

GAME BIRDS OF THE HOOPER BAY REGION, ALASKA.

BY H. B. CONOVER

(Concluded).

Grus canadensis. LITTLE BROWN CRANE.—On May 7, this Crane first made its presence known, when several were heard calling. None were seen, however, until the next day but from that time on they were common. On first arrival they stayed pretty well to the tops of the hills and knolls where the snow had already disappeared, but as soon as most of the tundra was bare, the birds scattered out in pairs all over the country.

On May 28 the first nest was found, with two slightly incubated eggs. These Cranes nested almost everywhere throughout the low hills and marshes, except the flats very close to the coast. No two pairs nested near together, but each family seemed to have a piece of territory to itself. The nests were simply hollows on the top of some bog or niggerhead, very scantily lined with grass, roots and small pieces of the caribou moss. If come upon suddenly, experience showed that the hen would flatten out on her nest and allow a close approach; but if the intruder was first seen at some little distance, she would sneak quietly away. Her mate generally joined her, and while she sneaked off with drooping wings and neck, he would strut about calling anxiously. The male bird could generally be distinguished by its much redder coloration.

The first newly hatched young were seen June 21, when a nest with one chick and a badly pipped egg was found. This nest was visited several times during the day to see if the other egg had hatched. At each visit the two old Cranes would fly off to a little side hill where a cock Ptarmigan was always stationed, evidently standing guard over his mate and her nest. Immediately the big birds had alighted, the Grouse would ruffle up like a game cock and make a dash at the male Crane, who would jump into the air and strike out with his long legs. The Ptarmigan always kept a safe distance away and no damage seemed to be inflicted on either side. After a little of this, however, the Cranes would stalk solemnly away on their long legs, with the Ptarmigan in hot pursuit, but badly put to it to keep up with his enemy.

When first hatched the young are very weak in their legs. Two kept alive for a few days were very combative and would peck away at each other at a great rate. Their call was a low, peeping whistle, sometimes with a sort of roll in it similar to that of the old birds. Within twenty-four hours they attempted very clumsily to eat flies or bread crumbs held out in the fingers. At birth the color of their legs was a dull pinkish flesh, but in about twenty-four hours this had changed to a much darker shade. Iris was dark gray, bill dull flesh. On July 26, while cruising through a slough, we ran across a pair of these birds with two young

about a third grown. The young could not run very fast and were soon caught. They were very amusing pets and within a few hours lost all fear and made themselves at home on the boat. Like the younger birds they were continually pecking at each other, and also, as in the downies, their legs seemed to be the weakest part of the body. If exposed to the cold or wet their legs would give way, and until the birds had become warm again they would be unable to stand. One young one seemed very fond of salmon berries, ripe or green; the other did not seem to care for them so much. Both, however, ate meat ravenously and would swallow small mice without difficulty. Cooked dried peaches were also a favorite diet. Their legs were dull brownish flesh color, with big, clumsy, oversized knees. The bill was dull flesh, and the iris brown. Unfortunately through wrong diet or lack of exercise, they died after three or four days.

An adult female weighed 6 lbs. 8 oz., and another unsexed bird 7 lbs.

Phalaropus fulicarius. RED PHALAROPE.—This Phalarope first put in its appearance on May 17, and by the 21st was common. A male shot on this latter date was accompanied by two females, which showed the utmost concern, wheeling about and returning to the dead bird time and again.

It was a common nester in this locality, building like the Northern Phalarope, near swampy spots. The eggs are laid in a slight hollow in the ground, generally lined with grass. The first nest was found May 27. The old birds did not show much concern and generally slipped off the nest when approached within twenty yards or so. Sometimes, however, they would sit close. Several nests containing only three eggs were found and I believe this number may constitute a full set quite often. On June 19, a nest with three newly hatched young was found. The male parent showed very little concern, although he stayed in the vicinity. A nest located on June 10 with three eggs, hatched on June 29.

As early as June 11 males were noticed that seemed to be changing into winter plumage. Two days later two were collected—one was about half and the other over three-quarters in the gray plumage. From their sexual organs they seemed to be breeding. At the same time no females were noted in anything but full breeding plumage, and a male collected June 19 showed no signs of changing. As late as July 5 many were seen in practically their full red dress. There seemed to be a great individual variation in the time of molting. As it does not seem to be generally recorded in the standard works, attention is called here to the difference in coloration of the bill in the two sexes when in summer plumage. The female has the bill yellow except for the extreme tip, which is black, while the male has the front half black or dusky and only the basal part yellow.

