, when the market is dull, not to take the full quota allowed by law, otherwise the prices fall and the result is loss to both parties.

#### SIRENIANS.

##### THE MANATEES.

Two species of Manatees, *Trichechus latirostris* and *T. manatus*, occur on our Southern coast, but not abundantly. The Florida Manatee formerly ranged from the more northern part of the Atlantic coast of that State and along the Gulf coast, perhaps as far as the Mississippi River. At present it is confined to the southern part of Florida, occurring in the most inaccessible regions, and being but very seldom seen. Manatees are known to occur in the Indian River and the Saint Lucie on the Atlantic side, and are reported to occur in the Myakka, the Caloosahatchie, and other small rivers and streams south of Charlotte Harbor on the Gulf coast. It is doubtful whether any occur to the westward of Florida at the present time, except perhaps in Texas, where the species is probably the South American form. There is credible testimony to the appearance of a specimen near Saint Augustine, Fla., in 1874. The Florida Manatee is frequently stated by travelers to have a length of 12 or 13 feet, but I do not know of any reliable measurements of individuals of such great length. On account of the rarity of these animals there is no regular industry connected with them, although their flesh is said to be excellent meat and their hide forms an impervious leather. The best observations on the habits of these animals relate to specimens in zoological gardens and may not be quoted here. The Florida Manatee should be carefully protected from destruction or it will inevitably become extinct in a few years.

##### THE RHYTINA.

As the Rhytina does not occur on the coast of the United States or off any of its outlying provinces, it can scarcely claim attention in this connection. A specimen was, however, sent to the Exhibition from Bering Island, being one of a valuable collection made by Dr. Stejneger at that place. There is very little new to add to the history of the spe-

cies. The story of its discovery by Steller in 1741 and of its extinction in 1780 (or, if we may believe Eskimo testimony, in 1854) has often been related and is well known. It is doubtful whether any new information will hereafter be obtained. The quest for bones, also, has been so great of late years that, doubtless, in a short time it will be well-nigh impossible to collect more of these relics.

## CETACEANS.

The methods of the American Whale fishery are thoroughly reported upon by Mr. James Temple Brown, and the statistics by Mr. A. Howard Clark, in another section of this Catalogue, and it only remains to speak briefly of these animals from a zoological point of view. It is a somewhat difficult matter in the present state of knowledge to determine how many species actually inhabit the waters surrounding North America. The difficulty is of a twofold character. Many species have been described from a single specimen, and while this does not in any way invalidate their claim to recognition, the lack of material often leaves room for the suspicion that they represent abnormalities or extreme variations of known species. On the other hand, the defects in the published descriptions and figures of even well-known forms, often lead to the creation of new species devoid of value. A third hinderance arises from the frequent confounding of localities. The number of species frequenting North American waters, including cosmopolitan and doubtful forms, does not exceed sixty-two. The numerical relations of these forms to the east and west coasts of the continent are somewhat as follows :

Total number of species inhabiting North America (including cosmopolitan and doubtful species).....	62
Whalebone whales .....	17
Toothed whales .....	45
Cosmopolitan and circumpolar species .....	4
Species occurring on the east coast, but not on the west coast .....	36
Species occurring on the west coast, but not on the east coast .....	22
Doubtfully included in the fauna .....	7

It is altogether probable that after further comparisons have been made the number of species supposed to be peculiar will be materially reduced. On the other hand, the discovery of new species in the Gulf of Mexico and the Alaskan Seas may be expected when those bodies of water have been more thoroughly explored. The attempt is made in the following table to show what species occur off the coasts of North America, respectively; what are common to both shores, and what inhabit both the Northeastern and Northwestern Atlantic. To the names of species doubtfully included in the fauna is prefixed the mark of interrogation, while the double-dagger is placed before the names of those

which are doubtfully common to both the Northeastern and North western Atlantic:

