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by
H. Winge

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Conspectus
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Mammals of Greenland

by
 Herluf Winge
 1902
 With a map.

Reprint of "Information about Greenland", XXI.

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15. Balaena australis Desmoul. Nordcaper.

(479)

Nordcaper (i.e. Balaena biscayensis Eschr.): Eschricht & Reinhardt, Scientific Society Paper, R. no. 5, Department of Mathematical Science, Vol. 5, 1861, p. 456.

Balaena glacialis Bonnaterre (B. biscayensis Eschr., & auctorum) & B. australis Desmoul/B. sieboldii Gray: Trouessart, Catalogus Mammalium, 1897-99.

There are no Greenland nordcapers to be found at the museum in Copenhagen. But, two skeletons from the North Atlantic Ocean, one of a calf caught off San Sebastian in January 1854 and mentioned by Eschricht, the other of a grown animal caught off the island in 1890 and donated to the museum by Captain L. Berg, can be seen at the museum. The North Atlantic nordcaper has often been considered a separate species, Balaena biscayensis, differing from the South Atlantic B. australis, possibly because the basis for comparison was lacking. The two mentioned skeletons of the North Atlantic nordcaper in Copenhagen, especially the skeleton of the grown one, correspond so closely with pictures of Balaena australis from the Cape, published by Van Beneden and Gervais (Ostéogr. des Cétacés, Atlas, 1869-79, pl. I & II), that there could hardly be any doubt that they are the same species. No differences in appearance have been shown. The opinion that the northern and southern Atlantic nordcapers are of the same species and that the Pacific nordcaper, listed as B. sieboldii etc., is of the same species as the Atlantic

ones, has already been put forward by others, like Flower (List of the Specimens of Cetacea in the British Museum, 1885, p. 2) and Beddard (A Book of Whales, 1900, p. 133).

The nordcaper has but once been sighted in Davis Strait off the Greenland coast.

A whale was caught off Holstenborg on March 23, 1782 which, according to description, could only have been of this species. The occurrence is mentioned in the hand-written records of Jørgen Frederik Egede and his uncle Paul Egede; their writings have been reproduced by Eschricht and Reinhardt in 1861. J.F. Egede, who headed the whaling off Holstenborg over the years 1780 to 1785, reports that this whale was small compared to (480) the Greenland right whale but rather old. Its head differed from that of other baleen whales; the largest baleens were only about 5 feet. It yielded 16-20 trays of white blubber, the Greenlanders called it an East-district whale. Bishop P. Egede adds, probably citing verbal information, that "it differed in appearance from the straight and common whale since it had a hump on its back". Its skin was bluish, finer and thicker than that of the straight whales, which is quite black and with a white belly. "The baleens were, relative to their length, much thicker than those of the common Davis Strait baleen whales; and all its parts showed that it was an old whale; its blubber was, however, finer and not as sinewy as that of a full-grown baleen whale."

The species appears to live or have lived in all oceans. Earlier , it was common even in the North Atlantic but not too far north. During the Middle Ages and later, it was hunted in the North Atlantic; now it is practically extinct in this area. A few whales were sighted off Iceland towards the end of the 19th century after none had been sighted there for a long time (see especially Guldberg, Christiania Scientific Society Dealer of 1891 no. 8).

16. Balaena mysticetus L. Greenland Right Whale.

Balaena mysticetus L.: Fabricius, Fauna Groenl., 1780, p. 32. - Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 10. - Eschricht & Reinhardt, Of the Greenland Right Whale, Scientific Society Paper, R. no. 5, Department of Mathematical Science, Vol. 5, 1861, p. 433, pl. I-VI (Exterior of Fetus, Skeleton and Skeleton Parts, Larynx). - Brown, Proceed. Zool. Soc. London 1868, p. 534. - Van Beneden & Gervais, Ostéogr. des Cétacés, 1869-80, p. 54, pl. IV-VI.

Balaena mysticetus L.: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Arbek or Argvek, a word which actually only means whale; Arbek may also be referred to as Arbavek. Sokalik (Fabricius). - Arfek, Arfivik, ^rSokalik. (Kleinschmidt.)

The museum in Copenhagen for the time being exhibits a skeleton of an old male of the Greenland right whale, one of a young female, a skeleton and a stuffed skin of a newborn calf, two young skulls, some loose bones and various parts in alcohol. Both the exterior and the interior of the right whale from the west coast of Greenland have been well documented through the works of Eschricht and Reinhardt and of Van Beneden; it has become the standard for the species.

The Greenland right whale has been commonplace in (481) the seas east and west of Greenland; but after almost 300 years of constant pursuit by man, it has in the course of the 19th century become a rarity east of Greenland. And the whale has all but disappeared from Greenland's west coast where it has been pursued for almost 200 years. Along the west coast of the Davis Strait and the northern Baffin Bay, where it was not hunted till the 19th century, it is, by contrast, still relatively numerous.

In its prime, the whale could be sighted along the west coast of Greenland in the area from the north of Smith Sound to Sukkertoppen; it rarely went further south. Like anywhere else, its sighting depended to a great extent on the ice; it likes to follow the edges of the great ice fields. During the warmest time of the year late in summer, in July and August, it lived high up in Baffin Bay and in sounds between the islands of Arctic North America. In fall

it migrated south and east, and one of the routes ran along parts of the west coast of Greenland, as documented by Eschricht and Reinhardt. The whale could usually be sighted off Upernivik in October, off Godhavn in December and also off Sukkertoppen. The whale most likely arrived off Upernivik from the north, off Godhavn and further south it probably came from the west, perhaps because it, on its way south, went westward around Disko or perhaps because it migrated from the west coast of the Baffin Bay. The right whale disappeared from the northernmost part of the west coast, like the Upernivik region, during the coldest part of winter, from December onwards; but it returned from April to July. The Greenland right whale usually wintered off Godhavn and further south; it used to migrate from Sukkertoppen in March and from Godhavn in June.

The whale probably still maintains the same migration pattern as earlier in the areas on the west coast of the Davis Strait and Baffin Bay. From Baffin Bay and the sounds in the northernmost parts of arctic America it now seems, as documented by Southwell, to migrate south and east along two main routes, partly through various sounds leading to the Hudson Strait and partly along the west coast of the Davis Strait. It arrives in Home Bay, which is at about the same (482) latitude as Disko Bay, about the middle of September. The whale winters off the coast of Labrador. In spring, while the ice lies along the west coast of Davis Strait, it migrates up through the strait awaiting the breaking up of the ice while it approaches Greenland on its way, especially in the Disko

region. It can be sighted at the mouth of Hudson Strait in April and May and in Lancaster Sound in July.

Off the east coast of Greenland, the right whale was previously found in the area from about 80° and further north, to about 65° or further south. Information about its movements in this area are mainly due to Martens, Zorgdrager, De Jong & Kobel & Salieth, Scoresby, Lindeman, R. Gray and Southwell. In early summer, the whale mainly stayed in the sea between Spitsbergen and Greenland. When the ice belt along the east coast of Greenland loosened and partly broke up in June and July, it moved closer to the coast; some whales migrated towards Greenland's north coast and some could be found further south such as off the Liverpool coast. In late summer, the whale also seemed to migrate southward close to land. When the flakes of drift ice along the coast started to freeze together, the whale moved out to the edge of the ice belt and appeared both far north and far south. It probably stayed around the ice edge off the southern part of the east coast; how far south it went and whether it would meet other right whales from the Davis Strait is not known. Early in spring, the whale again migrated north along the ice edge so that it could reach Spitsbergen already by April.

In summer, it could now and then be seen far south of the areas it would normally inhabit at that time of year, both off the east and west coasts of Greenland.

The right whale mainly lives in herds although the herds are usually small; they congregate in large numbers on good feeding grounds and large herds can also be seen when they migrate. Often grown males can be found by themselves away from females with their calves; young animals could also be found in a group by themselves. Females and calves (483) migrate partly along different routes than the grown males, which usually keep hidden under the ice. The whale prefers to swim where the sea is covered by ice fields separated by channels of open water. It likes to be under the ice and is rarely sighted in open ice free seas, this does, however, happen mainly when a storm has pressed together ice flakes in great masses along the coast. The whale breaks ice, of not too great a thickness but still one foot thick or more, by knocking the top of its head against it in order to get access to air. It shows up both close to shore, like in fiords, and far off the coast. Its food consists almost entirely of small crustaceans (Mysis, Calanus, Cetochilus, Harpacticus) and pteropods (Clione, Limacina) which swim in schools; the whale is supposed to seek out particularly the crustaceans. It calves in March, April and May. The right whale is at times attacked by the killer whale which attacks in herds, they bite off pieces of the right whale's lips, etc. The Greenland right whale must, however, suffer more from man's hunt. Greenlanders have hunted it from olden times, but they only killed a few off the coast annually. In the sea east of Greenland, the Europeans started hunting this whale in 1611, in the Davis Strait and along the coast of Greenland in 1719;

and in "good" times a couple of thousand whales could be caught annually east of Greenland and several hundreds in the Davis Strait. Now, towards the end of the 19th century, only a very few or none of these whales are caught east of Greenland and only about 10 are caught west of the country; of these none are caught in any of the former whaling grounds off the Greenland coast. The Greenland right whale is on its way to extinction.

Nares reports that a right whale was floating dead in the sea off Cape Farewell on June 26, 1875.

Off Tigsaluk on the west coast at 61° 25' a calf was sighted in 1831 and again in 1832 and even at a strange time of year, on July 23, writes Reinhardt.

Reinhardt records that a young Greenland right whale was caught on December 2, 1805 off Frederikshaab.

Off Godthaab, where they otherwise rarely show up, right whales were sighted in great numbers in the spring of 1756, says Cranz.

Reinhardt states that right whales used to show up off Sukkertoppen every year in December, January and February; (484) they seemed to gather in greater numbers the harder the winter was and the more drift ice gathered in the sea.

Sukkertoppen, which was established as a trading post in the middle of the 18th century, was originally based on whaling; but the catch was poor and soon ceased, says Rink.

In 1723, Hans Egede mentions the Greenlanders' and the Dutchmen's catches of right whales off Nepisene in the Holstenborg area, and in 1724 Holstenborg was founded more or less for the purpose of whaling. After several accidents at the start, the hunt was carried out with great success and lasted longer in this place than in other areas on the west coast. In 1857 Holstenborg was, according to Rink, the only place in Greenland where the hunt was maintained; it did not cease until the end of the century.