Lobipes lobatus. NORTHERN PHALAROPE.—Northern Phalaropes were first noticed on May 17, and four days later they were common. The first eggs were found May 27, the last on July 23. They build their nests generally in a marshy spot, often in the midst of a tuft of grass on

some small bog. They are simple hollows lined with grass. The brooding birds as a rule sit close, but do not show much concern after being driven off their eggs. The first newly hatched young were seen on June 25. The old birds now became very noisy and solicitous. The only data on the incubation period were obtained from one nest, which was discovered with its complete set of four eggs on June 10. These eggs hatched the evening of June 30.

There is very little difference between the downy young of this species and that of *fulvicaeus*, but *lobipes* can be distinguished by its narrower, more pointed bill, and by its having the lower abdomen and anal region greyish instead of yellowish red. Both species have the upper parts marked with a beautiful tortoise-shell pattern of reddish yellow and black mixed with a little white. By the first part of July some of the Northern Phalaropes seemed to be molting into their winter plumage.

Gallinago delicata. WILSON'S SNIPE.—This was not a common bird. The first seen, a pair, were taken on May 25. After that individuals were occasionally seen. One bird, probably a male, was seen to give a curious little performance. He was first noticed sitting on a knoll, and as I approached, flew up into the air about twenty feet and then scaled down to the ground, giving a little song as he went. No booming noise was heard.

A nest was found on June 4, and a half grown bird was brought in by a native on July 10.

Limnodromus griseus scolopaceus. LONG-BILLED DOWITCHER.—The Dowitcher was first noticed on May 21, when it was suddenly found to be common all over the tundra. It was a fairly common breeder about the region of Point Dall. The first nest was found May 29. The birds generally chose for a nesting site a tussock in some bog where they would make a fairly deep hollow, line it with a little grass, and there deposit their four eggs. The brooding birds sat very close and had to be almost stepped on before they would flush. They showed much concern, flying only a little way and then running about calling plaintively.

Newly hatched young were found June 22. The incubation period seems to be about twenty days. A nest found by Murie on May 31 with two eggs had four eggs on June 2, and on being visited the evening of June 22, was found to contain two young and two pipped eggs. The colors of the soft parts of a downy young several days old were as follows: Tarsus olive with blackish stripes down the sides, bill black, iris brown. In the newly hatched young the tarsus is much lighter. On June 23, while visiting the nest of a Black-bellied Plover, I came across a pair of Dowitchers that from their actions appeared to have young. Not wishing to stop at the time, I passed on, but on returning several hours later, found them again in a marsh at the foot of a long, low hill. When I sat down to watch, one bird wheeled about me calling, and then flew off down the valley. The other bird I could not at first locate, but soon saw it flying about the hillside, chirping. I noticed that as this bird passed

over a certain spot, it would hover about fifteen feet above the ground, giving a whistling trill. After a few minutes it dawned on me, that each time it hovered to give this call, it was a little farther up the hillside. When I moved up toward the top of the hill, the bird lit close by, scolded for a while and then commenced the same performance as before. In this way in about half an hour the Dowitcher and I had crossed the hill from one marsh to another, a distance of about six hundred yards. During all this time its mate had appeared only twice, when it flew by calling and then disappeared again. Finally the bird I was following lit in the marsh at the far side of the hill from where we had started, and began running short distances, stopping and then running on again. Watching through some field glasses, I soon saw a young one following at its heels. Rushing down suddenly, three downies were found hiding with their heads stuck into holes or depressions in the moss. They appeared to be several days old. Evidently the old Dowitcher had led these young ones across the hill by simply hovering over or in front of them and calling. The bird was collected and proved to be a male.

Just what the relation of the male and female to the eggs and young is in this species it is hard to say. From the experience above I believe the male does nine-tenths of the work in caring for the chicks. I think this will probably prove true as to the incubation of the eggs as well, but that the female takes some share in the hatching seems probable, as one collected in the vicinity of a nest showed incubation patches.

A practically fully fledged young bird was collected July 29.

Two unsexed birds each weighed 4 oz.

Canutus canutus. KNOT.—At Hooper Bay this bird was seen only once, when on May 23, Murie shot a male which he found feeding with a flock of Aleutian Sandpipers. On August 14, two birds of the year were collected at Golovin Bay, Norton Sound.

Arquatella maritima couesi. ALEUTIAN SANDPIPER.—The first Aleutian Sandpipers were seen on May 18 and by the next day they were found to be common. While some were seen on the tundra, the majority seemed to favor the beach, where they would feed until the tide came in and then sit around on the ice lining the shore until their feeding ground was again uncovered. On May 23 a large flock was seen, but after that none were noticed until July. On the sixth of that month a single bird in very worn plumage was collected. The next day several more were encountered. On the eighth we left for the tundra back of the coast and no more were noticed until July 23, when an adult male was collected. On July 30, the first fully fledged young were taken. These still showed signs of down adhering to the feathers on the back of the neck. From this spring migration of *A. m. couesi* passing Point Dall, it would seem that this species must breed on the Bering Sea coast north of the Alaska Peninsula. Nothing definite was learned, but some of the natives about the head of Igiak Bay claimed the bird nested sparingly in the little range of mountains there.

