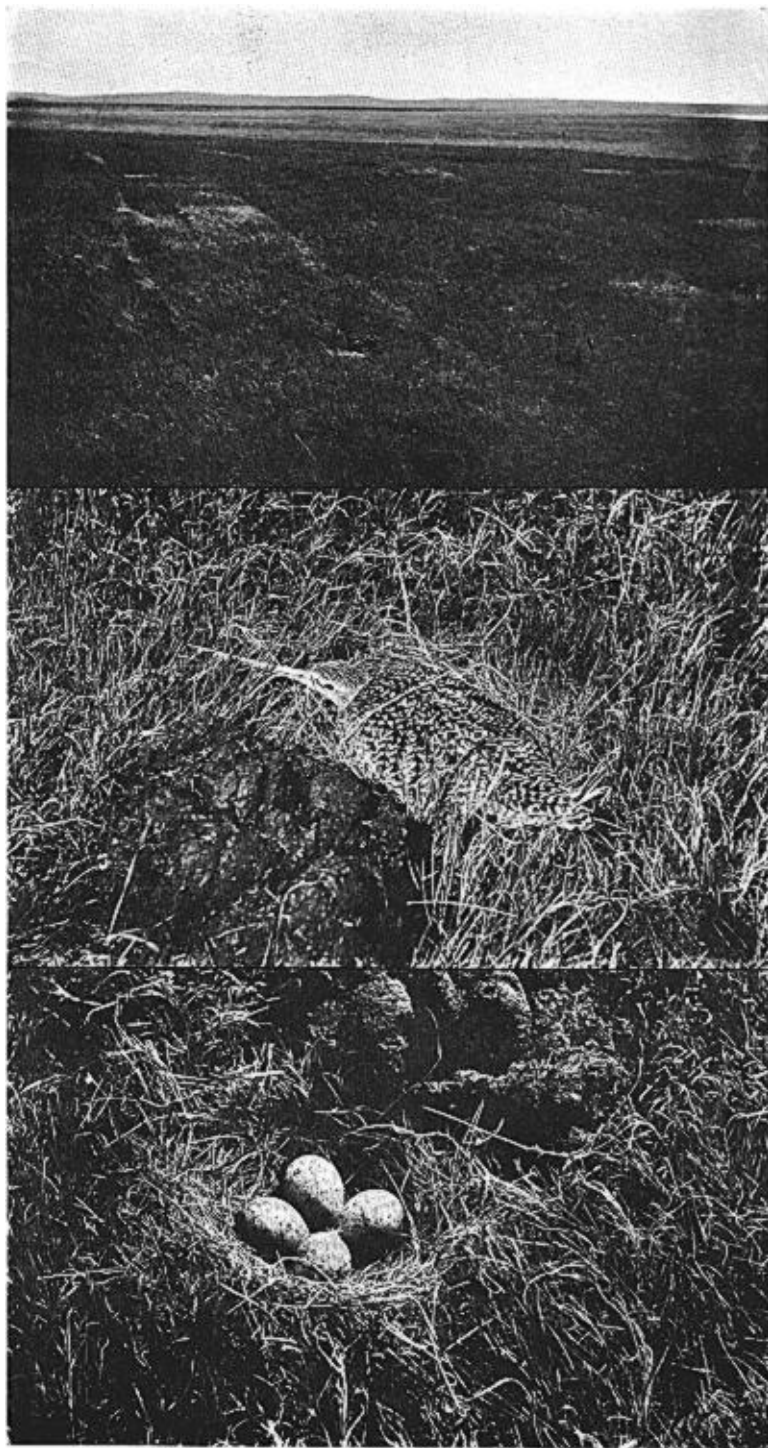


THE MARBLED GODWIT ON ITS BREEDING
GROUNDS.

BY A. C. BENT.

Plate III.

IT WAS on the twelfth day of June in 1901 that I first made the acquaintance of this magnificent shore bird. We had been collecting for several days in some extensive sloughs bordering a large lake in Steele Co., North Dakota, which we have found exceedingly rich in bird life. Canvasbacks, Redheads and Ruddy Ducks were nesting in the bulrushes and flags, as well as numerous Coots, Pied-billed Grebes and Black Terns. Red-winged and Yellow-headed Blackbirds fairly swarmed through the reeds and filled the air with their ceaseless din. Sora and Virginia Rails were breeding about the edges of the sloughs, concealing their nests in the little tussocks of grass growing in the shallow water. The beautiful Wilson's Phalaropes were flitting about among these tussocks, and it was while hunting for their nests that we noticed, among the numerous noisy Killdeers and Western Willets flying over us, a strange hoarse note, strikingly different from either, as a large brown bird flew past, which we recognized as a Godwit. All doubts were soon dispelled by collecting my first specimen of a species I had often longed to see, and I could not help pausing to examine and admire the beautiful markings of its richly colored wings. We saw only four of these birds that day, but on the following day they became more abundant. There were about twenty of them flying about over the meadows, showing considerable concern at our presence, constantly uttering their peculiar cries, and showing so little regard for their own safety that we were led to infer that they were breeding or intending to breed in that vicinity. We spent some time looking for their nests, but, as we knew practically nothing about their nesting habits at that time, we were not successful in locating any nests. They may have been merely recent arrivals, possibly only transient migrants, but they should have been in their breeding grounds at this date or earlier.