According to diaries kept for 36 of the years between 1780 and 1839, Reinhardt has found that the whales used to arrive in the first half of December. In rarer cases, five times in 36 years, they arrived in the late days of November, and sometimes they would not arrive till the start of January. They then stayed along the coast and in the larger fiords, such as Amerdlok Fiord and Nepisene Fiord, until some time in March; most often they would leave in the first half of the month. Sometimes they already disappeared in February, which happened 7 times in the 36 years. In very rare cases whales have still been sighted in Amerdlok Fiord in the beginning of April, for example April 3, 1805 and April 9, 1820 and at times a single whale has stayed after all the others have disappeared like in 1806 when a whale was sighted in Amerdlok

Fiord on April 14 more than three weeks after the others had left. The dates of arrival and departure for the 36 years have been thus stated: Jan. 9 and Mar. 2, 1780; Jan. 6, Mar. 4, 1781; Dec. 21, 1781, Mar. 23, 1782; Jan. 10, Mar. 4, 1783; Jan. 14, Mar. 13, 1784; Nov. 22, 1784, Mar. 6, 1785; Nov. 29, 1799, Mar. 1, 1800; Dec. 22, 1800, Mar. 28, 1801; Dec. 7, 1803, Mar. 11, 1804; Dec. 3, 1804, Apr. 3, 1805; Dec. 5, 1805, Mar. 20, 1806; Dec. 9, 1806, Mar. 5, 1807; Dec. 6, 1807, Feb. 26, 1808; Nov. 28, 1808, Mar. 27, 1809; Dec. 8, 1809, Feb. 18, 1810; Dec. 26, 1810, Feb. 21, 1811; Jan. 22, Mar. 7, 1812; Dec. 25, 1812, Mar. 30, 1813; Dec. 13, 1813, Mar. 24, 1814; Dec. 8, 1814, Mar. 27, 1815; Nov. 30, 1817, Jan. 28, 1818; Dec. 7, 1818, Mar. (485) 29, 1819; Dec. 7, 1819, Apr. 9, 1820; Dec. 22, 1820, Mar. 6, 1821; Dec. 17, 1821, Mar. 9, 1822; Nov. 30, 1822, Mar. 16, 1823; Dec. 10, 1823, Feb. 12, 1824; Dec. 16, 1824, Mar. 8, 1825; Nov. 30, 1825, Mar. 15, 1826; Jan. 5, Feb. 19, 1827; Dec. 17, 1827, Feb. 19, 1828; Dec. 16, 1828, Mar. 4, 1829; in the winter of 1830-31, only one whale was sighted on Jan. 14 and in all of 1831 no whales appear to have been sighted; Feb. 10 and Feb. 18, 1832; Dec. 7, 1832, Mar. 10, 1833; Dec. 17, 1833, Mar. 12, 1839. On Jan. 4, 1814, a whale, which had been hunted in Amerdlok Fiord the previous year, was caught there; it was recognized because it had lost a piece of its tail fin and a large tumour had formed by the wound. In 1819, January is recorded as the whale's mating season. In January, February and March of 1840, a great number of whales were seen off Holstenborg, Holbøll writes in a letter.

According to Rink, an annual average of 10 whales were

caught off Sukkertoppen and Holstenborg between 1783 and 1792. And still in 1826, 12 whales were caught; but after 1827 the number of whales declined. Over the three years between 1849-51, only 6 whales were caught off Holstenborg, in the following three years none were caught and in 1855 and 56, three were caught; in 1858 four were killed. In 1877, Rink reports that an average of only one whale per year has been caught in recent years.

Even in 1892-93 whaling was attempted, like it had been previously, but without success although whales had been sighted now and then, for example in 1892-93.

Large scale whaling has previously been undertaken by Greenlanders, Danes as well as foreigners. The foreigners arrived here, like other places, in spring and carried out the hunt from their boats. The Danes could hunt both winter and summer from their permanent whaling grounds on the islands of Akugdlek, Vester Ejland and Putdlat, close to Egedesminde, at Klaushavn and Jakobshavn, at Klokkerhuk and Ritenbaenk on the west side of the Arveprins Island, at Godhavn and on the Kronprindsens Ejland in the middle of Disko Bay. Godhavn was the most important whaling ground and whaling was carried out from there until 1851. Whaling was discontinued from other grounds in 1837, as reported by Rink.

Reinhardt has obtained information about the conduct of the Greenland right whale from diaries kept at Godhavn for 35 of the years between 1779 and 1837. The whale usually

arrived at the beginning of December, sometimes already during the last weeks of November and on rare occasions in early January. It usually stayed till the middle of June. Often (486) it left at the end of May, but in 1818, when only a few whales were around, it was sighted for the last time on April 26. It has stayed till the end of June a few times, but there is no mention of it in July. The dates of arrival and departure for the 35 years have been thus given: Dec. 13, 1779 and May 20, 1780; Dec. 5, 1786, May 29, 1787; Nov. 23, 1787, May 20, 1788; Dec. 2, 1800, Jun. 4, 1801; Dec. 14, 1801, Jun. 2, 1802; Dec. 8, 1802, May 12, 1803; Dec. 12, 1803, Jun. 25, 1804; Nov. 17, 1804, Jun. 12, 1805; Dec. 2, 1805, May 28, 1806; Dec. 2, 1806, May 18, 1807; Nov. 19, 1807, Jun. 4, 1808; Dec. 15, 1808, Jun. 12, 1809; Dec. 11, 1809, May 31, 1810; Nov. 19, 1811, Jun. 15, 1812; Dec. 14, 1812, Jun. 12, 1813; Dec. 2, 1813, May 2, 1814; Nov. 12, 1817, Apr. 26, 1818; Dec. 12, 1819, Jun. 17, 1820; Dec. 19, 1820, May 24, 1821; Dec. 12, 1821, Jun. 9, 1822; Nov. 30, 1822, Jun. 5, 1823; Jan. 6, Jun. 10, 1824; Dec. 7, 1824, Jun. 13, 1825; Dec. 8, 1825, May 20, 1826; Dec. 3, 1826, Jun. 5, 1827; Nov. 29, 1827, Jun. 12, 1828; Dec. 7, 1828, May 19, 1829; Dec. 1, 1829, June 1, 1830; Dec. 13, 1830, May 18, 1831; Dec. 16, 1831, Jun. 4, 1832; Dec. 2, 1832, May 8, 1833; Nov. 25, 1833, Jun. 8, 1834; Dec. 26, 1834, Jun. 24, 1835; Nov. 23, 1835, Jun. 20, 1836; Nov. 19, 1836, Jun. 9, 1837. In 1780, two whales were seen mating from Godhavn on February 13. On April 29, 1801 a whale was caught in the same place with a fully grown fetus. On March 18, 1807, a whale with a very young calf was sighted off Hunde Ejland. A calf only a few days old was caught off Godhavn on May 6, 1843. On May 15,

1837, an English whaler caught a whale close to Godhavn, which was still carrying part of a harpoon with which it had been wounded by a Danish whaler in that area on February 26, 1833.

Based on a hand-written account of grocer Geelmuyden's journey in 1750, Reinhardt reports that exceptionally large quantities of ice were found in Disko Bay the previous winter and that 14 whales were found dead under the ice close to Hunde Ejland.

Giesecke writes in 1807 that the Greenland right whale usually arrives off Godhavn in December and then leaves towards the end of June. In the fall of 1810, the first whales were sighted on December 13. On January 29, 1811, a storm from the south east had broken the ice in places in Disko Bay and (487) the openings were teeming with whales. The same phenomenon was observed on January 30. The whales would break air holes in the ice in places; on February 15 over 100 whales were sighted in a hole in the ice dancing and jumping up out of the water like the humpback whale does. Giesecke says that the arrival of the whale on November 19, 1811 was unusually early. There was, however, only a single whale. But from December 1, many whales were sighted in current holes in the bay ice. On January 4, 1812 the ice opened close to land and whales showed up near the coast; the same thing occurred on January 24. On this day, a herd of 50 was sighted. When the ice broke up, whales were again sighted on March 14, on April 4 and 13.

On June 15, the last whale of that spring was killed, but on June 17, more were seen. On January 25, 1813 a lot of whales were sighted in the bay; on February 2, May 2 and 7 and on June 3 whales were again mentioned, quite a few on May 7. It is mentioned several times that the whales are so shy that they dive and swim under the ice when approached; it is also mentioned that they could break through ice more than one foot thick.

O'Reilly several times observed Greenland right whales in Disko Bay in May and in the beginning of June, 1817. On May 21, several swam quickly in different directions, but they mainly went north west.

In 1826, Holbøll saw a great number of whales but only for a short time, he writes in a letter.

According to Rink, one or two whales were caught annually off Klaushavn at the beginning of the 19th century. Off Jakobshavn the catch was always rather poor. Off Ritenbenk and Klokkerhuk the catch was, by contrast, rather good. In 1789, 20 whales were caught just off Godhavn; in 1799 another 13 were caught. In the five years from 1805-09, over 50 whales were caught off Godhavn and the Kronprinds Ejland, i.e. an average of more than 10 a year. But in the following years the catch declined substantially. A few whales were caught only now and again, some years none were caught. In 1847, another two whales were caught, in 1851 just one whale, thereafter whaling ceased.

Off Umanak whaling has been carried out for only a short time. Reinhardt states that the whales used to stay in the area not just all of June but also for part of July; thus a calf was caught off Saitok Island deep in the Umanak Fiord on July 11, 1803.

Reinhardt reports that the Greenland right whale usually arrived off Prøven and Upernivik in October, in several cases it arrived late in September, and it stayed in the area till some time in December. In spring it would return in April and stay till July.

O'Reilly observed several right whales close to the (488) coast at about 74° and 75° in July, 1817; the large fiords in the area were supposedly good surroundings for them.

In Melville Bay between 75° and 76° , L. Ross observed Greenland right whales in late July and August of 1818. Many whalers were also present.

Baffin sighted large numbers of right whales in Wolstenholme Sound, Whale Sound and in the mouth of Smith Sound in early July of 1616.

Hayes said in 1854 and later Peary mentioned that right whale bones were found inserted into the walls of Eskimo huts on the Greenland coast at the mouth of Smith Sound. In 1894, Peary was told by the Eskimoes in the area that the species was common there several generations ago and that one

whale had been sighted off Cape York some years back, but that now they had all disappeared.

Greely tells that a few bones, which supposedly came from the Greenland right whale, were found on a journey in 1882-84 at Cape Sabine and at Archer Fiord on Grinnell Land.

Feilden reports that a piece of a rib, which was also supposed to come from this species, was found on the north shore of Grinnell Land during a journey in 1875-76.

Off Angmagsalik on the east coast, the Greenland right whale is supposed to have been sighted frequently earlier on, Holm reports according to what he has heard from the Greenlanders on his journey in 1883-85. The whale was caught by sneaking up on it in an umiak like the west coast Greenlanders used to do. At the beginning of the 19th century, the whales supposedly stopped appearing; just a few years back, however, one was said to have been caught there.

The Greenland right whale was formerly quite common along the coast from about Scoresby Sound to Gael Hamke's Bay and further north. Zorgdrager reports that in 1684 or 86 some Dutch boats sailed through the belt of drift ice to the coast in the area around Gael Hamke's Bay, where they found many whales migrating south west along the coast. Three of the boats caught 60 whales and the others also sailed home fully loaded. In June 1698, Zorgdrager himself found many whales far into the drift ice between $75 \frac{1}{2}^{\circ}$ and $77 \frac{1}{2}^{\circ}$ but out of

sight of land.

Scoresby observed many whales in mid August, 1822 in the mouth Davy Sound north of the Liverpool coast. Earlier on he had sighted several in the drift ice at a considerable distance from land, especially at 72° . Clavering observed several off Clavering Island in August, 1823. R. Gray sighted a few in the same area in the summer of 1888.