Arquatella maritima ptilocnemis. PRIBILOF SANDPIPER.—Out of sixteen specimens of the Pacific races of *Arquatella maritima* taken by the writer, two appear to belong to this subspecies. Compared with a series of fifteen Pribilof Sandpipers borrowed from the Biological Survey, these showed no appreciable difference. Both were males, one taken at Point Dall on May 23, and the other at Igiak Bay on July 23.

Pisobia maculata. PECTORAL SANDPIPER.—These Sandpipers seemed to arrive at Point Dall all at once. Up to May 20 none had been seen, but on the 21st they were found to be common all over the tundra. Immediately on arrival the males started their booming courtship. This is so well described by Dr. E. W. Nelson in 'The Natural History of Alaska' that it will not be attempted here. Two points about this courtship were noticed, however, which he does not mention. When the male rises in the air to boom, in sailing to the ground he throws his wings up over his back, much in the same manner as tame pigeons when descending from a height; also a male which flew by with pouch extended was noticed to jerk his head up and down as he gave his call. The bill was partly open and he gave the appearance of swallowing air to inflate his throat. As it is the esophagus which is inflated and not the windpipe, this in all probability is what he does.

The first eggs were found on May 27. The nests are built on the drier hillocks and hillsides, but generally close to some marshy spot. They consist simply of round depressions in the moss, concealed in a tuft of grass. On arrival the females were much shyer than the males, and at nesting time they become very shy indeed. If the nest was approached they would slip off quietly, showing little concern, when the intruder was fifteen or twenty yards away. Unless one happened to have his eyes on the exact spot which the bird flushed from, the eggs were very difficult to locate. Common nester though this bird was, very few nests were found by the white members of our party, although the Eskimos were adept at the game. The incubation period seems to run from twenty-one to twenty-three days. A nest found May 31 with the complete set of four eggs was hatched on the morning of June 21. Another nest containing four eggs, from which the old bird was flushed, was found on June 2 and hatched June 25.

The first young were found on June 21. Contrary to their habits when there were only eggs in the nest, the mothers now showed great concern for their young. At one time Murie caught some newly hatched young, and holding his hand containing them extended on the ground, induced the old bird to come up and brood the chicks. She was so tame that he caught and banded her without difficulty. The male seems to take no part in incubation or care of the young. He was often seen to join a female driven from the nest, but only for purposes of courtship, as he would start booming immediately and chase her about. Before the eggs began to hatch, male birds seemed to disappear from the tundra. There was

never more than one bird seen with the young. Thirty days seemed to be about the time necessary for the chicks to mature, as by July 20 fully fledged young were seen commonly about the tundra.

An unsexed bird weighed three ounces and a half.

Pisobia bairdi. BAIRD'S SANDPIPER.—On June 5, Brandt brought in a female of this species which he had shot on the tundra near the end of Point Dall. It had incubating patches and a set of deserted eggs was found a day or so later in the same vicinity, which appeared very small for eggs of the Pectoral Sandpiper. It may be that this was a stray nest of Baird's.

In July when we visited the Askinuk Range, this Sandpiper was found to be fairly abundant there. From July 10 to 16, half-grown young were seen fairly commonly about the higher ridges. Several old and young were collected. Judging from where they were found, it would seem that they nest about the swampy spots towards the top of the ridges, at an elevation of about a thousand feet. Evidently the male shares in the care of the young at least, as one was collected while attempting to distract our attention from a half-grown bird.

A fully fledged young of the year was collected on August 26 at False Pass, Alaska Peninsula.

Pelidna alpina sakhalina. RED-BACKED SANDPIPER.—One bird was seen May 12 flying along the coast, and by the 15th the species was common on the tundra. They started mating at once, the males flying about and whistling "Tsee, Tsee, Tsee." One note uttered by this Sandpiper as he hovered in the air reminded me very much of the call of the little marsh tree-frog, which is such a common sound every spring all over the central states. Excepting the Western Sandpiper and the Black Turnstone the Red-backed Sandpiper was the most abundant nester in this region. It kept entirely to the low lands around the tide flats or tidal creeks and seemed to prefer places where a certain kind of coarse marsh grass grew. The nests were hidden in the grass. Both parents staid by the nest as well as with the young. The one off duty always gave warning while an intruder was still a distance off, and the brooding bird quietly slipped off the nest. This made the eggs of this bird among the most difficult to find. The first eggs were found May 27 and the first downies on June 19. A very belated brood of newly hatched chicks was found on July 22. A parent bird that was brooding four young in a nest was collected and proved to be a male. It had large incubation patches. Fully fledged young with spotted sides to their breasts were seen on July 23.