Species occurring in the Northeastern Pacific but not in the Atlantic.	Species occurring in both the North Pacific and North Atlantic.	Species occurring in the Northwestern Atlantic but not in the Northeastern Atlantic nor in the Pacific.	Species occurring in both the Northeastern and Northwestern Atlantic.
<i>Balæna Sibbaldii</i> .....	<i>Balæna mysticetus</i> .....	.....	<i>Balæna mysticetus</i> . <i>Balæna biscayensis</i> . <i>Balænoptera rostrata</i> . <i>Balænoptera musculus</i> . <i>Balænoptera robustus</i> . <i>Sibbaldius laticeps</i> .
<i>Balænoptera Davidsoni</i> .....	.....	.....	.....
<i>Balænoptera velifera</i> .....	.....	.....	.....
<i>Sibbaldius sulfureus</i> .....	.....	<i>Sibbaldius tuberosus</i> .....	.....
.....	.....	<i>Sibbaldius tectirostris</i> .....	.....
<i>Megaptera versabilis</i> .....	.....	<i>Megaptera bellicosa</i> .....	<i>Megaptera boops</i> .
<i>Rhachianectes glaucus</i> .....	<i>Physeter macrocephalus</i> .....	<i>Agaphelus gibbosus</i> .....	.....
.....	.....	.....	<i>Physeter macrocephalus</i> .
<i>Kogia Floweri</i> .....	.....	<i>Kogia Goodei</i> .....	.....
<i>Ziphius Bairdii</i> .....	.....	.....	<i>Hyperoodon rostratum</i> .* <i>Ziphius cavirostris</i> . † <i>Mesoplodon Sowerbieni</i> . <i>Grampus griseus</i> . <i>Monodon monoceros</i> .* <i>Delphinapterus catodon</i> .
<i>Berardius Grebnitzki</i> .....	.....	<i>Hyperoodon senijnunctus</i> .....	.....
<i>Grampus Stearnsii</i> .....	<i>Monodon monoceros</i> .....	<i>Delphinapterus declivis</i> * .....	.....
.....	<i>Delphinapterus catodon</i> .....	<i>Delphinapterus concretus</i> .* .....	.....
.....	.....	<i>Delphinapterus rhinodon</i> .* .....	.....
<i>Globiocephalus Scammoni</i> .....	.....	<i>Globiocephalus brachypterus</i> .....	<i>Globiocephalus melas</i>
<i>Phocæna vomerina</i> .....	.....	<i>Phocæna brachycion</i> .....	.....
.....	.....	<i>Phocæna lineata</i> .....	.....
<i>Orca pacifica</i> .....	.....	.....	<i>Orca gladiator</i> .*
<i>Orca atra</i> .....	.....	.....	.....
<i>Orca atra</i> var. <i>fusca</i> .....	.....	.....	.....
<i>Orca rectipinna</i> .....	.....	.....	.....
<i>Leucorhampus borealis</i> .....	.....	.....	.....
<i>Delphinus Bairdii</i> .....	.....	<i>Delphinus erebennus</i> † .....	† <i>Delphinus eufrosyne</i> .* .....
? <i>Delphinus styx</i> .....	.....	<i>Delphinus janira</i> .....	<i>Delphinus delphis</i> . <i>Delphinus acutus</i> .* <i>Delphinus albirostris</i> .*
? <i>Delphinus albirostratus</i> .....	.....	.....	.....
<i>Lagenorhynchus obliquidens</i> .....	.....	.....	.....
<i>Lagenorhynchus tricolea</i> .....	.....	<i>Lagenorhynchus gubernator</i> .....	<i>Lagenorhynchus leucopleurus</i> .
.....	.....	<i>Lagenorhynchus perspicillatus</i> .....	.....
<i>Tursiops Gillii</i> .....	.....	<i>Tursiops subridens</i> .....	<i>Tursiops truncatus</i> .
.....	.....	<i>Steno fuscus</i> .....	.....

\* Recorded in the Western Atlantic only from Greenland.

† "*Delphinus bombifrons*, Cope," of the catalogue of the Philadelphia Exhibition of 1876, is a fictitious species.

#### THE ECONOMIC VALUE OF THE CETACEANS.

Among all Cetaceans the size of a species has a direct bearing upon its economic importance. Oil being the principal product furnished by these animals, their commercial value depends to a large degree upon the relative amount of that product which they furnish. The subcutaneous layer of fat or "blubber," which is very extensive in the larger forms, such as the Baleen Whales, becomes insignificant in amount in the Dolphins and Porpoises, and the latter are therefore comparatively valueless. Among species of about equal proportions, a secondary element of value depends upon the quality of the oil furnished. Sperm oil has a higher commercial value than oil from Baleen Whales, and



Grampus oil is esteemed more highly than that from the Blackfish. The amount of oil furnished by some of the more important Cetaceans is approximately as follows:

Species.	Length.	Amount of oil.
	<i>Feet.</i>	
Sperm Whale ( <i>Physeter macrocephalus</i> ) .....	80 to 84	60 to 150 barrels.
Bowhead Whale ( <i>Balæna mysticetus</i> ) .....	45 to 58	75 to 200 barrels.
Pacific Right Whale ( <i>Balæna japonica</i> ) .....	60	130 barrels.
Gray Whale ( <i>Rhachianectes glaucus</i> ) .....	35 to 44	20 to 70 barrels.
Atlantic Humpback ( <i>Megaptera boops</i> ) .....	45 to 50	35 to 60 barrels.
Blackfish ( <i>Globiocephalus melas</i> ) .....	15 to 20	20 gallons to 10 barrels.
Grampus ( <i>Grampus griseus</i> ) .....	15 to 20	
White Whale ( <i>Delphinapterus catodon</i> ) .....	15 to 16	100 to 120 gallons.

The secondary products furnished by the Cetaceans are whalebone, spermaceti, ivory, ambergris, leather, and meat. The whalebone furnished by at least three species which are or have been pursued by our whalers rises in value almost to that of the oil secured. The Bowhead Whale, *B. mysticetus*, furnishes from 500 to about 3,000 pounds of whalebone, the Pacific Right Whale, *B. japonica*, about 1,800, and the Atlantic Right Whale, *B. biscayensis*, about 1,000 pounds. The spermaceti of the Sperm Whale, once so valuable, has greatly declined in importance. The amount furnished by a single whale varies from 15 to 25 barrels. A similar substance occurs in small quantity in the head of the Pigmy Sperm Whale, genus *Kogia*, and in the Bottlenose Whale, *Hyperoodon*. Ivory is furnished to a considerable amount only by the Sperm Whale. Ambergris is still sought for and commands a high price. About the only Cetacean leather now used in commerce is furnished by the White Whale. This species is so rare on our Atlantic coast that its importance in this connection is insignificant. The business is, however, pursued by the Canadians to some extent. Formerly leather was made from the Porpoises, which are very common about Long Island, and the industry has been renewed at Cape May, N. J. Before canned meats were introduced into commerce, the smaller Cetaceans furnished a supply of fresh meat for the crews of vessels engaged in long voyages, and is frequently referred to in the accounts of such expeditions. The flesh is not unpalatable, although inclined to be oily and tough. That of certain species, however, as the Bottlenose Whales, possesses cathartic properties which render it disagreeable and unwholesome. The American aborigines, both Indians and Eskimos, have learned the value of the wholesome species, and hazard much to secure the flesh and blubber, of which they are very fond.\* The statistics of the principal products furnished are treated of at length by Mr. Clark in Section E and need not be dwelt upon here.

#### THE DECREASE IN THE ABUNDANCE OF AMERICAN CETACEANS.

That there have been great changes in the abundance and movements of the larger Whales along the east and west coasts of the United States

\* See Section E, pp. 90 *et seq.*

within the last two centuries, history plainly testifies. During the seventeenth century shore whaling was carried on from Massachusetts to Virginia and southward, and the abundance of Cetaceans is evidenced by the innumerable disputes which arose regarding stranded animals or "drift fish." By the middle of the eighteenth century, on account of the vigor with which the fishery was prosecuted, the Whales seem to have kept off shore, near the edge of the Gulf Stream. Soon afterwards the whalers found it necessary to go farther from port. They went northward to the Gulf of St. Lawrence and the Straits of Belle Isle, and southward to the West Indies and Brazil, and extending their voyages year by year, it was not long before they had visited all waters of the globe.

On the Pacific coast there have been similar changes. The migrations of the Whales have been over different courses in an interrupted and much more irregular fashion than formerly.

### DOLPHINS.

Dolphins of three distinct genera, *Delphinus*, *Tursiops*, and *Lagenorhynchus*, are of not infrequent occurrence on both coasts of the United States. The common Dolphin, *D. delphis*, is taken from time to time, but does not appear to be particularly abundant, and has not been definitely reported south of New England. Baird's Dolphin, *D. Bairdii*, is not uncommon on the coast of California, but is not known to occur off Alaska. The species of *Lagenorhynchus*, known as the Skunk Porpoise, *L. perspicillatus*, is very common off New England and much farther north, especially about the fishing-banks, and this or a similar species occurs as far south as North Carolina. Schools of them sometimes strand on Cape Cod. A similar species, *L. obliquidens*, is common in the bays and harbors of California. The Bottlenosed Dolphins of the genus *Tursiops* appear to be the most common Cetaceans on the Atlantic coast. Numerous specimens have been taken at different localities between New York and Virginia. The Cow-fish of California, *T. Gillii*, has been commented upon by Scammon. It keeps well to the southward, and is sluggish and uncertain in its movements.

