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It has been prepared at the request of the Institution, and printed by authority of the honorable Secretary of the Interior.

SPENCER F. BAIRD,
Secretary of the Smithsonian Institution.

SMITHSONIAN INSTITUTION,
Washington, April 15, 1879.

CONTRIBUTIONS

TO THE

NATURAL HISTORY

OF

ARCTIC AMERICA,

MADE IN CONNECTION WITH

THE HOWGATE POLAR EXPEDITION, 1877–78,

BY

LUDWIG KUMLIEN,

NATURALIST OF THE EXPEDITION.

WASHINGTON:
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1879.

MAMMALS.

FRAGMENTARY NOTES ON THE MAMMALIA OF CUMBERLAND SOUND.

By Ludwig Kumlien.

The following list contains little else than fragmentary notes on such species as I procured, or with certainty identified, during my short sojourn in the northern waters of Cumberland Sound (the Hogarth Sound of Penny), at about lat. 67° N.

The region about our winter harbor was marvelously barren, and very few mammals are found there. Its location is such that many of the species that frequent the southern waters are seldom found about Annanactook, as it is so far "inland." It is a rarity for a bear to stray up the sound any distance, and some of the seals and most of the cetaceans are only of irregular occurrence.

Near the southern entrance of the sound, however, the harp seal, polar bear, walrus, and many of the cetaceans, are regular visitors. I have not the least doubt that many cetaceans are found in these waters that I did not see. Should I place confidence in the information of whalemen regarding whales, I could easily make out many species, and some very marvelous ones; but my experience has been that whalemen generally are not to be relied upon in this matter, as they confound species to such a degree that one can never unravel the snarl, and their own peculiar nomenclature makes matters worse instead of better.

My stay was also much too short for anything like a satisfactory investigation of certain interesting problems. I was even obliged to leave some valuable skeletons, and could have procured many more had there been any place to stow them away on shipboard.

There seems to be a prevalent belief among the Eskimo, as well as the whalemen, that the mammals have disappeared from this section of country at a wonderful rate within the last few years. I found the remains of *Trichechus rosmarus*, *Cistophora cristata*, and *Ursus maritimus* in the ancient kitchenmiddens in Kingwah Fjord, in localities where these animals occur at the present day only as rare stragglers. It is hardly probable that such large animals could have been brought any distance,

so they must at a comparatively recent date have been found in the immediate vicinity. I could find no trace of the musk-ox, or any Eskimo that had seen one; but almost any of them could describe the animal very intelligently, and would tell you they are found far to the north. The Eskimo name for this animal, "omingmuk," is by no means a rare *name* among them, and it is possible that they were once found on Cumberland Island, but are now extinct, as other species are in a fair way of becoming.

The vicinity of the Kikkerton Islands offers many advantages to a naturalist; it is now a permanent whaling station, and a person could at any time secure the valuable assistance of natives, besides having ample conveniences for drying, stowing, &c. It would be comparatively easy to secure a good skeleton of an adult right whale at this place if a person went about it in the proper manner. Almost any of the smaller cetaceans, and all the seals, adult, young, and fœtal, could be secured at a very trifling outlay of presents to the Eskimo.

1. Ursus maritimus, Linné.

"Nannok," Cumberland Eskimo.

It is a rare occurrence to find a bear any distance up Cumberland Sound; they are common about Cape Mercy, Shaumeer, and Nugumeute, but seldom stray above Niantilic, or the Kikkerton Islands. Below Niantilic, on the southern side of Bear Sound, in the vicinity of what the Eskimo call Okaglik and Kokaluyah, they are quite plenty. Many are captured here every year, especially in spring, by the Eskimo, who fearlessly attack them in their frail kyacks, but are afraid of them on the ice or land. From Nugumeute to Hudson's Straits they appear to be even more plenty, and westward, in the northern waters of Hudson's Bay, whalemen often procure twenty or more skins in a season.

In October, 1877, an enormous female with two cubs paid the Eskimo encampment, at the Kikkerton Islands, a visit. They swam over the Salmon Fjord, probably scenting a dead whale that was on the beach near the huts. The bears made a lively time among the huts, and a considerable outlay of ammunition and dogs was made before they were finally captured. There were about two hundred dogs and half as many natives, besides the crews of two whalers; all this motley crowd made war on the bears; one of the whaling captains, a little braver than the rest, got too close to the old bear, and she dealt him a blow which knocked his gun many feet into a snow-bank; she then began to make way with him, but was prevented by the Eskimo and dogs. A young Eskimo was

served in a similar manner, but sustained quite serious injuries. Great consternation and fear prevailed among the women and children, and that memorable night, when the *nannokes* besieged their quiet camp, was long a lively topic of conversation.

When the Florence took the pack-ice off Cape Mercy, a huge male was suddenly espied alongside, but he did his best to get away as fast as possible; a boat was lowered and his capture was as devoid of excitement as the killing of a sheep in a barn-yard. We had at this time sixteen Eskimo and thirty dogs on deck, and the greater portion of the meat was utilized as food by one or the other without any symptoms of poisoning. During the season that *Pagomys fœtidus* have their young, the bears begin to wander up the fjords in search of them, and are at this time often found a considerable distance from the open water.