Ereunetes pusillus. SEMIPALMATED SANDPIPER.—The Semipalmated Sandpiper was first noticed on May 19. It was not a common nester about Hooper Bay, and was found only in a very restricted strip of country at the end of Point Dall. Here in the narrow line of sand hills bordering the sea a few pairs made their home. Their flight song was easily distinguishable from that of the Westerns which were nesting in the same

vicinity. The downy young were a lighter edition of their Western cousins, but as in the old birds, the bill was much shorter and broader.

The first nests were found on June 5. The eggs were laid in a slight hollow generally made in the shelter of a small tuft of grass. The first newly hatched young were seen on June 28. Both birds of a pair collected with their young had incubation patches, so they evidently share the nesting duties equally.

Ereunetes mauri. WESTERN SANDPIPER.—This little Sandpiper first made its appearance on May 14, when several flocks were seen flying along the edge of the shore ice, and alighting on the small spots of ground showing through the snow. The next day it was found to be common all over the tundra. The birds immediately commenced to pair, the males sailing on set wings, about twenty feet above the ground, as they gave their little trilling whistle. On May 25 two nests were found, each containing three eggs. Three days later nests were everywhere on suitable ground, as this was the commonest of the nesting Limicolae. Unlike most of the other Sandpipers, this species did not choose the wet, marshy spots, but laid its eggs on the hillsides and the higher dry spots of the marsh. The nests were quite deep hollows in the moss in the shelter of small tufts of grass. Both birds of a pair collected with their newly hatched young showed incubation patches, so evidently both sexes incubate. They are very solicitous of their eggs and young. Generally the sitting bird would slip off the nest when an intruder was twenty-five or thirty yards away and fly about in front of him. If you located the nest, however, it would come up close, feign a broken wing and give plaintive little peeps as it fluttered about. Some pairs, however, would simply watch from a distance.

On June 15 the first newly hatched young were found. The parents were very solicitous and flew about twittering anxiously. Soon other old birds joined them and seemed just as anxious as if the young were their own. This habit of these Sandpipers in joining forces to help their neighbors was very noticeable both before and after the eggs had hatched. By June 30 half-grown young that could already fly for a few yards were seen. Western Sandpipers with their chicks were everywhere, and during a walk around the tundra you had a constant attendance of anxious mothers and fathers wheeling about. Eggs were still being found on July 5. By July 18 the mud flats were covered with fully fledged young.

The incubation period for this species seems to be about twenty-one days. A nest found on May 26 with four eggs, hatched on June 15 late in the evening. Another found on May 29 with three eggs in it, had four eggs on May 30, and three young and a pipped egg on the evening of June 19. The rapidity with which these birds lay and hatch their eggs and raise their young is very remarkable. In sixty days from their arrival on the nesting grounds, the young are full grown and taking care of themselves.

Crocethia alba. SANDERLING.—Only seen once, when on May 23, a

pair and a single individual were seen on the beach at the end of Point Dall. One was collected.

Limosa lapponica baueri. PACIFIC GODWIT.—The Pacific Godwit first made its appearance on May 15, when one was seen flying across the snow covered tundra. The next day more were seen and within a day or so they had become common. At first the birds were very wild, but within a week they became much tamer.

This species was a common nester about Hooper Bay. The first nest containing three eggs was found on May 25. It seemed to prefer the drier hillsides for nesting sites, simply hollowing out a hole in the moss. The birds were very close sitters and would not leave the nest until approached closely. Both birds took part in the incubation and also in the care of their young. They were very noisy. While one incubated, the mate generally stood watch near by. When any one approached their territory, he was met some little way off by the sentinel, who flew about scolding and screaming, and would not leave you until you were a safe distance away. On one hill there was a nest which we were never able to locate. The male generally seemed to be on guard at this point, and he would meet you when you were a quarter of a mile away and escort you until you were over the hill. If you sat down to rest he would alight on a tussock about twenty yards away and deliver an oration on what he thought about the intrusion. So canny was he in coming so far to meet intruders that it was impossible to decide the most likely place for the nest.

These Godwits showed a great variation in their plumage. A few males were very red-breasted, but the majority were mottled red and white. Females were much whiter-breasted but showed great variation also. On May 21 a female still in full winter plumage was shot out of a flock. This variation in plumage does not seem to be due to immaturity, as the lightest-colored female in my collection was shot as she flushed from her nest.

On June 1, a nest was found containing five Willow Ptarmigan eggs and three eggs of the Pacific Godwit. Visiting it the next day it was found to contain four eggs of the Godwit. The Ptarmigan eggs were underneath, so evidently the Godwits had driven off the Grouse and taken possession for themselves. About a week later this nest was found to be deserted.