### PORPOISES.

Two apparently distinct species of Porpoises, *P. brachycion* and *P. lineata*, are common in our Atlantic harbors along the entire coast. One of these species, though I have been unable as yet to determine which, ascends the larger rivers for a very considerable distance. Both these animals and the common Pacific Porpoise, *P. vomerina*, are esteemed by the Indians as dainties, and are pursued by them with considerable vigor. Like the eastern species the Pacific Porpoise has a wide range, extending at least from the Columbia River to Piginto River, Mexico.

The Atlantic Porpoise was formerly the object of a considerable fish-

ery off Long Island, where it abounds in great numbers. It was captured for its oil and also for its skin, which makes a tough and tolerably good leather. A company has been organized for a similar purpose at Cape May, New Jersey.

### THE BLACKFISH AND THE GRAMPUS.

The Blackfish, *Globocephalus melas*, was formerly very abundant on the New England coast, and seems to have attracted attention since colonial times. Within the last half century large schools have stranded almost annually, the number in a certain school in 1874 amounting to 1,405, furnishing 27,000 gallons of oil. So great was the regularity of the appearance of these animals about Cape Cod that a company was formed for the purpose of extracting oil from them, and was quite successful for a number of years. At present there seems to be much less regularity in their movements. Blackfish occur along the coast at least as far as Virginia, but little is known about them in their southern habitats. The Virginia Blackfish is believed by Professor Cope to be a distinct species, which he has designated as *G. brachypterus*. *G. Scammoni* of the Pacific coast is common along the coast of California and Lower California, but is not captured to any considerable extent. They were spoken of by Colnett in 1798 as occurring near Lower California in great numbers.

The common Grampus, *Grampus griseus*, is not an infrequent visitor on the New England coast. The number captured within the last forty years is estimated by Captain Cook to be not more than fifty. The oil is much esteemed and commands a high price.

### THE KILLERS.

Killer Whales are not uncommon on both our east and west coasts. The Atlantic species, which is probably *Orca gladiator*, is frequently seen on the New England coast, and in the fall enters the harbors. They are occasionally captured at Provincetown, but with no regularity. The Killers of California, representing two species, *O. atra* and *O. recipinna*, attracted the attention of Scammon, who has furnished an interesting account of their habits and mode of attacking the Baleen Whales. They range along our entire Pacific coast, going in small schools, which present an odd appearance on account of the high dorsal fin.

### THE SPERM WHALE AND THE PIGMY SPERM WHALE.

The Sperm Whale occurs regularly in but two localities off the coast of the United States, the "Hatteras ground," east and north of Cape Hatteras, and the "Charleston ground," off the coast of South Carolina. They occasionally strand at various points, a school of eleven having perished on the coast of Florida in 1882. If I am properly informed, another school stranded near the same place the preceding year. In

the Pacific, as is well known, they formerly occurred in great abundance, but their number, at least off our coast, has suffered a remarkable diminution.

The Pigmy Sperm Whales, of the genus *Kogia*, are very rare about North America. The stranding of only three specimens is authentically known, one at Mazatlan, at the mouth of the Gulf of California, one on the New Jersey coast, and another near Indian River, Florida. Nothing is known of their movements or habits, but it may be surmised that they move singly or in pairs, but never in schools.

#### ZIPHIROID WHALES.

The Bottlenose Whales, genus *Hyperoodon*, are uncommon about the coast of the United States, and attract no attention from a commercial point of view. Specimens from the east coast have been taken in a few instances, and are preserved in different museums. They are not mentioned by Seammon as having been observed by him, and are doubtless very rare, if occurring at all, on our west coast.

The genera *Ziphius* and *Mesoplodon* are still rarer in North American waters. A single specimen of each genus has thus far been recorded. The discovery of a *Ziphius* and a *Berardius* at Bering Island by Dr. Leonhard Stejneger is a very interesting one, as extending the range of these genera.

#### THE GRAY WHALE.

The Gray Whale, *Rhachianectes glaucus*, was very abundant on the west coast of the United States and southward in the first half of the present century, and formed the object of pursuit by whalers. In the last thirty years, however, it has diminished in abundance in an alarming degree, and is even threatened with extinction. In former years it ranged from 20° north latitude to the Arctic regions, breeding on the Lower California coast. They perform regular migrations, passing northward in the spring and southward at the approach of winter. Although far from timid, naturally, they speedily became so by the constant persecution of the whalers, and made many changes in their habits. In passing to and fro along the shore they at first kept well in, but as they grew more cautious they deviated in their course farther and farther from the coast line, so that it was necessary for the whalers to go out a long distance to capture them. They became very shy and difficult to catch, even under the most favorable circumstances. The breeding season occurs in the earlier part of the year, one calf being brought forth at a birth.

