

was a large one, and the birds must have formed a nesting of considerable extent in some region so remote that no news of its presence reached the ears of the vigilant netters. Thus it is probable that enough Pigeons are left to re-stock the West, provided that laws, sufficiently stringent to give them fair protection, be at once enacted. The present laws of Michigan and Wisconsin are simply worse than useless, for, while they prohibit disturbing the birds *within* the nesting, they allow unlimited netting only a few miles beyond its outskirts *during the entire breeding season*. The theory is that the birds are so infinitely numerous that their ranks are not seriously thinned by catching a few million of breeding birds in a summer, and that the only danger to be guarded against is that of frightening them away by the use of guns or nets in the woods where their nests are placed. The absurdity of such reasoning is self-evident but, singularly enough, the netters, many of whom struck me as intelligent and honest men, seem really to believe in it. As they have more or less local influence, and, in addition, the powerful backing of the large game dealers in the cities, it is not likely that any really effectual laws can be passed until the last of our Passenger Pigeons are preparing to follow the Great Auk and the American Bison.

SOME ACCOUNT OF THE BIRDS OF SOUTHERN GREENLAND, FROM THE MSS. OF A. HAGERUP.

EDITED BY MONTAGUE CHAMBERLAIN.

(Concluded from p. 218.)

Halæëtus albicilla. GRAY SEA EAGLE.—A common resident; breeds. It is most numerous in the vicinity of Ivigtut in winter. On November 24, 1886, some ten or twelve examples were seen, and on December 18, fourteen were counted. It is probable that some migrate here from farther north, and when the weather is bad by the open sea they retire up the fjord, for on both the occasions just noted, their appearance had been preceded by heavy storms of wind accompanied by snow.

This Eagle hunts the Eider much the same as the Greenlander does. The Duck is chased and forced to dive so constantly, and to stay under water so long, that it becomes exhausted, and on remaining on the surface to recover breath and to rest, is captured. Sometimes the Eider will take to the air and then escape, for the Eagle cannot outfly it.

This Eagle also sometimes preys on the Murres.

On May 15 a clutch of eggs was obtained that had been taken from the nest about two weeks previously; they had been sat upon about one week. On June 10 another clutch was secured that had been taken about three weeks, and these were almost wholly incubated. It is probable that nests with fresh eggs can be found in April.

Falco islandus. WHITE GYRFALCON.

Falco rusticolus. GRAY GYRFALCON.—[From skins that have been sent to me by Mr. Hagerup, and which have been examined with Mr. William Brewster's assistance, it is evident that it is to the above species the birds Mr. Hagerup writes of must be referred.—M. C.]

Gyrfalcons reside during the entire year in southern Greenland and breed there, but are met with near the settlement more frequently in winter than in summer; in the latter season they are quite rare.

On June 3, 1886, Mr. Hagerup shot a female in gray plumage with a naked breeding-spot on the breast. In its stomach were feathers and claws of Ptarmigan. The length of this bird was 23 inches, Danish. On August 11 a dark-colored specimen was obtained which measured 19½ inches. One or two more in dark plumage were seen during the summer. In winter many came from the north, the first, in 1886, appearing on November 24.

In his notes Mr. Hagerup writes:—In November five were seen—all white; in December fifteen or twenty—only one of these was dark-colored; in January twelve—two were dark; in February none; in March two—white; in April four—two dark." From these and other observations Mr. Hagerup has concluded that the white form (*F. islandus*) predominates in winter and the gray form (*F. rusticolus*) in summer.

These Falcons, like the Eagle, are most frequently seen along the upper portion of the fjord after gales or snowstorms.

Mr. Hagerup writes that his Pigeons are very much afraid of these Falcons and on the approach of their dreaded enemy seek the nearest hiding place, but when there is no opportunity to hide they escape by flight, mounting into the air to a great height. It is a grand sight to watch a fierce Falcon chasing a Pigeon through mid-air. As yet, none of the Pigeons have been caught; they seem to understand just how to avoid the Falcon, but it is reported that sometimes young birds have been thus preyed upon.

Those who have watched both the Gyrfalcon and the Peregrine while chasing Pigeons consider that the latter has much the swifter flight and is the more dexterous. During these chases the Falcons often come within gun-shot, but the flight is so swift it is difficult to hit them.

