The results will increase in geometrical progression as the number of bird-banders increases. And we may confidently expect that more and more people will actively take up the work as its possibilities become better understood.

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BIRD NOTES FROM NORTH GREENLAND.

BY LANGDON GIBSON.

UNAVOIDABLE circumstances have until now prevented the putting in shape of my notes, on birds, observed during the first Peary Expedition of 1891–92, of which I was the ornithologist. The fact is, immediately upon my return from Greenland, I married, and, putting aside all thoughts of exploration, became associated with the General Electric Company, of Boston, afterwards moving to Schenectady, N. Y. The company at this time was growing with leaps and bounds, and what little time I had at my disposal was spent in outdoor sports; and now after thirty years, having been sent south for my health, with strict injunctions to give no thought to business, what greater pleasure could come to me, living, as I am, in a little shack on a Florida Key, than to bring out my Arctic Journal, and review my bird notes[1] for publication in 'The Auk'?

On the sixth of June, 1891, we sailed from the foot of Baltic St., Brooklyn, N. Y., bound for North Greenland on the Barkentine-rigged Steam Sealer, "Kite." As we steamed through Long Island Sound, enthusiasm ran high in anticipation of the adventures which were to be ours during the ensuing year; and after the usual vicissitudes attending ice navigation, early in August, we established

[1] A report on this collection by Witmer Stone will be found in the Proceedings of the Academy of Natural Sciences of Philadelphia for 1895 pp. 502-505. Dr. Stone witheld this report for some time in the hope that I would be able to get my field notes in shape to accompany it, but was finally forced to publish it alone. A report on the collection made by Dr. Wm. E. Hughes, ornithologist of the West Greenland Expedition, which accompanied the Peary party to their headquarters in 1891, was published by Dr. Stone in the Proceedings of the Academy for 1892, pp. 145-152. Both of the collections are in the Academy Museum.

winter quarters in Greenland two and one third miles from Cape Cleveland, on the southern shore of McCormick Bay, in latitude 77 degrees and 40 minutes North, and longitude 70 degrees and 40 minutes West.

Our house was placed about thirty feet from the beach, and about ten feet above sea level; the surrounding country was not particularly fertile, but here and there among broken rocks grew a liberal sprinkling of long grass and the omnipresent Arctic Saxifrage, with its pretty little purple flower. Immediately back of our house were some brown trap rocks presenting a front two or three hundred feet high, where a pair of Northern Ravens had nested. Back of these rose the iron-stained cliffs, from which, most appropriately, our house was named, by Commander Peary, "Red Cliff House."

McCormick Bay cuts a wedge-shaped gash seventeen miles deep into the rugged coast of North Greenland, and is almost entirely bounded by cliffs of igneous rock, ranging from one thousand to eighteen hundred feet in elevation, with here and there a valley of rather steep ascent, offering access to the inland ice or "Mer de glace" above and beyond.

During the short summer, flowers bloomed in abundance along the grassy slopes at sea level, while at the head of our bay, lay a fertile valley abounding in Reindeer (Tucktoo, as the Eskimo call them), Blue Foxes, and Arctic Hares. In the center of this valley, a fresh water lake, four or five miles in length, extended back to the great shadowy cliffs, which held the "Mer de glace" in check. At the north-east corner of the bay, the Sun Glacier calved its inexhaustible supply of bergs into our waters, and in the summer months, great Cathedral-like paleocristic masses of ice bound south, drifted lazily on their way to plough furrows in the Tosca Banks; while a little farther to the westward lay the Five Glacier Valley, perhaps the most salubrious and fertile of them all, and where we did most of our hunting. The entrances to our bay were guarded on either side by two imposing capes: Cape Cleveland, a typical bastian headland at the south, while six or eight miles to the north rose Cape Robertson. Fifteen miles to the westward in Whale Sound, three rugged islands stood like sentinels, Herbert,

Northumberland, and Hakluyt; their bold outlines often appearing distorted by mirage. It was amid such surroundings that I made the following observations.

1. **Gavia stellata.** RED-THROATED LOON. Eskimo, *Kark-sough.*—A common summer resident. Last seen on September 19, 1891, and the first observed at Cape Cleveland June 8, 1892; soon became common, and by June 20, had begun mating. Almost every fresh water lake and pond, in the valleys at the head of the bay, contained a pair of these birds. They were exceedingly shy, and always preferred flying to diving, as a means of retreat, whereas when chased in the open sea, they would invariably seek safety by diving.