In and about the old stone-hut foundations in the neighborhood of Annanactook I found the remains of bears. There is a story among the Eskimo that the bear, walrus, and hooded seal were once plenty there, but for some cause do not now frequent the locality. A very young cub skin was secured in April by a Shaumeer Eskimo. The vicinity of Cape Mercy is one of the most frequented localities for bears; here they come down on the pack-ice with the current from the north. Eskimo from the region northward in Cumberland are in the habit of coming here to hunt them.

2. Vulpes lagopus, Linné.

"Touyunaik," Cumberland Eskimo.

The Arctic fox is quite common on both sides of Cumberland in all suitable localities. During the winter they often fare badly, and become quite impudent when pressed by hunger, even coming upon the schooners' decks at night. They were a source of annoyance as well as amusement to us around our observatory. We were not the fortunate possessors of enough glass to let the light in through the wall of snow that surrounded our tent, so we had recourse to oiled sheeting stretched over the aperture, borrowing the idea from the Eskimo window of seal intestine. But as we had no dogs about our snow-house, the foxes became so bold during the long cold nights of winter that they often came and sat around the stovepipe that projected through the roof of the hut. Our cloth windows had to be repaired very often, as they would tear them down and eat them for the oil the cloth contained. It was almost impossible to catch them with a steel trap. I tied the bait underneath the tongue, and carefully placed the trap in a little excavation in the

snow, and covered the whole with snow; but they dug beneath the trap, and secured the bait from below, often even without springing the trap. With an ice trap made after the Eskimo pattern I was more successful.

As soon as the seals begin pupping, the foxes fare better; this season is in fact the grand banqueting time for these animals, after the long sufferings and privations of winter. At this season (March, April, and May), they destroy a great many young seals. I have often found the remains of the seals so well *skinned* and cleaned that it seems impossible it could have been done by an animal. They begin by biting the skin around the mouth, and drawing the entire animal through the aperture, and turning the skin inside out; even the flippers are drawn through to the nails, and every vestige of the meat removed. Nor is the skin bitten in the least, although it is finely cleaned of all the fat. But the most remarkable part of all is, that the skeleton remains intact and finely cleaned. When the Eskimo find such skins, they always make use of them, as they are quite as well skinned as if they had done it themselves. The white variety appears to be much more abundant than the blue. According to the Eskimo, the two varieties interbreed, and the young are sometimes dark and both parents white, and *vice versa*. During the winter months they congregate in considerable numbers about any carcass, especially a whale, and get themselves thoroughly begrimed with grease.

It often happens that some venturesome fellow succeeds in getting upon the ducks' island, in breeding time, by means of the ice, and is left there; but when the birds leave he gets enough shell-fish, &c., at low-water to live on till the ice makes. If they are a short distance from the mainland or from other islands, they do not hesitate to take to the water.

3. Canis familiaris, Linné, var. **borealis.**

"Kidmik," or "Mikkie," Cumberland Eskimo.

As might be expected, the dogs of the Cumberland Eskimo are afflicted with the much dreaded rabies. I paid considerable attention to the subject, in hopes of being able to throw some light on the cause of this disease, but, like many others before me, with little success. In the first place, so far as the dogs about our winter harbor were concerned at least, there are other causes besides the so-called hydrophobia that lessens their ranks, though when a dog dies this is always the cause assigned. Some of the best dogs that died at Annanactook during the winter of 1877–78 died from injuries inflicted on the head by a club in the hands

of their masters. After these dogs were disabled they wandered about the settlement staggering and howling, and were to all appearance *bona fide* victims of hydrophobia; but on dissection it was only too plain what the matter was. Many of the dogs are so overworked and so illy treated that they could not survive the repeated injuries inflicted upon them if they were as strong again.

The Eskimo have the habit of putting a slut in heat on ahead as leader, as by this method they considerably accelerate the movements of the rest of the team, and save themselves some extra labor; but these dogs often prove themselves too eager, and rupture blood-vessels. I have seen such cases where the dog vomited clear blood, and also discharged it copiously through the anus; such cases survive but a few days generally. Again, many young dogs are taken from the mother long before they are prepared by nature to shift for themselves. I have positive evidence of this being a prolific cause of so many *young* dogs dying. Of all the dogs that died at Annanactook, at least four-fifths of the adults were males, and the greater number of these died about the time the females were in heat.

I was very much interested to see if the theory that hydrophobia is prevalent only in countries where the females are subjected to indiscriminate slaughter, or animal instinct thwarted or perverted under the ban of an ignorant and false modesty, would work here, instances being cited of Turkey and other countries, where the dog is held sacred and allowed to run at large, that hydrophobia is unknown. According to the theory, then, that its origin is always the result of unrequited affection, we should *not* find this disease among the Eskimo dogs, where it may reasonably be expected that nature has allowed the proper proportion of the sexes and man does not interfere; but here is the point: Has the Eskimo dog unrestrained freedom to follow the instincts of his animal nature? We answer, By no means. To be sure, there are plenty of females, but they are appropriated by such dogs as possess the greatest strength; the females go to them, and the weaker dogs are given the cold shoulder. As a general thing, the possession of a slut is a disputed point, which ends in a hard fight between the dogs; but there is no further question after the battle, and the vanquished dog has to bear a double disappointment; this he seems unable to do, and worries himself into a melancholy that soon takes the form of the so-called hydrophobia.