On June 19, the first downy young were found. On July 23 a family party of two adults and three fully fledged young was encountered. Even though the young were fully grown and able to take care of themselves, the old birds were just as solicitous as if they were downies, and made a great fuss. The downy young are pale fulvous buff. There is a black line from the base of the bill to the eye, the crown and a greyish black streak down the back of the neck, while the back and rump are mottled with black. Tarsus blue gray, bill horn with the base dull flesh. Iris brown.

These Godwits seem to leave for the south very early. On July 3 birds were noticed in small flocks that gave the appearance of getting ready to

leave. Probably these were non-breeders or pairs whose nests had been destroyed. By August 1 very few Godwits were to be seen.

Weights of seven males were 9 oz., 9 oz., 7 oz., 10 oz., 9 oz., 11 oz., 9 oz.; and of four females 15 oz., 14 oz., 1 lb., 12 oz.

Totanus melanoleucus. GREATER YELLOW-LEGS.—First noticed when Murie saw one at the head of Igiak Bay on June 18. A pair was collected by the writer July 3 at Point Dall. They were evidently preparing to move south. Another was seen July 10 at the head of Igiak Bay, and on August 8 another at the head of Hooper Bay.

Heteroscelus incanus. WANDERING TATTLER.—This Sandpiper was not seen in the vicinity of Hooper Bay. However, on August 15, while I was spending the day at Topkok Bay, Norton Sound, two were seen and collected. One was an adult, the other a young of the year. Several more young of the year were seen about Cape Nome a few days later.

Numenius hudsonicus. HUDSONIAN CURLEW.—This bird was rather uncommon. The first was noticed on May 17 and on May 21 one was collected and another seen. No more appeared until June 27 or 28, when a pair was noticed. Every day after that Hudsonian Curlew were seen more plentifully until by July 5 there were fifteen or twenty feeding regularly on the tundra near the schoolhouse on Point Dall. The three specimens taken were females, one with what appeared to be large incubating patches, so some of them were probably breeding birds whose nests had been destroyed.

On July 8 we left Point Dall for a trip to Igiak Bay to the north, and the tundra back of it and Hooper Bay. Here toward the last of July more Curlew were seen and from their short whistling call some were identified as Hudsonian. They were busy feeding about the tundra. On August 5 a specimen was taken which proved to be a fully fledged young of the year. It differs from the adults mainly in its very short bill, only 59 mm., its generally more tawny coloration, and in finer dark shaft markings on the feathers of the neck and upper breast.

A female weighed 1 lb. 13 oz. and another unsexed bird 15 oz.

Numenius tahitiensis. BRISTLE-THIGHED CURLEW.—It seems this Curlew has been recorded only three times from the North American continent, first a specimen taken by Biscoff on May 18, 1869 at Fort Kenai, Kenai Peninsula (not Kadiak Island), second one from St. Michael's taken by E. W. Nelson on May 24, 1880, and lastly one taken by the Townsend Expedition on the Kowak River, August 26, 1885.

During the spring migration only one individual was seen. This was a female shot on May 22. It flew past me as I was walking across the tundra, and readily returned to an imitation of its call. On July 6, while walking along the edge of the tidal flats, three Curlew were flushed. Their call was very different from that of the Hudsonian, and again at my attempt to imitate it, two of the birds turned back and were collected. Both proved to belong to this species. No more were seen until the

latter part of July, when we started up the Kokechek River running into Igiak Bay and immediately commenced to see Curlew. On account of other work no specimens were secured for some days, but I believe from their appearance and call that some of these at least were Bristle-thighed Curlew.

By the end of July we had entered the Kashunuk Slough and travelled down it until we were about twenty miles from where it enters Hooper Bay. At this place was an Eskimo village where we stopped for a few days to have a Goose drive; and it was here that we saw the Bristle-thighed Curlew in abundance. On July 31 a pair was seen and collected, and on August 3 one more was taken. August 4 was the big day, as several hundred of these birds were seen on the tundra feeding on blueberries. About a dozen were taken by our party, and I believe I personally saw over a hundred, while another member of the expedition, who was off in another direction, estimated that he saw three times as many. All the specimens taken were old birds.

The call and the appearance of this species are entirely different from that of the Hudsonian Curlew. The latter gives a very short whistling call, which is roughly as follows:—"Whe,-Whe,-Whe,-Whe." The former on the other hand has a call very similar to one of the Black-bellied Plover and sounds something like "Wheeeu-whu." In appearance the Bristle-thigh is tawnier above and has a very reddish brown unbarred rump, which is a very good field mark. On August 21 at Cape Nome a flock of three and another of five were seen. The three were collected and proved to be fully fledged young of the year. They are tawnier on the chest, flanks and upper parts than the adults. It can hardly be doubted that the main breeding ground for this species is somewhere in Alaska, probably above the timber line on some of the mountain ranges.