MARbled GODWIT.

But it was during my two recent trips to Assiniboia and Saskatchewan in 1905 and 1906 that I became more intimately acquainted with the Marbled Godwit in its summer home. That portion of northwestern Canada, lying north of Montana, which was formerly called Assiniboia, is now included in the new Province of Saskatchewan, and it was in the southwest corner of this province, along the line of the Canadian Pacific Railway, that my observations were made. To a casual observer, passing through this region in a railroad train, the country seems barren and uninteresting — an endless waste of bare rolling plains and low-lying hills, broken only by an occasional small frontier town, or by the scattered houses of the hardy ranchmen, who make a living by raising cattle, horses, and sheep, which are allowed to range at will over the unbroken plains.

But to the ornithologist this region is full of interest. It is well watered with numerous small streams, spreading out in many places over broad, grassy meadows, over which clouds of Black Terns are hovering; numerous ducks of various species may be seen swimming in the shallow sloughs, or jumping into the air, and flying off as the train alarms them. Every small pond-hole is sure to be occupied by one or more pairs of ducks, and the larger lakes and sloughs are full of water birds of various kinds. Alkali lakes and ponds, with their broad, whitish mud flats, are frequently passed, and these are generally tenanted by flocks of migrating shore birds, or by a few pairs of graceful and showy Avocets. Thus, though bird life may be scarce over the greater part of this region, in favorable localities, such as the vicinity of lakes and streams, birds are exceedingly numerous, rich in species, and abundant in numbers.

The lakes are generally wholly or partially alkaline, with barren, muddy, or stony shores, and without vegetation in or around them. But many of the larger lakes have fresh water streams running into them, and about the mouths of the streams are more or less extensive deep water sloughs, overgrown with tall bulrushes, and sometimes a few cat-tail flags. These form the great breeding grounds for wild fowl — Western, Horned and American Eared Grebes, Canvasback, Redhead and Ruddy Ducks, Franklin's Gulls, American Coots, American Bitterns and Yellow-headed Blackbirds; and the surrounding shores and meadows offer a

most congenial home for the breeding shore birds—Marbled Godwits, Western Willets, Bartramian Sandpipers, Wilson's Phalaropes, and Killdeers.

Along the lower courses of the streams, near the lakes, but sometimes extending for a mile or more back from the lake, are usually found broad, flat, alluvial plains, low enough to be flooded during periods of high water. These plains are more or less moist at all times, are exceedingly level, and are covered with short, thick grass only a few inches high. Such spots are the chosen breeding grounds of the Marbled Godwit, and, so far as our experience goes, the nests of this species are invariably placed on these grassy plains or meadows.

The Godwit makes no attempt at concealment, the eggs being deposited in plain sight in a slight hollow in the short grass. We found, in all, four nests of this species with eggs, had two sets of eggs brought to us by ranchmen, and found two broods of young. The first nest was discovered on May 29, 1905. We had been hunting the shores of a large alkaline lake, where a colony of Avocets were breeding on the mud flats, near the outlet of a deep, sluggish stream, and it was while following along the banks of this stream, as it wound its devious course down through a series of broad, flat meadows, that I flushed a Godwit out of the short grass only a few yards from the stream, and about one hundred yards from the lake. On investigation I found that she had flown from her nest, merely a slight hollow in the grass lined with dry grass, which had, apparently, been simply trodden down where it grew, without the addition of any new material brought in by the birds. Only two eggs had been laid, so we marked the spot for future reference and retired. On June 5 this nest was photographed, and the four eggs which it then contained were collected. The set is now in my collection, and may be described as follows:—The ground color is a rich olive buff on three of the eggs, paler on the fourth; the most richly colored egg is rather sparingly marked with spots and small blotches of dull tawny olive and pale drab; the other three are sparingly marked, chiefly about the larger end, with spots and small blotches of raw umber, mummy brown and pale drab or lilac; in shape they are all ovate pyriform; the measurements are as follows, in inches: 2.24 by 1.53, 2.29 by 1.52, 2.14 by 1.50, and 2.16 by 1.53.