A single specimen showing some degree of relationship to the Gray Whale, was observed by Professor Cope and described by him under the name of *Agaphelus gibbosus*. Nothing is known of its habits or economy.

**FIN-BACKS AND SULPHUR-BOTTOMS.**

Several species of the genera *Balenoptera*, *Sibbaldius*, and *Physalus* occur on the east and west coasts of the United States, but so far as their habits are concerned, are but imperfectly known. They are so swift in their movements as to be rarely captured by the fishermen, and most of the specimens in the museums are those of stranded animals.

**HUMP-BACKS AND RIGHT WHALES.**

The Atlantic Hump-back Whale, *Megaptera boops* (or *M. oshyia*, Cope), is doubtless the commonest Baleen Whale of our shores. It frequently enters the harbor of Provincetown, Massachusetts, but not so commonly as in former years. There is a small fishery for these animals in the Gulf of Maine, which has proved somewhat successful. The Hump-back of the Pacific, *M. versabilis*, is reported by Scammon to perform regular migrations, going far into South America. They occur off the coast of California, but not in great abundance.

The Black Whale, *Balæna biscayensis*, is believed to have been the object of a very considerable fishery in the early colonial times, but has disappeared entirely for many years. Its reoccurrence has been recorded by Dr. Holder. It appears to range along the entire east coast of the United States.

I am informed by my friend, Dr. Manigault, that his statement of the abundance of this species off the coast of South Carolina\* was due to a misunderstanding. The species referred to is probably a *Megaptera*.

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\* Bull. Amer. Museum Nat. History, 1, No. 4, 1883, p. 104.



ANNOTATED LIST OF THE AQUATIC MAMMALS OF  
NORTH AMERICA, WITH CATALOGUE OF SPECIMENS  
EXHIBITED AT LONDON.

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Order SIRENIA

Family TRICHECHIDÆ.

*Trichechus latirostris* (Harlan), True. Florida Manatee. East and west  
coasts of Southern Florida.

*Trichechus manatus*, Linné. South American Manatee. Texas to Saint  
Matthew's River, Brazil.

Order CETÆ.

Suborder DENTICETÆ.

Family DELPHINIDÆ.

? *Steno fuscus*, Gray. Cuba.

This species has not been properly characterized, and  
should, perhaps, be ignored.

*Delphinus Bairdii*, Dall. Baird's Dolphin. Coast of California.

15403. Photographs of skull. San Gabriel River, California. Ex-  
plorations west of 100th meridian. Lieut. E. Bergland,  
U. S. A.

? *Delphinus styx*, Gray. North Pacific (Gray).

Doubtfully included in our fauna.

? *Delphinus albirostratus*, Peale.

Doubtfully included in the fauna.

*Delphinus janira*, Gray. The Janira. Newfoundland (Gray).

? *Delphinus eufrosyne*, Gray. North Atlantic.

This species is included in the Greenland fauna by Dr.  
Brown, but apparently without proper proof.

*Delphinus delphis*, Linné. Common Dolphin. North Atlantic Ocean.

Several specimens taken on our coasts have been identi-  
fied with this common European species, by different ob-  
servers.

13342. Cast. Wood's Holl, Massachusetts. U. S. Fish Commission.

13342. Cast of head. Wood's Holl, Massachusetts. U. S. Fish  
Commission.

13343. Cast of head. Wood's Holl, Massachusetts. U. S. Fish Commission.

16531. Skull. Wood's Holl, Massachusetts. U. S. Fish Commission.

*Delphinus acutus*, Gray. Eschricht's Dolphin. North Atlantic Ocean.  
Included by Professor Flower in the fauna of Greenland.  
(Arctic Manual, 1875.)

*Delphinus albirostris*. White-beaked Bottlenose. North Atlantic Ocean.  
Included by Professor Flower in the fauna of Greenland.  
(Arctic Manual, 1875.)

*Leucorhamphus borealis* (Peale), Gill. Right Whale Porpoise. Pacific coast of North America.

*Lagenorhynchus leucopleurus* (Rasch), Gray. North Atlantic.