The great war of extermination on the Greenland (489) right whale has been carried on both east and west of Greenland and more or less removed from the coast.

In 1611, the English started hunting the Greenland right whale off Spitsbergen, in 1612, the Dutch joined, in 1615, the Danes and soon after the Spanish, French, Germans and others followed. For a long time, the Dutch were the most active later it was the English, who were the last ones to whale. At that time, the whales congregated in great numbers in bays and sounds around Spitsbergen, likewise around the coast of Jan Mayen. And in both places the hunt was conducted close to land. After about 25 years of hunting, the number of whales declined in the area and thereafter they almost disappeared. But they were found further from the coast, where they were also pursued, especially west of Spitsbergen outside the edge of the Greenland ice belts. Here they also became rarer and they were pursued into the drift ice; the whales were hunted and found far north between about 76° and 80° . After 1814, the hunt did not yield sufficiently in

the area and the effort shifted southward where the whales were found far into the drift ice between about 70° and 75° rather close to land and spread over various changing hunting grounds. Complete and comprehensive surveys of the number of whales caught annually east of Greenland at the time of the best catch hardly exist, but some numbers are available. In 1697, which is not supposed to have been an exceptionally good year, all of at least 1957 whales are said to have been caught. According to Zorgdrager's estimate of the number of whales caught between 1670 and 1719 by the Dutch and the Hamburgers alone, the annual numbers changed quite considerably. The lowest number of whales caught during these years was 70 in 1710; the highest number was 2616 in 1701. According to Scoresby, the English caught 1437 whales east of Greenland in 1814, which was a uniquely abundant year for that time. But thereafter the catch decreased significantly. According to what David Gray told Lindeman, only three whales were caught in 1868; for many years he had not come upon more than 6 female whales with calves among all the ^{right} whales he had seen, and he had not caught a single whale which did not have marks of having been wounded by harpoons. Towards the end of the 19th century, the hunt had all but ceased in the area; for some years whaling was attempted, but in vain. According to Southwell's statements, one whale was caught here in 1883; in 84: 11; 85: 12; 86: 15; 87:3; 88: 4; 89: 16; 90: 0, but 6 were sighted; 91: 11; 92: 3; 93:1; 94:4; 95:11; 96: 6; 97:1; 98: 0, and none were sighted; 99:1; 1900: 0; (490) 1901:0.

In 1719, at a time when the catch east of Greenland seemed to decrease, the Dutch started to catch the whale in the Davis Strait. And other nations soon followed suit, especially the English who eventually, also in this area, were the only ones left to hunt. The whales were especially found around Disko and in the immediate regions south and north along the Greenland west coast. The hunt was carried out only as an exception off the "west ice" along the west coast of the strait. But the catch in the Davis Strait declined and new grounds were searched out. In 1817, whaling was started in the northern Baffin Bay and this region subsequently became the most important whaling ground, while the hunt further south along the west coast of Greenland deteriorated further to all but cease. The whales also withdrew partially from Baffin Bay and they were followed westward into bays and sounds between the islands in Arctic North America, where the hunt is now mainly carried out. According to De Jong, Kobel & Salieth, the Dutch caught 212 whales in Davis Strait in 1730. Scoresby states that the Dutch and the Hamburgers caught 231 whales in 1749. Further, in 1817 and the three previous years the English caught 1522 whales west of Greenland. In 1868, 126 whales were caught in the same area, according to David Gray. According to Southwell, 78 whales were caught here in 1882; in 83:18; 84:79; 85:29; 86:19; 87:14; 88:8; 89:8; 90:18; 91:6; 92:7; 93:27; 94:15; 95:6; 96:6; 97:8; 98:6; 99:28; 1900:16; 1901:15.

The species is, or was, circumpolar and arctic; but there are stretches where it is rarely sighted, for example

along most of the north coast of Asia. During the Ice Age, the whale became widespread relatively far south, for example to Denmark.

17. Balaenoptera rostrata (O. Fabr.). Rorqual*.

Balaena rostrata Müll.: Fabricius, Fauna Groenl., 1780, p. 40. - Balaena rostrata Fabr., Pterobalaena minor groenlandica, Tikagulik, Rorqual, Pygmy Whale: Eschricht, Studies of Whales, Papers no. 1,2,3,5 and 6, Scientific Society Paper, 1845, 46, 49, passim, pl. XII (Skull of Fetus), XV (Dorsal Fin), XVI (Flipper). - Tikagulik and Balaena microcephala: Holbøll in Eschricht, Unters. nord.** Wallthiere, 1849, p. 196 and 197. - Balaena rostrata (Fabr.) Reinhardt, Jr. Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 10. - Brown, Proceed. Zool. Soc. London 1868, p. 548. - Van Beneden & Gervais, Ostéogr. des Cétacés, 1869-80, pl. XII.

Balaenoptera acuto-rostrata Lacep. (B. rostrata auctorum) & B. bonaerensis Burm. & B. davidsoni Scammon: Trouessart, Catalogus Mammalium, 1897-99. (491)

West Greenlandic. Tikagulik, the one with the grip, derived from Tikagut, i.e. the grip of a harpoon arrow. The whale has derived its name after the shape of its dorsal fin which looks somewhat like such a grip (Fabricius).

Translator's Note: *The rorqual is also called the finback whale.

**Unters. nord could mean: Studies of the North; but it is a guess.

- Tikagugdlik. (Kleinschmidt).

Of rorquals from Greenland, the museum in Copenhagen now has one skeleton of a young rorqual from Sukkertoppen and two fetuses in alcohol from Godthaab and Godhavn, respectively. There are also rorqual skeletons from Denmark and Norway for comparison.

Eschricht who had, among other things, examined three skeletons from Greenland, thought to be able to distinguish the Greenland rorqual from the Norwegian one and thought it a species of its own, Pterobalaena minor groenlandica as opposed to P. minor bergensis. The differences, he emphasized, were, however, only minor and few and he doubted himself that they would hold. Nothing has later been put forward to support the theory. Van Beneden and Gervais consider the skeletons of both the Greenlandic and Norwegian rorqual to be standards for the species.

Holbøll thought that, apart from the common rorqual off Greenland, there existed another closely related species, Balaena microcephala Holb., which was smaller, especially its head was relatively smaller and it also differed in certain other ways. Holbøll's basis for this species was a whale which in 1838 had been found dead and the skeleton sent to Eschricht. But Eschricht did not acknowledge the difference.

There exists no material on rorquals from areas other than the north Atlantic in the museum. But judging from

descriptions and pictures of "Balaenoptera bonaërensis" (Burmeister, Description phys. de la Républ. Argentine, tom. 3, 1879, p. 545 and atlas, 1881, pl. II-VII with a description) from the southern part of the Atlantic Ocean, of "B. davidsoni" (Scammon, Marine Mammals of the North-Western-Coast of North America, 1874, p. 49-51, p. VII, fig. 2) from the northern Pacific Ocean and of "B. huttoni" (J.E. Gray, On a New-Zealand Whale, Physalus antarcticus Hutton, Ann. Mag. Nat. Hist., 4 series, vol. XIII, 1874, p. 316-318, pl. XVI (Exterior), and On the Skeleton of the New-Zealand Pike Whale, Balaenoptera huttoni (Physalus (492) antarcticus Hutton), bound, p. 448-452, pl. XVIII (Skeleton Parts) and especially J. von Haast, Notes on Balaenoptera rostrata Fabricius (B. huttoni Gray), Transact. and Proceed. of the New-Zealand Institute, vol. XIII for 1880, p. 169-175, pl. III (Baleen, Breastbone)) from the southern Pacific Ocean, there is good reason to believe that Van Beneden (Hist. nat. des Balénoptères, Mémoires couronnés et autres mém. publ. par l'Acad. Roy. de Belgique, tom. XLI, 1888, p. 23. etc.) and others were right in claiming that these species were not different from the north Atlantic rorqual.

The rorqual is quite common and mostly found traveling alone or in pairs along the west coast of Greenland, at least along the Danish part of the coast; it is supposedly most numerous in the south. It has also been sighted in the sea just east of Greenland. It is a summer guest and, according to Holbøll, usually arrives off Godthaab in April

and leaves there in November and December. Its food consists of small fish, especially capelin. It mainly catches them where currents mix and can be seen there fishing in the evening all summer. Fabricius claims that it was seen swimming both out among the reefs and in the fiords. According to Holbøll, it is often seen in the company of larger whales. It is rarely killed by the Greenlanders.

The rorqual is so common on the west coast that almost no one has thought of recording the time and place of its occurrences. Holbøll writes on one occasion in a letter in 1854 that the whale can be sighted in scores outside his window in the Godthaab Fiord certain times of the year.

Bay reports that a whale, thought to be of the rorqual family, was sighted on August 10, 1892 in open water off Jameson Land on the east coast.

The species seemed to be widespread in all oceans. It is also known from Spitsbergen, Iceland and Labrador.

18. Balaenoptera musculus (Companyo). Finback Whale.

Balaena physalus L.: Fabricius, Fauna Groenl., 1780, p. 35. - Tunnolik: Holbøll, in Eschricht, Unters. nord. Wallthiere, 1849, p. 196. - Balaenoptera musculus F. Cuv.: Reinhardt, Jr., Supplement to Rink, A Statistical (493)

Description of Greenland's Geography, 1857, p. 9. -
 Eschricht and Reinhardt, Scientific Society Paper, R. no. 5,
 Department of Mathematical Science, vol. 5, 1861, p. 522,
 pl. III, fig. 3 (Skull). - Physalus antiquorum Gray: Brown,
 Proceed. Zool. Soc. London 1868, p. 547. - Balaenoptera
musculus: Ohlin, Central Biological Magazine, vol. XV, 1895,
 p. 167.

Balaenoptera physalus L. (B. musculus auctorum) & B.
patachonica Burm.: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Tunnolik, the one with back fat,
 of Tunnok, back fat, because it carries most of its blubber
 on its plump back. Another name is Tekkirsok, the long one,
 because it is longer and trimmer than other whales. (Fabricius).
 - Tunulik. (Kleinschmidt).

There is a skeleton of the finback whale from Greenland
 at the museum in Copenhagen. The skull of the skeleton has been
 depicted by Eschricht and Reinhardt. Judging from pictures and
 descriptions, the "Balaenoptera patachonia" (especially Bur-
 meister, Description phys. de la Républ. Argentine, tom. 3,
 1879, p. 545, Atlas, 1881, pl. II-VII, with description) from
 the southern Atlantic appears to be of the same species, which
 is also claimed by Van Beneden (Hist. nat. des Balénoptères,
 Mémoires couronnés et autres mém. publ. par l'Acad. Roy. de
 Belgique, tom. XLI, 1888, passim) who further, and with good
 reason, also includes whales from the Pacific and other
 oceans in the species.

The finback whale has often been mentioned as a common summer guest in the seas around Greenland, and especially in Davis Strait and Baffin Bay, which is quite plausible. But only in a couple of cases is it certain that this is the species sighted rather than the blue whale or any of the other large fin whales. The Greenlanders appear not to distinguish between the finback whale and the blue whale; and the scientists discussing Greenland fin whales had only little opportunity to observe them closely and were not aware of all the possible confusions. The species of the Nordic fin whales have not been fully explained till recent years.