I carefully watched a team of three dogs that I often went sealing with; one was a female and two were males; the slut seemed to be ap-

propriated by one of the dogs without question, till one day a strange dog from another settlement was added to the team. The possession of the slut now became the cause of a series of severe fights, which ended in favor of the strange dog, which immediately became the guardian of the slut. The beaten dog began to lag and droop, and in a *few days was dead*, having gone through all the stages of hydrophobia to all appearance.

This was not the only instance of a similar nature that came under my observation; still I do not wish to be understood that I place unshaken faith in this theory. I had too short a time for observation, and too few examples to warrant me in making generalizations on these data; but I think it well worth the time for any one who does get the opportunity not to overlook these facts. I dissected a number of the male dogs that died from the rabies, but I never could detect any of the organs diseased except the penis, testicles, and sometimes the kidneys. Why this should be the case I am at a loss to say. There is one other theory that may throw some light on the subject, viz, the constant interbreeding of the dogs. I have known of instances where a dog had possession of the mother and her yearling whelps, all, mother included, of which he was father to. It is certain that the progeny resulting from such connections are very inferior, and tend toward degenerating the race. It often happens that female dogs cohabit with wolves, the dog being driven off by the superior strength of the wolf. This progeny again is characterized by superior strength and great powers of endurance, and is less apt to suffer from disease.

It sometimes happens, the Eskimo tell me, that a family goes into the interior and remains for a year or more, but seldom loses any dogs by disease; they have an idea that the salt-water has something to do with their dogs dying, for they say they do not die when they live away from it. It does not seem probable, however, that the disease would prove contagious, assigning either of the above causes for its origin.

Again, is it positively known that the disorder *is not* communicable by bite? I am by no means sure of this. The Eskimo always carefully get out of the way of dogs afflicted in this manner, and they told me that if one of the sick dogs bit me I would get the same disorder. This information may have been imparted to them by whalemen, however.

4. **Canis occidentalis**, var. **griseo-alba**, Bd.

"Amarook" (?), Cumberland Eskimo.

Wolves are frequently seen during the winter months on both shores of Cumberland; their principal resorts, however, are further inland,

where the reindeer herds abound. It often happens that the Eskimo dogs and wolves interbreed; the female dog is especially liable to cohabit with a wolf, and the progeny are considered much superior beasts, but are very hard to manage. I have seen Eskimo dogs that corresponded hair for hair with the Arctic wolf.

The Eskimo say there are packs of dogs now in some localities that have run wild, and in all probability returned to the original wolf type. There are stories of some kind of animal, that from the description given by some may be a *Gulo*, but others say it is only the common dog; such animals are always reported from the interior.

It is said that the female wolf is considerably fleeter than the male, being longer-bodied. The females, the Eskimo say, always distance the males in the chase after the reindeer, and generally succeed in killing the deer before the male comes up.

5. Mustela erminea, Linné.

Two specimens, procured in the Kingnite Fjord, one in the summer and one in the winter fur. Appears to follow the lemming in their migrations; is nowhere abundant in Cumberland, and even unknown to some of the Eskimo. Said to be able to capture the hare and ptarmigan by attaching itself to some vital part and not loosening its hold till the victim is dead. I am rather skeptical on this, however. Still, the Eskimo say they have seen them do it, and it really puzzles me to tell what else they should live upon during winter, as they do not hibernate.

6. Myodes torquatus, (Pall.) Keys. & Blas.

"Awingak," Cumberland Eskimo.

I procured but a single specimen of the lemming; this was caught near Cape Mercy. They may yet be common somewhere along the sound, as I saw traces in different places where we stopped. According to the Eskimo, they are getting less common every year. Whalemen have told me that twenty years ago some ships procured as many as four hundred skins at Niantilic, in the spring, from the young Eskimo, who killed them with bows and arrows. From what I could learn of the Eskimo, the lemming is very irregular in its migrations, appearing in great numbers at one place, and then disappearing for many years.

7. Lepus glacialis, Leach.

"Okoodlook," Cumberland Eskimo.

Common in all suitable localities. Many do not undergo any change of color during summer, and I doubt if it be more than partial change

with any. I have seen pure white specimens during all the summer months, and occasionally one about half-gray. The Eskimo firmly believe that the lungs of the hare applied fresh to a boil or sore of any kind is a sure cure. The specimens I examined in Cumberland were much smaller than Greenland specimens.

8. **Rangifer tarandus**, (Linné) Bd.

"Tuktoo," Cumberland Eskimo.

The reindeer are found in considerable numbers on both sides of Cumberland Sound, but by far the greater number on the western shore. It is no rare instance to find them during the summer months on the sea-coast; they seem to delight in feeding upon the *fuci* exposed at low tide. In winter they retire to the larger valleys and go farther inland, being seldom seen on the coast at this season of the year.

The Eskimo go reindeer-hunting every summer, commonly during the months of July, August, and September. At this season they make quite extensive excursions inland, where the deer are more abundant and much more easily procured. Within the last few years they are reported as less common on the Penny Peninsula; but I hear of no apparent diminution in their numbers to the west and southwest, especially toward Lake Kennedy, where they are reported as very abundant.