In twelve adult specimens at hand there seems to be a great variation in the length of the bills. Perhaps this is due to age. The extremes of eight adult females were 84 and 101 mm., the average being 90.1 mm. The extremes of four adult males were 72 and 98 mm., with an average of 87.75. Two immatures, male and female respectively, had bills measuring 73 mm., and 58 mm. The sex of the bird in the flesh is indicated by the much slenderer more tapering bill of the male.

The weight of one female taken in the spring migration May 22, was 14.5 oz., that of a male and female taken on July 6, 1 lb. and 1 lb. 2 oz. respectively. The weights of others taken in the fall migration from July 31 to August 4, when they had been feeding on berries and were very fat, were as follows:—Five females 1 lb. 2 oz., 1 lb. 7 oz., 1 lb. 7 oz., 1 lb. 7 oz. and 1 lb. 4 oz.; two males 1 lb. 4 oz. and 1 lb.

Squatarola squatarola. BLACK-BELLIED PLOVER.—Black-bellied Plovers were the first shore-birds to make their appearance in the spring. A single bird was seen on May 9, and small numbers kept arriving every day until by May 15 the species was common. They were always very wild and would never allow a close approach.

They were very common breeders. On May 28 six complete sets of eggs were found by the natives and four more incomplete ones located. The eggs were deposited in little hollows in the short moss on top of the knolls and hills. No concealment was attempted. One bird of the pair, however, was always on watch at some high point and gave warning before an intruder approached within several hundred yards of the nest, whereupon the sitting bird immediately left the eggs. On one occasion I attempted to watch a bird return to its nest, hiding with a pair of field glasses behind a hill about a hundred and fifty yards from where I suspected the nest to be. One bird, however, (I believe the male) was too much for me, for he soon flew over to where I was and saw me lying there. He immediately redoubled his warning calls, and his mate, who had been sneaking about as if trying to slip back to the nest, rejoined him. One nest was found within ten feet of that of an Arctic Tern.

The first downy young were seen on June 23. They were still in the nest and both parents showed great concern. Old and young were collected, and both the adults showed brooding patches, so evidently they share in the duty of incubation as well as in the care of the young.

Weights of four males collected were, respectively, 8 oz., 9 oz., 10 oz. and 8 oz.; that of one female was 7 oz.

Pluvialis dominicus fulvus. PACIFIC GOLDEN PLOVER.—The eight specimens taken by the author are referred to this form because of the measurement of the wings and the fact that two half-grown young are a rich golden color on their upper parts.

This was never a common bird. It was noticed first on May 16, when one was collected. From then until the first days of June, small parties were seen every few days. One specimen collected, a female, was practically in winter plumage. Its ovaries seemed to be as large as those of females in full breeding dress. Others were noticed which were not in full plumage.

The Golden Plover did not breed about the low tundra, but confined its nesting to the Askinuk Mountains, a small range at the head of Igiak Bay. Here the latter part of June, Brandt took one or two sets of eggs. In this same range on July 16 a pair of half-grown young was taken. Several days previously two pairs of Golden Plover had been located, which by their excited actions appeared to have young. On this day, on our approaching the spot occupied by the first pair, one adult came by, calling excitedly. Although several hours were put in fruitlessly searching for the young, the other bird of the pair did not put in its appearance. Leaving we went over where the second pair had been seen. Here also only one adult could be found. After some search the young were discovered and the old bird collected with them. It proved to be a male. It would seem a possibility that when the young are partly grown, the female leaves them in the care of the male.

Charadrius semipalmatus. SEMIPALMATED PLOVER.—This Plover

made its appearance on the same day as the Semipalmated Sandpiper, May 19. It never became at all common, but kept to the strip of beach bordering the sea at the end of Point Dall, where a few pairs nested. Brandt took his first set of eggs on June 1. On July 4, the writer found a nest of eggs which hatched on July 7. The nest was simply a hollow in the sand, lined with a little grass, and located alongside of a piece of driftwood. The old bird would slip off the nest at my approach and run quietly about watching me. When the young were hatching both parents became a little more anxious, but never showed as much concern as most of the other shorebirds. The adults were collected and both had incubation patches.

Aphriza virgata. SURF-BIRD.—The Surf-bird was seen only once. On May 18, while I was standing on the beach behind a stranded ice cake, one flew by. It returned to a whistle, alighting on the beach so close as to make identification certain. Unfortunately it was missed as it flew by.

Arenaria interpres morinella. RUDDY TURNSTONE.—On May 15, Du Fresne shot the first bird of this species. He had found it sitting humped up on a log showing through the snow. The next day a pair was seen and after that date they were noticed constantly. On May 28 the migration still must have been going on, as a flock of about twenty was seen associated with six Golden Plover.