On July 9, I procured two fresh eggs from a nest in Tucktoo Valley. The nest was placed upon a small tussock some three feet in diameter, lying about midway between the shores of a small pond. It was a rude affair and concealed by a luxuriant growth of long rank grass, and was composed of a matted mass of wet weeds. In attempting to reach it, I was compelled to proceed with great care, owing to the fact that the bottom of the pond was exceedingly slippery, caused by a coating of ice still adhering to it. These small ponds freeze solid in the winter, and the ice melts from the top down. As might be expected, the entire congealing of the water of these ponds in winter, means that there is no food supply to be found there. The result is that parent birds make excursions to the open seas, where, after satisfying their own appetites, they bring small fish to their offspring. A young bird collected in a pond at Herbert Island had its crop well filled with small salt water fish.

Specimen taken in Five Glacier Valley July 10, 1892. Length 25.25 in. Ex. 42.75 in.

2. **Fratercula arctica arctica.** PUFFIN. Eskimo, *Kill-ing-gah.*—While at Hakluyt Island on August 18, 1891, one pair of these birds were seen inhabiting the same cliffs upon which the Brünnich's Guillemots bred in countless numbers. This was the only pair observed during our stay in North Greenland. They undoubtedly bred in the cliffs, as after each gun discharge, when thousands of Guillemots were leaving their nests in great clouds, the pair of Puffins would leave the cliff and shortly return to the same niche, which was at least one hundred feet above the sea level.

3 **Cepphus mandti.** MANDT'S GUILLEMOT. Eskimo, *Soh-gwah.*—A summer resident. Common at Cape Cleveland, where probably upwards of twenty pairs bred. The nests were generally placed about thirty or forty feet above the sea, in the very inaccessible niches of the cliff. Another small colony of these birds, was noticed in Hakluyt Island, in the low regions of cliffs adjoining the loomery of *Uria lomvia.*

4. **Uria lomvia lomvia.** BRÜNNICH'S MURRE. Eskimo, *So-gwah.*

Next to the Little Auk these birds outnumbered any other species seen by us, but as they bred in colonies they were not very widely distributed. A vast number of these birds inhabited the steep perpendicular cliffs which formed the northern boundary of Hakluyt Island. We visited this loomery on August 16, 1891, and while some distance off, observed scattering birds flying from the island to their feeding grounds, and back, each of those flying toward the island carrying in its mouth a small fish for the nestlings, that by this time, had no doubt made their appearance.

As we approached the focus of their activities, they appeared in greater numbers, and upon finally reaching the cliffs the scene was truly bewildering. A heavy surf was breaking upon the perpendicular cliffs and above the roar of the breakers was heard the discordant cries of thousands upon thousands of these birds that left the cliffs in mighty whirring clouds at each gun report.

We were compelled to exercise extreme caution in picking up dead birds, keeping our whale-boat stern on shore, and when a dead bird was picked up, vigorous strokes were generally required to prevent piling up on the rocks.

They were first seen in open water at Cape Cleveland, June 6, 1892; and a female taken here on June 18 had a perfectly formed egg in her body, ready to deposit. Their flesh was most palatable, and not in the least fishy, as might have been expected.

5. **Alle alle.** DOVEKIE. Eskimo, *Ak-pal-i-ark-so-wah.*—This little bird is a staple stock commodity in nature's great department store and plays an important part in the domestic economy of the North Greenland Eskimo. It is a summer resident, breeding in immense colonies, and wherever a convenient talus of broken rock presents itself, there you will look for their nests. The largest loomery near Red Cliff House, was in Robertson Bay, next to, and north of McCormick Bay, while other large loomeries exist on the southern shores of Northumberland and Hakluyt Islands. They were first seen in the open water at Cape Cleveland June, 8, 1892. Eggs were brought to me by natives from Robertson Bay on June 30, but incubation was already so far advanced as to make it difficult to preserve them.

The Little Auk, like the Snow Bunting, seeks shelter for its nests beneath rocks. They lay but one pale blue egg about the size and shape of a Quail's egg.