Before the introduction of firearms among the Eskimo by the whalemen, they took advantage of the habits of the deer in coming down to the coast, and drove them into the water, where they were easily captured with a kyack. The Eskimo bring the skins back with them to their winter encampment, having cached the meat for the ostensible purpose of returning for it in winter. This seldom happens, however, and the wolves generally make way with it. It is said that when a herd is first approached by a hunting party that has been living on the sea-coast, they scent them a long way off, but that they soon lose this power; the fact being, I take it, that the peculiar odor of the salt-water has left the Eskimo. During the winter they herd together in large droves, and when a suitable valley is found paw up the snow for a considerable extent, till it looks as if a herd of swine had been rooting in the snow. These droves are continually beset by packs of wolves, which keep a vigilant watch for any that unluckily stray out of the herd, for such a one is immediately attacked and run down. It is seldom, however, that the wolves can do much damage to the herd when they keep together, as they form a circle, with the weaker ones in the centre, and can thus keep the wolves at bay.

9. Callocephalus vitulinus, (Linné) F. Cuv.

"Kassigiak," Cumberland Eskimo.

The so-called "fresh-water seal" of the whalemen is one of the rarer species in the Cumberland waters. They are mostly met with far up the fjords and in the fresh-water streams and ponds, where they go after salmon. They are rather difficult to capture, as at the season they are commonly met with there is so little blubber on them that they sink when shot. The skins are highly prized by the Eskimo women for their jackets, and if they do not have enough for the entire garment will use what they have, always putting it within the most convenient sight of the wearer. It is said by the Eskimo that the young remain in the white coat but three or four days, differing greatly in this respect from *Pagomys fœtidus*. Neither do they make an excavation underneath the snow for the reception of the young, like the above-mentioned species, but pup later in the season, on the bare ice, fully exposed. The adult males often engage in severe combats with each other. I have seen skins so scratched up that they were nearly worthless; in fact, the Eskimo consider a "kassiarsoak" (a very large kassigiak) as having an almost worthless skin, and seldom use it except for their skin tents. The skins of the young, on the contrary, are a great acquisition. It is said, possibly with a shade of exaggeration, that the affections of the Eskimo damsel can be secured by a present of kassigiak skins, when all ordinary means of persuasion have failed to move her.

10. Pagomys fœtidus, (Fab.) Gray.

"Netsick," adults generally; "Tigak," adult males; "Netsiavik," young after shedding and till one year old; "Ibeen," young in white coats, of the Cumberland Eskimo. "Pickaninny pussy," young, pigeon-English of the whalers.

This seal is very common in all the fjords and bays from Hudson's Straits northward along Cumberland Island to the extreme head of Cumberland Sound, on all the outer islands about Cape Mercy, and on the west coast of Davis Straits. I have seen skins from Lake Kennedy that I could not distinguish from those found in Cumberland Sound. This seal was never noticed but a few miles from land; was not met with in the pack-ice, nor on the Greenland coast except far up the fjords. This was in July and August; but I am informed that they become more common toward autumn, and are found in considerable numbers some distance from land; they are less common here, however, than on the west coast.

It was a source of great curiosity to the Greenlanders to see the

clothing of the Cumberland Eskimo made from the skins of the young seal; they at first mistook it for bear. I was informed that, in the vicinity of Disko at least, they never procure enough of the skins of the young in the white coat to use them for clothing to any extent.

In the Cumberland waters they are resident, and do not migrate at all unless much disturbed, and then they merely seek a more secluded locality. On the Greenland coast they appear to migrate up the ice fjords in summer, but to be more generally distributed at other seasons.

The netsick shows a decided predilection for the quiet still bays and fjords, seldom venturing far from land. They are the only seal caught through the ice in winter, and are consequently the chief and almost sole dependence of the Eskimo for food, fuel, light, and clothing.

The skins of the adults are made into summer clothing, while the young are in great demand for under-garments and for trousers. Children often have entire suits of the young in the white coats; such clothing looks very beautiful when new, but it is new but a few days, and after this it is repulsive enough. The females were found *enceinte* in the latter part of October, and a fœtus nearly ready for birth was taken from the uterus January 16. It was two feet from the end of nose to the end of hind flippers. It was so doubled in the uterus, however, as to occupy a space hardly a foot in length; the hind flippers were turned forward on the tibiæ, the fore flippers hugged the sides, and the head bent over on the neck and inclined to one side.

In a large fjord known as the Greater Kingwah the tide runs so swiftly at one locality that it never freezes for a space varying from ten to one hundred acres. Here the netsick gather in considerable numbers all winter, and it is a favorite resort for such Eskimo as are fortunate enough to possess a gun. Being but a few miles from our winter harbor, there were almost daily excursions to these tide rifts by our Eskimo hunters. After the 1st of March very few pregnant females were killed at this place, they having by this time chosen the localities for having their young. Those killed after this date were all adult "tigak," or old stinking males.

It was interesting that the young—yearlings and some two-year olds, such as had not yet arrived at maturity—were seldom, if ever, killed in this open water, but lived in colonies by themselves. When an Eskimo finds a number of *atluks* (breathing-holes) near together, he always marks the place by raising little mounds of snow near the holes, for he knows that here is a colony of young animals, which have better skins and

meat than the old ones, and are moreover much easier to capture. I have counted nearly seventy of these atluks on a space of two acres.

When a pregnant female has chosen the place where she is to have her young, she makes an excavation from six to ten feet in length under the snow, and from three to five feet wide, the height varying with the thickness of the snow covering. The atluk is at one extremity of this excavation, and in such a position that it is always a ready channel of retreat in case of danger.