*Lagenorhynchus obliquidens*, Gill. Striped or Common Dolphin. Pacific coast of the United States.

? *Lagenorhynchus tricola*, Gray. West coast of North America.

It is doubtful whether this species should be recognized as belonging to the North American fauna.

*Lagenorhynchus gubernator*, Cope. Skunk Porpoise. Coast of New England.

The original figure of this species is wrongly named *L. perspicillatus* (Proc. Acad. Nat. Sci., Phila., 1876, Pl. IV). In the description (l. c., p. 138) the name *L. bombifrons* is synonymous with *L. gubernator*.

12939. Cast. Cape Cod, Massachusetts. U. S. Fish Commission.

*Lagenorhynchus perspicillatus*, Cope. Coast of New England.

*Tursiops Gillii*, Dall. Cow-fish. Pacific coast of the United States.

*Tursiops erebennus* (Cope), Gill. Black Dolphin. Atlantic coast of the United States.

*Delphinus erebennus*, Cope, Proc. Acad. Nat. Sci., Phila., 1865, p. 281.

*Tursiops erebennus*, Gill. Bull. U. S. Nat. Mus., 14, 1879, p. 10.

Nothing is known of the economy of this species. One of the specimens referred to by Professor Cope was from Red Bank, New Jersey. The specimen in the National Museum labeled *D. erebennus* does not agree with the original description.

*Tursiops subridens*, True (MS.). New York to Virginia.

A number of specimens of this species have been recently taken. The species closely resembles *T. truncatus*, Gray, but the beak is relatively shorter. It may prove identical with the latter.

13317. Cast ♂. Cherrystone Point, Virginia. U. S. Fish Commission.

13317. Cast of head ♂. Cherrystone Point, Virginia. U. S. Fish Commission.

13318. Cast of head ♀. Cherrystone Point, Virginia. U. S. Fish Commission.

16504. Skull. Cherrystone Point, Virginia. U. S. Fish Commission.



- Tursiops truncatus*, Gray. Bottle-nose. Dolphin, North Atlantic Ocean.
- Orca gladiator* (Bonnaterre), Gray. Atlantic Killer. Atlantic Ocean.  
It is probably this species which enters Cape Cod Bay.
- Orca atra*, Cope. Pacific Killer. Pacific coast of North America.  
16625. Jaws. Cape Flattery, Washington Territory. James G. Swan.
- Orca rectipinnis*, Cope. Coast of North America.  
I am informed by my friend, Mr. William H. Dall, that this and the preceding *Orca* are seen in the same school. It is his opinion that they are varieties of a single species.
- ?*Orca pacifica*, Gray. North Pacific Ocean.
- Globiocephalus melas* (Traill). Blackfish. North Atlantic Ocean; Mediterranean Sea. A common species on the coast of New England. Large schools frequently strand.  
12479. Cast. Cape Cod, Massachusetts. U. S. Fish Commission.  
12840. Cast. South Dennis, Massachusetts. U. S. Fish Commission.  
12841. Cast of head. South Dennis, Massachusetts. U. S. Fish Commission.
- 14360-61. Skull, with mandible. Cape Cod, Massachusetts. Vinal N. Edwards.
- Globiocephalus brachypterus*, Cope. Coast of New Jersey; mouth of Maurice River, New Jersey. (Cope.)  
Only two specimens have been identified with this species.
- Globiocephalus Scammoni*, Cope. Pacific coast of North America and southwards.  
9074. Photographs of skull and lower jaw. Coast of California. Capt. C. M. Scammon.  
It is doubtless to this species that Colnett refers. (Voyage into the Pacific, 1798.)
- Grampus Stearnsii*, Dall. Mottled or White-headed Grampus. Pacific coast of North America.
- Grampus griseus* (Cuvier), Gray. Grampus. North Atlantic Ocean.  
Comparatively rare; probably not more than 50 specimens have been taken on the New England coast within the last forty years. (Captain Cook.)  
12760. Cast of head. Cape Cod, Massachusetts. Vinal N. Edwards.  
———. Cast of head. Cape Cod, Massachusetts. Vinal N. Edwards.
- Delphinapterus catodon* (Linné), Gill. White Whale. Arctic and Subarctic Seas; Provincetown, Massachusetts (Capt. N. Atwood); Yarmouth, Massachusetts (Capt. B. Lovell). Occasionally captured about Cape Cod.  
12490. Cast.
- Delphinapterus declivis*, Cope. Greenland.