Holbøll reports that the large fin whales are rather common regardless of species. They arrive in Davis Strait in spring migrating north past the southern part of Greenland's west coast up to the Disko area and Baffin Bay, where they (494) can be seen all summer. In fall, they can again be sighted off south Greenland and often in large numbers around the big fishing grounds. They can supposedly also be seen in winter. Their food consists of capelin, herring and cod and other small fish. They are rarely hunted by the Greenlanders.

The most certain proof of the species' presence is the above-mentioned skeleton, which was sent from the west coast of Greenland by Holbøll and mentioned by Reinhardt in 1857. Ohlin identified a dead whale, which was drifting in the sea near Godhavn, to be of the same species.

Holbøll writes in a letter in 1844 that "Balaenoptera physalis" can be seen in the Evigheds Fiord off Kangamiut north of Sukkertoppen even in winter. Holbøll reports in a letter in 1854, that large finback whales, which, according to the Greenlanders' description, definitely belong to the Balaenoptera musculus, used to arrive in herds in October and November in the fiord at Holstenborg. (Holbøll took the Greenlanders' description to mean B. gigas).

Brown says about the "Physalus antiquorum", which refers to the finback whale, that it does not migrate very far north along Greenland's west coast, but usually stays around the cod grounds close to Holstenborg, Agto and other places in the southern part of Greenland. He supposedly knows that this statement contradicts others, but still believes it is correct. He says about the "Balaenoptera gigas" that it behaves in the same way as the "Physalus antiquorum" with which it is often confused.

Giesecke says about the "Balaena physalus" in 1807 that it rarely shows up close to shore around Disko. He sighted several in Disko Bay between Godhavn and Egedesminde on August 22, 1810. One was seen on June 18, 1812 off Godhavn, and many were seen close to shore in that area in the first days of July. O'Reilly sighted three very large "Balaena physalus" in Disko Bay on May 28, 1817.

In 1857, Rink writes that he in the South-East Bay east of Egedesminde, sighted many Tunnoliker. Kumlien reports

that he observed the "Physalis antiquorum" in Disko Bay on his journey in 1877-78.

Near Horse-Head north of Upernivik at 73°43', O'Reilly sighted about 20 "fins" swimming rapidly southward on July 3, 1817. He sighted three at about 75° on July 18.

The species seems to be found in all oceans. It is also known from Iceland and the Faroe Islands.

19. Balaenoptera gigas Reinhardt. Blue Whale. (495)

Balaenoptera gibbar La Cép.: Scoresby, Account of the Arctic Regions, vol. I, 1820, p. 481. - Tunnolik: Eschricht, Studies of Whales, Paper no. 5, Scientific Society Paper, Department of Mathematical Science, Part XII, 1846, p. 373-380, fig. p. 379 (Skeleton of Forelimb); Paper no. 6, bound, R. no. 5, Department of Mathematical Science, I, 1849, p. 137. - Balaenoptera gigas Eschr.: Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 10. - Balaenoptera sibbaldii Gray: Reinhardt, Jr., Scientific Papers of the Society for Natural History, 1867, p. 195. - Balaenoptera gigas Eschr.: Brown, Proceed. Zool. Soc. London 1868, p. 548. - Balaenoptera sibbaldii: R. Gray, Zoologist, Series no. 3, vol. XIII, 1889, p. 44, etc. - Bay, Information about Greenland, Issue no. 19, 1894, p. 45.

Balaenoptera musculus L. (B. sibbaldii and B. gigas)

auctorum) & B. sulphurea Cope & B. indica Blyth & B. antarctica Gray (B. intermedia Burm.): Trouessart, Catalogus Mammalium, 1897-99.

The name Balaenoptera gigas (probably given by Eschricht, but not in print; and first printed by Reinhardt) is probably later than B. sibbaldii Gray, but has the advantage that it is not a barbaric tribute. (To name the species B. musculus, which for a long time has referred to another species, is not very appropriate.)

West Greenlandic. Tunnolik (Møller). Comparable to B. musculus. - Tunnolirksoak (Glahn) is probably another name for this species.

The skeleton of a blue whale forelimb is to be found at the museum in Copenhagen; it is illustrated by Eschricht, but not as exact as Reinhardt's description. There is also a skull and other parts of a skeleton from Iceland; the museum does, however, not have any pieces from other areas. But, based on descriptions and pictures, it seems that Van Beneden (Hist. nat. des Balénoptères, Mém. couronnés et autres mém. publ. par l'Acad. Roy. de Belgique, tom. XLI, 1888) is right in grouping whales from the southern Atlantic, the Indian and the Pacific oceans, which have been listed as separate species named Balaenoptera intermedia, B. indica, B. sulphurea etc., with the above species.

The blue whale is probably, like the finback whale,

a rather common summer guest in the seas around Greenland; but its presence in the Greenland seas has been certain in only a few cases.

Scoresby mentions in 1820 that a dead blue whale was found drifting in the Davis Strait; no further information was given as to time and place. It is mentioned as Balaenoptera gibbar; the description of its exterior, however, makes it obvious that it was a blue whale. (496)

H.C.P. Møller was informed by a Greenlander on August 12, 1843 that a "Tunnolik" had washed ashore close to Godhavn. A couple of days later he went to the site, wrote down a description of the whale and made sure that one of its forelimbs, its dorsal fin and several other parts were salvaged. A report of the find and the salvaged parts was sent to Eschricht, who had the message printed and drew up a picture of the forelimb skeleton. Eschricht quite correctly states that the species was identical to the "Ostende Whale."

R. Gray sighted the blue whale in drift ice off the northern part of the east coast. He claims that, in summer, they arrive in the same places that the Greenland right whale looks for food. But it does not arrive until the right whale is about to leave the grounds in order to migrate further north or deeper into the ice. On July 3, 1886, he saw a few blue whales swimming about at $73^{\circ} 54' N, 14^{\circ} 52' W$; on July 7, several swam by from ^{the} south west to the north east at

72° 56' N, 16° 21' W, apparently migrating. It was seen daily during the following week between Greenland and Spitsbergen, likewise later. On July 26, the blue whales were numerous around the ice dege at 75° 7' N, 5° 15' W. On May 30, 1888, two were sighted at 78° 5' N, 3° 30' W; in the latter part of June and in early July several were seen looking for food, between 72° and 75°, so close to Greenland that the coast was often visible. On August 20, many were seen all day at 71° 39' N, 14° 15' W. At some stage in the morning the ship was totally surrounded by them; a calf of about 20 feet was among them.

Bay writes that the blue whale was very common in June and July of 1891 in the outer part of the drift ice off the northern part of the east coast; a day did not pass without it being sighted. The species was recognized on the shape of its dorsal fin.

The species seems to be present in all oceans. It is also known from Spitsbergen and Iceland.

21. Prodelphinus euphrosyne (Gray). (499)

Delphinus euphrosyne Gray ? : Nilsson, Scandinavian Fauna, Mammals, 2nd edition, 1847, p. 595. (At the naturalist meeting in Copenhagen in 1847, Eschricht exhibited a skeleton of a Greenland dolphin and then introduced Delphinus holbølli as a new species; in the report on the meeting, Negotiations

at the Scandinavian Naturalists' Fifth Meeting in Copenhagen, 1847, 1849, p. 611, the exhibition was mentioned but the name of the species was not. Nilsson, who himself had had the opportunity to examine the skeleton, now with some doubt (500) equates Delphinus holbølli with D. euprosyne). - Delphinus holbølli Eschr.: Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 12. (Only the name. Reinhardt has later, on a hand-written note, used the name Delphinus euprosyne for the above mentioned skeleton in the museum in Copenhagen). - Delphinus euprosyne Gray: Brown, Proceed. Zool. Soc. London 1868, p. 549. - Prodelphinus holbølli (Eschr.): Lütken, Scientific Society Paper, R. no. 6, Department of Mathematical Science, V, I, 1889, p. 48-49, fig. 16 (Skull). (Lütken doubts that the skeleton in question can be linked to P. euprosyne; it would more likely be of the species P. styx. According to Flower, Proceed. Zool. Soc. London 1883, p. 497, and True, Bull. U.S. Nat. Mus. No. 36, 1889, p. 63, P. styx is likely identical to P. euprosyne).

Prodelphinus euprosyne Gray: Trouessart, Catalogus Mammalium 1897-99.

The Greenlandic skeleton in question has been further discussed by Lütken. It is of a young whale. The skull corresponds well to Gray's pictures of skulls from Prodelphinus euprosyne and P. styx (Zool. Voy. Erebus and Terror, Mammalia, 1846, pl. 22 and 21), which are now fully considered to be of the same species. Therefore there can be no doubt as

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to species.

Holbøll's dolphin has been found only once on the west coast of Greenland. The skeleton in question has been sent to Copenhagen by Holbøll.

The species is found in the Atlantic and Pacific Oceans.

22. Lagenorhynchus acutus. Gray. White-sided Dolphin.

Lagenorhynchus leucopleurus (Rasch): J.E. Gray, Zool. of the Voyage of H.M.S. Erebus & Terror, Mammalia, 1846, p. 34, pl. 12 (Skull) - Id., Catal. of Seals and Whales in the Brit. Mus., 1886, p. 274 (Information that the previously mentioned picture was drawn after a Greenlandic piece) - Brown, Proceed. Zool. Soc. London 1868, p. 549. - Lagenorhynchus acutus Gray: Lütken, Scientific Society Paper, R. no. 6, Department of Mathematical Science, IV, 6, 1887, p. 378.

Lagenorhynchus acutus Gray: Trouessart, Catalogus Mammalium, 1897-99.

Two skeletons of the Greenland white-sided dolphin are to be found at the museum in Copenhagen. They are quite similar to skeletons from the Faroe Islands and Norway, as explained by Lütken.

The white-sided dolphin has been sighted only a couple of times off Greenland's west coast.

Gray mentions in 1866 that the British Museum in London has a skeleton of this species from Greenland, which comes from the Brandt collection. He has illustrated the (501) skull.

A small herd of white-sided dolphins were sighted in September, 1859 off Kangek, two miles south west of Godthaab. The dolphins were killed, two of their skeletons were sent to Copenhagen by Rink. The Greenlanders in the area did not recognize them.

The species is found in the North Atlantic and is widespread.

23. Lagenorhynchus albirostris (Gray). White-beaked Dolphin.

Delphinus albirostris Gray: Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 12. (Only the name). - Lagenorhynchus albirostris Gray: Brown, Proceed. Zool. Soc. London 1868, p. 549. - Lütken, Scientific Society Paper, R. no. 6, Department of Mathematical Science, IV, 6, 1887, p. 378.

Perhaps this is the species Fabricius is referring to under the name Delphinus delphis L. (It ought to have been mentioned in the present paper, p. 329, in the outline of the doubtful species in Fabricius' Fauna Groenlandica).

Lagenorhynchus albirostris Gray: Trouessart,
Catalogus Mammalium, 1897-99.

The museum in Copenhagen has two skeletons, a skull and a whole fetus from Greenland corresponding to skeletons etc. from Iceland and Denmark, as mentioned by Lütken.