The first young found in the Upper Cumberland waters was during the early days of March; still I have taken a fœtus from the mother in the middle of April. The most profitable time for hunting the young seal is during the month of April; after this date they have shed so much that the skins are nearly worthless till the hispid hair has got to be of the proper length, when they are considered as the prime article, and second only to the young of *Callocephalus vitulinus* in quality.

The first young one I procured that had begun to shed was April 15. I have seen examples that were nearly or quite destitute of the white coat, but still not having the next coat in sight. Such specimens on close examination will be found to have a very fine coat of the new hair, but so short as not to be perceptible except on close examination, still showing the exact location and distribution of the dark and light markings; the *skin* at this time is very black, and often much scratched up, probably by the mother in trying to make the young one shift for itself. I often examined the stomachs of young as well as adults, but till after they had begun shedding the white coat, and were, in all probability, 25 to 30 days old, I found nothing but the mother's milk. After they begin to shift for themselves, their food, for a time at least, consists of *Gammari* of different species.

Before the young shed the white coat, they are from 23 to 36 inches from the nose to end of flippers; the average the season through, from a good series of measurements, was about 30 inches. They are very variable in color; some are pure white; others very white on the lower parts, but more or less dusky on back; others again are a fine straw-yellow, with the same dusky variation as in the white ones. The yellow is also variable in the intensity of shade. Rarely some are found that are quite dusky all over, especially on the head and back; these are generally small and scrawny individuals. The hair is also quite as variable in texture as in color. In some it is fine, long, and woolly (mostly in the pure white examples). In others it is straight or wavy, while

some have short and quite hispid hair. They weigh at birth from four to six and one-half pounds, but grow at an astounding rate, becoming exceedingly fat in a few days. The blubber on the young a few days old is almost white and thickly interspersed with blood-vessels; it is not fit to burn. There is usually but one young at a birth; still twins are not of rare occurrence, and one instance came under my observation where there were triplets, but they were small, and two of them would probably not have lived had they been born. The season for hunting the young at lat. 67° N. begins about the middle of March and continues until the latter part of April. The first two weeks of April are the most productive, as later the hair is apt to be very loose, and many even have large bare patches on them.

When the season fairly opens, the Eskimo hunter leaves the winter encampment with his family and dog-team for some favorite resort of this seal; he soon constructs his snow-hut, and is as well settled as if it had been his habitation for years, for the seals he catches bring him and his family food and fuel, and snow to melt water from is always plenty, so that his wants are easily supplied, and he is contented and happy.

The manner of hunting the young seal is to allow a dog to run on ahead of the hunter, but having a strong seal-skin line about his neck, which the Eskimo does not let go of. The dog scents the seal in its excavation, which could not have been detected from the outside by the eye, and the hunter, by a vigorous jump, breaks down the cover before the young seal can reach its atluk, and if he be successful enough to cut off its retreat, it becomes an easy prey; otherwise he must use his sealing-hook very quickly, or his game is gone. It sometimes happens that the hunter is unfortunate enough to jump the snow down directly over the hole, and gets a pretty thorough wetting. The women often take part in this kind of sealing, and many of them are quite expert. The children begin when they are four or five years old. The teeth and flippers of their first catch are saved as a trophy and worn about the little fellow's neck. The next year when he begins, this will give him good luck, they think.

There exists a considerable spirit of rivalry among the mothers as to whose offspring has done the best, size, &c., considered. This runs to such a high pitch that I have known some mothers to *catch* the seal, and then let her child *kill* it, so as to be able to swell the number of his captures.

Some of the Eskimo hunters belonging to the Florence brought as many as seventy at one load. They were kept frozen, and we almost lived on the meat during the season, and learned to like it very much.

Some of the hispid seals pup on the ice without any covering whatever. Six instances of this nature came under my observation, and they were all young animals. The young exposed in this manner almost always fall a prey to foxes and ravens before they are old enough to take care of themselves.

As the season advances and the young begin to shed their coats, the roof of their *igloo* is often, or perhaps always, broken down, and the mother and young can be seen on sunny days basking in the warm sunshine beside their atluk. The mother will take to the water when the hunter has approached within gunshot, and leave the young one to shift for itself, which generally ends in its staring leisurely at the hunter till suddenly it finds a hook in its side; a stout seal-skin line is then made fast to its hind flippers, and it is let into the atluk; it, of course, makes desperate efforts to free itself, and is very apt to attract the attention of the mother if she is anywhere in the vicinity. The Eskimo carefully watches the movements of the young one, and, as soon as the mother is observed, begins to haul in on the line. The old one follows nearer and nearer to the surface, till at last she crosses the hole at the proper depth, and the deadly harpoon is planted in her body, and she is quickly drawn out. If the mother has seen the hunter approaching the atluk, however, she will not even show herself. I have never known of an instance where they have attempted to defend their offspring from man. I once saw a raven trying to kill a young seal while the mother was making frantic but very awkward attempts to catch the bird in her mouth. When the young first assume the coat of the adults (about the time the ice begins to loosen), they seem possessed of a vast amount of curiosity, and while swimming near the land, as they almost always do, can be lured within gunshot by whistling or singing. They would often play about the schooner, diving underneath and coming up on the opposite side, apparently enjoying it hugely. They delight to swim among the pieces of floating ice in the quiet bays. The young and yearlings of this species are often found together in small bands. The adult females will average four feet and a half to the end of the flippers. Such specimens are probably from four to seven years old; the males are a little larger. There is great variation in the skulls, but the sexes can readily be distinguished by the skull alone, the males having a longer and narrower head, with the ridges more prominent.