*Delphinapterus conereta*, Cope. Greenland.

*Delphinapterus rhinodon*, Cope. Greenland.

*Delphinapterus angustata*, Cope. Greenland.

The preceding four species are given on the authority of Professor Cope. It seems improbable that there are five distinct species of White Whales. The measurements of the skulls when reduced to proportions of the total length show some remarkable coincidences.

*Monodon monoceros*, Linné. Narwhal. Arctic Seas.

*Phocæna lineata*, Cope. Striped Porpoise. Atlantic coast of the United States.

13359. Cast. Cape May, New Jersey. C. L. Wheeler.

13359. Cast of head. Cape May, New Jersey. C. L. Wheeler.

*Phocæna brachycyon*, Cope. Puffing Pig. Herring Hog. Atlantic coast of the United States. This is one of the commonest species, frequenting the harbors and ascending the rivers.

13200. Cast. A. Howard Clark.

9157, 9164. Skulls. Eastport, Maine. Prof. S. F. Baird.

*Phocæna vomerina*, Gill. California Bay Porpoise. Pacific coast of the United States.

9077. Photographs of skull and mandible. Puget Sound. Capt. C. M. Scammon.

#### Family ZIPHIIDÆ.

*Berardius Grebnitzkii*, Stejneger. Bering Island.

A single skull was obtained by Dr. L. Stejneger at Bering Island and is now in the National Museum. It bears much resemblance to *B. Arnouxii*. This genus has been hitherto observed only in New Zealand waters.

*Hyperoodon rostratum* (Chemnitz), Wesmael. Bottle-nose Whale. North Atlantic Ocean; North Dennis, Massachusetts (Allen); Newport, Rhode Island (Cope).

This species appears to be common about Greenland, but not so on the coast of the United States.

*Hyperoodon semijunctus*, Cope.

A single specimen in the museum of Charleston College, Charleston, South Carolina. A sketch of the skull of this species, in my possession, convinces me that it is a *Ziphius*. Flower, Van Beneden, and other European authorities, have long held this opinion.

*Ziphius cavirostris*, Cuvier.

A specimen of a *Ziphius*, provisionally identified with this species, was secured through the United States Life Saving Station at Barnegat City, New Jersey, in 1883. It is a female, 19 feet 4 inches in length, and of a gray color, lightest on the back. The end of the muzzle is white.

*Ziphius Bairdii*, Stejneger. Baird's Bottle-nose Whale. Bering Island. Skulls were obtained by Dr. L. Stejneger, at Bering Island, and are now in the National Museum. Closely resembles *Z. cavirostris*.

*Mesoplodon Sowerbiensis*, Gervais. Temperate north Atlantic; Nantucket (S. C. Martin).

Admitted into the American fauna on the basis of a single specimen, stranded at Nantucket, Mass., and identified by Louis Agassiz with this genus, and by Professor Cope with this species. The skull is now in the Museum of Comparative Zoology, at Cambridge. A *Mesoplodon* has also been recently found by Dr. Stejneger in Bering Island.

#### Family PHYSETERIDÆ.

*Physeter macrocephalus*, Linné. Sperm Whale. Temperate and tropical seas.

Eleven specimens, mostly young, stranded on the east coast of Florida, near Cape Canaveral, in the winter of 1882.

*Kogia Goodei*, True (MS.). Goode's Pygmy Sperm Whale. Eastern coast of the United States; Spring Lake, New Jersey; Jupiter Inlet, Florida (M. E. Spencer).

Two specimens of this animal are known, one from each of the localities above named. Of the Florida specimen only a photograph and the lower jaw have been preserved.

*Kogia Floweri*, Gill. Flower's Pygmy Sperm Whale. Mazatlan, Gulf of California (Grayson).

This species is founded upon the anterior portion of a single mandible and an imperfect drawing.

8016. Photographs of portion of lower jaw. Mazatlan. Colonel Grayson. (Type.)

#### Sub-order MYSTICETE.

#### Family RHACHIANECTIDÆ.

*Rhachianectes glaucus*, Cope. Devil-fish; Gray Whale. Pacific coast of North America.

Only two skulls of this animal are known to exist in collections. They were obtained by Mr. Dall. One was presented to the National Museum and the second to the museum of the California Academy. Two large maxillaries are also in the National Museum.

*Agaphelus gibbosus*, Cope. Scragg Whale. A single specimen known.

## Family BALÆNOPTERIDÆ.

*Megaptera osphyia*, Cope. Hump-back Whale. Coast of Maine.