This species was not rare at Hooper Bay, but nested only in the flats bordering the narrow strip of sand dunes which stretched along the end of Point Dall. Nests were not found over a quarter of a mile back from the coast, and this species was not seen later on in the tundra back of Hooper Bay and Igiak Bay, where its black cousin was common. The first eggs were found May 29, and the first downy young on June 25, but these seemed to be about a week old. On June 26, four young not over a day old were collected. June 27, a nest with fresh eggs was discovered, evidently a second laying. The nests were slight hollows lined with a little grass and situated on the short moss in the drier parts of the marsh. The old birds did not sit close but quietly left their nests on the approach of an intruder. The young are taken care of by both parents, who showed much noisy concern.

Ridgway (*Birds N. & Mid. Am.*, pt. 8, p. 51) gives the color of the upper parts of the downy young of this species as "light drab to drab-gray, irregularly mottled with black." This does not check very well with the specimens secured on this trip, of whose identification there can be no doubt, as the parent birds were taken with the young. Eight specimens are available, four newly hatched and four about a week old. All have the upper parts chamois (Ridgway's Color Standards) mottled with black. Perhaps the specimen described by Mr. Ridgway was wrongly identified or in a very faded condition.

About August 10, when our party was travelling in a small schooner

from Hooper Bay to St. Michael, a small flock of Turnstones coming from the north passed our boat after circling it once or twice. Again on August 25, when the S. S. *Victoria*, en route from Nome to Seattle, was about one hundred and fifty miles north of Unimak Pass, three of these birds after circling lit on the life boats on the upper deck. Both these small flocks were seen to be flying just above the surface of the sea as they approached. Evidently migration is not always carried on at a high elevation.

A male weighed 3.5 oz. and two females 4 oz. and 3.5 oz., respectively.

***Arenaria melanocephala*.** BLACK TURNSTONE.—The first of these birds were noticed on May 16, when two were taken as they flew by a small snow-water pond on the tundra. Two days later, on the 18th, this species was very common. Next to the Western Sandpiper, it was probably the commonest as well as the noisiest wader nesting on the tundra. The first nest was found on May 28, and the first downy young on June 20. Nests were everywhere in the lower marshy parts of the tundra, but they were not found in the marshy spots in the low hills or amongst the sand dunes bordering the ocean where the Ruddy Turnstones laid their eggs. The nest was always situated in the vicinity of a pond, often on the very edge of the water, but sometimes back on a little knoll thirty or forty yards away. No attempt at concealment was made, it being a slight hollow in the ground, lined with grass, and situated where the herbage was so short and scant that there was nothing to hide the eggs. The Turnstones had the same habit as the Plovers of quietly slipping off their eggs when an intruder was quite a distance away, and generally seemed to show no concern when the nest was approached; however, when the young were hatched, the old birds showed great anxiety, and if you imitated the peeping call of the chick, would fly about calling wildly.

So far as the writer can ascertain, the downy young of this species has hitherto been unknown. Below is given a description of a newly hatched chick. Colors in capitals are from Ridgway's 'Color Standards'.

Above mottled black and Cream-buff, the black strongly predominating. Line from base of bill extending over and to the center of the eye Cream-buff. Distinct loreal streak of black from base of bill to eye (some specimens also have below this loreal stripe a black spot at base of lower mandible). Lower breast, abdomen and a very small area on chin clear white. Upper throat Cream-buff. Neck and upper breast mixed black and Cream-buff, but without distinct mottling. Bill dark horn, iris brown, legs and feet light horn with fleshy tint. Compared with absolutely identified newly hatched chicks of *A. i. morinella*, downy young of this species have a much darker appearance. On the upper parts the buffy colors are more in the form of specklings, while in *morinella* these colors are more like blotches. *A. melanocephala* also has a very distinct dark band across the chest, while in the other species this band is very faintly indicated.

Both male and female take care of the young, but unfortunately no evidence was obtained as to whether both sexes shared in the incubation. With regard to the incubation period, the following data were obtained, which seem to show that the eggs hatch in from 21 to 22 days.

1. Nest found on May 31 with four fresh eggs. The evening of June 21 this nest contained three young already dry and one pipped egg. On the morning of June 22 the last egg had hatched.

2. Nest found May 31 with three eggs. On June 1 there were four eggs. At noon of June 22 eggs unhatched. At 4 P. M. June 23, nest was empty and the young had disappeared from the vicinity.

A male weighed 4 oz.