It is only the adult males (called "tigak," stinker, by the Eskimo) that emit the horribly disagreeable, all-permeating, ever-penetrating odor that has suggested its specific name. It is so strong that one can smell an Eskimo some distance when he has been partaking of the flesh. They say it is more nourishing than the flesh of the females, and that a person can endure great fatigue after eating it. If one of these *tigak* comes in contact with any other seal meat, it will become so tainted as to be repulsive to an educated palate; even the atluk of the *tigak* can be detected by its odor.

There is sometimes caught a hairless variety of this seal that the Eskimo call "okitook." I have seen one such skin. It had a few fine curly hairs scattered over it, but they were very different in texture from the ordinary hair. I do not know if the specimen otherwise differed from the ordinary seal. The food of the adults consists largely of different species of crustaceans, and during winter especially they subsist to a considerable extent upon fish. I have found in them the remains of *Cottus scorpius*, *C. grœnlandicus*, *Gadus ogac* (commonly), and *Liparis vulgaris*. During the time the adults shed for nearly a month previous I could detect nothing but a few pebbles in their stomachs. They become poor at this time, and will sink when shot in the water. The milk is thick and rich, and is sometimes eaten by the natives. The excrement looks like pale, thickly clotted blood.

There are sometimes found albinos, of which the Eskimo tell marvelous stories, one being that when they rise to breathe in their atluks they come stern first, and, in fact, they think such animals have their breathing apparatus on the posterior end of the body. I imagine this originated from a native once harpooning an albino in its atluk and finding his harpoon fastened in one of the hind flippers.

Toward spring, when the sun is shining brightly, these seals can be seen in all directions basking on the ice. They are to all appearance asleep, but manage to wake up regularly every few minutes to make sure that there is no danger about. At this season it is a favorite method of the Eskimo to hunt them by crawling flat on his belly toward the seal, and when discovered to imitate the movements of the animal, and to advance only when the seal looks in the opposite direction. In this manner they often approach so close as to be able to push them away from their atluks. This seal is of some commercial importance. The Scotch whalers often buy from the natives during the winter a thousand skins. These are brought with the blubber, and often cost the pur-

chaser not over 3 to 7 cents, and this mostly in tobacco, trinkets, or ship stores. To encourage them to procure more skins, they are furnished with a cheap *breech*-loading gun and a few hundred cartridges, which they soon waste, and then their guns are of course worthless. At the rate both young and adults are slaughtered at the present day, they will soon become so scarce that there will not be enough to supply the wants of the natives.

11. Pagophilus grœnlandicus, (Müll.) Gray.

"Kiolik," Cumberland Eskimo.

The saddle-back is of frequent occurrence about the southern waters of Cumberland Sound in spring and autumn. It is rather rarely found singly, but generally in considerable schools. They are even occasionally found as far up the sound as Annanactook, but mostly the young. Their procreation is unknown to the Cumberland Eskimo. A few schools were noticed at different times during September, 1877, and October, 1878, from the islands off the middle Labrador coast to Cumberland, at times at considerable distances from land. Every Eskimo who can secure it will have an adult male kiolik skin on the back of his toopik. The skins are here never used for clothing, the hair being too short and thin. They disappear from Cumberland when the ice makes, and return again in spring with open water, but stay only a short time. The flesh is much inferior to the netsick.

12. Phoca barbata, O. Fab.

"Ogjook," Cumberland Eskimo; "Oo-sook," Greenlanders.

This seal was first noticed a little to the southward of Cape Chidly, and thence northward to our winter harbor in about lat. 67° N. According to the Eskimo they are the most common about Cape Mercy, Nugumeute, and the southern Cumberland waters, where they remain the year around, if there is open water. They remain in the sound only during the time there is open water, as they have no atluk.

On the west coast of Davis Straits they are not rare, but are said by whalemen to diminish in numbers above lat. 75° N. They appear to be more common on the southern shores of the west coast of Davis Straits than on the northern, so that the natives go southward some distance to secure the skins. Was noticed among the pack-ice in Davis Straits in July and August.

The ogjook delights in basking upon pieces of floating ice, and generally keeps well out at sea. I have never seen any numbers together, but almost always singly. The old males do not seem to agree well, and

often have severe battles on the ice-floes when they meet. They use the fore flippers, instead of the teeth, in fighting.