While driving across a low, wet meadow, towards a reedy lake, on June 8, 1905, and when about two hundred yards from the lake, we were surprised to see a Marbled Godwit flutter out from directly under the horse, which was trotting along at a leisurely pace. We stopped as soon as possible, and found that we had driven directly over its nest, which barely escaped destruction, for it lay between the wheel ruts and the horses foot prints, one of which was within a few inches of it. The nest was in every way similar to the first one, the bird having beaten down the short grass to form a slight hollow in which the four handsome eggs had been laid in plain sight. We photographed the nest and collected the eggs, which are now in the collection of Rev. Herbert K. Job. On this same meadow, and on the edge of the prairie near it, we also found two nests of the Wilson's Phalarope, and a nest of the Bartramian Sandpiper, each containing four eggs.

On June 9, 1906, we visited the locality where the first nest was found, and I enjoyed a most interesting experience with an unusually tame individual of this normally shy species. While walking across the flat meadow near the creek, I happened to see a Marbled Godwit crouching on her nest beside a pile of horse droppings. She was conspicuous enough in spite of her protective coloration, for the nest was entirely devoid of concealment in the short grass. Though we stood within ten feet of her, she showed no signs of flying away, which suggested the possibility of photographing her. My camera was half a mile away in our wagon, but I soon returned with it and began operations at a distance of fifteen feet, setting up the camera on the tripod and focussing carefully. I moved up cautiously to within ten feet and took another picture, repeating the performance again within five feet. She still sat like a rock, and I made bold to move still closer spreading the legs of the tripod on either side of her and placing the camera within three feet of her; I hardly dared to breathe, moving very slowly as I used the focussing cloth, and changed my plate holders most cautiously; but she never offered to move and showed not the slightest signs of fear, while I exposed all of the plates I had with me, photographing her from both sides, and placing the lens within two feet of her. She sat there patiently, panting in the hot sun, apparently distressed by the heat, perhaps partially dazed by it, and much annoyed

by the ants which were constantly crawling into her eyes and half open bill, causing her to wink or shake her head occasionally. I reached down carefully and stroked her on the back, but still she did not stir, and I was finally obliged to lift her off the nest in order to photograph the eggs.

The nest was exactly like the others, a hollow in the grass and lined in the same manner by pressing down the grass into the cavity, which measured seven by six inches in diameter and was hollowed to a depth of about two inches. The four eggs which it contained were found to be partially incubated. They are now in my collection and may be described as follows: The ground color is pale olive buff or cream buff; three of the eggs are quite evenly marked with well defined spots of raw umber and mummy brown, and with numerous subdued spots of lilac; the fourth is heavily blotched with lilac gray, particularly about the larger end, over which are scattered numerous irregular markings and small spots of Vandyke brown; in shape they are ovate pyriform, and they measure 2.30 by 1.58, 2.37 by 1.60, 2.32 by 1.61, and 2.31 by 1.57 inches.

Another set of these eggs, also in my collection, was brought to us by a ranchman with whom we were staying. Their ground color is somewhat darker than either of my other sets, a rich greenish olive buff; they are rather sparingly marked with small dull spots of Vandyke brown, wood brown and drab; in shape they are slightly more pointed than the others and they measure 2.26 by 1.56, 2.21 by 1.57, and 2.31 by 1.59 inches.

The flight of the Marbled Godwit is strong, swift and direct; the head is usually drawn in somewhat, the bill pointed straight forward and the feet stretched out behind. In general appearance it closely resembles the Long-billed Curlew, which it nearly equals in size, the rich brown coloring in the wings being conspicuous in both species, but the long curved bill of the Curlew serves to distinguish it, even at a considerable distance, and the notes of the two birds are entirely different. The Marbled Godwit has a great variety of striking and characteristic notes. Its ordinary call note, when only slightly disturbed, sounds like *terwhit*, *terwhit*, *terwhit*, or *pert-wurrit*, *pert-wurrit*, or *godwit*, *godwit*, *godwit*, from which its name is probably derived; these notes are all strongly accented

on the last syllable, and are uttered almost constantly while the birds are flying about over their breeding grounds. When considerably alarmed these notes are intensified, more rapidly given, and with even more emphasis, *kerweck*, *kerwee-eck*, or *kerreck*, *kreck*, *kreck*, *kerreck*; sometimes they are prolonged into a loud, long-drawn out scream *quack*, *qua-a-ack*, or *quoick*, *quoi-i-ick*, somewhat between the loudest quacking of an excited duck and the scream of a Red-shouldered Hawk. There is also a more musical, whistling note, less often heard, sounding like the syllables *kor-koit* or *ker-kor-koit*, *korkoit*, the accent being on the *kor* in each case; this note seems to indicate a more satisfied frame of mind and is much more subdued in tone. All of these notes are subject to great individual variation, and, as the Godwits are very noisy birds, we were given ample opportunities to study them, but to write them down in a satisfactory manner is not so easy.