In the morning hours during breeding season, countless thousands of these birds were to be seen, in flocks ranging from fifty to five hundred, flying to and from their nesting sites, to the feeding grounds or open water, which at that time lay well out in Whale Sound, where a small shrimp—their principal food—was most plentiful. The Little Auk, due to its habit of depositing its egg early in summer, before the ice has passed out of the bays, is compelled to travel long distances to open water for its

food; and in consequence nature has provided small pouches or receptacles in the bird's throat, which they fill with from four to six shrimp, after supplying their own requirements. These are carried back to the hungry nestlings. Here we have a possible explanation for only one egg to the nest as the question of food supply for a larger family would become a serious problem.

The Little Auk, although a strong and swift flier, accomplishes its long flights by an apparently heavy expenditure of energy. Their wings are short and remarkably small in proportion to the bulk of the bird; and they drive themselves through the air at great speed by rapid vibrations of the wing, making a high pitched, whirring noise, which is so multiplied in a large flock, as to make it possible to hear them, especially when they are flying high before, or at least quite as soon as, they become visible to the eye. They fly in flocks at different levels, from ten to one thousand feet, and occasionally a flock drops several hundred feet to sea level, with a tremendous rush of wings and again occasionally dives, from elevations of one hundred feet, or less, into the water.

I have seen the surface of McCormick Bay, for miles in extent, covered with a pinkish scum, the droppings of these birds. When the flight was on, they passed in such numbers over our house, that we found it necessary to take in the bedding that had been put outside to air. Some of the naturalists in returning on the "Kite," preserved with great care, in small bottles, specimens of snow discoloured by the droppings of the Little Auk, believing at that time that they were securing samples of the "protococus nivalis"—the name assigned to the microscopical plant which, if it exists at all, is at least not fairly entitled to the credit for all of the red snow found within the Arctic Circle.

During the breeding season, the Little Auk is netted in great numbers by the Eskimo at their nesting sites. The skin is removed by turning it inside out through the neck, by means of stretching; an operation requiring much skill, and at which the Arctic Highlanders are adepts. The bodies are eagerly devoured by the natives, while the skins, after being properly dried, and afterwards chewed, or rather mouthed into pliability by the women, are made into garments or shirts, which are worn with feathers next the body under the seal skin "netcher." Approximately two hundred and fifty such garments are needed each year to supply the Arctic Highlanders and as it requires at least fifty skins to make a shirt, it will be seen that twelve thousand five hundred birds are used annually for this purpose alone, while no doubt many times this number are taken each year for food.

The Blue Fox also levies toll, for on the highest part of Hakluyt Island on August 18, 1891, we found a cache of twenty or more Little Auks, the winter's supply of a provident fox.

In spite of the heavy demands made upon this chunky little bird, I

am forced to the conclusion, judging from personal observation, that the total number destroyed each year forms but a negligible percentage of the vast horde of this bird which literally swarms in north Greenland.

6. **Stercorarius parasiticus.** PARASITIC JAEGER.—Eskimo, *Ish-in-gwah.* This trim highwayman was common in our bay, but I could obtain no satisfactory statements from the Eskimo as to its nesting habits.

One day a female Eider appeared flying low in great distress, closely pursued by a Jaeger. The duck was evidently fatigued, for when it got near me it began tactics of zigzagging. The Jaeger did not actually strike at the duck, but kept aggravatingly close. The duck finally alighted, the Jaeger doing likewise within a few feet, and after considerable bobbing up and down the Eider succeeded in regurgitating; after which it waddled away a few feet, shook itself, gave its tail a wag or two, and with a quack took to wing again, while the unruffled Jaeger, apparently fully satisfied with the results obtained, walked over to the pile of semi-digested food, and proceeded to dine.

First observed at Red Cliff House June 12, 1892. The following measurements were obtained:

Red Cliff House, July 13, 1892. Male. L. 18.25 in. Ex. 41 in.
Red Cliff House, July 13, 1892. (undetermined) L. 19.50 in. Ex. 41.37 in.
Tucktoo Valley, July 23, 1892 Male L. 20.50 in. Ex. 43.37 in. Tail 8.12 in.

7. **Stercorarius longicaudus.** LONG-TAILED JAEGER. Eskimo, same as Parasitic Jaeger.—Birds of this species were taken as follows:

Tucktoo Valley, July 15, 1892. Male, L. 21 in. Ex. 36.50 in. Tail 11 in.
Tuckatoo Valley July 22, 1892. Male, L. 22.25 in. Ex. 38 in. Tail 12 in.