At times the Falcon is followed by a Raven or two, and they swoop after each other, but this seems to be a mere matter of play.

Mr. Hagerup once saw a large Gyrfalcon in very dark plumage on the

ice eating a sea-bird. The Falcon flew to the land with his prey and soon a white-plumaged bird of this same genus came down from the mountain and appeared desirous to join in the feast, but kept at a respectful distance. When the dark bird was approached by the gunner it flew off, carrying its unfinished meal, and the white bird followed steadily on—moving as the location of the feast was moved.

The cry of these Falcons, which is often heard when two or more are in company, is reported by Mr. Hagerup as “a not loud, quivering, lengthened tune, much resembling that of *Falco tinnunculus*.”

In 1886 a nest containing three eggs was reached by a Greenlander, on a cliff near Frederickshaab. Mr. Hagerup was informed by Director Möller that this nest was placed on a perpendicular cliff, but a snow drift sloping advantageously enabled the man to reach it.

Falco peregrinus anatum. DUCK HAWK.—Mr. Hagerup has examined several skins that were said to have been taken in the vicinity of Ivigtut. Mr. Kock of Frederickshaab reports taking eleven Gyrfalcons and three Duck Hawks during the winter of 1886–87.

The only one of this species seen near Ivigtut was discovered in the act of chasing the tame Pigeons, and though all the Pigeons escaped from its claws, this Falcon proved more skilful in the art of flying and swifter on the wing than any of the Gyrfalcons that had attempted the same contest,

Nyctea nyctea. SNOWY OWL.—A rare winter visitor. In January, 1886, a nearly white specimen was obtained. He was fierce when wounded and turned to attack the gunner. None are known to have been taken in the vicinity of Ivigtut since that time.

Corvus corax principalis. AMERICAN RAVEN.—This species is a common resident. It is seen and heard daily, and not being very shy is often shot.

The greater part of its food is obtained on the fjord. When an Eagle sits upon the ice it is often attended by one or more Ravens, and these frequently give the Eagle considerable trouble while eating, as the Ravens are not easily repulsed. Occasionally a Raven is captured in a fox trap baited with dried fish or Ptarmigan, but these birds are too sly and shrewd to be caught thus very often, for even if the iron be well hidden in the snow they will rarely touch the bait, be it ever so tempting.

In July and August the old and young of a family roam together—the old birds giving warning of approaching danger; for if at that age the parents do not guard the young, these are easily captured, appearing stupid or reckless.

In flight and in general habits the Greenland bird differs considerably from the Raven that occurs in Denmark.

Mr. Hagerup has taken two nests of the present species. Both were on accessible cliffs—one near to the shore, the other at some sixty feet from sea level.

Acanthis —————? REDPOLL.—[Just what forms of this genus occur in the section of Greenland under present consideration, I have not the material at hand to decide. At the time Mr. Hagerup made the notes on which this paper is based he considered that all the examples he had me

with should be referred to *linaria*. It is, however, but fair to him to state that at that time he had not seen the latest determinations upon this much involved group.—M. C.]

Redpolls are abundant in summer, and breed in all suitable localities. In the autumn of 1886 the majority had left the vicinity of Ivigtut by September 24, but a few were seen much later. On October 26 three or four were observed, and though none appeared in November, on the fifth day of December one was about the village, and three days later some five or six were discovered on the northern side of the fjord, in some bushes close down by the shore, and were seen again in the same place on the following day. Mr. Hagerup considers that in appearance and voice these birds were exactly the same as *linaria*, and he has no reason to think they should be referred to *hornemannii*, which latter Holböll says remains in Greenland all the year, though restricted to the high land.

The first spring arrivals in 1887 were observed on April 24, and the next comers were noted six days later; the latter were some single birds and one party of three. These were flying at an elevation of about one hundred feet, against a W. N. W. wind, and appeared to have come over the high land—from the eastward. On May 6 several appeared in the valley near Ivigtut, and by the 10th of the month these birds were quite common. The flock remained about the village several weeks before they began to build.

On June 21 a nest was found which contained young about ready for their maiden effort on the wing. On the same day another nest was found with one egg in it, and five days later five eggs more had been added, when five were then taken. The parent continued to sit upon the single egg, but when this was taken the nest was abandoned. This bird was remarkably tame, allowing an intruder to approach within arm's length, and then getting out of reach slowly and silently.