Like all of the shore birds, the Marbled Godwit is exceedingly demonstrative on its breeding grounds, flying out to meet the intruder as soon as he appears, making fully as much fuss at a distance from its nest as near it, and giving no clue as to its exact location. The cries of one pair of birds often attract others, and I have seen as many as eighteen birds flying about at one time in an especially favorable locality. It shows no signs of fear at such times, often alighting on the ground within ten or fifteen yards, standing for an instant with its beautifully marbled wings poised above it, a perfect picture of parental solicitude. Even while feeding on the shores of the lakes we could frequently walk up to within a few yards of them, and Mr. Job succeeded in photographing several of them in this way.

Though we looked diligently for the young, we did not succeed in finding any until June 27, 1906. Dr. Bishop and I were driving across some extensive wet meadows, ideal breeding grounds for Marbled Godwits, when we saw a Godwit, about a hundred yards ahead of us, leading two of its young across a shallow grassy pool; we drove towards them as fast as we could, but as we drew near the old bird took wing and the young separated, moving off into the grass in opposite directions. They had evidently been well schooled in the art of hiding, and were well fitted by their protective coloring to escape notice, for, though we secured one of

them readily enough while it was still running, the other disappeared entirely, right before our eyes and within ten yards of us. Its disappearance seemed almost miraculous, for there was practically nothing there to conceal it, as the grass was quite short, and there were no shrubs or herbaceous plants of any kind in the vicinity. We searched the whole locality carefully and thoroughly, but in vain. The youngster may have been crouching flat on the ground, relying on its resemblance to its surroundings, or it may have taken advantage of some slight inequalities in the ground and skulked away further than we realized. Later in the day we found another pair of Godwits, in a similar locality, with two young, one of which we secured. The young were in the downy stage and apparently not over a week old. They showed unmistakable Godwit characters, particularly in the shape of the head and bill, and the long legs and neck. They were covered with soft down, pinkish buff in color, more pronounced on the sides and neck, paler ventrally, and almost white on the throat, chin, and sides of the head. The occiput, cervix, back, rump and wings were heavily blotched with seal brown, or clouded with hair brown, the latter color shading off gradually into the buff on the sides, where the first plumage was beginning to appear. There was a narrow loreal stripe on each side, and a medium crown stripe of seal brown, the latter running from the base of the bill to the occiput.

As soon as the breeding season is over, or even before all the broods are fledged, the Marbled Godwits begin to gather into flocks and become much more wary. Even as early as June 27, 1906, we saw as many as thirty-six birds in one flock, but, as we did not see any young birds among them, we inferred that these must have been birds whose eggs or young had been destroyed.

As I have always had to leave for the East before the southward migration began, I am unable to give any information on this subject from personal observation, but Dr. Louis B. Bishop has kindly placed at my disposal his notes relating to this movement.

At Stump Lake, North Dakota, in 1902, he noted on July 28 a flock of about one hundred Marbled Godwits, chiefly adults, all that were taken being old birds; and on July 30 he saw a flock of about fifty, which he assumed to be composed chiefly of young birds, all that were taken being in juvenile plumage. At the same locality

in 1905, he saw on July 26 a flock of about forty, both adults and young, all that were collected being young birds; on August 2, *all* of these birds had disappeared. This exact locality, a sandy point at the western end of the lake, was visited only on the above dates. These birds were undoubtedly migrants, as they were not known to have bred in that vicinity.

After I had left Saskatchewan, Dr. Bishop visited the breeding grounds of the Marbled Godwits, and on July 3, 1906, found adult birds tolerably common, but they had all departed two days later. At Big Stick Lake, from July 18 to 21, 1906, he saw large flocks of adult Godwits containing hundreds of birds, but on July 22 very few were left. He also states that adults reach the North Carolina coast in the middle of July, as he has in his collection adults taken on July 11 and 27, 1904, and that young birds appear about a month later, as he has specimens taken August 10 and 19, 1904.

Evidently the Godwits move off their breeding grounds as soon as the young are able to fly, those birds which have been unsuccessful in rearing their young being the first to leave, and forming the vanguard of the early migration in July. Probably most of the adults start on their southward migration before the end of July, and well in advance of the young, the later flight being composed almost entirely of young birds, and moving more deliberately.

A HYBRID GROUSE, RICHARDSON'S + SHARP-TAIL.

BY ALLAN BROOKS.

Plate IV.

THROUGH the courtesy of Mr. C. deB. Green I have had the privilege of examining a most interesting hybrid between *Dendragapus o. richardsonii* and *Pediæcetes p. columbianus*, shot at Osoyoos, B. C.

Roughly speaking this bird may be said to have the coloration