The white-beaked dolphin has been observed only a few times in the Davis Strait off Greenland's coast.

Holbøll sent a skeleton and a fetus in alcohol to Copenhagen from the west coast of Greenland. The dolphin was sighted in smaller herds off Godthaab in 1888. Ryberg and Bistrup made sure that a skeleton and a skull were sent home.*

The species is found in the North Atlantic and is widespread.

24. Phocaena communis Cuv. Porpoise.

Delphinus phocaena L.: Fabricius, Fauna Groenl., 1780, p. 46. - Nisa. Holbøll, in Eschricht, Unters. nord. Wallthiere, 1849, p. 194. - Delphinus phocaena L.: Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 11. - Phocaena communis Brookes: Brown, Proceed. Zool. Soc. London 1868, p. 550.

Phocaena communis Cuv.: Trouessart, Catalogus

Translator's Note: * home, i.e. to Denmark.

Mammalium, 1897-99.

West Greenlandic. Nesa or Nisa, also Nisangoak, the little Nisa. (Fabricius).

In the museum in Copenhagen, there is a skeleton, several skulls and fetuses of the Greenland porpoise. It does not seem to be different from the Danish porpoise.

The porpoise is a common summer guest off Greenland, at least off the west coast between Cape Farewell and Disko; it has probably also been sighted off the east coast. (502)

According to Holbøll, it usually shows up off the west coast of south Greenland towards the end of April and leaves there in November. If the weather is mild, it may still be seen there in December. Most of the time, the porpoise appears in herds and the herds are usually numerous. It is sighted both between the islands and in the fiords. Its food consists of many kinds of small fish, especially capelin and Gadus saida, but also squid and crustaceans. Holbøll sighted calves following their mothers in June. The porpoise often falls prey to the killer whale; and it is often caught by the Greenlanders.

Because the porpoise is so common along the west coast of Greenland, its movements have only rarely been recorded. The porpoise has been sent to the museum in Copenhagen from Godthaab, Klaushavn and Umanak and from other non-specified places.

Brown mentions in 1868 that he has received a porpoise skeleton from Egedesminde. Holbøll states in 1840 that he has sighted it north of Godhavn, and he did not know whether it went further north.

Ryder sighted some small whales on the east coast south of Cape Brewster on August 13, 1892, which he thought to be porpoises, Bay reports.

The species is north Atlantic and north Pacific and is widespread. It is also found off Iceland.

25. Orca gladiator (Bonnaterre). Killer Whale.

Physeter microps L. & Delphinus orca Müll.: Fabricius, Fauna Groenl. 1780, p. 44 & 46. - Ardluk & Ardluarsuk: Holbøll in Eschricht, Unters. nord. Wallthiere, 1849, p. 194. - Delphinus orca L.: Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 12. - Eschricht, Survey of Scientific Society Proceedings, 1862, p. 25 and 234. - Orca gladiator (Bonn): Brown, Proceed. Zool. Soc. London 1868, p. 549. - Orca gladiator Lac.: Lütken, Scientific Society Paper, R. no. 6, Department of Mathematical Science, IV, 6, 1887, p. 355 ff., fig. p. 350 & 372 (Cervical Vertebra and Skull).

Orca gladiator Bonnaterre & O. rectispina (i.e. rectipinna) Cope: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Ardluk, perhaps from Ardlorpok, the swagger, due to its insolent nature or its erect dorsal fin. Also Ardlurksoak (Fabricius). - East Greenlandic. Kajarniak, Napajugtok. (Rink).

The museum in Copenhagen has a skeleton of a female, killer whale from east Greenland which was received from Holbøll in 1844. It is quite similar to the skeletons from the Faroe Islands and Denmark. Reinhardt considered it to be (503) of a separate species, Orca minor Rhdt., but without reason, as Lütken pointed out.

The killer whale is, according to both Fabricius, Holbøll and others, quite common in the sea west of Greenland along the Danish part of the coast; it mainly appears in small herds. It has also been sighted in the sea east of Greenland. Holbøll only sighted the whale between May and November, but had heard that it could also be sighted in winter. Its food mainly consists of other whales, seals and larger and smaller fish. Seals and smaller whales, like porpoises, are swallowed whole or almost whole, larger whales, like dolphins, are torn apart; the killer whale is especially fond of their blubber. At times, the killer whale also attacks the largest whales like the rorqual, the humpback and the Greenland right whale, in herds. Both seals and whales flee when they see it and soon leave the area, where it shows up. It also eats squid.

Raben writes in 1823 that the killer whale shows up in

herds in summer in the fiords around Frederikshaab.

A dead, female killer whale washed up at Fiskenaes in 1844; Holbøll sent its skeleton to Copenhagen together with a drawing of the animal done by Dr. Bloch. Squid were found in its stomach. (Information about it is given by Eschricht and Lütken.)

According to Cranz, some killer whales were caught off Godthaab in the fall of 1756. Giesecke reports that many killer whales were seen in Godthaab Fiord on February 11 and 12, 1809.

Holbøll reports that a large humpback whale was killed and torn apart by a killer whale in 1830 off Napparsok south of Sukkertoppen.

Motzfeldt writes that in 1823 a herd of killer whales were seen pursuing a Greenland right whale off Holstenborg. Some were biting on to its tail and flippers, others jumped over its nostrils and tried to prevent it from breathing and others were pushing it from the sides. The right whale swam into a bay and tore itself loose from its enemies and ran aground; but first it gave one of the killer whales such a blow on its head with the edge of its tail that the killer whale sank to the bottom, probably killed.

On his journey to Holstenborg in 1841, Holbøll writes

in a letter that he ran into a large school of swordfish which was hunting a seal; the shapes of their dorsal fins were quite varied.

In South-East Bay inside Disko Bay it once (504) happened, Holbøll states in 1840, that a herd of killer whales was surprised by the ice; they, however, managed to stay around a breathing hole in the ice and several were killed there. (A killer whale skull from there was sent to the collection at Herlufsholm.)

In 1827, Holbøll witnessed a killer whale chase a herd of dolphins into a bay and then tear them apart there.

Traustedt writes in 1892, that when the dolphins arrive off Jakobshavn in fall, the killer whales usually also arrive, and the dolphins subsequently flee the area.

Motzfeldt reports that some Greenlanders saw a herd of killer whales off Nugsuak attacking a resting walrus; but the walrus turned around and charged and broke up the herd. The biggest of the killer whales was seen reappearing with the walrus, which had dug its teeth into the whale.

K. Poulsen heard from the Greenlanders in 1898-99, that the killer whale was sighted and caught a few times off Angmagsalik on the east coast.

Outside the ice edge off the southern part of Greenland's east coast, Nansen sighted the killer whale a couple of times in the middle of July, 1888.

Bay reports that a small herd of killer whales was seen on June 23, 1891 outside the ice edge off Greenland's east coast between Iceland and Jan Mayen, and that the herd was apparently pursuing a blue whale. He also sighted a herd of 5 killer whales around the ice edge in Denmark Strait on September 3, 1892.

The species is found in all oceans.

26. Globiceps melas (Traill). Pilot Whale.

Delphinus tursio: Fabricius, Fauna Groenl., 1780, p.49.

- Raben, Science Periodical, vol. 4, 1826, p. 2. - Pilot Whale: Reinhardt, Sen., Scientific Society Paper, VII, 1838, p. 88. - Holbøll, in Eschricht, Unters. nord. Wallthiere, 1849, p. 195. - Gring: Rink, A Statistical Description of Greenland's Geography, vol. 2, 1857, p. 315.

Delphinus globiceps Cuv.: Reinhardt, Jr., Supplement to Rink, l. c. , p. 11. - Globicephalus svineval (Lacép.): Brown, Proceed. Zool. Soc. London 1868, p. 554.

Globicephalus melas Traill: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Nesarnak or Nisarnak, a rare kind of Nisa, due to its resemblance to the porpoise. (Fabricius.)

The museum in Copenhagen has one skeleton and two skulls of the pilot whale, which have been received from Holbøll and Vahl. The items correspond quite closely to skeletons from the Faroe Islands.

The pilot whale has been sighted a few times off the south west coast of Greenland. Fabricius, who only seems to know of it from the Greenlanders' description, considers it to be one of the rarest Greenland whales. Holbøll writes in 1840 that it is not sighted off Greenland even once a year, but only now and then. When the pilot whale shows up, it most often appears in large herds, but north of Godthaab it is probably only seen in small numbers. In the 18 years he has lived in Greenland, Holbøll only sighted pilot whales twice, both times this year when squid was unusually abundant. He has found remnants of sea scorpions and beaks of squid in their stomachs. (505)

In a letter of 1823, Holbøll gives an eye-witness account of the hunt on a herd of pilot whales close to Godthaab, in 1822. The herd numbered over 40 whales, they had swum into some narrow sounds between islands where they were all killed. This is perhaps the same incident Raben is referring to when he reports second-hand that a herd of pilot whales had swum into Godthaab Fiord in 1822, a rare occurrence which had probably not happened in the last 20 years, but the

number of whales in the herd has been correctly estimated at a couple of hundred.

Reinhardt, Sen. mentions in 1838, that the museum in Copenhagen had received more pilot whale skulls from different areas on Greenland's west coast; this probably refers to the above mentioned skulls from Holbøll and Vahl.

Holbøll writes in a letter that an unusually large number of pilot whales showed up in Davis Strait in 1853, thousands were supposed to have been sighted.

Rink mentions that a herd of pilot whales had strayed into a bay south of Godthaab in 1854 and had run aground there. This is probably also the incident mentioned in a letter by Holbøll, which reports that 40-50 pilot whales had strayed into a bay and died there.

The species is found both in the Atlantic and Pacific oceans, it can be found north as well as south in both oceans.

27. Delphinapterus leucas (Pall.). Dolphin.

Delphinus albicans Müll.: Fabricius, Fauna Groenl., 1780, p. 50. - Holbøll, in Eschricht, Unters. nord. Wallthiere, 1849, p. 195. - Delphinapterus leucas (Pall.): Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 11. - Beluga catodon (L.): Brown, Proceed.

Zool. Soc. London 1868, p. 551. - Delphinapterus leucas (Pall.): Eschricht, Scientific Society Paper, R. no. 5, Department of Mathematical Science, vol. 9, I, 1869, pl. VIII (Illustrations of a Skull and Teeth).

Delphinapterus leucas Pall.: Trouessart, Catalogus (506) Mammalium, 1897-99.

West Greenlandic. Kelëlluak or, to distinguish it from the narwhal, Kelelluak Kakortok, the white Kelelluak, or Kakortak alone. Its calf is called Ulak. (Fabricius.) - Kilaluvak Kakortak. (Kleinschmidt.) - East Greenlandic. Kiarpalugtok, the calf is called Piarangivasik. (Rink.)

There are about 4 skeletons of grown dolphins from Greenland, about 20 skulls and 10 complete fetuses in alcohol, 3 skeletons of fetuses and other things at the museum in Copenhagen.

Eschricht's pictures of the sets of teeth of two grown dolphins give an impression of how small differences in the position of individual teeth can cause great deviations in the wear of these teeth.