In Cumberland they begin working northward as fast as the floe edge of the ice breaks up, arriving in the vicinity of Annanactook about the latter days of June. In autumn they move southward as fast as the ice makes across the sound, always keeping in open water. They are seldom found in the smaller fjords or bays, but delight in wide expanses of water. They dive to great depths after their food, which is almost entirely *crustacea*, mollusks, and even clams of considerable size. This seal has a habit of turning a summersault when about to dive, especially when fired at; this peculiarity, which is not shared by any other species that I have seen, is a characteristic by which it may be distinguished at a considerable distance. During May and June they crawl out upon an ice-floe, to bask and sleep; at such times they are easily approached by the Eskimo in their kyacks and killed. An adult will often measure ten feet between the two extremes. The color is variable; the tawniness more or less clouded with lighter or darker markings irregularly dispersed. By July some of them become almost naked. At this season their stomachs contained nothing but stones; some of them nearly of a quarter pound weight. They seem to eat nothing during the entire time of shedding, probably six weeks. Certain it is they lose all their blubber, and by the middle of July have nothing but "whitehorse," a tough, white, somewhat cartilaginous substance, in place of blubber. At this season they sink when shot. Some specimens were procured that had scarcely any teeth at all, and in many adults the teeth can almost be plucked out with the fingers. The young are born upon pieces of floating ice, without any covering of snow. The season of procreation is during the fore part of May. After the young have shed their first woolly coat (which they do in a few days), they have a very beautiful steel-blue hair, but generally so clouded over with irregularly dispersed patches of white that its beauty is spoiled.

A fœtus was procured near the Middliejuacktwack Islands April 28. Its extreme length was four feet seven inches.

	Inches.
Length of head	$8\frac{3}{20}$
Width of muzzle	4.5
Width of fore flipper	4.3
Length of fore flipper to end of nails	$7\frac{3}{20}$
Greatest expanse of hind flipper	13.5
Length of hind flipper	12
From end of nose to eye	3.2
Distance between eyes	3.50

Color uniform grizzly mouse-color, with a tinge of olive-gray. Muzzle, crown, and irregular patches on back and fore flippers white. From nose to eyes a black line crossing the head back of the eyes, forming a perfect cross. Nails horn-blue, tipped with white. Iris dark brown. Nose black. Muzzle wide; lips full and fleshy, giving the animal a bull-dog expression. Body long and slender. Beard pellucid, abundant, white, stout, the bristles growing shorter from the eye toward the nostrils. Hind flippers large and heavy, looking disproportionate. The hair rather short, but fine and somewhat woolly. There was interspersed another kind of hair, stiff and of a steel-blue; the next coat, I take it.

The Eskimo are firm in the belief that the ogjook sheds its first coat within the uterus of the mother. In this instance there was certainly plenty of loose hair in the uterus; but the specimen had been dragged some miles in its envelope over the rough ice, and banged around considerably, besides having been kept three or four days in an Eskimo igloo among a heap of decaying garbage, so it is not to be wondered at if the hair was loose. There was little blubber on the specimen, and this was thickly interspersed with blood-vessels. The intestines toward the anus were filled with dung. The kidneys were very large, the heart remarkably so. The cartilaginous prolongation of the thorax, so prominent in *Pagomys fœtidus*, is wanting in this species.

The ogjook is of great value to the Eskimo, who prize the skins very highly. All their harnesses, sealing-lines, &c., are made from the raw skins; besides this, they make the soles of their boots, and sometimes other portions of their dress, from the skin. In such localities as the whalemen do not visit, and the natives are obliged to construct skin boats, this seal is in great demand. It takes fifteen skins for an ominak, or skin boat, and these skins require renewing very often. The skin of the back and belly dries unevenly, so the Eskimo skin the animal by cutting it longitudinally along both sides, and drying the skin of the upper and lower parts separately. It is a prevalent belief among whalemen that seals' livers, and more especially those of this species, are poisonous; but I am inclined to rate this as imagination. We ate the livers of all species we procured without any bad effects.

13. Trichechus rosmarus, Linné.

"Awouk" and "Ivik," Cumberland Eskimo.

The walrus is quite common about Cape Mercy and the southern waters of Cumberland, but at the present day rarely strays far up the sound. Their remains, however, are by no means rare, even in the Greater King-

wah, and many of the old Eskimo hut foundations contain the remains of this animal. The Eskimo say they got mad and left; certain it is they are found around Annanactook only as stragglers at the present day. Considerable numbers were observed on pieces of floating ice near Cape Mercy in July. About Nugumeute they are largely hunted by the Eskimo living there. The Eskimo say the tusks of the male always bend outward toward the tips, while those of the female bend inward.

14. Cistophora cristata, (Erxleb.) Nilss.

The bladder-nose appears to be very rare in the upper Cumberland waters. One specimen was procured at Annanactook in autumn, the only one I saw. The Eskimo had no name for it, and said they had not seen it before. I afterward learned that they are occasionally taken about the Kikkerton Islands in spring and autumn. I found their remains in the old kitchenmiddens at Kingwah. A good many individuals were noticed among the pack-ice in Davis Straits in July.

CETACEA.

1. Balæna mysticetus, Linné.

"Akbik," Cumberland Eskimo.

Also called "Pumah." I think the word had its origin in this wise. When whalemen first began to cruise in these waters, few, if any of them, had a knowledge of the Eskimo language, and, to make the natives understand what they were after, imitated the spouting of the whale by blowing. This was soon taken up by the Eskimo as the "codlunak" (white man's) word for whale, and soon came into general usage, and thus one of the first words was made that now constitutes a part of the pigeon-English of the whalemen's jargon.

The Cumberland Sound, or Hogarth Sound of Penny (Northumberland Inlet of Wareham in 1841), has been renowned among Scotch and American whalemen for more than a quarter of a century as a favorite resort of the right whale, and one of the most profitable whaling stations on the globe. But this locality, like all others, has been so thoroughly hunted nearly every season for a number of years that it no longer sustains its pristine renown as a profitable whaling ground.