Lagopus lagopus lagopus. WILLOW PTARMIGAN.—On our sled trip from Nenana to Hooper Bay, this Grouse was not encountered until we reached the Kuskoquim Mountains, where we found it very plentiful. It was generally encountered in flocks of from fifteen to a hundred feeding among the dwarf willows. A few males shot on April 5 had an occasional brown feather showing on the head and neck. The morning of April 24 we left Mountain Village on the Yukon and cut across the tundra for Hooper Bay, a journey which took us four days. For the first two of these we encountered Ptarmigan everywhere along the willow-bordered sloughs and creeks. The hens were still white, but the heads and necks of the cocks were about a third into the red spring plumage. As we approached the coast and the willows became scarcer, these birds were no longer seen.

On May 9, the ground about Point Dall was beginning to show in spots through the snow and the first Ptarmigan made their appearance. Two days later they were common. Each male now took possession of a little spot of bare ground, whence he sent out his challenges, "*Com-ere, Com-ere, Go-bec, Go-bec.*" Between calls they would bob their heads as if they were pecking at the ground, or jumping about six feet into the air, glide down to the earth, cackling as they descended. The hens seemed to have but one call, a cackle similar to that of a tame chicken. Often two cocks were seen chasing each other around over the tundra, but only rarely would they seem to stand and fight it out. In the evenings and early mornings these birds were especially noisy, and often it was no great stretch of the imagination, what with the calls of the waterfowl, to imagine oneself in some great barnyard. About this time the Eskimo boys began to range the tundra with their bows and arrows, and many an unwary cock and sometimes a hen was killed by the blunt shafts of these eight and ten year old marksmen.

Several times while we were sitting on the edge of the ice along the coast watching the migration of the Eiders, Ptarmigan were seen to leave the land and fly directly out over Bering Sea. None were ever noticed returning to land. Perhaps they mistake it for some large lake. Numbers must perish in this way, although ice cakes being numerous upon which they can rest, it may be that many make their way back to the shore.

Toward the latter part of May the hens became very shy, skulking and hiding in the moss and grass. On May 26 the first nest was found. The Ptarmigan place their nests on some dry knoll or hillside, making a hollow in the moss, lined with a few leaves or bits of grass. Clutches run from eight to twelve. The hens are very close sitters, and with care one can often touch them before they will leave the nest. At this time they are rather ragged looking objects, their breasts being practically bare of feathers. The males stand watch a short distance away, and while they do not show any anxiety or pugnacity toward a human intruder, it would seem they are very jealous of the approach of other birds, as witness the episode detailed under the account of the Little Brown Crane.

Newly hatched young were first found on June 22. The incubation period seems to last about twenty-two days. A nest found on June 2 with eleven eggs had twelve on June 3, and on being visited on June 25, it was found to be empty. The chicks are very precocious. One day a hen was flushed from a nest containing two eggs and eight youngsters still damp. Hardly had she left when every downy scrambled weakly from the nest and attempted to hide in the grass. The minute they were replaced, out they would go again, until finally they became tired out and stayed in the nest. Toward the end of June broods were constantly encountered about the tundra. Both parents were always with them and the cock was especially combative, although discretion always got the better part of valor. The young after running a few feet would suddenly disappear, whereupon the hen would join the male in threats and attempts to lead one off. It was amusing to imitate the peeping of a chick and watch the cock go into a frenzy, ruffling himself up, making short dashes here and there, and in unmistakable language telling you just what he was going to do if you did not get away from his children. After a few minutes of this, both birds would be worn out and would retire a short way to watch for your next move. By the 22nd of July the young were about a third grown and had begun to shed their first brown primaries and grow their new white ones. The adults were then in the midst of shedding their toe nails.

Weights of two males collected were 1 lb. 5 oz. and 1 lb. 2 oz.; those of two females 1 lb. 5 oz. and 1 lb. 9 oz.

Lagopus rupestris rupestris. ROCK PTARMIGAN.—First encountered on our trip from Nenana to Hooper Bay in the Beaver Mountains on April 6. There as we spent a day visiting a reindeer camp, this Ptarmigan was found on the highest benches near the rocky peaks. Specimens shot proved to have been feeding on small leaves of Labrador tea (*Ledum*) and buds of the dwarf birch. The latter constituted ninety per cent of the crop contents.

On May 18, Murie killed one of these Ptarmigan sitting on the shore ice at the end of Point Dall. It was still in winter plumage, and had evidently strayed from the Askinuk Range about twenty miles away.

This Grouse was found to be fairly common in the Askinuk Range about July 10. Broods of from one to eight were seen, already about the size of half-grown Quail, and able to make short flights. Even as early as this, they had just begun to shed their brown first primaries, and the tips of a few of the new white ones were beginning to show. The adults had about completed the shedding of their toe nails. In this locality these Ptarmigan range practically down to the sea level. Although seldom found on the flats, they were often encountered a few hundred feet up the mountain sides. No brood encountered had a male in attendance, so evidently they do not share in the care of their young.

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