Cope (Proceed. Acad. Nat. Sc. Philadelphia for 1865, p. 278) found, as expected, that some skeletons and skulls of dolphins, which Kane and Hayes had brought back from their travels, were not completely identical in all aspects and he

grouped them into four species, Beluga catodon auctorum, B. rhinodon, B. declivis and B. concreta novae spec.:

B. catodon and B. rhinodon were from Upernivik where they were given to Hayes by the "colony manager", no place of origin is given for the others. The degree to which this new species grouping is unfounded, has already been demonstrated by True (A Review of the family Delphinidae, Bull. U.S. Nat. Mus. No. 36, 1889, p. 147).

The dolphin is the most common whale off Greenland's west coast, except in the most southern part where it just shows up on occasion and only a few at a time. It is also common off the western part of the north coast, but other than there it has been sighted but a few times off the north coast. Only a few reports exist of sightings off the east coast; the dolphin is, however, quite common off the east coast ice belts in the area around Spitsbergen. The dolphin migrates to a great extent; in summer it lives as far north as possible depending on the ice, in winter they migrate south as the ice settles in. The dolphin can also be found in Baffin Bay and in the mouth of Smith Sound in summer. As stated by Holbøll and Rink, it migrates south along the west coast of Greenland in fall, spreading out along the coast. It arrives off Godhavn (507) in October or later and off Godthaab in the beginning of December; the migration usually does not go further south than just south of Fiskenaes. In winter, the dolphins stay along the middle of the west coast. From the end of April to the end of May, it slowly returns north; in May and June it is again numerous in Disko Bay, but in July it completely disappears

from this area. If the sea is not covered with ice, the dolphin can also be seen off north Greenland in winter. Its migration pattern on the east coast is probably identical to that of the west coast, but only little is known about its migration there. It often happens that the dolphin is surprised by the ice spreading over a large area, then it will seek out a breathing hole in the ice, which will be kept open by the many whales present there trying to breathe. The dolphin seems to prefer the coast to the open sea; when migrating along Greenland's west coast, it stays quite close to the coast and swims in between the islands and into the fiords. It mainly swims in herds and, when migrating, often appears in large herds of several hundred or even thousands of dolphins. In the herds, there are both males, females and calves. Its food consists of medium sized fish such as cod, redfish, flounder and also crustaceans and squid; it greedily pursues schools of Gadus saida. The calf is born in April or May. The killer whale pursues the dolphin; and it is also caught by Greenlanders and Europeans. In 1857, Rink estimated the average number of dolphins killed annually on the west coast of Greenland to be between 400 and 500 or more; in 1877 he estimated the number to exceed 600. According to Ryberg's reports of 1894, the number has more than doubled in recent years. The dolphin has been hunted intensely in recent years outside the actual Greenland waters.

The following table showing catch over time, based on Ryberg's notes, gives an indication of the abundance of the

dolphin on the west coast of Greenland.

Dolphins caught:

(508)

	Juliane- haab.	Frederik- shaab.	Godthaab.	Sukkertoppen.	Holsten- borg.
1874-75....	9	108	163	96	
1875-76....	2	197	273	94	
1876-77....	3	11	336	384	169
1877-78....	2	3	253	394	153
1878-79....	8	9	177	398	172
1879-80....		5	392	525	178
1880-81....	13	11	326	344	236
1881-82....	13	12	209	253	140
1882-83....	3	5	212	226	157
1883-84....	2	12	193	186	148
1884-85....	2	14	77	198	71
1885-86....	5	15	296	356	121
1886-87....	1	7	125	284	240
1887-88....		12	171	262	94
1888-89....	5	6	135	171	118
1889-90....	3	15	130	182	74
1890-91....		7	200	216	113

Dolphins and narwhals caught (but predominantly dolphins):

	Egedes- minde.	Christians- haab.	Jakobs- havn.	Riten- benk.	God- havn.	Uma- nak.	Uper- nivik.
1862-63....	18	94	32	29	9	17	114
1863-64....	22	63	23	52	14	49	94
1864-65....	15	94	41	120	11	121	166
1865-66....	12	20	25	72	12	118	64
1866-67....	18	59	79	107	24	79	126
1867-68....	10	117	109	142	6	89	151
1868-69....	19	37	52	98	15	45	60
1869-70....	69	164	139	157	16	147	183
1870-71....	25	119	121	151	7	321	90
1871-72....	12	149	96	136	16	138	126
1872-73....	3	151	93	141	22	185	88
1873-74....	11	102	59	172	8	84	115
1874-75....	23	144	82	149	27	52	127
1875-76....	53	58	21	145	13	68	86
1876-77....	29	86	57	130	18	93	95

Helms sighted dolphins in Arsuk Fiord off Ivigtut in November, 1890. It was held that they entered the fiord in herds every fall.

According to Holbøll, the dolphin arrives off Fiskenaes in fall some time after the start of December.

Hans Egede mentions the dolphin off Godthaab in February, 1736. Giesecke reports that several dolphins were caught off Sardlok in Godthaab Fiord, in January, 1808; and on January 8, 1810, several entered the fiord. (509)

According to Holbøll's reports of 1847, the beginning of December is the time of year, when the dolphin usually arrives off Godthaab. According to what Rink writes in 1857, the dolphin only showed up in great numbers off Godthaab for very few years.

Sukkertoppen is the place in southern Greenland, where most dolphins are caught, Rink writes in 1857. The hunt is mainly carried out around the lower Saitoaitsiat Islands and predominantly takes place from January or February to March. Since 1750, about 100 dolphins have been caught in traps in the area.

Sutherland sighted many dolphins probably eating cod on a ground off Agto, south of Egedesminde in late April of 1850.

In Disko Bay close to Jakobshavn, Paul Egede in January of 1738 witnessed the catch of dolphins, which had congregated in great numbers in a hole in the ice; more than one hundred were caught.

In 1808, Giesecke mentions the Greenlander's catch of dolphins in Disko Bay, especially where there are holes in the ice. The dolphins supposedly arrive off Jakobshavn in November, sometimes in large herds. Off Godhavn, the first dolphin of the fall of 1807 was caught on December 16. In 1810, the first ones were sighted in that area on November 5 after a storm from the north east; the dolphins were supposed to arrive during that month, but often came later. On December 4 of the same year, seven were said to have been caught. On February 7, 1811, many were seen ⁱⁿ breathing holes in the ice, likewise on February 20; they were first sighted on October 26 that fall. In 1812, two dolphins were said to have been caught on March 18 and two more on April 8; the dolphins showed up that fall on November 13 and by the start of December, 39 had been caught. The dolphins were sighted in great numbers, even in thousands, on May 2, 5 and 7, 1813.

O'Reilly sighted a herd of dolphins off Disko on May 18, 1817.

According to Holbøll's reports of 1847, the dolphin usually arrives off Godhavn in fall some time in October; and in spring it is usually caught in Disko Bay off Klaushavn and Jakobshavn in May and June.

Goodsir sighted a lot of dolphins in Disko Bay in early May of 1849.

According to Rink's reports of 1857, most dolphins are

caught in April and May off Christianshaab, Jakobshavn and Ritenbenk; off Jakobshavn, an average of about 100 dolphins were caught in spring. In a hole in the ice off Klaushavn, over 400 were caught in 1849.

Brown had been told of a similar catch in a hole in the ice close to Christianshaab in April, 1860. Traustedt saw a dolphin, which had recently died and was washed up on the south side of Disko in June, 1892.

Giesecke writes in 1811 that the catch of dolphins (510) off Nugsuak is, at times, very substantial. Rink reports in 1857 that over 400 dolphins were caught here in 1850 in a hole in the ice. A Dane living in Nugsuak had, for many years, caught dolphins in traps; on one occasion, he had caught 14 in two traps, but sometimes he had caught only three or four in the course of the fall.

Petersen writes in 1858, that the dolphins are easily caught at the bottom of the bay, where the Makkak River runs out, because the water is almost always muddy from clay which makes it hard for the dolphins to see. According to what Vanhöffen was told by Mr. Lange on his journey in 1891-93, over 200 dolphins were caught on one occasion off Nugsuak in just one week.

Funch writes, based on his observations from 1830 to 1837, that the dolphins arrive in schools in Umanak Fiord towards the end of October, but are followed in November by

the narwhal. Rink states in 1857, that the dolphin arrives regularly in Umanak Fiord in October. At the mouth of the fiord, i.e. off Niakornak, dolphins are caught in traps in April and May. Traps are also set inside the fiord off Tugdilitalik. Vanhöffen reports that the dolphin arrived in Umanak Fiord in October, 1892. Sutherland reports that a dolphin was caught off Prøven on May 30, 1850.

Rink writes in 1857 that the dolphin hunt is among the most important occupations around Upernivik.

Giesecke writes in 1807 that a settlement of Greenlanders existed formerly on the Island of Uperniviarssuk north of Upernivik off which many dolphins were caught. He also states that the Greenlanders usually assemble further north in fall at Nulak, at about $73^{\circ}35'$, to hunt the dolphin.

O'Reilly sighted herds of dolphins with calves off Berry Island, at about $73^{\circ}20'$, on June 30 and July 1, 1817; he also mentions the species from Horse Head on July 5.

Hayes sighted great numbers of dolphins in "North Water" in Baffin Bay during the summer of 1861.

At his arrival in McCormick Bay, Peary sighted a herd of dolphins on July 27, 1891; they were also seen several times in August. Dolphins were also observed in Bowdoin Bay in August, 1892, that area seems to be a favourite of theirs.

Ohlin often sighted large herds of dolphins, occasionally a hundred at a time, in Murchison Sound at the mouth of Inglefield Bay and in Bowdoin Bay during the summer of 1894; one week in August, he almost every night observed herds of young and old dolphins approaching the coast. (511)

Greely reports that a dolphin was seen in Kanes Sea north of Cape Sabine on April 13, 1884, and a herd was sighted on May 9 and 10. Greely states that one dolphin was seen on August 5, 1881 in Halls Sea north of Cape Lieber.

Graah and Vahl report that dolphins were sighted close to shore on April 26, 1829 off Aluk on the southern part of the east coast.

Nathorst writes that dolphins were sighted in herds farthest in the Hurry Inlet in Scoresby Sound outside the mouth of a river on July 31, 1899.

Kolthoff sighted dolphins in the mouth of Kejser-Franz- Joseph Fiord on August 14, 1900.

The species is circumpolar and arctic and can also be found off Spitsbergen, Labrador and along the west coast of Davis Strait. The dolphin is rarely seen along the east coast of the Atlantic as far south as the Baltic or the British Isles; it migrates as far south along the American coast as the Bay of St. Lawrence.

28. Monodon monoceros L. Narwhal.

Monodon monoceros L.: Fabricius, Fauna Groenl., 1780, p. 29. - Holbøll in Eschricht, Unters. nord. Wallthiere, 1849, p. 195. - Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 11. - Brown, Proceed. Zool. Soc. London 1868, p. 552.

Monodon monoceros L.: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Tugalik, the one with the horn in its forehead, from Tugak, a narwhal's tooth, this word is perhaps derived from Torpok, the bumper. Also Kelelluak Kernektok, the black Kelelluak; or Kernektak alone. (Fabricius.) - Tugalik or Kilaluvak Kernertak. (Kleinschmidt).