So many ships were sometimes found here at one time that there arose a great spirit of strife among the crews as to which vessel would procure the most whales, and as a consequence whales were struck when there was but the slightest chance of securing them, and the line had to be cut to set them free. Such whales in all probability die, but not before

they have succeeded in permanently frightening others, which, instead of seeking the upper waters of the sound for a few weeks' quiet feeding, strike out and are seen no more.

Instead of allowing these animals to go up the sound, and find their favorite feeding grounds, they are attacked and chased as soon as they show themselves at the mouth of the sound. In fact, they have been so persistently persecuted that now very few pass up above Niantilic or the Kikkerton Islands.

The fall whaling begins late in September and continues till the ice makes across the sound. The whaling at this season is attended with great danger and hardships to the crews, and it is while prosecuting this fall "fishing" that the foundation to many a stubborn case of scurvy is laid.

The spring whaling begins generally in March or April, and continues along the floe edge until July, when the ice has left the sound.

The Eskimo from the southern part of the sound and along the coast from Nugumeute to Hudson's Straits report whales as found in those localities all winter; it is then quite probable that they reproduce on these coasts during the latter part of winter.

According to Eskimo tradition, these animals were once very abundant in the Cumberland waters, and their remains now bleaching on the rocky shores faithfully testify to this fact.

Of late years, whalers frequenting Cumberland Sound have been in the habit of employing natives to catch whales, supplying them with boats and all necessary equipments. It is needless to say that they are more successful than the whites in this hunt.

With their own primitive gear, the Eskimo seldom attacked a large whale; but yearlings were frequently caught. I was presented with a harpoon-head by the captain of a Peterhead whaler, that had been taken out of a very large whale caught near the Kikkerton Islands; it was imbedded in the *muscles*, so that the whale must have been struck while it was quite small in order that the harpoon should have pierced through the blubber. The weapon is, moreover, of a pattern which the Eskimo I showed it to say they never saw before; but I must confess I can see but a very slight difference in it from those in use at the present day.

The "black skin," called "muktuk" by the natives, is considered as a great delicacy; when they have not eaten of this food for some time, and then get an opportunity to indulge to their heart's content, they eat till they can hardly move.

2. **Physalis antiquorum**, Gray.

Razor-back of whalers.

I cannot positively assert that the razor-back frequents the Cumberland waters to any great extent; in fact, I somewhat doubt if it does, one reason being possibly the scarcity of fish. I have seen it north of Hudson's Straits and about Cape Mercy, as well as on the Greenland coast in Disko Bay.

3. **Megaptera longimana** Gray.

Hump-back of whalers.

I could not ascertain that this whale is common in Cumberland at any season. It frequents the southern waters, but is little troubled by the whalers. The Eskimo do not seem to have a very clear idea of it.

4. **Orca gladiator**, (Bonn.) Sund.

"Killer" of whalers.

The killer is a very common whale in the Cumberland waters. They arrive with the white whales, which they follow up the fjords. Many thrilling stories are told by the Eskimo as well as whalemen of desperate fights between this animal and other whales. The Eskimo are rather afraid of it, especially the solitary kyacker. I have known the white whales to come in close proximity to the ship and lie along her sides, when they were pursued by these voracious sea-wolves.

5. **Phocæna communis**, Brooks.

The porpoise is by no means rare, especially in the southern waters during spring and autumn. I neither saw nor heard of them in the vicinity of Annanactook.

6. **Beluga catodon**, (Linné) Gray.

White fish, or White whale, of whalers. "Killeluak," Cumberland Eskimo.

The white whales begin to work up the sound as soon as the ice begins to loosen. They become very abundant, especially in the Great Kingwah Fjord. In July many hundreds repair to the sand-beaches of this fjord, and some whalers have attempted to catch them in nets, but with indifferent success. They are sometimes driven up into shallow water at flood tide, and by the receding of the water many are left high and dry. It is a question of interest what they go into this fjord after. It is not to have their young, as they are already with the mothers; nor does it seem to be after food, as little or nothing is found in their stomachs at this time. One thing I noticed, when they go up the fjord they have a ragged appearance and dirty color, and, according to some whalemen,

are covered with parasites; but after they have been rolling and rubbing themselves on the sand-beaches for a few days they look much smoother and their color is a creamy white. The Eskimo say the males and females keep separate, but I do not think there is much truth in this statement. Some think they go on these shoals to avoid the attacks of the killers, which play sad havoc among them outside, but do not follow them into shallow water; but if this were the reason, they would take refuge in any small bay or inlet, and not choose this particular fjord year after year. I found no external parasites, but the internal ear cavity was nearly filled with worm-like animals nearly two inches long. They were firmly attached by one end, and stood erect, having somewhat the appearance of very coarse hairs. While migrating into the sound they always keep just at the floe edge, and if the ice is broken do not seem to like getting among it. In the winter of 1876–77, a couple got belated and froze up in the Kingwah tide rifts. They were harpooned by the Eskimo in January. A considerable number of these whales are caught by the Eskimo from their kyacks.

7. Monodon monoceros, Linné.

Narwhal of whalemen. "Killeluaksuak," Eskimo.

By no means abundant, but of regular occurrence in spring and autumn. These whales give the Eskimo much trouble to capture, on account of their agility. The horn is often used for the handle of the harpoon, and for various other purposes where wood is scarce.