A single specimen, the type of the species, is in the museum at Niagara Falls. It is mounted in a very odd manner, all the vertebræ, except the atlas, being reversed. Some of the cervicals are out of order, and the phalanges are brought close together without space for cartilages. I am convinced from careful measurements that the great height of the dorsal and lumbar neural spines, on which the species is mainly based, is a misapprehension, and have little hesitation in combining it with the succeeding species.

*Megaptera boops*, Fabricius. Hump-back Whale. North Atlantic Ocean.

13656. Photograph. Provincetown, Massachusetts. Capt. N. E. Atwood.

*Megaptera bellicosa*, Cope. Caribbean Sea.

*Megaptera versabilis*, Cope. Hump-back Whale. Pacific coast of North America.

*Physalus antiquorum*, Gray. Fin-back Whale; Razor-back. North Atlantic Ocean.

*Balænoptera rostratus*, Müller (Gray). Pike Whale (? Grampus of New England fishermen). North Atlantic Ocean.

*Balænoptera velifera*, Cope. Fin-back Whale. Pacific coast of North America.

*Balænoptera Davidsoni*, Scammon. Fin-back Whale. Northwestern coast of the United States.

? *Balænoptera robustus*, Lillejeborg. Gräsö Whale. North Atlantic Ocean.

*Sibbaldius laticeps*, Gray.

*Sibbaldius sulfurcus*, Cope. Sulphur Bottom Whale. Pacific coast of North America.

*Sibbaldius tuberosus*, Cope. Mobjack Bay; Virginia (Cope). Only the type known.

*Sibbaldius tectirostris*, Cope. Coast of Maryland. Only the type known.

## Family BALÆNIDÆ.

*Balæna japonica*, Gray. Right Whale of the Pacific. North Pacific Ocean.

*Balæna biscayensis*, Gray. Black Whale. Temperate North Atlantic.

*Balæna mysticetus*, Linné. Bowhead Whale. Arctic Seas.

## Order CARNIVORA.

## Sub-order PINNIPEDIA.

[Taken with modification from ALLEN'S North American Pinnipeds. Washington: 1880.]

## Family PROCIDÆ.

*Macrorhinus angustirostris*, Gill. California Sea Elephant. Coast of Southern California and Western Mexico.

*Cystophora cristata* (Erxleben), Nilsson. Hooded Seal. Newfoundland and Norway northward.

*Monachus tropicalis*, Gray. West Indian Seal. West Indies.

*Halichærus grypus* (Fabricius), Nilsson. Gray Seal. North Atlantic, from Newfoundland and the British Isles northward.

*Erignathus barbatus* (Fabricius), Gill. Bearded Seal; Square-flipper. North Atlantic, from Newfoundland and the North Sea northward; the North Pacific.

*Phoca grænlandica*, Fabricius. Harp Seal. North Atlantic, from Newfoundland and the North Sea, northward; North Pacific.

*Phoca fasciata*, Zimmerman. Ribbon Seal. North Pacific, from Alaska and the Okhotsk Sea northward.

13284 ♂ Mounted skin. Bering Sea. Capt. H. E. Williams.

*Phoca fœtida*, Fabricius. Ringed Seal. North Atlantic, from Labrador and Northern Europe to the Arctic Seas; Alaska, Siberia, and the North Pacific generally.

*Phoca vitulina*, Linné. Harbor Seal. North Atlantic, from New Jersey and the Mediterranean northward to the Arctic regions; North Pacific, from Southern California and Kamtschatka northward to the Arctic regions.

## Family OTARIIDÆ.

*Callorhinus ursinus* (Linné), Gray. Northern Fur Seal; Sea Bear. Coast of California northward. Especially abundant upon the Prybilov Islands; Western Pacific, from Japan northward; Bering Island; Robin Island.

12918-34. Mounted. (Group of 17.) Prybilov Islands, Alaska. Alaska Commercial Company.

*Zalophus californianus* (Lesson), Allen. California Sea Lion. Coast of California.

*Eumetopias Stelleri* (Lesson), Peter's. Steller's Sea Lion. California to Alaska; Asia.

## Family ODOBÆNIDÆ.

- Odobænus obsus* (Illiger), Allen. Pacific Walrus. Aleutian Islands to Point Barrow; Siberia.
- Odobænus rosmarus* (Linné), Malngren. Atlantic Walrus. Labrador to Repulse Bay and Prince Regent's Inlet; Greenland; north of Europe and Asia.