8. **Pagophila alba.** IVORY GULL. Eskimo, *Noy-erwe-Ah-ho.*—Not common at Red Cliff, preferring the more open waters of Inglefield Gulf. A specimen was brought in by one of our natives, having been snared by means of a seal skin noose ingeniously placed near the carcass of a seal which had been butchered on the sea ice about six miles off shore.

In July, 1891, while on a voyage north in Melville Bay, a Polar Bear was observed approaching the ship. The bear was being badgered by three of these birds, which kept making successive swoops at him, and so closely did they approach that the bear would snap at them quite dog like and taking a few jumps in their direction, with grace and surprising agility, would rear to his full height, and standing erect, cuff at his tormentors with his mighty fore arm—a blow that the gulls were careful to avoid.

An immature male and female were taken in Melville Bay by Dr. Wm. E. Hughes on July 5 and 6, their wings and breasts showing blackish markings.

A specimen was taken in McCormick Bay on July 17, 1892.

9. **Rissa tridactyla tridactyla.** KITTIWAKE. Eskimo, *Tata-rah.*—A summer resident. A few pairs bred in the bird cliffs at Hakluyt Island. Their nests were bulky affairs placed well above the sea, and seemed from the best views we could obtain, to be composed mostly of dry sea weed and mosses. Like *Pagophila alba* these birds also seemed to prefer the open sea for their hunting. They appeared at Red Cliff House July 24, and were plentiful until our departure for home about the middle of August, 1892.

10. **Larus hyperboreus.** GLAUCOUS GULL. Eskimo, *Noy-ah.*—Along the southern shores of Northumberland and Herbert Islands, five hundred feet or more above the sea level, these birds bred in large numbers. In August, 1891, I cruised along close to the shores of these islands in an open whale boat and found the beach lined for miles with the young birds in gray plumage. A Blue Fox, stopping occasionally to bark at us, was trying its best to stalk them. After repeated failures, which always ended by the particular bird selected flying away to safety and with it all the other birds in the immediate vicinity, the fox lost self control and would sit on its haunches with head thrown back and cry as though its heart would break.

At the head of Five Glacier Valley, on Friday, August 19, 1892, while hunting for a lost companion, — who was never found, I witnessed a remarkable performance. I quote from my journal:

"I passed several lakes and came to the end of the valley and what an impressive sight. It ended abruptly against the perpendicular wall of a great glacier. I saw no signs of the balance of the party who were hunting in my direction, via Robertson Bay, and decided to wait for them at this point. It was beginning to snow, and above me I could hear the harsh cries of the Little Auks, as they returned in flocks from the feeding grounds, and occasionally the hollow scream of the Glaucous Gull. Every now and then the old glacier would send off a report like muffled thunder, as some new crack appeared on its mighty surface. Suddenly a young Little Auk, (its first flight no doubt) appeared directly above us, its body almost perpendicular, wings beating the air vigorously. Its flight was feeble and no match for a giant Glaucous Gull coming behind, which seized the Little Auk in its mouth and gulped it down whole without altering its course."

When returning from the inland ice on June 2 and still out of sight of land, when almost abreast of the Humboldt Glacier, at an elevation of perhaps three thousand feet, I observed a flock of eight of these Gulls flying far above our heads, travelling in a northerly direction. On June 10 they had appeared in large numbers. The stomachs of a number of them that we examined, contained clam shells and whelk eggs. The young ones, which were much less shy than the parents, were seen flying about during the early part of August. Last seen October 13, 1891.

Scrawny young birds not quite ready to fly are killed in considerable numbers by the Eskimo, who devour them raw and undrawn with great relish.

Specimens taken as follows:

Red Cliff House, Male, L. 25.25 in. Ex. 59.75 in.

Tucktoo Valley, June 1892, Male, L. 29.50 in., Ex. 65.25 in.

11. **Sterna paradisaea.** ARCTIC TERN. Eskimo, *Imer-ko-talia.*—Probably bred on shores of our bay; first seen in Five Glacier Valley, June 16, 1892, and continued common throughout the summer. This was the only bird observed that could put the Jaegers to flight. On June 18, in this same valley I saw a Jaeger chasing one of these Terns. The latter was quickly joined by five of its companions with the result that the tables were quickly turned, and the Jaeger was glad to call off the hunt.

Specimen taken as follows:

Five Glacier Valley, August 12, 1892. Male.