The museum in Copenhagen, at this time, has four skeletons of both sexes of grown narwhals from Greenland, 15 skulls, 6 complete fetuses in alcohol, two skeletons of fetuses, etc..

Of the available skulls, four are twin-tusked with both tusks well developed; of these four, three of them had not previously been mentioned in printed surveys of twin-tusked narwhals (of the four, which were mentioned by Reinhardt in 1862 as belonging to museums in Copenhagen, two have been transferred to other museums) . Yet another twin-tusked narwhal head has been for sale in Copenhagen in recent years. (Clark and Southwell in 1884 counted all of 13 twin-tusked

narwhals which were hidden away in museums or mentioned in print; thus four have to be added to their list; but (512) even then the list is not complete.) The right tusk of the twin-tusked narwhal with the largest tusks measures, from the edge of the jaw, 8 feet and 3 inches; the left one measures 7 feet and 7 inches.

Pfaff reports the following about the characteristics of the tusks to both sexes: the male's left tusk is usually developed, while the right one is hidden in the jaw; sometimes both tusks are developed, it is very rare that both tusks are stunted and hidden. Usually both the female's tusks are hidden, but sometimes one tusk is fully developed.

The narwhal is quite common, although few in numbers, along the northern part of Greenland's west coast; it is rarely sighted south of Sukkertoppen. It is also common along the western part of the north coast; and it has been sighted several times in other places off the north coast. It is also quite common along the east coast of Greenland. Even more than the dolphin, which is quite similar in nature, the narwhal inhabits ice filled waters. In summer, the narwhal lives only far north in Baffin Bay off the west coast of Greenland; not until late fall, which is later than the dolphin, does the narwhal migrate south, but not as far south as the dolphin. The narwhal does not arrive off Umanak till November and it can already be seen in Davis Strait in March migrating north, it can even be seen off the north coast in the middle of winter.

The narwhal also migrates along the east coast of Greenland, it appears to be prevalent further south here than on the west coast. When the sea gets suddenly covered by ice, a herd of narwhals will seek out a breathing hole in the ice which is kept open by their moving about; it is then often seen with the dolphin. Under usual conditions, the narwhal is often found in open channels in the ice. It especially stays close to the coast and also enters into fiords. The narwhal lives in herds; when migrating, it is often seen in large numbers. Brown mentions herds of thousands of narwhals. Fabricius states that its food consists partly of squid and crustaceans, partly of fish and in particular Hippoglossus pingvis. Holbøll mentions that the whale's main food item is squid. Manby (513) mentions crustaceans and squid, which he had found in the narwhal's stomach; similarly R. Gray. Scoresby has, apart from squid, also found parts of cod, flounders and skate in the stomach of the narwhal. He further claims that the male's tusk is the weapon with which groundfish like skates and other animals too large to be caught by the narwhal's small and otherwise toothless mouth, are caught and killed. The tusk is perhaps, as has been held, also used to scare animals up from the sea bottom. Since the narwhal lives in herds, males and females together, the work of the male will also benefit the female. According to Pfaff's hand-written reports, it appears that the narwhal has no definite mating season, newborn calves and females with fetuses, at various stages of development, can be sighted both in spring and fall. Several narwhals are killed every year by the Greenlanders on both the west and east coasts. On the west coast, however, only few are caught

relative to the number of dolphins caught. Rink in 1877 reports that the number of narwhals killed annually does not exceed 100.

Holbøll states in 1840, that the narwhal is seen only rarely in the Julianehaab region.

Fabricius writes in his notes, that the whale is rare around Frederikshaab, but when it is seen it is usually in Kvanefjord.

According to Holbøll, the whale shows up off Sukkertoppen on its annual migration south. The museum in Copenhagen received a skeleton and a fetus of this whale from Egedesminde in 1862 and 1864, respectively.

In mentioning a large catch of dolphins in a hole in the ice near Jakobshavn in January, 1738, Paul Egede adds that narwhals used to follow the dolphin.

In 1807, Giesecke mentions the Greenlanders' catch of narwhals in holes in the ice in Disko Bay in winter. He adds that in fall, the narwhal usually arrives off Jakobshavn in November. Off Godhavn, many narwhals were sighted in holes in the ice on February 7, 1811; likewise on February 20. On May 5, 1813, a lot of narwhals were seen in Disko Bay.

According to Holbøll, the whale is not supposed to show up off Godhavn until December; it migrates back north as soon

as ice conditions permit. A few narwhals were seen in the same area by Goodsir in the beginning of May, 1849.

M'Clintock and Petersen report that narwhals were observed migrating north in Davis Strait off Disko in late (514) march, 1858.

Brown reports that many narwhals were caught in a hole in the ice near Christianshaab during April of 1860.

Giesecke writes in 1811, that at times many narwhals are caught off Nugsuak. Giesecke also sighted a couple of narwhals in the mouth of Umanak Fiord on May 28, 1811.

Funch states in 1837, that in fall the whale usually shows up in Umanak Fiord in November. Holbøll states that the narwhal^{is} sometimes sighted off Umanak in large numbers.

Rink writes in 1857 that the narwhals usually arrive in Umanak Fiord in November, about the time when the sun disappears from the horizon, and that they stay in this area as long as the sea remains open. Most of the narwhals caught off the west coast of Greenland are caught off Umanak.

According to Holbøll, the whale is sometimes numerous off Upernivik. Rink writes in 1857, that whaling is one of the most important occupations in this area.

In Baffin Bay north of Upernivik, off the coast at

74° - 75°, Baffin often sighted narwhals in the drift ice in late June, 1616. O'Reilly saw several narwhals close to the coast at about 75° in the middle of July, 1817. Ross sighted many narwhals off Cape York in August, 1818, and one was killed by the Eskimoes.

Sutherland writes that the narwhal was numerous in Melville Bay west of the Sabine Islands during August of 1850. One of the whales had cod, halibut, a lot of crustaceans and hundreds of squid in its stomach. Many whales were sighted close to Cape York in mid August.

Hayes sighted large herds of narwhals in "North Water" in Baffin Bay during the summer of 1861.

Bessels saw herds of narwhals in a hole in the ice south of Wolstenholme Island on June 19, 1873.

Peary reports that a narwhal was caught off Northumberland Island in mid August, 1891. He saw a herd in Inglefield Bay in August, 1892 and a herd which had at least six old males in September, 1894. He also heard narwhals blow in open water off Cape Parry in January, 1895.

Astrup mentions the Eskimoes' hunt on narwhals in the area.

Several evenings in August, 1894, Ohlin sighted herds of narwhals in Inglefield Bay; they were, however, smaller and

fewer than the dolphin herds. The latter could always be seen in open channels between the ice flakes.

Kane found a dead narwhal off Refuge Harbour in the southern Kanes Sea in August, 1853.

Bessels reports that four narwhals were seen in a small hole in the ice in the northern part of Kanes Sea on August 16, 1872.

Feilden writes that several whales were sighted close to the ice edge off Cape Sabine in August, 1875; none were (515) seen further north.

Greely writes that some whales were seen off Bache Island in September, 1883. He also reports that a herd was seen in Halls Sea north of Cape Lieber on August 5, 1881; one whale in the herd was wounded, but escaped. Several were sighted twice in the same place. Some showed up off Cape Craycroft in August, 1883.

Feilden writes that a weathered narwhal tusk was found on the coast of Grinnell Land at the northern mouth of Robeson Canal.

Holm reports after his experiences in 1883-85, that narwhals are commonly seen migrating into and out of the fiords off Angmagsalik on the east coast, towards the end of winter and in spring. According to what K. Poulsen was told in 1898-99,

the whales arrive in the area between June and August and are then commonly caught.

Holm states that the narwhal is also said to be numerous in the area north of Angmagsalik, especially in the ice fiord, Kangerdlugsuak, at about 68°. Amdrup sighted several whales off the skerry peninsula on August 8, 1900.

S. Jensen writes that the narwhal was seen in Turner Sound on July 27, 1900.

Scoresby, Jr. found bones and tusks of narwhals around deserted Eskimo huts on Jameson Land in the summer of 1822, and close to the coast in the same area, he himself sighted several whales.

Bay writes that narwhals were rather common in Scoresby Sound in 1891-92. They seemed to move in and out of the fiord at various times, coming and going either alone or in pairs. Even as late as August 17, 1891, narwhals were sighted swimming into the fiord. They were last seen migrating out of North West Fiord on September 8. The fiord was completely ice covered in winter and no narwhals were sighted. On July 20, 1892 the ice broke up in the fiord between Denmark's Island and Gooseland, which created holes in the ice. The next day, two narwhals were sighted in one of the holes in the ice approaching the coast. Nearer the coast the fiord was, at that time, almost ice free, but towards the mouth it was covered with ice as far as the eye could see.

Ryder found narwhal bones scattered around deserted Eskimo huts.

Deichman sighted three narwhals at the mouth of Carlsberg Fiord on September 1, 1900, two dark ones and a very light coloured one. They swam around the fiord that night and the next morning and thereafter migrated south.

Scoresby, Sen. found narwhal skulls scattered around deserted Eskimo huts on Traill Island in the summer of 1822.

Nathorst sighted a herd of narwhals in Kong Oskar's Fiord west of Traill Island on August 22, 1899. He found (516) bones of the species strewn around old Eskimo huts deep in Kejser-Franz-Joseph's Fiord. He also sighted narwhals off Hold-with-Hope on July 20 of the same year.

The participants in the "Germania" expedition found a narwhal skull on Clavering Island near deserted Eskimo huts during the summer of 1870.

Knudsen reports that several narwhals were sighted off Clavering Island on July 28, 1889. Nathorst sighted one narwhal near Pendulum Island on July 8, 1889.

The narwhal is already mentioned from the early days of whaling in the 17th century in the sea east of Greenland close to Spitsbergen.

Manby mentions that the whale was sighted several times in the drift ice off the northern part of Greenland's east coast in the summer of 1821, and that it was seen in great numbers in late July. A female with its calf was seen on July 21.

Scoresby sighted several narwhals in the drift ice off the Liverpool coast in June and July, 1822. Quennerstedt sighted a herd of narwhals in the drift ice in the area around Jan Mayen on April 30, 1863.

The participants in the "Germania" and "Hansa" expeditions, several times in July, 1869 observed herds of narwhals far out in the drift ice off the east coast at about 73° - 74° . Off the Liverpool coast in October, the whales were heard breathing in channels in the ice.

R. Gray considered the narwhal to be common in the drift ice off the northern part of the east coast in the summers of 1885, 86 and 88. In July, 1885 many were seen close to shore, among them were calves.