These nests, as well as others that were examined, were situated amid the willow thickets, near to running water, and were placed on the lower branches of the bushes, very close to the ground, or in a tuft of grass. They were composed exteriorly of straws,* and lined with whitish vegetable wool and a few white feathers from the Ptarmigan. They were very thick and warm.

During the latter part of June, when the willows are just in leaf, the majority of the young birds are on the wing, and they congregate near the houses and especially on the refuse heaps of the brewery, where they are easily captured. Some eight or ten were taken alive there on the first day of July, 1887. Of these Mr. Hagerup secured an adult male and two young birds, and placed them in a cage by an open window. In a few days an adult female and three young were enticed into the chamber by the prisoners, and were secured. After fourteen days confinement some of the young were given their liberty, but in a few hours they all returned. The principal food given the captives was goats softened in water.

Of the five young birds, four were dressed in brownish gray, the backs

* Probably dried grass is meant.—M. C.

speckled with the darker tint. These with the adult female moulted in July. The fifth young bird was supposed to be a male of the previous year's hatching, differing from the others by being larger and lighter in color. It also had a distinct yellow band on the wings, and the forehead was faintly tinged with yellow; the throat was black. On August 13 this bird had not yet moulted, or else had finished before its capture. In their new dress three of the young wore metallic yellow on the crown, while the crown of the fourth was of a dark reddish tint. All the four became more like the fifth—the immature bird,—their crowns stronger colored, but the black on the throat less decided. The adult female had not at that date finished moulting. She lost the red crown patch—excepting a very small portion, and this was being replaced by yellow, similar to the young. The adult male was moulting and had lost some of his yellow crown. In this bird—the adult male—the upper mandible projects between one and two millimeters, and ends with a hook. The upper mandible is blackish and the under mandible yellow.

During the breeding season these birds are gregarious, and when one utters a note of warning or alarm a dozen or more of its fellows immediately surround it and join in the alarm.

They are very noisy and restless, constantly on the alert, and continually piping or singing, caring little for an intruder, and boldly approaching within a few feet of him. Mr. Hagerup writes that he does not agree with Holböll's opinion that these birds are very wild during the breeding season; they are merely restless, as they are at all times. Mr. Hagerup also differs from Holböll's statement that the males lose the red from the breast and back during the summer, and reports having seen numerous red-breasted birds through the whole summer.

One that was shot on July 2 was highly colored with red. This specimen was not as large as the imprisoned male. About fifteen per cent of the adult (red crowned) birds have red on the breast and rump during the summer months. This red color, Mr. Hagerup considers, may possibly not appear before the bird is several years of age, or may, perhaps, indicate a different race. These questions he will endeavor to determine by further investigations.

The song of the Redpoll, which is uttered both when on the wing and while perching, is a rather mediocre performance, and becomes very monotonous.

Its food in summer consists partly of the fruit and leaf buds of the willow, and partly of insects. The œsophagus of a male shot on July 2 was filled to the throat with small flies.

These birds are not found at a greater height above sea level than 300 to 400 feet.

Plectrophenax nivalis. SNOWFLAKE.—Holböll states that this species remains in Greenland during the winter, though restricted chiefly in that season to the highlands, seldom visiting the lowlands. It does not occur in the vicinity of Ivigtut in winter, but during the summer months is quite numerous and breeds,

In 1887 the first spring arrivals were noticed on March 30, and the next comers on April 3, and five days later a flock of twenty or thirty were seen. These early birds did not remain, but passed on farther north, and the birds that built near Ivigtut did not arrive until the last days of April.

Two nests have been found by Mr. Hagerup at an elevation of some 300 feet, and one at 200 feet above sea level. One, discovered on June 26, 1886, contained very young chicks, and another, taken June 14, 1887, contained young old enough to sit on the edge of the nest. Both nests were situated amid large rocks, and being placed between one and two feet from the top of a high boulder, were hard to reach. They were very solidly built, and were lined with white feathers, probably of the Ptarmigan. Other nests have been found, and while the birds build at different elevations, from close by the margin of the water up to the highlands, the favorite location is about 1000 to 1600 feet up the hillsides.