12. **Fulmarus glacialis glacialis.** FULMAR. Eskimo, *Karle-out-luk.* Whalers, *Nann, Molly.*—Seldom strayed into McCormick Bay. One observed in August 1891, near Hakluyt Island, and again a single bird seen on July 28, a few miles from Cape Cleveland. The natives knew nothing of their nesting habits. On the voyage north they followed the ship, much after the fashion of gulls, until we were well into the ice of Melville Bay.

13. **Clangula hyemalis.** OLD SQUAW. Eskimo, *Argly.*—Bred in numbers at the head of McCormick Bay. Although, in spite of persistent search, I was unable to locate a single nest, I found in the body of a female killed at the head of our bay on June 22, 1892, a perfectly formed egg with a hard shell. These birds first appeared in the open waters at Cape Cleveland on June 6, 1892. Their principal food consists of shrimps and small mollusks.

We found the flesh of these birds palatable, and entirely free from any flavour of fish, quite different from the birds taken in Long Island Sound. No doubt this absence of fish flavour was due to change of diet.

Specimens taken as follows:

Five Glacier Valley, June 16, 1892, Male L. 22.50 in. Ex. 30 in.

Tucktoo Valley, June 21, 1892 Male, L. 21.62 in. Ex. 28.50 in.

Tucktoo Valley, June 22, 1892, Female, L. 15.25 in. Ex. 26.50 in.

14. **Histrionicus histrionicus.** HARLEQUIN DUCK.—A flock of about twenty males seen in Robertson Bay early in August, 1892. They were exceedingly shy, and on approach, took to wing. Quite likely the Harlequins separate by sexes prior to migration as do the Eiders. The presence of these birds in Robertson Bay, gives credence to the belief that they breed as far North as 78 degrees North Latitude.

Camptorhynchus labradorius. LABRADOR DUCK. Eskimo, unknown.—Hoping to add to the world's knowledge of this species, I went north armed with pictures of this duck, given me by my very dear friend, the

late Wm. Dutcher. The information obtained by me was negative, and here follows my report to Mr. Dutcher, which was printed in the 'Auk,' Vol. XI, No. 1, January, 1894.

Friday, June 12, 1891, we reached Sidney, Cape Breton, but made no inquiries, as we saw no one who would be likely to know anything about the species.

Monday, June 15, while passing through the Straits of Belle Isle we stopped long enough to catch some codfish. Here we were boarded by some French Canadians. I showed each one of them the plates of the Labrador; they had never seen such birds.

Saturday, June, 27, we reached the settlement of Godhavn, Disco Island, Greenland. Here careful inquiries were made among perhaps a dozen hunters of the tribe. They also, through an interpreter (a Dane), said they never had seen the bird.

Leaving Disco we proceeded by slow stages, owing to heavy ice in Melville Bay, to our final camping grounds on McCormick Bay. During the ensuing winter every male Eskimo in the tribe came to visit us, and so, from time to time, I questioned nearly every one of them on this subject, showing each my picture of the duck. On first seeing the picture, with few exceptions, each native exclaimed that they had "Tarkkooed-emis-u-ah," meaning by this that they had "seen many." They gave the duck the name "Argly," and told me in the spring I could get many, also their eggs, at the head of our own bay. I was disappointed, when spring came, to have my Labrador Duck materialize in the form of the Long-tailed Duck, which, sure enough, was very plentiful in the head of the bay.

In August, 1892—the latter part I believe—on our way home we touched at Godthaab, the largest town in Greenland. Here we were entertained by Herr Anderson, the Danish inspector of South Greenland, an accomplished naturalist, and at his house I had the pleasure of inspecting one of the finest collections of arctic birds I have ever seen. I showed him my little pamphlet on the Labrador Duck, and also presented it to him on my departure. He told me that his collection represented twenty years' work, and all the hunters in South Greenland (some five hundred men), had instructions to bring to him any strange birds that they might get. In this way, he added to his collection from time to time many rare birds and eggs. In all this time he claims to have heard nothing of the Labrador Duck, which I consider is substantial proof that within the last twenty years the Labrador Duck has not visited Greenland. From Godthaab we came directly home to Philadelphia, and this ended my ineffectual attempts at learning something more definite regarding this species.

15. **Somateria mollissima borealis.** NORTHERN EIDER. Eskimo, *Metek.*—Found breeding in immense numbers on the Duck Islands, three low lying islands in Melville Bay where the "Kite" touched on the voyage north. Probably, upwards of ten thousand pairs bred in this

sanctuary, free from the ravages of the Blue Fox. The males were still with the females and usually stood sentinel near the nest, while the female covered the eggs.