The narwhal was numerous at $73^{\circ}26'N$, $15^{\circ}16'W$, on July 4, 1886 and likewise on July 5; the males were swimming at the surface of the water, the females with calves were swimming about by themselves. At $75^{\circ}14'N$, $9^{\circ}28'W$, a great number of narwhals was seen on June 28, 1888; and likewise on July 1, a bit further south. A female with a 5 foot long

fetus was killed at 74° 40' N, 12° W on July 5. On July 24 and the previous days, many herds of females with newborn calves were sighted in the same area. But on July 24, a female with a fetus of only 7 1/2 inches was killed. At 78° 39' N, 0° 10' W, a large number of narwhals was seen migrating rapidly north west. At 73° 41' N, 15° W, a lot of narwhals, predominantly males were observed; in the morning several of them were seen sleeping at the water surface. Gray almost always found squid (Gonatus fabricii) and crustaceans in the stomach of killed narwhals. A twin-tusked narwhal was also killed.

The species is circumpolar and arctic. It is also found off Spitsbergen and the west coast of Davis Strait. It is but rarely seen off Iceland and in even rarer cases off the British Isles.

29. Hyperoodon rostratus (Pontoppidan). Bottle-nosed Whale. (517)

Monodon spurius: Fabricius, Fauna Groenl., 1780, p. 31.

- Bottle-nosed whale: Eschricht, Survey of Whales, Paper no. 4, Scientific Society Paper, Department of Mathematical Science, XI, 1845, p. 324, 336. - Anarnak: Holbøll in Eschricht, Unters. nord. Wallthiere, 1849, p. 195. -

Chaenocetus rostratus (Müll.): Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 11. - Hyperoodon butzkof Lacép. & H. latifrons Gray: Brown, Proceed. Zool. Soc. London 1868, p. 556. - Hyperoodon

rostratus: D. Gray, Proceed. Zool. Soc London 1882, p. 726.

- Bay, Information about Greenland, Paper no. 19, 1894, p. 45.

Hyperoodon rostratus Müll.: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Anarnak, the one that induces bowel movements (cacare faciens), according to a characteristic of its meat and blubber. (Fabricius.)

Eschricht mentions that the museum in Copenhagen has a skull of the bottle-nosed whale from Greenland, sent by Holbøll, and it is quite like the skulls from the Faroe Islands and other places in Europe.

The bottle-nosed whale shows up as a summer guest in small herds in Davis Strait and the sea east of Greenland outside the drift ice; but it rarely approaches the Greenland coast. According to Fabricius and Gray, its food mainly consists of squid, the beaks of which are found in great quantities in its stomach. It has been hunted both inside and outside of the actual Greenland seas in recent years.

Both Fabricius and Holbøll claim in 1780 and 1840, respectively, that the whale is found far out in the sea in Davis Strait and only drifts ashore when it has died, which does not happen very often. Holbøll mentions having seen a dead whale washed ashore close to Godthaab in 1829. In 1853, many were sighted in Davis Strait, he reports in a letter.

Høyer in 1865 sent a skeleton of a very young bottle-nosed whale, which had been caught off Frederikshaab, to the museum in Copenhagen.

Brown writes in 1868 that the whale had been sighted at the mouth of Davis Strait in small herds of three or four, and that the whalers caught it on occasion.

Since 1877, whalers have exerted particular effort in hunting also the bottle-nosed whale. D. Gray writes in 1882 that the catch in Davis Strait takes place from the southern mouth to 70°. The whale usually swims in herds of at most 10 to 15 whales.

D. Gray states in 1882 that the bottle-nosed whale can be found all summer off the east coast of Greenland in the open sea, close to the ice edge from Cape Farewell to 77°.

Bay claims that, during the summer of 1891 and 92, it was the most common whale both inside and outside the edge of the drift ice east of the northern part of Greenland. In September, 1892 it was sighted several times in open water close to the ice in the Davis Strait.

The species is found in the Atlantic and is widespread; it is also known from Spitsbergen, Iceland and the Faroe (518) Islands.

30. Physeter macrocephalus L. Sperm Whale.

Physeter macrocephalus L.: Fabricius, Fauna Groenl., 1780, p. 41. - Id., Scientific Society Paper, vol. 6, for 1812, 1818, p. 254. - Eschricht, Survey of Whales, Paper no. 1, Scientific Society Paper, Department of Mathematical Science, XI, 1845, p. 137. - Holbøll, in Eschricht, Unters. nord. Wallthiere, 1849, p. 195. - Reinhardt, Jr., Supplement to Rink, A Statistical Description of Greenland's Geography, 1857, p. 11. - Catodon macrocephalus Lacep.: Brown, Proceed. Zool. Soc. London 1868, p. 549.

Physeter macrocephalus L.: Trouessart, Catalogus Mammalium, 1897-99.

West Greenlandic. Kigutilik, the one with teeth, after its large teeth; and especially Kigutilirksoak, the very large fish with teeth, a name befitting the largest of the toothed whales. (Fabricius.)

The museum in Copenhagen has only three separate teeth from the Greenland sperm whale, which were found in the ground.

The sperm whale now seems only a rare guest off Greenland, it used to be more common in that area.

Hans and Paul Egede report that a sperm whale was caught south of Godthaab in May, 1726; they extracted spermacite from its "brain", which they would use in an emergency in the

household instead of butter.

Glahn writes in 1771 that the British boats seen in Davis Strait "rarely hunt the common whale, but mainly the sperm whale," this, however, represents a misperception.

Fabricius gives a thorough description of the sperm whale in his Fauna Groenlandica of 1780, and in his notes later. He states that it usually stays far out in the water in Davis Strait and rarely comes close to shore. It is rarer in the north than in the Frederikshaab area; and it is also off the southern part of the country that "the common sperm whale boats are seen now and again." Sometimes lumpfish (Cyclopterus) are found in its stomach, but predominantly Greenland shark (Somniosus microcephalus), which are "chewed up". The Greenlanders' catch of it is further discussed. The Greenlanders, however, only rarely catch the whale, but they are known to use the washed up carcasses.

O'Reilly writes in 1818 that the sperm whale is but rarely caught in Davis Strait.

Holbøll states in 1840 that he has but once on his many voyages along Greenland's west coast seen a whale which could have been a sperm whale. No one else had sighted it for a long time. He reports in a letter that a sperm whale was seen in 1843 in the Evigheds Fiord off Kangamiut, north of (519) Sukkertoppen.

In 1865 Pfaff donated a sperm whale tooth (the root of which was sawed off) to the museum in Copenhagen, it had been found at a very old Eskimo site at Nesessarsaet, at Agto south of Egedesminde.

Brown writes in 1868 that the whalers in Davis Strait only know the whale by its name and that he had met only a few Greenlanders, who had heard of it. A sperm whale was said to have been killed near ~~Proven~~ south of Upernivik in 1857.

Ryder in 1885 donated a tooth, which was found in the ground in the Godthaab area, to the museum in Copenhagen.

In 1899, R. Müller donated to the museum a tooth found on the coast at Ikatuksat south of the mouth of Nagsugtok Fiord, north of Holstenborg.

Outside the drift ice off Greenland's east coast, at 68° 30', Mourier, on July 6, 1879, sighted "six large sperm whales which cavorted rather close to the schooner."

The species appears to be present in all oceans. It is also known from Spitsbergen, Iceland and the Faroe Islands.

What has been written about the mammals of Greenland is partly repulsive reading. The bulk of the reading is accounts of slaughter to such an extent that the prospects for several

of the species are all but bright. Traces of compassion for the animals are almost never found. The most gruesome accounts of the whales' prolonged death struggles ^{and} of piles of slaughtered seals (sometimes killed for no purpose: catchers from a single ship thus in 1897 killed 60,000 seals on an ice field, of which "only" 27,900 were taken home, see: Zoologist, 1898, p. 70) etc., are related with indifference. There is hardly a trace of compassion for bears, seals, musk oxes or whales which, although severely wounded, do everything to protect their young. There is no trace of improvement in the perception of the relationship between animal and man. A ship's barber, who travelled with a whaler, happily tells about how he in 1671, for the fun of it, treated a seal on the ice in the sea east of Greenland:" For fun, I ran on to the ice and (520) repeatedly stabbed one of them* in the body with a sword, which it did not pay attention to ; but I sank deep into snow up to my knees while the seal cried out behind my back and even tried to bite me; but I waited, then got up and chased after it and wounded it several times which it also did not seem to pay attention to; however, it moved faster than I did and threw itself from the ice floe into the water and perished (although it was not dead) and I could not pursue it." This is the same inconceivable injustice towards animals that is asserted when nowadays even decent people of both sexes, and even scientists, for the fun of it, shoot seagulls for target practice in the same sea; or when people, for no

Translator's Note: * them, i.e. the seals.

reason, revel in hunting musk oxes or other game. On rare occasions, however, conscience plays a role with the hunter, for example with Scoresby and his companion Manby; but its inconvenient voice is soon deafened by reference to the money that can be earned.

The Greenlanders had themselves in places wiped out the reindeer and in other areas greatly reduced their number. Almost all the travelling Europeans, who had encountered the musk ox, had treated it disgracefully. Further, in recent years, ships have been sent to the east coast of Greenland for the main purpose of hunting musk ox. Being few in numbers and less widespread, compared to what it used to be, without hinterland, exposed to all kinds of accidents in the small and modest area it inhabits and with little reproduction, it surely faces extinction.

The Greenland right whale, which formerly attracted great whaling fleets to the seas around Greenland, is now all but extinct in this area. And still, whaling ships are sent out every year to try to locate and kill the few right whales that remain. When the right whale disappeared, the whalers had to hunt less valuable species and gradually the intense pursuit has been extended to include almost all mammals present in the northern seas such as: polar bears, walruses, all seals, but especially harp seals and hooded (521) seals, all fin whales, dolphins, narwhals and bottle-nosed whales. For the time being, the walrus seems the most threatened by extinction.

The first part of the document is a letter from the author to the editor of the journal. The letter discusses the author's interest in the field of quantum mechanics and the specific topic of the paper. The author mentions that they have been working on this problem for some time and that they believe they have found a new solution. The letter also mentions that the author has been invited to give a talk at a conference on quantum mechanics and that they would like to discuss their work with other researchers in the field.

The second part of the document is the main body of the paper. It begins with a brief review of the current state of research in quantum mechanics. The author then discusses their own work and presents their new solution. The solution is based on a new approach to the problem and is shown to be more general than previous solutions. The author also discusses the implications of their work and suggests some directions for future research. The paper concludes with a summary of the main results and a list of references.

The third part of the document is a list of references. The references include several papers by other researchers in the field of quantum mechanics, as well as some books. The author also includes a list of their own previous work. The references are arranged in alphabetical order. The fourth part of the document is a list of acknowledgments. The author thanks several people for their help and support during the course of their work. The acknowledgments are arranged in order of importance. The fifth part of the document is a list of footnotes. The footnotes provide additional information about the author's work and the references. The footnotes are arranged in order of appearance in the text. The sixth part of the document is a list of appendices. The appendices contain supplementary material that is not essential to the main body of the paper. The appendices are arranged in order of importance.

It is understandable that the people living in Greenland have to use the animals; but it is quite a different matter when people come from far away in order to have fun hunting or to seek great riches by killing vast numbers of animals with cruelty. It is already clear to many that to hunt for fun should be unconditionally condemned. But it is tempting to ask whether it is impossible for humanity to do without fish bones, seal skins, blubber, etc., and whether it is necessary to treat the animals in such a way. There are those who agree that the answer is NO!.

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TRANSLATION FROM SWEDISH
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