The parent birds are not at all shy when about the nest, but are rather silent. While Mr. Hagerup was standing near one nest the female flew to it with an insect in her bill, and in another instance the parent entered a nest not ten feet away from the observer. In July the young birds gather about the houses in the village.

"The song of this species," Mr. Hagerup writes, "is euphonic and harmonious; but it is rendered in brief stanzas—there is no continuous melody." "Warbling is, perhaps, the English word that would best represent the character of the song."

In the fall of 1886 the last examples were seen on October 25. In 1887 they were common on October 13.

Calcarius lapponicus. LAPLAND LONGSPUR. — In the vicinity of Ivigtut this is the least numerous of the four species of singing birds that occur. The relative numbers are about one Longspur to five Wheatears, ten Snowflakes, and ten or fifteen Redpolls.

In 1886 the first spring comers were seen on May 24, and in 1887 on May 22. The favorite nesting site is in flat, moist ground covered with grass or low bushes. Mr. Hagerup has not seen any nests at a higher elevation than some 200 feet. In Ivigtut valley, which contains about one third of an English square mile, some six or eight pairs were breeding during the summer of 1887.

A nest discovered on June 16 was placed in deep moss in a moist spot in the valley, on the outskirts of a willow thicket, and in the vicinity of water. It was composed exteriorly of dried grass and roots, and lined with white Ptarmigan's feathers. In it were seven eggs slightly incubated. On July 3 a young bird, that could hardly fly, was captured by a dog.

This species has several alarm notes and calls of which the principal is a rather pleasing, though sad, flute-like note resembling *tlou* or *tlue*. The song, which sounds best when the bird, after mounting up in the sky, drops slowly to the earth with extended motionless wings, is not very long, but has a fine, flute-like tone, and though agreeable to the ear is rather melancholy, as all the notes of this bird are. There is no variation in the song, nor is it repeated with great frequency. It is, however, the finest heard in these wilds.

The Longspur, like all the song birds of the far north, is quite tame and fearless of man, but is less frequently seen in the immediate vicinity of the houses at Ivigtut than the other species are.

Saxicola œnanthe. WHEATEAR.— This is a common summer resident, and breeds here. In 1886 the first reached Ivigtut on April 4, and in 1887 on April 12. In the fall of 1886 the last one, a young bird, was observed on October 5, though the bulk of the flock had gone off several weeks before.

It builds in locations similar to the Snowflake, though it commonly selects a spot under 600 feet high. The situation of the nest is also similar, though the present species goes farther into the heaps of stones—sometimes as much as four feet or more. A favorite situation for the nest is the wall of a house or a stone fence. On June 21, 1886, a nest was found containing chicks about ten days old; and on July 15 another nest was found also containing very young birds. This latter was built quite close to the shore, not more than two feet from high-water mark. A nest taken June 9, 1887, contained eight eggs which had been sat upon about a week; another taken at an elevation of about 600 feet, on June 23, contained seven eggs, and several nests have been obtained from Greenlanders containing sets of six eggs. The Danish, Swedish, and German writers report that the number of eggs in a set in their countries is five to six, seldom seven. In the Faroe Islands this species is reported to lay seven or eight eggs. From these facts Mr. Hagerup infers that these birds thrive best in a low temperature, and in the extreme north lay one egg more than is the rule in Central Europe. From experience thus far in Greenland he is inclined to give the number of eggs as six or seven and occasionally eight, but he thinks it possible that the past seasons may have been peculiarly favorable for the song birds of that region, for a nest of the Redpoll was discovered with six eggs, the usual number being four or five, and a nest of Longspur's was supplied with seven eggs instead of the customary five or six.

In one particular the Wheatears of Greenland differ from those found in Denmark. The Greenland birds when near their nests utter, besides the usual notes, a loud, clear call which very much resembles the alarm note of the Snowflake. It is used by both males and females.

This species is only seen in pairs excepting occasionally when a single family is met with in one group.

Passer domesticus. EUROPEAN HOUSE SPARROW.— This species was introduced from Denmark several years ago. It has been known to hatch its young in nests built outside of the houses, but it does not thrive in this climate and the number is diminishing, five old males being all that are left of the colony, and these do not move five hundred feet from the houses. Mr. Hagerup considers that the cold has less effect upon them—is less destructive—than the severe and long-continued storms of snow and sleet.