Egg laying must begin at about the same time, in these large nesting communities, for of the five hundred nests found all eggs examined were in a uniform advanced state of incubation and about ready to hatch, while not a single young bird was to be seen on, or in, the waters surrounding the island. The majority of nests found contained four eggs, other nests had only three, and but three of the nests held six. Two undersized, infertile eggs were collected.

The nests were exceedingly dirty, and although well supplied with down, could almost be picked up "enbloc." Eider down no doubt has to undergo many cleansings before it becomes fit for the market.

The Eiders were summer residents at Red Cliff and bred in our bay but in no such quantities as on the Duck Islands.

First appeared at Cape Cleveland on June 6, 1892, where a set of five fresh eggs was taken on June 20, one of the eggs having a soft shell. By July 26, when hatching was completed, males began gathering in large flocks, and by August 5, had disappeared, leaving the females to guide the young ones south.

Cape Cleveland, June 27, 1892, Male L. 22.50 in. Ex. 39 in.

Red Cliff House, July 3, 1992, Female L. 21 in. Ex. 35.25 in.

16. **Somateria spectabilis.** KING EIDER. Eskimo, *Metek-we-aho.*—The elegance and good taste displayed, in fact lavished, on the male of this species fascinated me.

On June 21, 1892, a female was taken in Tucktoo Valley with ovaries much enlarged, and on July 9 I collected in this same valley two sets of fresh eggs, three and four, respectively. The nests, well lined with down, were small and well concealed in tussocks of grass, lying midway between the shores, or small ponds well out of the way of any predatory fox and at each nest the male stood watch while the female kept the eggs warm.

The fatness of these birds was remarkable; their intestines were embedded in a solid lump of fat from which dripped, upon being squeezed in the hands, a clear, colourless and odorless oil.

The following measurements were obtained:

Tucktoo Valley, June 21, Male	L. 23 in.	Ex. 36.37 in.
Tucktoo Valley, June 21, Female	L. 21 in.	Ex. 37.37 in.
Tucktoo Valley, June 22, Male	L. 22.25 in.	Ex. 38 in.
Tucktoo Valley, June 23, Male	L. 22.50 in.	Ex. 38 in.
Tucktoo Valley, June 22, Male	L. 22.25 in.	Ex. 37.50 in.
Tucktoo Valley, July 15, Female	L. 21 in.	Ex. 37 in.

17. **Chen hyperboreus nivalis.** GREATER SNOW GOOSE. Eskimo, *Kang-ou.*—It was my good fortune to record, for the first time, the breeding of this species in North Greenland.

A family was found in Five Glacier Valley on July 11, 1892. The male disputed my advance with head lowered and much hissing, quite after the fashion of the barn-yard goose, and before I was aware of the existence of goslings I shot the female. Then I took two of the goslings, that were about two weeks old, leaving the gander to rear the remaining six.

The birds were on the nest at the time of capture. The nest itself was well lined with grasses, and placed near a pile of broken stone, beside a marshy spot some acres in extent and about one hundred yards from a shallow pond.

On August 21, when again passing through the valley, I was happy to see the male proudly marching at the head of his family of six at least ten miles from the nest. As he had a broken wing, and his family then had every indication of being able to shift for themselves, I reluctantly, and in the interest of science, dispatched him.

The following measurements were taken:

Five Glacier Valley, July 11, Female, L. 30.50 in. Ex. 59.50 in.

Five Glacier Valley, Aug. 21, Male, L. 28 in. Ex. 50.50 in.

18. **Branta bernicla glaucogastra.** BRANT?—On June 6, a flock presumably of these birds, was observed flying high in a northerly direction.

19. **Canutus canutus.** KNOT. Eskimo, *Ting-ma-tear.*—First seen in Tucktoo Valley, June 11, 1892, appearing in small flocks of from ten to twenty birds. A week later they were to be seen in pairs and it was then I searched faithfully for a nest, without success.

On July 11, however, while walking along a sandy stretch of ground, sparsely covered with vegetation and not over one hundred yards from the shore of McCormick Bay, in Tucktoo Valley, I flushed an anxious female. Half an hour's search was finally rewarded by finding two young birds in the down. They were closely huddled together, facing in opposite directions, and made no attempt to escape. The birds were so small, that, even though there was no sign of a nest, I looked carefully but unsuccessfully for traces of egg shells.

Measurements taken as follows:

Tucktoo Valley, June 22, Male, L. 10 in. Ex. 19.50 in.

Tucktoo Valley, June 22, Male, L. 10.62 in. Ex. 21 in.

Tucktoo Valley, July, 10, Immature, L. 7.25 in. Ex. 13 in.

Tucktoo Valley, July 11, Female, L. 10 in. Ex. 19 in.

20. **Arquatella maritima maritima.** PURPLE SANDPIPER.—Although none of these birds were seen in our neighborhood Dr. Wm. E. Hughes collected on the Duck Islands, in Melville Bay, on July 22, 1891, a nest containing two fresh eggs. The female was also taken.

21. **Crocethia alba.** SANDERLING. Eskimo, *Ting-ma-tear*—A summer resident, common, and breeding in considerable numbers, bothin the Five Glacier and Tucktoo Valleys.

On July 11, I caught two very young birds in down. In spite of their

tender age, they were strong runners and while holding them the parent birds, trailing one wing on the ground, ran hither and thither within five or six feet of me, thus making the identification sure. The fact of finding but two young ones, and of finding but two young Knots, leads me to suspect that these birds lay but two eggs. Their natural enemies, however, such as the Blue Fox, the Parasitic Jaeger, and Glaucous Gull, which abound in these valleys, might readily account for the disappearance of a stray chick or two.

In the stomach of the male taken in Five Glacier Valley I found six large grubs each about one inch long.

Measurements taken as follows:

Five Glacier Valley, June 14, Male L. 7.50 in. Ex. 15 in.

Five Glacier Valley, Aug. 12, Female L. 7.87 in. Ex. 14.75 in.

Five Glacier Valley Aug. 12, Male L. 7.50 in. Ex. 14 in.

22. **Charadrius hiaticula.** RINGED PLOVER. Eskimo, *Ting-matear.*—In the late fall of 1891, at the head of our bay, I rescued one of these birds that had become imprisoned in a thin skim of ice. Its eyes were closed, and it seemed fully resigned to the fate that awaited it, had I not happened along.

First made its appearance at the head of our bay June 5, 1892, and probably bred there.

Measurements taken as follows:

Five Glacier Valley, June 16, Male L. 7 in. Ex. 15.25 in.

Five Glacier Valley, June 22, Male L. 7.50 in. Ex. 15.25 in.

23. **Arenaria interpres interpres.** TURNSTONE. Eskimo, *Ting-matear.*—These birds were first seen in Tucktoo Valley June 21, and again on July 15. Although no nests were found, they undoubtedly bred in our neighborhood. By the middle of August they were assembling in large flocks in company with the Sanderling and were last seen August 18.

Stomachs examined contained insects' legs.

The following measurements were taken:

Tucktoo Valley, June 21, Male L. 9.25 in. Ex. 18.37 in.

Tucktoo Valley, July 15, Female L. 9.50 in. Ex. 18.75 in.

Five Glacier Valley, August. 13, Female L. 8.87 in. Ex. 18.87 in.

24. **Lagopus rupestris reinhardti.** REINHARDT'S PTARMIGAN —A female taken on the shores of Inglefield Gulf near Cape Cleveland on April 21, 1892, L. 14.25 in. Ex. 23.25 in.

A male secured in Five Glacier Valley on April 23, L. 15.25 in. Ex. 26.62 in.

These birds were taken by Commander Peary with rifle ball, and the skins were too much mutilated for preserving.

25. **Falco islandus.** WHITE GYRFALCON. Eskimo, *Kerk-ker-sher-we-arho.*—From the deck of the "Kite" while she was at anchor in the harbor

of Godhaven, Disco Island, on June, 28 1891, I witnessed an attack on a flock of Domestic Pigeons by one of these birds. The pigeons, panic stricken, took refuge in houses or in fact anywhere they could secure shelter, while the falcon with lightning speed scoured the village.

A pair of these birds were seen at Cape Cleveland repeatedly and a female shot at Red Cliff House on September 24, 1891, measured L. 23 in. Ex. 51.75 in.

26. **Nyctea nyctea.** SNOWY OWL. Eskimo, *Opik-So-ak.*—The only individual seen was in Tucktoo Valley on September 19, 1891. At a distance it appeared snowy white, sitting sphinx-like on the top of a small fragment of a stranded berg. At first I thought I was looking at a strange bit of ice sculpture. The bird would not permit of near approach and flew into the valley, always alighting on a rock. After a "wild goose chase" of upwards of a mile, I had only the satisfaction of seeing it disappear in the distance.

The Eskimo suffix, "so-ak," meaning big, suggests the possibility that yet another owl is known to them—probably the Short-eared Owl. (See Hagerup's 'Birds of Greenland,' Little Brown & Co. 1891.)

27. **Corvus corax principalis.** NORTHERN RAVEN. Eskimo, *Tood-la-wah.*—A pair of these birds had a nest in an inaccessible niche, in the face of the brown trap rocky bluff which formed the northern boundary of the Glacier, at the head of McCormick Bay. The nest was probably five hundred feet above the sea, and little could be seen of it from our view point. I am fully satisfied that these birds do not all migrate in the fall because, after the sun had disappeared for the winter, we heard their hoarse croaking and five days before the sun reappeared, February 7, 1892, I saw in the dim twilight on the beach near our house a Raven lazily flopping along.

The old birds were extremely shy and difficult to approach, while it was quite the contrary with the young—they were trusting and inquisitive. At our boat camp in August, 1891, on Hakluyt Island, some young birds alighting on the flat shelving rocks on which we were cooking our evening meal, literally walked into camp, and at distances of no more than fifteen feet, ate the entrails of Guillemots that we tossed to them. We found them playful and at the expense of "Jack," a Newfoundland dog, amused themselves by leading him a chase. The birds would allow "Jack" to approach within a few feet and then with a flop or a hop, would keep just out of his reach.

I noticed the same peculiarity of flight in the Northern Raven, that I had previously observed in the Raven inhabiting the Colorado Cañon in Arizona. The birds, when flying at considerable elevation and desiring to descend, would turn sidewise in the air, and drop in that position—frequently one hundred feet or more—before lighting. In the fall, I saw them in flocks numbering as high as thirty or forty birds.

The Ravens are omnivorous feeders. They are fond of such sea foods as they can gather, although they will eat seeds and berries when they can get them. One stomach examined was proof conclusive that they will not hesitate to take a Little Auk fledgling when they need it and they will attack the carcass of a Reindeer if left unprotected and, in a remarkably short time, inflict such damage to the skin, as to render it unfit for use. They will attack the carcass at the vent, but the real "piece de resistance" is the mangled, half digested salad with which the paunch is generally well filled.

In the summer time the Raven's glossy black plumage stands conspicuously opposed to the general theory of protective coloration, but, who will gainsay the complete appropriateness of a black Raven seeking the seclusion of the long arctic night?

28. **Acanthis hornemanni hornemanni.** GREENLAND REDPOLL?—Identification uncertain. A brood of young birds seen in Five Glacier Valley on August 12, 1892. Although able to fly, they were accompanied by parent birds, and I did not have the heart to shoot.

29. **Plectrophenax nivalis nivalis.** SNOW BUNTING. Eskimo, *Koop-a-new.*—By far the most common of the land birds. First heard at Red Cliff House May 1, 1892, and how that cheerful, flute-like song cheered us. It heralded Spring, and we all rushed out to hear it.

The parent birds conceal the nests for protection under shelving rocks and as they flush easily, the nests are readily found. All nests taken in South Greenland on our way north and at our headquarters in 1891, were built of grass neatly lined with Ptarmigan feathers; whereas, the nests taken within half a mile of Red Cliff House in the summer of 1892, were invariably lined with Reindeer hair shed from our clothing; showing that some birds do not always use what they prefer for building material but, from necessity, use what they can get.

When an Eskimo finds a nest he selects and plucks a long hair from his head and with dexterous fingers fashions a running noose, which is placed over the entrance to the nest, the other end fastened to some small growing plant or even a blade of grass. This fiendish device seldom fails to accomplish its cruel purpose, and shortly after will be found, fluttering helplessly, the parent bird. When the Eskimo returns, true to his brutal nature, he ends the struggle by biting off the bird's head and stripping the feathers from the breast, eats with a relish the little tender body that still runs a temperature.

Several nests were taken between June 19 and July 22, 1892; five and six eggs being an average clutch—one nest contained seven eggs. Last seen in September, 1891.

Schenectady, N. Y.